BERMUDA

INSURANCE (PRUDENTIAL STANDARDS) (INSURANCE GROUP SOLVENCY REQUIREMENT) AMENDMENT RULES 2024

TABLE OF CONTENTS

The Bermuda Monetary Authority, in exercise of the powers conferred by section 6A of the Insurance Act 1978, makes the following Rules—

Citation

1 These Rules which amend the Insurance (Prudential Standards) (Insurance Group Solvency Requirement) Rules 2011 (the "principal Rules"), may be cited as the Insurance (Prudential Standards) (Insurance Group Solvency Requirement) Amendment Rules 2024.

Interpretation

2 In these Rules—

"Act" means the Insurance Act 1978.

Amends paragraph 3

3 The principal Rules are amended by inserting the following new paragraph "(6)", after paragraph (5) —

"(6) A designated insurer may apply to the Authority under subsection 6D(7) of the Act to make adjustments in accordance with the provisions of Schedule XXIV.".

Amends paragraph 6

4 The principal Rules are amended in subparagraphs (1), (2) and (3) of paragraph 6, by deleting "and XXIII" and substituting the words ", XXIII, XXIV and XXV".

Revokes and replaces Schedule I

5 The principal Rules are amended by revoking Schedule I entitled "Group Bermuda Solvency Capital Requirement" and replacing it with the Schedule I set out in the Schedule to these Rules entitled "Group Bermuda Solvency Capital Requirement".

Revokes and replaces Schedule V

6 The principal Rules are amended by revoking Schedule V entitled "Schedule of Risk Management" and replacing it with the Schedule V set out in the Schedule to these Rules entitled "Schedule of Risk Management".

Amendment to Schedules VII, VIII, VIIIA, XV, XXI and XXIA

7 The principal Rules are amended in Schedules VII, VIII, VIIIA, XV, XXI and XXIA by deleting the reference to "Schedule XIV" throughout and substituting "Schedule XXV".

Revokes and replaces Schedule XIV

8 The principal Rules are amended by revoking Schedule XIV "Group Statutory Economic Balance Sheet" and replacing it with the Schedule XIV set out in the Schedule to these Rules entitled "Group Statutory Economic Balance Sheet".

Inserts Schedules XXIV and XXV

9 The principal Rules are amended by inserting two new Schedules after Schedule XXIII to be entitled, Schedule XXIV "Schedule of Adjustments" and Schedule XXV "Schedule of Economic Balance Sheet Valuation Principles".

SCHEDULES

The Schedules to these Rules have been omitted.
They are available for inspection at the offices of the Bermuda Monetary Authority or on the website www.bma.bm

Made this [ ] day of [ ] 2024
Chairman
Bermuda Monetary Authority

SCHEDULE I **(Paragraph 4)**

Group Bermuda Solvency Capital Requirement

1. The Group BSCR shall be established, on an EBS Valuation basis, in accordance with the following formula—

$$BSCR = \sqrt{C_{fi}^2 + C_{eq}^2 + C_{\text{int}}^2 + C_{curr}^2 + C_{conc}^2 + C_{prem-gb}^2 + \left[\tfrac{1}{2}C_{cred} + C_{rsvs-gb}\right]^2 + \left[\tfrac{1}{2}C_{cred}\right]^2 + (C_{LTmort} + C_{LTsl} + C_{LTr})^2}$$

$$\text{cont'd} \sqrt{-.5 \times (C_{LTmort} + C_{LTsl} + C_{LTr}) \times C_{LTlong} + C_{LTlong}^2 + C_{LTmorb}^2 + C_{LTVA}^2 + C_{LTother}^2 + C_{cat-gb}^2} + C_{op} + C_{adj}$$

$$+ \left[BSCR_{Corr} - \left(\sqrt{C_{fi}^2 + C_{eq}^2 + C_{\text{int}}^2 + C_{curr}^2 + C_{conc}^2 + C_{prem-gb}^2 + \left[\tfrac{1}{2}C_{cred} + C_{rsvs-gb}\right]^2 + \left[\tfrac{1}{2}C_{cred}\right]^2 + (C_{LTmort} + C_{LTsl} + C_{LTr})^2}\right.\right.$$

$$\left.\left.\text{cont'd} \sqrt{-.5 \times (C_{LTmort} + C_{LTsl} + C_{LTr}) \times C_{LTlong} + C_{LTlong}^2 + C_{LTmorb}^2 + C_{LTVA}^2 + C_{LTother}^2 + C_{cat-gb}^2} + C_{op} + C_{adj}\right)\right]$$

$$\boxed{\times \text{TransitionalFactor}}$$

Where—

C_{fi}	= fixed income investment risk charge as calculated in accordance with paragraph 2;
C_{eq}	= equity investment risk charge as calculated in accordance with paragraph 3;
C_{int}	= interest rate / liquidity risk charge as calculated in accordance with paragraph 4;
C_{Curr}	= currency risk charge as calculated in accordance with paragraph 5;
C_{Conc}	= concentration risk charge as calculated in accordance with paragraph 6;
$C_{prem-gb}$	= premium risk charge for general business as calculated in accordance with paragraph 7;
$C_{rsvs-gb}$	= reserve risk charge for general business as calculated in accordance with paragraph 8;
C_{cred}	= credit risk charge as calculated in accordance with paragraph 9;
C_{cat-gb}	= catastrophe risk charge for general business as calculated in accordance with paragraph 10;
$C_{LTother}$	= other insurance risk charge for long-term business as calculated in accordance with paragraph 11;
C_{LTmort}	= insurance risk - mortality charge for long-term business as calculated in accordance with paragraph 12;
C_{LTsl}	= insurance risk - stop loss charge for long-term business as calculated in accordance with paragraph 13;
C_{LTr}	= insurance risk - riders charge for long-term business as calculated in accordance with paragraph 14;
C_{LTmorb}	= insurance risk - morbidity and disability charge for long-term business as calculated in accordance with paragraph 15;
C_{LTlong}	= insurance risk - longevity charge for long-term business as calculated in accordance with paragraph 16;
C_{LTVA}	= variable annuity guarantee risk charge for long-term business as calculated in accordance with paragraph 17;
C_{op}	= operational risk charge as calculated in accordance with paragraph 18; and
C_{adj}	= charge for capital adjustment, calculated as the sum of (i), (ii) and (iii) where:

(i) Regulatory capital requirement for regulated non-insurance financial operating entities as determined in accordance with paragraph 19; and

(ii) Capital requirement for unregulated entities as determined in accordance with paragraph 20; and

(iii) Capital adjustment for the loss-absorbing capacity of deferred taxes calculated as determined in accordance to paragraph 49;

$BSCR_{Corr}$ = as calculated in accordance with paragraph 21 and

TransitionalFactor = The transitional factor is calculated in accordance to subparagraphs i to iii for insurance groups and increases in equal steps from 1/T on for the financial year beginning on or after 1st January 2019 to 100 % by the end of the transitional period T in financial year beginning on or after year 2018+T. The length of the transitional period, T, for insurance groups is based on relative proportions of long term and P&C risks and will be determined as follows:

i. The proportions of insurance risks that apply only to P&C and only to long-term business are calculated as follows:

LT Proportion = $C_{LT} / \left(C_{LT} + C_{P\&C}\right)$

P&C Proportion = 1- LT Proportion

Where—

$C_{P\&C}$ = The P&C risk module charge as calculated in paragraph 24.

C_{LT} = The Long-Term risk module charge as calculated in paragraph 25.

ii. The transitional period is calculated by taking a weighted average of the three year P&C transitional period and the ten year LT transitional period, using as weights the P&C and LT Proportions, respectively, calculated in point i. above, and the result is rounded to the nearest integer. The transitional period is always between three and ten years.

iii. The transitional period will remain fixed.

2. The fixed income investment risk charge calculation shall be determined in accordance with the following formula-

$$C_{fi} = \sum_i \chi_i \times FIastclass_i \times \mu_r \text{ where}$$

χ_i = the capital charge factors prescribed in Table 1 for each type of $FIastclass_i$;and

$FIastclass_i$ = value of investment in corresponding asset Class i

μ_r = additional diversification adjustment factor applied to cash and cash equivalent balances, or 1 for other asset classes.

Table 1 – Capital charge factors for $FIastclass_i$

Type of fixed income investments $FIastclass_i$	**Statement Source** These Rules	**Capital Factor** χ_i
Corporate and Sovereign Bonds		
BSCR rating 0	Schedule II & IIA, Line 1, Column (1)	0.0%
BSCR rating 1	Schedule II & IIA, Line 2, Column (1)	0.4%
BSCR rating 2	Schedule II & IIA, Line 3, Column (1)	0.8%
BSCR rating 3	Schedule II & IIA, Line 4, Column (1)	1.5%

BSCR rating 4	Schedule II & IIA, Line 5, Column (1)	3.0%
BSCR rating 5	Schedule II & IIA, Line 6, Column (1)	8.0%
BSCR rating 6	Schedule II & IIA, Line 7, Column (1)	15.0%
BSCR rating 7	Schedule II & IIA, Line 8, Column (1)	26.3%
BSCR rating 8	Schedule II & IIA, Line 9, Column (1)	35.0%
Residential Mortgage-Backed Securities		
BSCR rating 1	Schedule II & IIA, Line 2, Column (3)	0.6%
BSCR rating 2	Schedule II & IIA, Line 3, Column (3)	1.2%
BSCR rating 3	Schedule II & IIA, Line 4, Column (3)	2.0%
BSCR rating 4	Schedule II & IIA, Line 5, Column (3)	4.0%
BSCR rating 5	Schedule II & IIA, Line 6, Column (3)	11.0%
BSCR rating 6	Schedule II & IIA, Line 7, Column (3)	25.0%
BSCR rating 7	Schedule II & IIA, Line 8, Column (3)	35.0%
BSCR rating 8	Schedule II & IIA, Line 9, Column (3)	35.0%
Commercial Mortgage-Backed Securities/Asset-Backed Securities		
BSCR rating 1	Schedule II & IIA, Line 2, Column (5)	0.5%
BSCR rating 2	Schedule II & IIA, Line 3, Column (5)	1.0%
BSCR rating 3	Schedule II & IIA, Line 4, Column (5)	1.8%
BSCR rating 4	Schedule II & IIA, Line 5, Column (5)	3.5%
BSCR rating 5	Schedule II & IIA, Line 6, Column (5)	10.0%
BSCR rating 6	Schedule II & IIA, Line 7, Column (5)	20.0%
BSCR rating 7	Schedule II & IIA, Line 8, Column (5)	30.0%
BSCR rating 8	Schedule II & IIA, Line 9, Column (5)	35.0%
Bond Mutual Funds		
BSCR rating 0	Schedule II & IIA, Line 1, Column (7)	0.0%
BSCR rating 1	Schedule II & IIA, Line 2, Column (7)	0.4%
BSCR rating 2	Schedule II & IIA, Line 3, Column (7)	0.8%
BSCR rating 3	Schedule II & IIA, Line 4, Column (7)	1.5%
BSCR rating 4	Schedule II & IIA, Line 5, Column (7)	3.0%
BSCR rating 5	Schedule II & IIA, Line 6, Column (7)	8.0%
BSCR rating 6	Schedule II & IIA, Line 7, Column (7)	15.0%
BSCR rating 7	Schedule II & IIA, Line 8, Column (7)	26.3%
BSCR rating 8	Schedule II & IIA, Line 9, Column (7)	35.0%
Mortgage Loans		
Insured/guaranteed mortgages	Schedule II & IIA, Line 22, Column (1)	0.3%
Other commercial and farm mortgages	Schedule II & IIA, Line 23, Column (1)	5.0%
Other residential mortgages	Schedule II & IIA, Line 24, Column (1)	1.5%
Mortgages not in good standing	Schedule II & IIA, Line 25, Column (1)	25.0%
Other Fixed Income Investments		
Other loans	Form 1EBS, Line 8	5.0%
Cash and cash equivalents		
BSCR rating 0	Schedule XIX, Column A	0.0%
BSCR rating 1	Schedule XIX, Column A	0.1%
BSCR rating 2	Schedule XIX, Column A	0.2%
BSCR rating 3	Schedule XIX, Column A	0.3%
BSCR rating 4	Schedule XIX, Column A	0.5%
BSCR rating 5	Schedule XIX, Column A	1.5%
BSCR rating 6	Schedule XIX, Column A	4.0%

BSCR rating 7	Schedule XIX, Column A	6.0%
BSCR rating 8	Schedule XIX, Column A	9.0%
Less: Diversification adjustment	Schedule XIX, Column A	to a maximum of 40.0%

INSTRUCTIONS AFFECTING TABLE 1: Capital charge factors for $FIastclass_i$

(a) all assets comprising of bonds and debentures, loans, and other miscellaneous investments that are subject to capital charges within the fixed income investment risk charge shall be included;

(b) all non-affiliated quoted and unquoted bonds and debentures shall be included in the fixed income investment charge; and

(c) all bonds and debentures, loans, and other miscellaneous investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting.

(d) the capital requirements relating to cash and cash equivalents shall be reduced by a diversification adjustment of up to a maximum of 40%; and

(e) the diversification adjustment in paragraph (d) is determined as 40% multiplied by 1 minus the ratio of the largest cash and cash equivalent balance held with a single counterparty to the total of all cash and cash equivalent balance

3. The equity investment risk charge calculation shall be established in accordance with the following formula-

$$C_{eq} = \sum_i \chi_i \times Eqastclass_i$$ where -

χ_i = the capital charge factors prescribed in Table 2 for each type $Eqastclass_i$ of and

$Eqastclass_i$ = value of investment in corresponding asset Class i.

Table 2 – Capital charge factors for $Eqastclass_i$

Type of equity investments $Eqastclass_i$	**Statement Source** These Rules	**Capital Factor** χ_i
Common stocks		
Non-affiliated (quoted) common stock	Schedule II & IIA, Line 19, Column (1)	14.4%
Non-affiliated (unquoted) common stock	Schedule II & IIA, Line 20, Column (1)	14.4%
Equity mutual funds	Schedule II & IIA, Line 21, Column (5)	14.4%
Preferred stocks		
BSCR rating 1	Schedule II & IIA, Line 11, Column (3)	0.6%
BSCR rating 2	Schedule II & IIA, Line 12, Column (3)	1.2%
BSCR rating 3	Schedule II & IIA, Line 13, Column (3)	2.0%
BSCR rating 4	Schedule II & IIA, Line 14, Column (3)	4.0%
BSCR rating 5	Schedule II & IIA, Line 15, Column (3)	11.0%

BSCR rating 6	Schedule II & IIA, Line 16, Column (3)	25.0%
BSCR rating 7	Schedule II & IIA, Line 17, Column (3)	35.0%
BSCR rating 8	Schedule II & IIA, Line 18, Column (3)	35.0%
Other equity investments		
Company-occupied real estate less: encumbrances	Form 1EBS, Line 7(a)	10.0%
Real estate investments less: encumbrances	Form 1EBS, Line 7(b)	20.0%
Other equity investments	Form 1EBS, Lines 2(e), 3(e), & Schedule IIA, Line 21 Column (7)	20.0%
Other tangible assets – net of segregated accounts	Form 1EBS, Lines 13(k), 14(d) & 36(f) Less 13(b), 13(c), 13(d) and 13(h)	20.0%
Investments in affiliates		
Unregulated entities that conduct ancillary services	Form 1EBS, Line 4(a)	5.0%
Unregulated non-financial operating entities	Form 1EBS, Line 4(b)	20.0%
Unregulated financial operating entities	Form 1EBS, Line 4(c)	55.0%
Regulated insurance financial operating entities	Form 1EBS, Line 4(e)	20.0%

INSTRUCTIONS AFFECTING TABLE 2: Capital charge factors for $Eqastclass_i$

(a) all assets comprising of common stock, preferred stock, real estate, and other miscellaneous investments that are subject to capital charges within the equity investment risk charge shall be included;

(b) all non-affiliated quoted and unquoted common and preferred stock shall be included in the equity investment risk charge;

(c) all common and preferred stock, real estate, and other miscellaneous investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting; and

(d) all investments in unregulated entities for which the insurance group exercises significant influence shall be included in the equity investment risk charge, except regulated non-insurance financial operating entities.

4. The interest rate / liquidity risk charge calculation shall be established in accordance with the following formula-

$$C_{int} = bonds \times duration \times marketdecline$$ where

$bonds$ = quoted and unquoted value of total bonds and debenture , preferred stock, or mortgage loans;

$duration$ = the higher of

(a) 1; or

(b) the insurance group's effective asset duration less the insurance group's effective liability duration; or

(c) the insurance group's effective liability duration less the insurance group's effective asset duration;

(d) the statement source for the insurance group's effective asset duration and effective liability duration is Schedule V paragraphs (e) and (f), respectively, of these Rules; and

$marketdecline$ = assumed interest rate adjustment prescribed in Table 3.

Table 3 – Interest rate adjustment for $bond$

Type of investments $bonds$	**Statement Source** These Rules	**Estimated duration**	**200 basis point interest rate increase** $marketdecline$
Total bonds and debentures	Schedule II and Schedule IIA, Column 9, Line 10	$duration$	2.0%
Preferred stock	Schedule II and Schedule IIA, Column 3, Line 21	$duration$	2.0%
Mortgage loans	Schedule II and Schedule IIA, Column 1, Line 26	$duration$	2.0%

INSTRUCTIONS AFFECTING TABLE 3: Interest rate adjustment for $bonds$

(a) all assets comprising of total bonds and debentures (other), preferred stock, and mortgage loans investments that are subject to capital charges within the interest rate / liquidity risk charge shall be included;

(b) all quoted and unquoted total bonds and debentures and preferred stock shall be included in the interest rate/liquidity risk charge; and

(c) total bonds and debentures , preferred stock, and mortgage loans investments shall be reported on a basis consistent with that used for purposes of statutory financial reporting.

5. The currency risk charge calculation shall be established in accordance with the following formula –

$$C_{Curr} = \sum_i \chi_i \times (Currproxybscr_i + Currliab_i - Currast_i)$$ where -

χ_i = 25% where $(Currast_i - Currliab_i - Currproxybscr_i) < 0$

0% otherwise

$Currency_i$ = refers to a currency used by the insurance group

$GrossCurrast_i$ = value of assets corresponding to $Currency_i$ as reported on Form 1EBS Line 15

$Currast_i$ = value of assets corresponding to $Currency_i$ as reported on Form 1EBS Line 15 adjusted to allow for currency hedging arrangements

$GrossCurrliab_i$ = value of liabilities corresponding to $Currency_i$ as reported on Form 1EBS Line 39 .

$Currliab_i$ = value of liabilities corresponding to $Currency_i$ as reported on Form 1EBS Line 39 adjusted to allow for currency hedging arrangements

$Currproxybscr_i$ = refers to the product of $GrossCurrliab_i$ and BSCR Proxy factor

BSCR Proxy factor = greater of:

i. the Enhanced Capital Requirement divided by Form 1EBS Line 39 Total Liabilities for the preceding year;
ii. the average of the above ratio for the preceding 3 years.

Where there are no prior submissions available, the BSCR proxy factor is the above ratio that would be obtained from the current submission without taking into account the currency risk charge.

Table 4 – Capital charge factors for Currency Risk

Currency	$GrossCurrast_i$	$Currast_i$	$GrossCurrliab_i$	$Currliab_i$	$Currproxybscr_i$
Currency 1	Schedule XX, Column A, Line 1	Schedule XX, Column B, Line 1	Schedule XX, Column C, Line 1	Schedule XX, Column D, Line 1	$GrossCurrliab_i$ x BSCR Proxy Factor
Currency 2	Schedule XX, Column A, Line 2	Schedule XX, Column B, Line 2	Schedule XX, Column C, Line 2	Schedule XX, Column D, Line 2	$GrossCurrliab_i$ x BSCR Proxy Factor
Currency 3	Schedule XX, Column A, Line 3	Schedule XX, Column B, Line 3	Schedule XX, Column C, Line 3	Schedule XX, Column D, Line 3	$GrossCurrliab_i$ x BSCR Proxy Factor
Currency n	Schedule XX, Column A, Line n	Schedule XX, Column B, Line n	Schedule XX, Column C, Line n	Schedule XX, Column D, Line n	$GrossCurrliab_i$ x BSCR Proxy Factor

INSTRUCTIONS AFFECTING TABLE 4: Capital charge factors for Currency Risk

(a) where the insurance group uses currency hedging arrangements to manage its currency risk, then $Currast_i$ and $Currliab_i$ may reflect the impact of those arrangements on $GrossCurrast_i$ and $GrossCurrliab_i$ of a 25% adverse movement in foreign exchange currency rates, otherwise the amounts $GrossCurrast_i$ and $GrossCurrliab_i$ shall apply;

(b) any adjustment to reflect currency hedging arrangements shall not apply to the calculation of $Currproxybscr_i$;

(c) "currency hedging arrangements" means derivative or other risk mitigation arrangements designed to reduce losses due to foreign currency exchange movements, and which meet the Authority's requirements to be classed as such; and

(d) insurance groups are to report currencies representing at least 95% of their economic balance sheet liabilities

6. The concentration risk charge calculation shall be established in accordance with the following formula-

$$C_{Conc} = \sum_i \chi_i \times Concastclass_i$$ where -

χ_i = the capital charge factors prescribed in Table 5 for each type of $Concastclass_i$ and

$Concastclass_i$ = value of corresponding asset in Asset Class

Table 5 – Capital charge factors for $Concastclass_i$

Asset Class	Statement Source These Rules	Capital Factor χ_i
Cash and Cash Equivalents		
BSCR rating 0	Schedule XXI, Column D	0.0%
BSCR rating 1	Schedule XXI, Column D	0.1%
BSCR rating 2	Schedule XXI, Column D	0.2%
BSCR rating 3	Schedule XXI, Column D	0.3%
BSCR rating 4	Schedule XXI, Column D	0.5%
BSCR rating 5	Schedule XXI, Column D	1.5%
BSCR rating 6	Schedule XXI, Column D	4.0%
BSCR rating 7	Schedule XXI, Column D	6.0%
BSCR rating 8	Schedule XXI, Column D	9.0%
Corporate & Sovereign Bonds		
BSCR rating 0	Schedule XXI, Column D	0.0%
BSCR rating 1	Schedule XXI, Column D	0.4%
BSCR rating 2	Schedule XXI, Column D	0.8%
BSCR rating 3	Schedule XXI, Column D	1.5%
BSCR rating 4	Schedule XXI, Column D	3.0%
BSCR rating 5	Schedule XXI, Column D	8.0%
BSCR rating 6	Schedule XXI, Column D	15.0%
BSCR rating 7	Schedule XXI, Column D	26.3%
BSCR rating 8	Schedule XXI, Column D	35.0%
Residential Mortgage-Backed Securities		
BSCR rating 0	Schedule XXI, Column D	0.0%
BSCR rating 1	Schedule XXI, Column D	0.6%
BSCR rating 2	Schedule XXI, Column D	1.2%
BSCR rating 3	Schedule XXI, Column D	2.0%
BSCR rating 4	Schedule XXI, Column D	4.0%
BSCR rating 5	Schedule XXI, Column D	11.0%
BSCR rating 6	Schedule XXI, Column D	25.0%
BSCR rating 7	Schedule XXI, Column D	35.0%
BSCR rating 8	Schedule XXI, Column D	35.0%
Commercial Mortgage-Backed Securities/Asset Backed Securities		
BSCR rating 0	Schedule XXI, Column D	0.0%
BSCR rating 1	Schedule XXI, Column D	0.5%
BSCR rating 2	Schedule XXI, Column D	1.0%
BSCR rating 3	Schedule XXI, Column D	1.8%
BSCR rating 4	Schedule XXI, Column D	3.5%
BSCR rating 5	Schedule XXI, Column D	10.0%
BSCR rating 6	Schedule XXI, Column D	20.0%
BSCR rating 7	Schedule XXI, Column D	30.0%
BSCR rating 8	Schedule XXI, Column D	35.0%
Bond Mutual Funds		
BSCR rating 0	Schedule XXI, Column D	0.0%
BSCR rating 1	Schedule XXI, Column D	0.4%
BSCR rating 2	Schedule XXI, Column D	0.8%
BSCR rating 3	Schedule XXI, Column D	1.5%
BSCR rating 4	Schedule XXI, Column D	3.0%
BSCR rating 5	Schedule XXI, Column D	8.0%
BSCR rating 6	Schedule XXI, Column D	15.0%
BSCR rating 7	Schedule XXI, Column D	26.3%
BSCR rating 8	Schedule XXI, Column D	35.0%

Preferred Shares		
BSCR rating 1	Schedule XXI, Column D	0.6%
BSCR rating 2	Schedule XXI, Column D	1.2%
BSCR rating 3	Schedule XXI, Column D	2.0%
BSCR rating 4	Schedule XXI, Column D	4.0%
BSCR rating 5	Schedule XXI, Column D	11.0%
BSCR rating 6	Schedule XXI, Column D	25.0%
BSCR rating 7	Schedule XXI, Column D	35.0%
BSCR rating 8	Schedule XXI, Column D	35.0%
Mortgage Loans		
Insured/Guaranteed Mortgages	Schedule XXI, Column D	0.3%
Other Commercial and Farm Mortgages	Schedule XXI, Column D	5.0%
Other Residential Mortgages	Schedule XXI, Column D	1.5%
Mortgages Not In Good Standing	Schedule XXI, Column D	25%
Other Asset Classes		
Quoted and Unquoted Common Stock and Mutual Funds	Schedule XXI, Column D	14.4%
Other Quoted and Unquoted Investments	Schedule XXI, Column D	20.0%
Investment in Affiliates – Unregulated entities that conduct ancillary services	Schedule XXI, Column D	5.0%
Investment in Affiliates – Unregulated non-financial operating entities	Schedule XXI, Column D	20.0%
Investment in Affiliates – Unregulated financial operating entities	Schedule XXI, Column D	55.0%
Investment in Affiliates – Regulated non-insurance financial operating entities	Schedule XXI, Column D	55.0%
Investment in Affiliates – Regulated insurance financial operating entities	Schedule XXI, Column D	20.0%
Advances to Affiliates	Schedule XXI, Column D	5.0%
Policy Loans	Schedule XXI, Column D	0.0%
Real Estate: Occupied by company	Schedule XXI, Column D	10.0%
Real Estate: Other properties	Schedule XXI, Column D	20.0%
Collateral Loans	Schedule XXI, Column D	5.0%

INSTRUCTIONS AFFECTING TABLE 5: Capital charge factors for $Concastclass_i$

(a) $Concastclass_i$ shall only apply to the insurance group's 10 largest counterparty exposures based on the aggregate of all instruments included in Table 5 related to that counterparty;

(b) a counterparty shall include all related/connected counterparties defined as:

(i) Control relationship: if the counterparty, directly or indirectly, has control over the other(s); or

(ii) Economic interdependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties.

7. The premium risk charge calculation for general business shall be established in accordance with the following formula-

$$C_{prem} = \left[\sum_{i>1} \alpha_i \times geolineprem_i\right] \times \left[\max_i \left\{\frac{geolineprem_i}{totalprem}\right\} \times \mu + \vartheta\right] - \left[avgpremcap \times \frac{avgannloss}{catlossratio}\right]$$

where –

α_i = individual general business $geolineprem_i$ risk capital charge factor as prescribed in table 6;

$totalprem_i$ = total geographic diversification of premium measure over all lines of business (except Property Catastrophe) i.e. $\sum_{i>1} geolineprem_i$;

$geolineprem_i$ = geographic diversification of premium measure for line of general business i as prescribed in Table 6;

$avgpremcap_i$ = weighted average general business premium risk capital charge factor (excluding the Property Catastrophe line of business and after concentration adjustment and allowing for geographic diversification);

$avgannloss$ = average annual loss estimated with catastrophe models for general business;

$catlossratio$ = expected industry average catastrophe loss ratio for general business prescribed by the Authority;

μ = additional concentration adjustment factor taking into consideration an insurance group's diversified lines of general business equal to 40%; and

ϑ = minimum concentration adjustment factor is equal to 60%

Table 6 – Capital charge factors for $geolineprem_i$

Line of General Business $geolineprem_i$	**Statement Source** These Rules	**Capital Factor** χ_i
Property catastrophe	Schedule IVA, Line 1	0.0%
Property	Schedule IVA, Line 2	49.7%
Property non- proportional	Schedule IVA, Line 3	51.6%
Personal accident	Schedule IVA, Line 4	34.1%
Personal accident non-proportional	Schedule IVA, Line 5	41.2%
Aviation	Schedule IVA, Line 6	48.2%
Aviation non- proportional	Schedule IVA, Line 7	48.2%
Credit / surety	Schedule IVA, Line 8	39.8%
Credit / surety non- proportional	Schedule IVA, Line 9	54.4%
Energy offshore /marine	Schedule IVA, Line 10	42.1%
Energy offshore / marine non- proportional	Schedule IVA, Line 11	47.0%
US casualty	Schedule IVA, Line 12	50.3%
US casualty non- proportional	Schedule IVA, Line 13	55.6%
US professional	Schedule IVA, Line 14	51.2%
US professional non- proportional	Schedule IVA, Line 15	53.8%
US specialty	Schedule IVA, Line 16	51.4%
US specialty non- proportional	Schedule IVA, Line 17	52.7%
International motor	Schedule IVA, Line 18	42.2%
International motor non-proportional	Schedule IVA, Line 19	48.2%
International casualty non-motor	Schedule IVA, Line 20	50.0%
International casualty non-motor non-proportional	Schedule IVA, Line 21	53.6%

Retro property	Schedule IVA, Line 22	50.8%
Structured / finite reinsurance	Schedule IVA, Line 23	27.2%
Health	Schedule IVA, Line 24	15.0%

INSTRUCTIONS AFFECTING TABLE 6: Capital charge factors for $geolineprem_i$

(a) all reported net premiums written for the relevant year by statutory line of business as prescribed in this Schedule that are subject to capital charges within the premium risk charge shall be included;

(b) all net premiums written by statutory line of general business shall be reported on a basis consistent with that used for purposes of statutory financial reporting; and

(c) a insurance group may provide premium exposure for all statutory lines of general business, or for particular statutory lines of general business, split by geographic zone as set out in Table 6A. $geolineprem_i$ is then derived from the total premium for that line of business by reducing the total by 25% times $\frac{\sum x_i^2}{(\sum x_i)^2}$ where x_i = net premiums written in that line of business for $Zone_i$; and where the summation covers all zones.

Table 6A – Underwriting Geographic Zones

Underwriting Zone	Location
Zone 1 - Centeral & Western Asia	Armenia, Azerbaijan, Bahrain, Georgia, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Oman, Palestinian, Qatar, Saudi Arabia, Saudi Arab Republic, Tajikistan, Turkey, Turkmenistan, United Arab Emirates and Uzbekistan
Zone 2 - Eastern Asia	China, Hong Kong, Japan, Macao, Mongolia, North Korea, South Korea, and Taiwan
Zone 3 - South and South-Eastern Asia	Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, India, Indonesia. Iran, Lao PDR, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste, and Vietnam
Zone 4 - Oceania	American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, N. Mariana Islands, Palau, Papua New Guinea, Pitcairn, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis & Futuna Island
Zone 5 - Northern Africa	Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Cote d' Ivoire, Egypt, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Saint Helena, Senegal, Sierra Leone, Sudan, Togo, Tunisia, and Western Sahara
Zone 6 - Southern Africa	Angola, Botswana, Burundi, Democratic Republic of Congo, Comoros, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Namibia, Republic of Congo, Reunion, Rwanda, Sao Tome & Principe, Seychelles, Somalia, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe

Zone 7 - Eastern Europe	Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russian Federation, Slovakia, and Ukraine
Zone 8 - Northern Europe	Aland Islands, Channel Islands, Denmark, Estonia, Faeroe Islands, Finland Guernsey, Iceland, Republic of Ireland, Isle of Man, Jersey, Latvia, Lithuania, Norway, Svalbard, Jan Mayen, Sweden, United Kingdom
Zone 9 - Southern Europe	Albania, Andorra, Bosnia, Croatia, Cyprus, Gibraltar, Greece, Italy FYR of Macedonia, Malta, Montenegro, Portugal, San Marino, Serbia, Slovenia, Spain, and Vatican City
Zone 10 - Western Europe	Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, and Switzerland
Zone 11 - Northern America (Excluding USA)	Bermuda, Canada, Greenland, and St Pierre & Miquelon
Zone 12 - Caribbean & Centeral America	Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican, El Salvador, Grenada, Guadeloupe Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, St-Barthelemy, St Kitts & Nevis, St Lucia, St Martin, St Vincent, Trinidad & Tobago, Turks & Caicos Islands, and US Virgin Islands
Zone 13 - Eastern South America	Brazil, Falkland Islands, French Guiana, Guyana, Paraguay, Suriname, and Uruguay
Zone 14 - Northern, Southern and Western South America	Argentina, Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela
Zone 15 - North-East United States	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
Zone 16 - South-East United States	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, and West Virginia
Zone 17 - Mid-West United States	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin
Zone 18 - Western United States	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming

8. The reserve risk charge calculation for general business shall be established in accordance with the following formula-

$$C_{rsvs-gb} = \left[\sum_i \beta_i \times geolinersvs_i\right] \times \left[\max_i \left\{\tfrac{geolinersvs_i}{totalrsvs}\right\} \times \mu + \vartheta\right]$$ where –

β_i = individual $geolinersvs_i$ risk capital charge factor as prescribed in Table 6;

$totalrsvs$ = total geographic diversification of reserves over all lines of general business, i.e. $\sum_i geolinersvs_i$;

$geolinersvs_i$ = geographic diversification of reserves for individual line of general business i as prescribed in Table 7 ;

μ = additional concentration adjustment factor taking into consideration an insurance group's diversified lines of general business equal to 40%; and

ϑ = minimum concentration adjustment factor is equal to 60%

Table 7 – Capital charge factors for $geolinersvs_i$

Line of General Business $geolinersvs_i$	**Statement Source** These Rules	**Capital Factor** β_i
Property catastrophe	Schedule III, Line 1	46.2%
Property	Schedule III, Line 2	43.8%
Property non- proportional	Schedule III, Line 3	49.7%
Personal accident	Schedule III, Line 4	29.7%
Personal accident non-proportional	Schedule III, Line 5	34.9%
Aviation	Schedule III, Line 6	46.0%
Aviation non- proportional	Schedule III, Line 7	48.3%
Credit / surety	Schedule III, Line 8	38.4%
Credit / surety non- proportional	Schedule III, Line 9	43.5%
Energy offshore /marine	Schedule III, Line 10	39.5%
Energy offshore / marine non- proportional	Schedule III, Line 11	43.9%
US casualty	Schedule III, Line 12	43.0%
US casualty non- proportional	Schedule III, Line 13	48.8%
US professional	Schedule III, Line 14	46.3%
US professional non- proportional	Schedule III, Line 15	51.5%
US specialty	Schedule III, Line 16	46.5%
US specialty non- proportional	Schedule III, Line 17	48.3%
International motor	Schedule III, Line 18	37.1%
International motor non-proportional	Schedule III, Line 19	43.5%
International casualty non-motor	Schedule III, Line 20	43.7%
International casualty non-motor non-proportional	Schedule III, Line 21	49.4%
Retro property	Schedule III, Line 22	47.8%
Structured / finite reinsurance	Schedule III, Line 23	24.1%
Health	Schedule III, Line 24	12.5%

INSTRUCTIONS AFFECTING TABLE 7: Capital charge factors for $geolinersvs_i$

(a) all reported net loss and loss expense provisions for the relevant year by statutory line of general business as prescribed in this Schedule are subject to capital charges within the reserve risk charge shall be included;

(b) all reported net loss and loss expense provisions by statutory line of general business shall be reported on a basis consistent with that used for purposes of statutory financial reporting; and

(c) a insurance group may provide loss and loss expense provisions exposure for all statutory lines of general business, or for particular statutory lines of general business, split by geographic zone as set out in Table 5A. $geolinersvs_i$ is then derived from the total loss and loss expense provisions for that line of business by reducing the total by 25% times $\frac{\sum x_i^2}{(\sum x_i)^2}$ where x_i = best estimate net loss and loss expense provisions in that line of business for $Zone_i$; and where the summation covers all zones

9. The credit risk charge calculation shall be established in accordance with the following formula-

$$C_{cred} = \sum_i \delta_i \times debtor_i \times \mu_r$$ where -

δ_i = the credit risk capital charge factor for type of $debtor_i$ as prescribed in Table 8; and

$debtor_i$ = receivable amount from debtor i net of any collateral placed in favour of the insurer; and.

μ_r = additional diversification adjustment factor applied to reinsurance balances only taking into consideration diversification by number of reinsurers, equal to 40%.

Table 8 – Capital charge factors for $debtor_i$

Type of debtor $debtor_i$	**Statement Source** These Rules	**Capital Factor** δ_i
Accounts and Premiums Receivable		
In course of collection	Form 1EBS, Line 10(a)	5.0%
Receivables from retrocessional contracts less: collateralized balances	Form 1EBS, Line 10(c) and instruction (c) below	10.0%
Particulars of reinsurance balances		
BSCR rating 0	Schedule XVIII paragraph (d)	0.0%
BSCR rating 1	Schedule XVIII paragraph (d)	0.7%
BSCR rating 2	Schedule XVIII paragraph (d)	1.5%
BSCR rating 3	Schedule XVIII paragraph (d)	3.5%
BSCR rating 4	Schedule XVIII paragraph (d)	7.0%
BSCR rating 5	Schedule XVIII paragraph (d)	12.0%
BSCR rating 6	Schedule XVIII paragraph (d)	20.0%
BSCR rating 7	Schedule XVIII paragraph (d)	17.0%
BSCR rating 8	Schedule XVIII paragraph (d)	35.0%
Less: Diversification adjustment	Schedule XVIII paragraph (d)	40.0%
All Other Receivables		
Accrued investment income	Form 1EBS, Line 9	2.5%
Advances to affiliates	Form 1EBS, Line 4(g)	5.0%
Policy loans	Form 1EBS, Line 6	0.0%

INSTRUCTIONS AFFECTING TABLE 8: Capital charge factors for $debtor_i$

(i) all accounts and premiums receivable and all other receivables that are subject to capital charges within the credit risk charge shall be included;

(ii) all accounts and premiums receivable, reinsurance balances receivables, all other receivables, and reinsurance recoverable balances shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

(iii) collateralized balances are assets pledged in favour of the insurer relating to accounts and premiums receivable;

(iv) assets accounted in Form 1EBS, Line 37 shall not be included in instruction (c);

(v) the net qualifying exposure comprises of reinsurance balances receivable and reinsurance recoverable balances less the corresponding reinsurance balances payable and other payables less the qualifying collateral issued in favour of the insurer in relation to the reinsurance balances;

(vi) the net qualifying exposure in instruction (e) shall be subject to the prescribed credit risk capital factor;

(vii) the total capital requirement relating to the reinsurance balances shall be reduced by a diversification adjustment of up to a maximum of 40%; and

(viii) the diversification adjustment in instruction (vii) is determined as 40% multiplied by 1 minus the ratio of the largest net reinsurance exposure, on an individual reinsurer basis, to total net reinsurance exposure.

10. The catastrophe risk charge calculation for general business shall be established in accordance with the following formula-

where –

$NetPML$	= net probable maximum loss as prescribed in Schedule V paragraph (i);
$Netcatprem$	= average annual loss for general insurance excluding Property Catastrophe as prescribed in Schedule V paragraph (j) / {(estimated industry catastrophe loss ratio of 40% as prescribed in this Schedule) + property catastrophe premium as included in Schedule IVA, Line 1 of these rules}; and
CR_{PML}	= {(gross probable maximum loss as prescribed in Schedule V paragraph (h) less net probable maximum loss as prescribed in Schedule V paragraph (i) less arrangements with respect to property catastrophe recoverables as prescribed in Schedule V paragraph (l)(v) of these Rules) x (Credit risk charge, equal to 10%, associated with reinsurance recoveries of ceded catastrophe losses for general business)}.

(a) all reported net probable maximum loss, gross probable maximum loss, average annual loss excluding property catastrophe, property catastrophe premium and arrangements with respect to property catastrophe recoverables as prescribed in Schedule V that are subject to capital charges within the catastrophe risk charge shall be included; and

(b) the amount of collateral and other funded arrangements with respect to property catastrophe recoverables shall be reported and reduced by 2% to account for the market risk associated with the underlying collateral assets.

11. The other insurance risk charge for long-term business calculation shall be established in accordance with the following formula –

$$\boxed{C_{LToth} = \sum_i \alpha_i \times BAR_i};$$

Where:

α_i	= individual BAR_i capital charge factor as prescribed in Table 9; and
BAR_i	= the BSCR adjusted reserves for other insurance risk for long-term business as described in Table 9.

Table 9 – Capital charge factors for BAR_i

BSCR adjusted reserves	Statement Source	Capital Factor

BAR_i	These Rules	α_i
Mortality (term insurance, whole life, universal life)	Schedule VII, Column (7), Line 1	2.0%
Critical illness (including accelerated critical illness products)	Schedule VII, Column (7), Line 2	2.0%
Longevity (immediate pay-out annuities, contingent annuities, pension pay-outs)	Schedule VII, Column (7), Line 3(f)	0.5%
Longevity (deferred pay-out annuities, future contingent annuities, future pension pay- outs)	Schedule VII, Column (7), Line 4(g)	0.5%
Annuities certain only	Schedule VII, Column (7), Line 5	0.5%
Deferred accumulation annuities	Schedule VII, Column (7), Line 6	0.5%
Disability income: active lives – including waiver of premium and long-term care	Schedule VII, Column (7), Line 7(d)	2.0%
Disability income: active lives – other accident and sickness	Schedule VII, Column (7), Line 8	2.0%
Disability income: claims in payment – including waiver of premium and long-term care	Schedule VII, Column (7), Line 9	0.5%
Disability income: claims in payment – other accident and sickness	Schedule VII, Column (7), Line 10	0.5%
Group life	Schedule VII, Column (7), Line 11	0.5%
Group disability	Schedule VII, Column (7), Line 12	0.5%
Group health	Schedule VII, Column (7), Line 13	0.5%
Stop loss	Schedule VII, Column (7), Line 14	2.0%
Rider (other product riders not included above)	Schedule VII, Column (7), Line 15	2.0%

12. The insurance risk - mortality charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTmort} = \left[\sum_i \alpha 1_i \times NAAR1_i\right] + \left[\sum_i \alpha 2_i \times NAAR2_i\right]$$ Where

$\alpha 1_i$ = capital charge factor for adjustable mortality long-term business as prescribed in Table 10;

$NAAR1_i$ = the Net Amount at Risk of all adjustable mortality long-term business as prescribed in Schedule VII, Column (9), Line 1 of these Rules;

$\alpha 2_i$ = capital charge factor for non-adjustable mortality long-term business as prescribed in Table 10;

$NAAR2_i$ = the Net Amount at Risk of all non-adjustable mortality long-term business as prescribed in Schedule VII, Column (10), Line 1 of these Rules;

Table 10 – Capital charge factors for $NAAR1_i$ or $NAAR2_i$

Net Amount at Risk $NAAR1_i$ or $NAAR2_i$	Capital Factor $\alpha 1_i$	Capital Factor $\alpha 2_i$

First $1 billion	0.00199	0.00397
Next $4 billion	0.00090	0.00180
Next $5 billion	0.00072	0.00144
Next $40 billion	0.00065	0.00129
Excess over $50 billion	0.00057	0.00113

13. The insurance risk – stop loss charge calculation for long-term business shall be established in accordance with the following formula –

C_{LTsl} = 50% x net annual premium for stop loss covers as prescribed in Schedule VII, Column (11), Line 14 of these Rules.

14. The insurance risk – rider charge calculation for long-term business shall be established in accordance with the following formula –

C_{LTr} = 25% x net annual premium for insurance product riders not included elsewhere as prescribed in Schedule VII, Column (11), Line 15 of these Rules.

15. The insurance risk – morbidity and disability charge calculation for long-term business shall be established in accordance with the following formula –

$\boxed{C_{LTmorb} = (a)+(b)+(c)+(d)+(e)}$ Where:

(a) = 7.00% x BSCR adjusted reserves for disability income claims in payment on waiver of premium and long-term care as prescribed in Schedule VII, Column (7), Line 9 of these Rules;

(b) = 10% x BSCR adjusted reserves for disability income claims in payment on other accident and sickness products as prescribed in Schedule VII, Column (7), Line 10 of these Rules;

(c) $= \left[\sum_i \alpha_i \times NAP_i \right]$

Where –

α_i = individual NAP_i capital charge factor as prescribed in Table 11;

NAP_i = the Net Annual Premium for disability income business – active lives as described in Table 11;

Table 11 – Capital charge factors for NAP_i

Net Annual Premium NAP_i	**Statement Source** These Rules	**Capital Factor** $\alpha 1_i$
Benefit period less than or equal to two years, premium guarantee less than or equal to 1 year	Schedule VII, Column (9), Line 7(a)	9.0%
Benefit period less than or equal to two years, premium guarantee of more than 1 year but less than or equal to 5 years	Schedule VII, Column (9), Line 7(b)	15.0%
Benefit period less than or equal to two years, premium guarantee of more than 5 years	Schedule VII, Column (9), Line 7(c)	22.5%
Benefit period greater than two years, premium guarantee less than or equal to 1 year	Schedule VII, Column (10), Line 7(a)	12.0%
Benefit period greater than two years, premium guarantee of	Schedule VII, Column (10), Line 7(b)	20.0%

more than 1 year but less than or equal to 5 years		
Benefit period greater than two years, premium guarantee of more than 5 years	Schedule VII, Column (10), Line 7(c)	30.0%

(d) = 12% x net annual premiums for disability income - active lives for other accident and sickness products as prescribed in Schedule VII, Column (11), Line 8; and

(e) $$=\left[\sum_i \alpha 1_i \times NAAR1_i\right]+\left[\sum_i \alpha 2_i \times NAAR2_i\right]$$

Where –

$\alpha 1_i$ = capital charge factor for adjustable critical illness insurance business as prescribed in Table 12;

$NAAR1_i$ = the Net Amount at Risk of all adjustable critical illness insurance business in force as in Schedule VII, Column (9), Line 2;

$\alpha 2_i$ = capital charge factor for non-adjustable critical illness insurance business as prescribed in Table 12;

$NAAR2_i$ = the Net Amount at Risk of all non-adjustable critical illness insurance business in force as in Schedule VII, Column (10), Line 2.

Table 12 – Capital charge factors for $NAAR1_i$ or $NAAR2_i$

Net Amount at Risk $NAAR1_i$ **Or** $NAAR2_i$	**Capital Factor** $\alpha 1_i$	**Capital Factor** $\alpha 2_i$
First $1 billion	0.00596	0.01191
Next $4 billion	0.00270	0.00540
Next $5 billion	0.00216	0.00432
Next $40 billion	0.00194	0.00387
Excess over $50 billion	0.00170	0.00339

16. The insurance risk – longevity charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTlong} = \sum_i \alpha_i \times BAR_i$$

Where:

α_i = capital charge factor as prescribed in Table 13; and

BAR_i = the BSCR adjusted reserves for longevity risk as described in Table 13.

Table 13 – Capital charge factors for BAR_i

BSCR adjusted reserves BAR_i	**Statement Source** These Rules	**Capital Factor** α_i
Longevity (*immediate pay-out annuities, contingent annuities, pension blocks*) – Attained age of annuitant:		
0-55 years	Schedule VII, Column (7), Line 3(a)	2.0%
56-65 years	Schedule VII, Column (7), Line 3(b)	3.0%
66-70 years	Schedule VII, Column (7), Line 3(c)	4.0%
71-80 years	Schedule VII, Column (7), Line 3(d)	5.0%
81+ years	Schedule VII, Column (7), Line 3(e)	6.0%

Longevity (deferred pay-out annuities, future contingent annuities, future pension pay-outs) – Age at which annuity benefits commence:		
0-55 years	Schedule VII, Column (7), Line 4(a)	2.0%
56-60 years	Schedule VII, Column (7), Line 4(b)	3.0%
61-65 years	Schedule VII, Column (7), Line 4(c)	4.0%
66-70 years	Schedule VII, Column (7), Line 4(d)	5.0%
71-75 years	Schedule VII, Column (7), Line 4(e)	6.0%
76+ years	Schedule VII, Column (7), Line 4(e)	7.0%

INSTRUCTIONS AFFECTING TABLE 13: Capital charge factors for BAR_i

For joint and survivor annuities, the youngest age should be used.

17. The variable annuity guarantee risk charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTVA} = \text{either } \left(\sum_i TotalBSReq_i - TotalBAR - TotalGMB_{adj}\right) \text{ or } (IMCReq_{LTVA})$$

Wherein:

(i) $TotalBSReq_i$ = higher of (a) $\left(\alpha 1_i \times GV1_i + \alpha 2_i \times GV2_i + \alpha 3_i \times GV3_i\right)$ and (b) $\left(\alpha 4_i \times NAR1_i + \alpha 5_i \times NAR2_i + \alpha 6_i \times NAR3_i\right)$;

(ii) $TotalBAR$ = the total BSCR adjusted reserves for variable annuity guarantee risk. The statement source for $TotalBAR$ is Schedule VII, line 17, column (7) of these Rules;

(iii) $TotalGMB_{adj}$ = the capital requirement charged on guaranteed minimum death benefit (GMDB) policies multiplied by the percentage of GMDB with multiple guarantees. The statement source for the percentage of GMDB with multiple guarantees is Schedule VIII, line 32, column (4) of these Rules;

(iv) $IMCReq_{LTVA}$ = the capital requirement for variable annuity guarantee risk determined in accordance with an insurance group's internal capital model, if applicable. The statement source for $IMC\,\mathrm{Re}\,q_{LTVA}$ is Schedule VIIIA, line 1, column (7) of these Rules;

(v) $\left(GV1_i, GV2_i, GV3_i, NAR1_i, NAR2_i, NAR3_i\right)$ have the statement source identified in Table 14; and

(vi) $\left(\alpha 1_i, \alpha 2_i, \alpha 3_i, \alpha 4_i, \alpha 5_i, \alpha 6_i\right)$ are the capital factors as prescribed in Table 15.

Table 14 – Capital charge factors for $\left(GV1_i, GV2_i, GV3_i, NAR1_i, NAR2_i, NAR3_i\right)$

Variable Annuity Benefit Type	**Statement Source These Rules** $GV1_i$	**Statement Source These Rules** $GV2_i$	**Statement Source These Rules** $GV3_i$	**Statement Source These Rules** $Nar1_i$	**Statement Source These Rules** $Nar2_i$	**Statement Source These Rules** $Nar3_i$
Guaranteed minimum death benefit: Return of premium, ratchet and reset	Schedule VIII, lines 1 and 16, column (2)	Schedule VIII, lines 1 and 16, column (3)	Schedule VIII, lines 1 and 16, column (4)	Schedule VIII, lines 1, column (5)	Schedule VIII, lines 1, column (6)	Schedule VIII, lines 1, column (7)
Guaranteed minimum death benefit: Enhanced benefits (roll up)	Schedule VIII, Lines 2 and 17, column (2)	Schedule VIII, Lines 2 and 17, column (3)	Schedule VIII, Lines 2 and 17, column (4)	Schedule VIII, Lines 2, column (5)	Schedule VIII, Lines 2, column (6)	Schedule VIII, Lines 2, column (7)
Guaranteed minimum income benefit	Schedule VIII, Lines 3 and 18, column (2)	Schedule VIII, Lines 3 and 18, column (3)	Schedule VIII, Lines 3 and 18, column (4)	Schedule VIII, Lines 3, column (5)	Schedule VIII, Lines 3, column (6)	Schedule VIII, Lines 3, column (7)
Guaranteed minimum withdrawal benefit	Schedule VIII, Lines 4 and 19, column (2)	Schedule VIII, Lines 4 and 19, column (3)	Schedule VIII, Lines 4 and 19, column (4)	Schedule VIII, Lines 4, column (5)	Schedule VIII, Lines 4, column (6)	Schedule VIII, Lines 4, column (7)
Guaranteed enhanced earnings benefit	Schedule VIII, Lines 5 and 20, column (2)	Schedule VIII, Lines 5 and 20, column (3)	Schedule VIII, Lines 5 and 20, column (4)	Schedule VIII, Lines 5, column (5)	Schedule VIII, Lines 5, column (6)	Schedule VIII, Lines 5, column (7)
Guaranteed minimum accumulation benefit with 1 year or less to maturity	Schedule VIII, Lines 6 and 21, column (2)	Schedule VIII, Lines 6 and 21, column (3)	Schedule VIII, Lines 6 and 21, column (4)	Schedule VIII, Lines 6, column (5)	Schedule VIII, Lines 6, column (6)	Schedule VIII, Lines 6, column (7)
Guaranteed minimum accumulation benefit with more than 1 year but less than or equal to 2 years to maturity	Schedule VIII, Lines 7 and 22, column (2)	Schedule VIII, Lines 7 and 22, column (3)	Schedule VIII, Lines 7 and 22, column (4)	Schedule VIII, Lines 7, column (5)	Schedule VIII, Lines 7, column (6)	Schedule VIII, Lines 7, column (7)
Guaranteed minimum accumulation benefit with more than 2 years but less than or equal to 3 years to maturity	Schedule VIII, Lines 8 and 23, column (2)	Schedule VIII, Lines 8 and 23, column (3)	Schedule VIII, Lines 8 and 23, column (4)	Schedule VIII, Lines 8, column (5)	Schedule VIII, Lines 8, column (6)	Schedule VIII, Lines 8, column (7)
Guaranteed minimum accumulation benefit with more than 3 years but less than or equal to 4 years to maturity	Schedule VIII, Lines 9 and 24, column (2)	Schedule VIII, Lines 9 and 24, column (3)	Schedule VIII, Lines 9 and 24, column (4)	Schedule VIII, Lines 9, column (5)	Schedule VIII, Lines 9, column (6)	Schedule VIII, Lines 9, column (7)
Guaranteed minimum accumulation benefit with more than 4 years but less than or equal to 5 years to maturity	Schedule VIII, Lines 10 and 25, column (2)	Schedule VIII, Lines 10 and 25, column (3)	Schedule VIII, Lines 10 and 25, column (4)	Schedule VIII, Lines 10, column (5)	Schedule VIII, Lines 10, column (6)	Schedule VIII, Lines 10, column (7)
Guaranteed minimum accumulation benefit with more than 5 years but less than or equal to 6 years to maturity	Schedule VIII, Lines 11 and 26, column (2)	Schedule VIII, Lines 11 and 26, column (3)	Schedule VIII, Lines 11 and 26, column (4)	Schedule VIII, Lines 11, column (5)	Schedule VIII, Lines 11, column (6)	Schedule VIII, Lines 11, column (7)
Guaranteed minimum accumulation benefit with more than 6 years but less than or equal to 7 years to maturity	Schedule VIII, Lines 12 and 27, column (2)	Schedule VIII, Lines 12 and 27, column (3)	Schedule VIII, Lines 12 and 27, column (4)	Schedule VIII, Lines 12, column (5)	Schedule VIII, Lines 12, column (6)	Schedule VIII, Lines 12, column (7)
Guaranteed minimum accumulation benefit with more than 7 years but less than or equal to 8 years to maturity	Schedule VIII, Lines 13 and 28, column (2)	Schedule VIII, Lines 13 and 28, column (3)	Schedule VIII, Lines 13 and 28, column (4)	Schedule VIII, Lines 13, column (5)	Schedule VIII, Lines 13, column (6)	Schedule VIII, Lines 13, column (7)

Guaranteed minimum accumulation benefit with more than 8 years but less than or equal to 9 years to maturity	Schedule VIII, Lines 14 and 29, column (2)	Schedule VIII, Lines 14 and 29, column (3)	Schedule VIII, Lines 14 and 29, column (4)	Schedule VIII, Lines 14, column (5)	Schedule VIII, Lines 14, column (6)	Schedule VIII, Lines 14, column (7)
Guaranteed minimum accumulation benefit with more than 9 years to maturity	Schedule VIII, Lines 15 and 30, column (2)	Schedule VIII, Lines 15 and 30, column (3)	Schedule VIII, Lines 15 and 30, column (4)	Schedule VIII, Lines 15, column (5)	Schedule VIII, Lines 15, column (6)	Schedule VIII, Lines 15, column (7)

Table 15 – Capital charge factors for $(\alpha 1_i, \alpha 2_i, \alpha 3_i, \alpha 4_i, \alpha 5_i, \alpha 6_i)$

Variable Annuity Benefit Type	**Capital Charge** $\alpha 1$	**Capital Charge** $\alpha 2$	**Capital Charge** $\alpha 3$	**Capital Charge** $\alpha 4$	**Capital Charge** $\alpha 5$	**Capital Charge** $\alpha 6$
Guaranteed minimum death benefit: Return of premium, ratchet and reset	0.25%	0.50%	0.75%	4.00%	8.50%	13.00%
Guaranteed minimum death benefit: Enhanced benefits (roll up)	0.75%	1.00%	1.25%	12.00%	16.50%	21.00%
Guaranteed minimum income benefit	5.00%	6.50%	8.00%	100.00%	130.00%	160.00%
Guaranteed minimum withdrawal benefit	3.25%	4.25%	5.00%	60.00%	75.00%	90.00%
Guaranteed enhanced earnings benefit	0.00%	0.50%	1.00%	1.00%	9.00%	17.00%
Guaranteed minimum accumulation benefit with 1 year or less to maturity	3.20%	5.00%	9.00%	90.00%	130.00%	250.00%
Guaranteed minimum accumulation benefit with more than 1 year but less than or equal to 2 years to maturity	3.00%	5.00%	8.90%	80.00%	115.00%	200.00%
Guaranteed minimum accumulation benefit with more than 2 years but less than or equal to 3 years to maturity	3.00%	5.00%	8.90%	70.00%	105.00%	160.00%
Guaranteed minimum accumulation benefit with more than 3 years but less than or equal to 4 years to maturity	2.80%	5.00%	8.80%	60.00%	95.00%	135.00%
Guaranteed minimum accumulation benefit with more than 4 years but less than or equal to 5 years to maturity	2.40%	4.30%	8.00%	55.00%	85.00%	115.00%
Guaranteed minimum accumulation benefit with more than 5 years but less than or equal to 6 years to maturity	2.00%	3.50%	6.80%	50.00%	75.00%	100.00%
Guaranteed minimum accumulation benefit with more than 6 years but less than or equal to 7 years to maturity	1.70%	2.80%	5.90%	45.00%	65.00%	90.00%
Guaranteed minimum accumulation benefit with more than 7 years but less than or equal to 8 years to maturity	1.40%	2.10%	4.90%	40.00%	55.00%	80.00%
Guaranteed minimum accumulation benefit with more than 8 years but less than or equal to 9 years to maturity	1.10%	1.70%	4.30%	35.00%	50.00%	70.00%
Guaranteed minimum accumulation benefit with more than 9 years to maturity	1.00%	1.40%	3.90%	30.00%	45.00%	60.00%

18. The operational risk charge calculation shall be established in accordance with the following formula:

$C_{op} = \rho \times ACov$ where –

ρ = an amount between 1% and 10% as determined by the Authority in accordance with Table 16; and

$ACov$ = Group BSCR after Covariance amount or an amount prescribed by the Authority.

Table 16 – Operational Risk Charge for ρ

Overall Score	Applicable Operational Risk Charge ρ
<=5200	10.0%
>5200 <=6000	9.0%
>6000 <=6650	8.0%
>6650 <=7250	7.0%
>7250 <=7650	6.0%
>7650 <=7850	5.0%
>7850 <=8050	4.0%
>8050 <=8250	3.0%
>8250 <=8450	2.0%
>8450	1.0%

INSTRUCTIONS AFFECTING TABLE 16

In this table, "overall score" means an amount equal to the sum of the aggregate score derived from each of tables 16A, 16B, 16C, 16D, 16E, and 16F.

TABLE 16A – Insurance Group Corporate Governance Score Table

Criterion	Implemented	Score
Parent company's board sets risk policies, practices and tolerance limits for all material foreseeable operational risks at least annually and ensures they are communicated to insurance group entities		200
Parent company's board monitors adherence to operational risk tolerance limits more regularly than annually		200
Parent company's board receives, at least annually, reports on the effectiveness of material operational risk internal controls as well as senior managers's plans to address related weaknesses		200
Parent company's board ensures that systems and/or procedures are in place to identify, report and promptly address internal control deficiencies related to operational risks		200
Parent company's board promotes full, open and timely disclosure from senior management on all significant issues related to operational risk		200
Parent company's board ensures that periodic independent reviews of the risk management function are performed and receives the findings of the review		200
Total		**XX**
Comments		

INSTRUCTIONS AFFECTING TABLE 16A

The total score is derived by adding the score for each criterion of an insurance group's corporate structure that the parent company's board has implemented.

TABLE 16B – Insurance Group Risk Management Function ('RMF') Score Table

Criterion	**Implemented**	**Score**
RMF is independent of other operational units and has direct access to the parent company's Board of Directors		150
RMF is entrenched in strategic planning, decision making and the budgeting process		150
RMF ensures that the risk management procedures and policies are well documented and approved by the parent company's Board of Directors		150
RMF ensures that the risk management policies and procedures are communicated throughout the insurance group		150
RMF ensures that operational risk management processes and procedures are reviewed at least annually		150
RMF ensures that loss events arising from operational risks are documented and loss event data is integrated into the risk management strategy		150
RMF ensures that risk management recommendations are documented for operational units, ensures that deficiencies have remedial plans and that progress on the execution of such plans are reported to the parent company's Board of Directors at least annually		150
Total		**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16B

The total score is derived by adding the score for each criterion of an insurance group's risk management function that the parent company's board has implemented.

TABLE 16C – Insurance Group Risk Identification Processes (‘RIP’) Score Table

Progression		Criterion	Operational Risk Areas							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RIP are ad hoc								
2	100	RIP have been implemented but not standardized across the insurance group								
3	150	RIP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RIP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16C

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group’s implementation in respect of its RIP;

(b) where the insurance group’s assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group’s operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16D - Insurance Group Risk Measurement Processes ('RMP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RMP are ad hoc								
2	100	RMP have been implemented but not standardized across the insurance group								
3	150	RMP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RMP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16D

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RMP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16E - Insurance Group Risk Response Processes ('RRP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RRP are ad hoc								
2	100	RRP have been implemented but not standardized across the insurance group								
3	150	RRP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RRP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16E

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RRP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16F - Insurance Group Risk Monitoring and Reporting Processes (‘RMRP’) Score Table

Progression		Criterion	Operational Risk Areas							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RMRP are ad hoc								
2	100	RMRP have been implemented but not standardized across the insurance group								
3	150	RMRP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RMRP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16F

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group’s implementation in respect of its RMRP;

(b) where the insurance group’s assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group’s operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage

19. The regulatory capital requirement for regulated non-insurance financial operating entities shall be determined in accordance with Schedule XIA – "Schedule of regulated non-insurance financial operating entities". This amount shall be equal to the sum of the insurance group's proportionate share of each registered entity's regulatory capital requirement in accordance with the applicable solvency laws of the jurisdiction where the entity was licensed or registered.

20. (1) The capital requirement for unregulated entities, where the parent company exercises control as defined in subparagraph 19(4) of the Group Rules, shall be determined in accordance with Schedule XIB – "Schedule of unregulated entities where the group exercises control"

(2) This amount shall be equal to the sum of the capital requirement based on the capital charges applied to each unregulated entity's net assets as follows-

(a) 0% to unregulated entities that conduct ancillary services to members of the group;

(b) 15% to unregulated non-financial operating entities; and

(c) 50% to unregulated financial operating entities.

21. The $BSCR_{Corr}$ shall be established on an economic balance sheet (EBS) valuation basis in accordance with the following formula—

$$\boxed{BSCR_{Corr} = \text{Basic BSCR} + C_{operational} + C_{regulatoryadj} + Adj_{Other} + Adj_{TP}}$$

Where—

$Basic\ BSCR$	= Basic BSCR risk module charge as calculated in accordance with paragraph 22;
$C_{operational}$	= operational risk charge as calculated in accordance with paragraph 45;
$C_{regulatoryadj}$	= regulatory capital requirement for regulated non-insurance financial operating entities as determined in accordance with paragraphs 46 and 47;
Adj_{TP}	= adjustment for the loss-absorbing capacity of technical provisions as calculated in accordance with paragraph 48 and
Adj_{Other}	= adjustment for the loss absorbing capacity of deferred taxes as calculated in accordance with paragraph 49.

22. The Basic BSCR risk module charge calculation shall be determined in accordance with the following formula—

$$\boxed{Basic\ BSCR = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times C_i \times C_j};}$$

Where—

$CorrBBSCR_{i,j}$	=	the correlation factors of the Basic BSCR correlation matrix in accordance with Table A;
i, j	=	the sum of the different terms should cover all possible combinations of *i* and *j*;
C_i and C_j	=	risk module charge *i* and risk module charge *j* which are replaced by the following: C_{Market}, $C_{\text{P\&C}}$, C_{LT}, C_{Credit};
C_{Market}	=	market risk module charge as calculated in accordance with paragraph 23;
$C_{\text{P\&C}}$	=	P&C risk module charge as calculated in accordance with paragraph 24;
C_{LT}	=	Long-Term risk module charge as calculated in accordance with paragraph 25 and

C_{Credit} = credit risk module charge as calculated in accordance with paragraph 36.

Table A – Basic BSCR Correlation Matrix

$CorrBBSCR_{i,j}$	C_{Market}	C_{Credit}	$C_{P\&C}$	C_{LT}
C_{Market}	1			
C_{Credit}	0.25	1		
$C_{P\&C}$	0.125	0.50	1	
C_{LT}	0.125	0.25	0.00	1

23. The market risk module risk module charge calculation shall be determined in accordance with the following formula—

$$\boxed{C_{\text{Market}} = \sqrt{\sum_{i,j} Market_{i,j} \times C_i \times C_j}} \quad ;$$

Where—

$CorrMarket_{i,j}$ = the correlation factors of the market risk module in accordance with Table B; where A = 0 if interest rate / liquidity risk charge is calculated using the shock-based approach in accordance with paragraph 29 and the risk charge is being determined based on the interest rate up shock, and A = 0.25 otherwise;

i,j = the sum of the different terms should cover all possible combinations of i and j;

C_i and C_j = risk charge i and risk charge j which are replaced by the following: $C_{fixedIncome}$, C_{equity}, C_{interest}, C_{currency}, $C_{\text{concentration}}$;

$C_{fixedIncome}$ = fixed income investment risk charge as calculated in accordance with paragraph 26;

C_{equity} = equity investment risk charge as calculated in accordance with paragraph 27;

C_{interest} = interest rate / liquidity risk charge as calculated in accordance with paragraph 29;

C_{currency} = currency risk charge as calculated in accordance with paragraph 30; and

$C_{\text{concentration}}$ = concentration risk charge as calculated in accordance with paragraph 31.

Table B – Market Risk Module Correlation Matrix

$CorrMarket_{i,j}$	$C_{fixedIncome}$	C_{equity}	C_{interest}	C_{currency}	$C_{\text{concentration}}$
$C_{fixedIncome}$	1				
C_{equity}	0.50	1			
C_{interest}	A	A	1		
C_{currency}	0.25	0.25	0.25	1	
$C_{\text{concentration}}$	0.00	0.00	0.00	0.00	1

24. The P&C risk module charge calculation shall be determined in accordance with the following formula—

$$\boxed{C_{P\&C} = \sqrt{\sum_{i,j} CorrP\&C_{i,j} \times C_i \times C_j}} \quad ;$$

Where—

$CorrP\&C_{i,j}$	= the correlation factors of the P&C risk module correlation matrix in accordance with Table C;
i,j	= the sum of the different terms should cover all possible combinations of i and j;
C_i and C_j	= risk charge i and risk charge j which are replaced by the following: $C_{premium}$, $C_{reserve}$, $C_{catastrophe}$;
$C_{premium}$	= premium risk charge as calculated in accordance with paragraph 32;
$C_{reserve}$	= reserve risk charge as calculated in accordance with paragraph 34; and
$C_{catastrophe}$	= catastrophe risk charge as calculated in accordance with paragraph 37.

Table C - P&C Risk Module Correlation Matrix

$CorrP\&C_{i,j}$	$C_{premium}$	$C_{reserve}$	$C_{catastrophe}$
$C_{premium}$	1		
$C_{reserve}$	0.25	1	
$C_{catastrophe}$	0.125	0.00	1

25. The Long-Term risk module charge calculation shall be determined in accordance with the following formula-

$$C_{LT} = TransitionalFactor \times C_{LT,New} + (1 - TransitionalFactor) \times C_{LT,Old};$$

Where-

$C_{LT,Old}$	= the Long-Term risk module charge calculated in accordance with paragraph 25A;
$C_{LT,New}$	= the Long-Term risk module charge calculated in accordance with paragraph 25B;
TransitionalFactor	= the transitional factor that increases, from 10% for the financial year beginning on or after 1st January 2024, in equal 10 percentage point increments for each subsequent financial year until it reaches 100% for the financial year ending on or after 1st January 2033, and stays at 100% for all financial years thereafter.

25A. The $C_{LT,Old}$ charge calculation shall be determined in accordance with the following formula-

$$C_{LT,Old} = \sqrt{\sum_{i,j} CorrLT_{i,j} \times C_i \times C_j};$$

Where-

$CorrLT_{i,j}$	= the correlation factors of the Long-Term risk module correlation matrix in accordance with table D;
i,j	= the sum of the different terms should cover all possible combinations of i and j;
C_i and C_j	= risk charge *i* and risk charge *j*, which are replaced by the following: $C_{LTmortality}$, $C_{LTstoploss}$, $C_{LTrider}$, $C_{LTmorbidity}$, $C_{LTlongevity}$, $C_{LTVariableAnnuity}$, $C_{LTotherrisk}$;
$C_{LTmortality}$	= insurance risk – mortality charge for long-term business as calculated in accordance with paragraph 38;
$C_{LTstoploss}$	= insurance risk – stop loss charge for long-term business as calculated in accordance with paragraph 39;
$C_{LTrider}$	= insurance risk – riders charge for long-term business as calculated in accordance with paragraph 40;
$C_{LTmorbidity}$	= insurance risk – morbidity and disability charge for long-term business as calculated in accordance with paragraph 41;
$C_{LTlongevity}$	= insurance risk – longevity charge for long-term business as calculated in accordance with paragraph 42;
$C_{LTVariableAnnuity}$	= variable annuity guarantee risk charge for long-term business as calculated in accordance with paragraph 43; and
$C_{LTotherrisk}$	= other insurance risk charge for long-term business as calculated in accordance with paragraph 44.

Table D – Long-Term Risk Module Correlation Matrix

$CorrLT_{i,j}$	$C_{LTmortality}$	$C_{LTstoploss}$	$C_{LTrider}$	$C_{LTmorbidity}$	$C_{LTlongevity}$	$C_{LTVariableAnnuity}$	$C_{LTotherrisk}$

$C_{LTmortality}$	1						
$C_{LTstoploss}$	0.75	1					
$C_{LTrider}$	0.75	0.75	1				
$C_{LTmorbidity}$	0.25	0.00	0.00	1			
$C_{LTlongevity}$	-0.50	-0.50	-0.50	0.00	1		
$C_{LTVariableAnnuity}$	0.00	0.00	0.00	0.00	0.00	1	
$C_{LTotherrisk}$	0.125	0.25	0.25	0.25	0.25	0.25	1

25B. The $C_{LT,New}$ charge calculation shall be determined in accordance with the following formula-

$$C_{LT,New} = \sqrt{\sum_{i,j} CorrLT_{i,j} \times C_i \times C_j}\,;$$

Where-

$CorrLT_{i,j}$ = the correlation factors of the Long-Term risk module correlation matrix in accordance with table E;

i,j = the sum of the different terms should cover all possible combinations of i and j;

C_i and C_j = risk charge i and risk charge j which are replaced by the following: $C_{LTmortality}$, $C_{LTstoploss}$, $C_{LTrider}$, $C_{LTmorbidity}$, $C_{LTlongevity}$, $C_{LTVariableAnnuity}$, $C_{LTlapse}$, $C_{LTexpense}$;

$C_{LTmortality}$ = insurance risk – mortality charge for long-term business as calculated in accordance with paragraph 38;

$C_{LTstoploss}$ = insurance risk – stop loss charge for long-term business as calculated in accordance with paragraph 39;

$C_{LTrider}$ = insurance risk – riders charge for long-term business as calculated in accordance with paragraph 40;

$C_{LTmorbidity}$ = insurance risk – morbidity and disability charge for long-term business as calculated in accordance with paragraph 41;

$C_{LTlongevity}$ = insurance risk – longevity charge for long-term business as calculated in accordance with paragraph 42;

$C_{LTVariableAnnuity}$ = variable annuity guarantee risk charge for long-term business as calculated in accordance with paragraph 43; and

$C_{LTlapse}$ = lapse risk charge for long-term business as calculated in accordance with paragraph 44A; and

$C_{LTexpense}$ = expense risk charge for long-term business as calculated in accordance with paragraph 44B.

Table E – Long-Term Risk Module Correlation Matrix

$CorrLT_{i,j}$	$C_{LTmortality}$	$C_{LTstoploss}$	$C_{LTrider}$	$C_{LTmorbidity}$	$C_{LTlongevity}$	$C_{LTVariableAnnuity}$	C_{LTlaps}	$C_{LTexpens}$
$C_{LTmortality}$	1							

$CorrLT_{i,j}$	$C_{LTmortality}$	$C_{LTstoploss}$	$C_{LTrider}$	$C_{LTmorbidity}$	$C_{LTlongevity}$	$C_{LTVariableAnnuity}$	$C_{LTotherrisk}$
$C_{LTmortality}$	1						
$C_{LTstoploss}$	0.75	1					
$C_{LTrider}$	0.75	0.75	1				
$C_{LTmorbidity}$	0.25	0.00	0.00	1			
$C_{LTlongevity}$	-0.50	-0.50	-0.50	0.00	1		
$C_{LTVariableAnnuity}$	0.00	0.00	0.00	0.00	0.00	1	
$C_{LTotherrisk}$	0.125	0.25	0.25	0.25	0.25	0.25	1

$C_{LTstoploss}$	0.75	1						
$C_{LTrider}$	0.75	0.75	1					
$C_{LTmorbidity}$	0.25	0.00	0.00	1				
$C_{LTlongevity}$	-0.50	-0.50	-0.50	0.00	1			
$C_{LTVariableAnnuity}$	0.00	0.00	0.00	0.00	0.00	1		
$C_{LTlapse}$	0.00	0.00	0.00	0.00	0.25	0.00	1	
$C_{LTexpense}$	0.25	0.5	0.5	0.5	0.25	0.5	0.5	1

25.

Table D – Long-Term Risk Module Correlation Matrix

26. The fixed income investment risk charge calculation shall be determined in accordance with the following formula—

$$\boxed{C_{fixedIncome} = \sum_i \chi_i \times FIastclass_i \times \mu_r + Credit\ Derivatives}\ ;$$

Where—

χ_i = the capital charge factors prescribed in Table 1A for each type of $FIastclass_i$;

$FIastclass_i$ = value of investment in corresponding asset $class_i$; and

μ_r = additional diversification adjustment factor applied to cash and cash equivalent balances, or 1 for other asset classes; and

$Credit\ Derivatives$ = the spread risk charge for credit derivatives calculated as per the following formula:

$CreditDerivatives$ = greater of:

i. $CreditDerivatives_{ShockUp}$;

ii. $CreditDerivatives_{ShockDown}$; and

iii. 0.

$CreditDerivatives_{ShockUp}$ = the spread risk charge for credit derivatives resulting from an upward credit spread shock calculated as per the following formula:

$$CreditDerivatives_{ShockUp} = \sum_i \left[\left(LCD_i^{BShock} - LCD_i^{AShock}(\chi_i)\right) + \left(SCD_i^{BShock} - SCD_i^{AShock}(\chi_i)\right)\right]$$

$CreditDerivatives_{ShockDown}$ = the spread risk charge for credit derivatives resulting from an downward credit spread shock calculated as per the following formula:

$$CreditDerivatives_{ShockDown} = \sum_i \left[\left(LCD_i^{BShock} - LCD_i^{AShock}(\chi_i)\right) + \left(SCD_i^{BShock} - SCD_i^{AShock}(\chi_i)\right)\right]$$

LCD_i^{BShock} = refers to the valuation of long exposures for credit derivatives before applying the instantaneous shock χ_i as per table 1B

$LCD_i^{AShock}(\chi_i)$ = refers to the valuation of long exposures for credit derivatives after applying instantaneous shock χ_i as per table 1B

SCD_i^{BShock} = refers to the valuation of short exposures for credit derivatives before applying the instantaneous shock χ_i as per table 1B

$SCD_i^{AShock}(\chi_i)$ = refers to the valuation of short exposures for credit derivatives after applying the instantaneous shock χ_i as per table 1B

Table 1A – Capital charge factors for $FIastclass_i$

Type of fixed income investments $FIastclass_i$	**Statement Source** These Rules	**Capital Factor** χ_i
Corporate and Sovereign Bonds		
BSCR rating 0	Schedule IIB, Column (1), Line 1, Schedule IIC, Column (1), Line 1, (Schedule IID, Column (1), Line 1 – Column (2), Line 1), Schedule IIE, Column (1), Line 1, Schedule IIF, Column (1), Line 1	0.0%
BSCR rating 1	Schedule IIB, Column (1), Line 2, Schedule IIC, Column (1), Line 2, (Schedule IID, Column (1), Line 2 – Column (2), Line 2), Schedule IIE, Column (1), Line 2, Schedule IIF, Column (1), Line 2	0.4%
BSCR rating 2	Schedule IIB, Column (1), Line 3, Schedule IIC, Column (1), Line 3, (Schedule IID, Column (1), Line 3 – Column (2), Line 3), Schedule IIE, Column (1), Line 3, Schedule IIF, Column (1), Line 3	0.8%
BSCR rating 3	Schedule IIB, Column (1), Line 4, Schedule IIC, Column (1), Line 4, (Schedule IID, Column (1), Line 4 – Column (2), Line 4), Schedule IIE, Column (1), Line 4, Schedule IIF, Column (1), Line 4	1.5%
BSCR rating 4	Schedule IIB, Column (1), Line 5, Schedule IIC, Column (1), Line 5, (Schedule IID, Column (1), Line 5 – Column (2), Line 5), Schedule IIE, Column (1), Line 5, Schedule IIF, Column (1), Line 5	3.0%
BSCR rating 5	Schedule IIB, Column (1), Line 6, Schedule IIC, Column (1), Line 6, (Schedule IID, Column (1), Line 6 – Column (2), Line 6), Schedule IIE, Column (1), Line 6, Schedule IIF, Column (1), Line 6	8.0%
BSCR rating 6	Schedule IIB, Column (1), Line 7, Schedule IIC, Column (1), Line 7, (Schedule IID, Column (1), Line 7 – Column (2), Line 7), Schedule IIE, Column (1), Line 7, Schedule IIF, Column (1), Line 7	15.0%
BSCR rating 7	Schedule IIB, Column (1), Line 8, Schedule IIC, Column (1), Line 8, (Schedule IID, Column (1), Line 8 – Column (2), Line 8), Schedule IIE, Column (1), Line 8, Schedule IIF, Column (1), Line 8	26.3%
BSCR rating 8	Schedule IIB, Column (1), Line 9, Schedule IIC, Column (1), Line 9, (Schedule IID, Column (1), Line 9 – Column (2), Line 9), Schedule IIE, Column (1), Line 9, Schedule IIF, Column (1), Line 9	35.0%
Residential Mortgage-Backed Securities		
BSCR rating 1	Schedule IIB, Column (3), Line 2, Schedule IIC, Column (3), Line 2, (Schedule IID, Column (3), Line 2 – Column (4), Line 2), Schedule IIE, Column (3), Line 2, Schedule IIF, Column (3), Line 2	0.6%
BSCR rating 2	Schedule IIB, Column (3), Line 3, Schedule IIC, Column (3), Line 3, (Schedule IID, Column (3), Line 3 – Column (4), Line 3), Schedule IIE, Column (3), Line 3, Schedule IIF, Column (3), Line 3	1.2%
BSCR rating 3	Schedule IIB, Column (3), Line 4, Schedule IIC, Column (3), Line 4, (Schedule IID, Column (3), Line 4 – Column (4), Line 4), Schedule IIE, Column (3), Line 4, Schedule IIF, Column (3), Line 4	2.0%
BSCR rating 4	Schedule IIB, Column (3), Line 5, Schedule IIC, Column (3), Line 5, (Schedule IID, Column (3), Line 5 – Column (4), Line 5), Schedule IIE, Column (3), Line 5, Schedule IIF, Column (3), Line 5	4.0%
BSCR rating 5	Schedule IIB, Column (3), Line 6, Schedule IIC, Column (3), Line 6, (Schedule IID, Column (3), Line 6 – Column (4), Line 6), Schedule IIE, Column (3), Line 6, Schedule IIF, Column (3), Line 6	11.0%
BSCR rating 6	Schedule IIB, Column (3), Line 7, Schedule IIC, Column (3), Line 7, (Schedule IID, Column (3), Line 7 – Column (4), Line 7), Schedule IIE, Column (3), Line 7, Schedule IIF, Column (3), Line 7	25.0%
BSCR rating 7	Schedule IIB, Column (3), Line 8, Schedule IIC, Column (3), Line 8, (Schedule IID, Column (3), Line 8 – Column (4), Line 8), Schedule IIE, Column (3), Line 8, Schedule IIF, Column (3), Line 8	35.0%

BSCR rating 8	Schedule IIB, Column (3), Line 9, Schedule IIC, Column (3), Line 9, (Schedule IID, Column (3), Line 9 – Column (4), Line 9), Schedule IIE, Column (3), Line 9, Schedule IIF, Column (3), Line 9	35.0%
Commercial Mortgage-Backed Securities/Asset-Backed Securities		
BSCR rating 1	Schedule IIB, Column (5), Line 2, Schedule IIC, Column (5), Line 2, (Schedule IID, Column (5), Line 2 – Column (6), Line 2), Schedule IIE, Column (5), Line 2, Schedule IIF, Column (5), Line 2	0.5%
BSCR rating 2	Schedule IIB, Column (5), Line 3, Schedule IIC, Column (5), Line 3, (Schedule IID, Column (5), Line 3 – Column (6), Line 3), Schedule IIE, Column (5), Line 3, Schedule IIF, Column (5), Line 3	1.0%
BSCR rating 3	Schedule IIB, Column (5), Line 4, Schedule IIC, Column (5), Line 4, (Schedule IID, Column (5), Line 4 – Column (6), Line 4), Schedule IIE, Column (5), Line 4, Schedule IIF, Column (5), Line 4	1.8%
BSCR rating 4	Schedule IIB, Column (5), Line 5, Schedule IIC, Column (5), Line 5, (Schedule IID, Column (5), Line 5 – Column (6), Line 5), Schedule IIE, Column (5), Line 5, Schedule IIF, Column (5), Line 5	3.5%
BSCR rating 5	Schedule IIB, Column (5), Line 6, Schedule IIC, Column (5), Line 6, (Schedule IID, Column (5), Line 6 – Column (6), Line 6), Schedule IIE, Column (5), Line 6, Schedule IIF, Column (5), Line 6	10.0%
BSCR rating 6	Schedule IIB, Column (5), Line 7, Schedule IIC, Column (5), Line 7, (Schedule IID, Column (5), Line 7 – Column (6), Line 7), Schedule IIE, Column (5), Line 7, Schedule IIF, Column (5), Line 7	20.0%
BSCR rating 7	Schedule IIB, Column (5), Line 8, Schedule IIC, Column (5), Line 8, (Schedule IID, Column (5), Line 8 – Column (6), Line 8), Schedule IIE, Column (5), Line 8, Schedule IIF, Column (5), Line 8	30.0%
BSCR rating 8	Schedule IIB, Column (5), Line 9, Schedule IIC, Column (5), Line 9, (Schedule IID, Column (5), Line 9 – Column (6), Line 9), Schedule IIE, Column (5), Line 9, Schedule IIF, Column (5), Line 9	35.0%
Bond Mutual Funds		
BSCR rating 0	Schedule IIB, Column (7), Line 1, Schedule IIC, Column (7), Line 1, (Schedule IID, Column (7), Line 1 – Column (8), Line 1), Schedule IIE, Column (7), Line 1, Schedule IIF, Column (7), Line 1	0.0%
BSCR rating 1	Schedule IIB, Column (7), Line 2, Schedule IIC, Column (7), Line 2, (Schedule IID, Column (7), Line 2 – Column (8), Line 2), Schedule IIE, Column (7), Line 2, Schedule IIF, Column (7), Line 2	0.4%
BSCR rating 2	Schedule IIB, Column (7), Line 3, Schedule IIC, Column (7), Line 3, (Schedule IID, Column (7), Line 3 – Column (8), Line 3), Schedule IIE, Column (7), Line 3, Schedule IIF, Column (7), Line 3	0.8%
BSCR rating 3	Schedule IIB, Column (7), Line 4, Schedule IIC, Column (7), Line 4, (Schedule IID, Column (7), Line 4 – Column (8), Line 4), Schedule IIE, Column (7), Line 4, Schedule IIF, Column (7), Line 4	1.5%
BSCR rating 4	Schedule IIB, Column (7), Line 5, Schedule IIC, Column (7), Line 5, (Schedule IID, Column (7), Line 5 – Column (8), Line 5), Schedule IIE, Column (7), Line 5, Schedule IIF, Column (7), Line 5	3.0%
BSCR rating 5	Schedule IIB, Column (7), Line 6, Schedule IIC, Column (7), Line 6, (Schedule IID, Column (7), Line 6 – Column (8), Line 6), Schedule IIE, Column (7), Line 6, Schedule IIF, Column (7), Line 6	8.0%
BSCR rating 6	Schedule IIB, Column (7), Line 7, Schedule IIC, Column (7), Line 7, (Schedule IID, Column (7), Line 7 – Column (8), Line 7), Schedule IIE, Column (7), Line 7, Schedule IIF, Column (7), Line 7	15.0%
BSCR rating 7	Schedule IIB, Column (7), Line 8, Schedule IIC, Column (7), Line 8, (Schedule IID, Column (7), Line 8 – Column (8), Line 8), Schedule IIE, Column (7), Line 8, Schedule IIF, Column (7), Line 8	26.3%
BSCR rating 8	Schedule IIB, Column (7), Line 9, Schedule IIC, Column (7), Line 9, (Schedule IID, Column (7), Line 9 – Column (8), Line 9), Schedule IIE, Column (7), Line 9, Schedule IIF, Column (7), Line 9	35.0%
Mortgage Loans		
Insured/guaranteed mortgages	Schedule IIB, Column (9), Line 10, Schedule IIC, Column (9), Line 10, (Schedule IID, Column (9), Line 10 – Column (10), Line 10), Schedule IIE, Column (9), Line 10, Schedule IIF, Column (9), Line 10	0.3%

Other commercial and farm mortgages	Schedule IIB, Column (9), Line 11, Schedule IIC, Column (9), Line 11, (Schedule IID, Column (9), Line 11 – Column (10), Line 11), Schedule IIE, Column (9), Line 11, Schedule IIF, Column (9), Line 11	5.0%
Other residential mortgages	Schedule IIB, Column (9), Line 12, Schedule IIC, Column (9), Line 12, Line 12), (Schedule IID, Column (9), Line 12 – Column (10), Line 12), Schedule IIE, Column (9), Line 12, Schedule IIF, Column (9), Line 12	1.5%
Mortgages not in good standing	Schedule IIB, Column (9), Line 13, Schedule IIC, Column (9), Line 13, Line 13), (Schedule IID, Column (9), Line 13 – Column (10), Line 13), Schedule IIE, Column (9), Line 13, Schedule IIF, Column (9), Line 13	25.0%
Other Fixed Income Investments		
Other loans	Form 4EBS, Line 8	5.0%
Cash and cash equivalents		
BSCR rating 0	Schedule XIXA, Column A	0.0%
BSCR rating 1	Schedule XIXA, Column A	0.1%
BSCR rating 2	Schedule XIXA, Column A	0.2%
BSCR rating 3	Schedule XIXA, Column A	0.3%
BSCR rating 4	Schedule XIXA, Column A	0.5%
BSCR rating 5	Schedule XIXA, Column A	1.5%
BSCR rating 6	Schedule XIXA, Column A	4.0%
BSCR rating 7	Schedule XIXA, Column A	6.0%
BSCR rating 8	Schedule XIXA, Column A	9.0%

INSTRUCTIONS AFFECTING TABLE 1A: Capital charge factors for $FIastclass_i$

(a) all assets comprising of bonds and debentures, loans, and other miscellaneous investments that are subject to capital charges within the fixed income investment risk charge shall be included;

(b) all non-affiliated quoted and unquoted bonds and debentures shall be included in the fixed income investment charge;

(c) all bonds and debentures, loans, and other miscellaneous investments shall include amounts reported for economic balance sheet reporting purposes and include fixed income risk exposures as determined by application of the "look-through" approach calculated in accordance with the criteria prescribed by the Authority for the following items:
   - (i) collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
   - (ii) segregated accounts assets and liabilities;
   - (iii) deposit asset and liabilities;
   - (iv) assets and liabilities held by ceding insurers or under retrocession;
   - (v) other sundry assets and liabilities; and
   - (vi) derivatives.

(d) The capital requirements relating to cash and cash equivalents shall be reduced by a diversification adjustment of up to a maximum of 40%;

(e) the diversification adjustment in paragraph (d) is determined as 40% multiplied by 1 minus the ratio of the largest cash and cash equivalent balance held with a single counterparty to the total of all cash and cash equivalent balance;

Table 1B – Spread risk shocks for credit derivatives	SPREAD UP				
	Long Exposures		Short Exposures		
	Before Shock	After Shock	Before Shock	After Shock	Shock basis points
Spread Up					χ_i
BSCR rating 0	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 38	0
BSCR rating 1	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 39	130
BSCR rating 2	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 40	150
BSCR rating 3	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 41	260
BSCR rating 4	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 42	450
BSCR rating 5	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 43	840
BSCR rating 6	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 44	1620
BSCR rating 7	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 45	1620
BSCR rating 8	Schedules IIB, IIC, IID, IIE, and IIF, Column (1), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (2), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (3), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (4), Line 46	1620
Total Spread Up					
	SPREAD DOWN				
	Long Exposures		Short Exposures		
	Before Shock	After Shock	Before Shock	After Shock	Shock Rate
Spread Up					χ_i
BSCR rating 0	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 38	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 38	0.0%
BSCR rating 1	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 39	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 39	-75.0%
BSCR rating 2	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 40	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 40	-75.0%
BSCR rating 3	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 41	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 41	-75.0%
BSCR rating 4	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 42	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 42	-75.0%
BSCR rating 5	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 43	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 43	-75.0%
BSCR rating 6	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 44	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 44	-75.0%
BSCR rating 7	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 45	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 45	-75.0%
BSCR rating 8	Schedules IIB, IIC, IID, IIE, and IIF, Column (6), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (7), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (8), Line 46	Schedules IIB, IIC, IID, IIE, and IIF, Column (9), Line 46	-75.0%
Total Spread Down					

INSTRUCTIONS AFFECTING TABLE 1B: Spread risk shocks for credit derivatives

(a) Amounts are to be reported on an EBS Valuation basis.

27. The equity investment risk charge calculation shall be established in accordance with the following formula—

$$\boxed{C_{\text{equity}} = C_{equity}^{basic} + C_{equity}^{grandfathered}}$$

Where-

C_{equity}^{basic} $= \sqrt{\sum_{i,j} CorrEq_{i,j} \times C_i \times C_j}$

$C_{equity}^{grandfathered}$ = the equity risk charge calculated according to paragraph 3 for equity exposures that are determined according to paragraph 28A;

$CorrEq_{i,j}$ = the correlation factors of the equity risk correlation matrix in accordance with Table 2A;

i,j = the sum of the different terms should cover all possible combinations of correlation *i* and *j*;

C_i and C_j = risk charge *i* and risk charge *j* which are replaced by the following: C_{Type1}, C_{Type2}, C_{Type3}, C_{Type4};

C_{Type1} = *Type1* equity risk charge as calculated in accordance with paragraph 28 for equity exposures not determined according to paragraph 28A;

C_{Type2} = *Type2* equity risk charge as calculated in accordance with paragraph 28 for equity exposures not determined according to paragraph 28A;

C_{Type3} = *Type3* equity risk charge as calculated in accordance with paragraph 28 for equity exposures not determined according to paragraph 28A;

C_{Type4} = *Type4* equity risk charge as calculated in accordance with paragraph 28 for equity exposures not determined according to paragraph 28A;

Table 2A – Equity Risk Charge Correlation Matrix

$CorrEq_{i,j}$	C_{Type1}	C_{Type2}	C_{Type3}	C_{Type4}
C_{Type1}	1			
C_{Type2}	0.75	1		
C_{Type3}	0.75	0.75	1	
C_{Type4}	0.5	0.5	0.5	1

28. Type1, Type2 Type3 and Type4 equity risk charges calculation shall be determined in accordance with the following formulas—

$$C_{Type1} = \max\left\{\sum_{i \in Type1}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i), 0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i), 0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right], 0\right\}$$

$$C_{Type2} = \max\left\{\sum_{i \in Type2}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i), 0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i), 0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right], 0\right\}$$

$$C_{Type3} = \max\left\{\sum_{i \in Type3}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i), 0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i), 0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right], 0\right\}$$

$$C_{Type4} = \max\left\{\sum_{i \in Type4}\left[\begin{array}{c}\max\left(LAssets_i^{BShock} - LAssets_i^{AShock}(\chi_i), 0\right) + \left(SQAssets_i^{BShock} - SQAssets_i^{AShock}(\chi_i)\right) + \cdots \\ + \max\left(SNQAssets_i^{BShock} - SNQAssets_i^{AShock}(\chi_i), 0\right) - \left(BELiabilities_i^{BShock} - BELiabilities_i^{AShock}(\chi_i)\right)\end{array}\right], 0\right\}$$

Where—

χ_i	= the instantaneous shocks prescribed in Table 2B for each type of equity class i; and
$LAssets^{BShock}$	= refers to the valuation of long asset exposures before applying shock
$LAssets^{AShock}$	= refers to the valuation of long asset exposures after applying shock
$SQAssets_{BShock}$	= refers to the valuation of short exposures for qualifying assets that are held for risk mitigating purposes as determined in accordance with the criteria prescribed by the Authority before applying shock
$SQAssets_{AShock}$	= refers to the valuation of short exposures for qualifying assets that are held for risk mitigating purposes as determined in accordance with the criteria prescribed by the Authority after applying shock
$SNQAssets_{BShock}$	= refers to the valuation of short exposures for assets that do not qualify for risk mitigating purposes as determined in accordance with the criteria prescribed by the Authority before applying shock
$SNQAssets_{AShock}$	= refers to the valuation of short exposures for assets that do not qualify for risk mitigating purposes as determined in accordance with the criteria prescribed by the Authority after applying shock
$BELiabilities^{BShock}$	= refers to the best estimate of insurance liabilities and other liabilities before applying shock
$BELiabilities^{AShock}$	= refers to the best estimate of insurance liabilities and other liabilities after applying shock

Table 2B – Shocks for classes of equity

	Assets				Shock Factor
		Short Exposures		Liabilities	
Equity investments Equity class, i	**Long Exposures**	**Qualifying as Assets held for risk-mitigation purposes**	**Not Qualifying as Assets held for risk-mitigation purposes**	**Without Management Action**	χ_i
Type 1 Equity Holdings					
Strategic Holdings – Listed	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 15 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 15	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 15 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 15	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 15 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 15	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 15 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 15	20.0%
Duration Based	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 16 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 16	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 16 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 16	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 16 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 16	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 16 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 16	20.0%
Listed Equity Securities in Developed Markets	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 17 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 17	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 17 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 17	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 17 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 17	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 17 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 17	35%
Preferred Stocks, Rating 1	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 18 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 18	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 18 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 18	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 18 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 18	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 18 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 18	0.6%
Preferred Stocks, Rating 2	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 19 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 19	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 19 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 19	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 19 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 19	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 19 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 19	1.2%
Preferred Stocks, Rating 3	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 20 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 20	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 20 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 20	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 20 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 20	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 20 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 20	2.0%
Preferred Stocks, Rating 4	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 21 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 21	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 21 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 21	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 21 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 21	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 21 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 21	4.0%
Preferred Stocks, Rating 5	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 22 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 22	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 22 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 22	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 22 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 22	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 22 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 22	11.0%
Preferred Stocks, Rating 6	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 23 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 23	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 23 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 23	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 23 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 23	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 23 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 23	25.0%
Preferred Stocks, Rating 7	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 24 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 24	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 24 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 24	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 24 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 24	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 24 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 24	35.0%
Preferred Stocks,	Schedule IIB, IIC, IID, IIE, & IIF,	Schedule IIB, IIC, IID, IIE, &	Schedule IIB, IIC, IID, IIE, & IIF,	Schedule IIB, IIC, IID, IIE, & IIF,	35.0%

Rating 8	Column (1), Line 25 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 25	IIF, Column (3), Line 25 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 25	Column (5), Line 25 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 25	Column (7), Line 25 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 25	
Equity Derivatives on Type 1 Equities	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 26 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 26	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 26 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 26	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 26 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 26	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 26 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 26	35.0%
Subtotal Type 1 Equity Holdings					
Type 2 Equity Holdings					
Strategic Holdings – Unlisted	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 27 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 27	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 27 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 27	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 27 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 27	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 27 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 27	20.0%
Other Equities	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 28 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 28	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 28 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 28	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 28 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 28	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 28 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 28	45.0%
Letters of Credit	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 29 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 29	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 29 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 29	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 29 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 29	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 29 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 29	20.0%
Intangible assets	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 30 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 30	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 30 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 30	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 30 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 30	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 30 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 30	20.0%
Pension Benefit Surplus	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 31 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 31	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 31 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 31	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 31 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 31	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 31 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 31	20.0%
Equity Derivatives on Type 2 Equities	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 32 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 32	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 32 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 32	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 32 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 32	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 32 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 32	45.0%
Subtotal Type 2 Equity Holdings					
Type 3 Equity Holdings					
Infrastructure	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 33 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 33	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 33 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 33	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 33 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 33	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 33 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 33	25.0%
Derivatives on Infrastructure	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 34 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 34	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 34 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 34	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 34 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 34	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 34 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 34	25.0%
Subtotal Type 3 Equity Holdings					
Type 4 Equity Holdings					
Equity Real Estate 1	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 35 Less Schedule IIB, IIC, IID, IIE, & IIF,	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 35 Less Schedule IIB, IIC, IID, IIE, &	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 35 Less Schedule IIB, IIC, IID, IIE, & IIF,	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 35 Less Schedule IIB, IIC, IID, IIE, & IIF,	10.0%

	Column (2), Line 35	IIF, Column (4), Line 35	Column (6), Line 35	Column (8), Line 35	
Equity Real Estate 2	Schedule IIB, IIC, IID, IIE, & IIF, Column (1), Line 36 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (2), Line 36	Schedule IIB, IIC, IID, IIE, & IIF, Column (3), Line 36 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (4), Line 36	Schedule IIB, IIC, IID, IIE, & IIF, Column (5), Line 36 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (6), Line 36	Schedule IIB, IIC, IID, IIE, & IIF, Column (7), Line 36 Less Schedule IIB, IIC, IID, IIE, & IIF, Column (8), Line 36	20.0%
Subtotal Type 4 Equity Holdings					
Total Equity Risk before Diversification					
Aggregation of Risks					

Correlation Matrix	Type 1	Type 2	Type 3	Type 4
Type 1	1			
Type 2	0.75	1		
Type 3	0.75	0.75	1	
Type 4	0.50	0.50	0.50	1

Total Type 1 Risk without Management Actions
Total Type 2 Risk without Management Actions
Total Type 3 Risk without Management Actions
Total Type 4 Risk without Management Actions
Total Equity Risk after Diversification

INSTRUCTIONS AFFECTING TABLE 2B: Shocks for $Eqastclass_i$

(a) all assets (except regulated non-insurance financial operating entities) and liabilities (except the risk margin) whose value is subject to equity risk shocks are to be reported on a basis consistent with that used for the purposes of economic balance sheet reporting. Such assets and liabilities shall include equity risk exposures determined by application of the "look-through" approach calculated in accordance with criteria prescribed by the Authority for the following items:
- (i) collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
- (ii) segregated accounts assets and liabilities;
- (iii) deposit asset and liabilities;
- (iv) assets and liabilities held by ceding insurers or under retrocession;
- (v) other sundry assets and liabilities; and
- (vi) derivatives.

(b) for asset types referred to in paragraph (a) (i) to (vi) where the "look through" approach cannot be applied, the residual balance shall be included in "Equity Securities – Other Investments";

(c) short exposures qualifying as assets held for risk-mitigation purposes and short exposures not qualifying as assets held for risk-mitigation purposes, shall both be determined in accordance with criteria prescribed by the Authority.

28A. The equity investments that are eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in paragraph 27 are determined as follows:

i. The average value of equities as percentage of total assets over the prior three financial year ends before January 1st 2019 (i.e., over the financial years ending 2016 to 2018) is calculated.
   a. Similarly, for each class of equities in accordance with Table 2B, the average amounts as a percentage of total equities shall be determined over the same prior three years, i.e. the allocations for each equity class.

ii. The total amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in paragraph 27 at each year end is determined by multiplying the amount of legacy reserves by the equity percentage of paragraph i., where
   a. "Legacy reserves" are defined as the long term best estimate labilities, at the applicable point in time (financial year-end), for insurance business carried on as at December 31st 2018.
   b. The total amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in paragraph 27 at each year end shall not be greater than the amount of the legacy reserves.

iii. The equity investments eligible to being used in the calculation of $C_{equity}^{grandfathered}$ as defined in paragraph 27 per equity class are calculated by multiplying the total amount in paragraph ii. by the equity class allocation in paragraph i.

iv. Future applicable reserves shall be capped at the initial reserve. The amount of equities eligible to be used in the calculation of $C_{equity}^{grandfathered}$ as defined in paragraph 27 can therefore never be greater than the initial amount.

v. Equities that are eligible to be used being used in the calculation of $C_{equity}^{grandfathered}$ **Error! Bookmark not defined.**as defined in paragraph 27 may be traded or replaced within a specific equity class and still receive the aforementioned treatment.

29 The interest rate and liquidity risk charge calculation may be calculated in accordance with paragraph 4 or the formula below. Where an insurance group decides to utilise the formula below, it will only be allowed to revert back and utilise the calculations prescribed in paragraph 4 where it has received the written approval of the Authority pursuant to an application made in accordance with section 6D of the Act.

$$\boxed{C_{Interest} = \max\{\max(Shock_{IR,Down}, Shock_{IR,Up}) - OffSet_{ScenarioBased}, 0\}};$$

Where—

$$Shock_{IR,\omega} = \sum_{CCY} Shock_{IR,\omega}^{CCY}$$

$$Shock_{IR,\omega}^{CCY} = (MVA_{Before}^{CCY,Q} - MVA_{After,\omega}^{CCY,Q}) + \max(MVA_{Before}^{CCY,NQ} - MVA_{After,\omega}^{CCY,NQ}, 0) - (MVL_{Before}^{CCY} - MVL_{After,\omega}^{CCY})$$

$$\omega = Down, Up$$

$$OffSet_{ScenarioBased} = \min(0.5 \cdot (BELiability_{WorstScenario} - BELiability_{BaseScenario}), 0.75 \cdot C_{Interest}^{WithoutOffset})$$

$$C_{Interest}^{WithoutOffset} = \max(Shock_{IR,Down}, Shock_{IR,Up})$$

$MVA_{Before}^{CCY,Q}$ = refers to the market value of qualified assets including derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) before shock ω (ω=Up or Down) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;

$MVA_{After}^{CCY,Q}$ = refers to the revaluation of qualified assets including derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking interest rates by $\chi(CCY,\omega)$ where (CCY) refers to currency type, ω refers to shock Down and Up, and χ refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 1EBS prescribed in Table 3B;

$MVA_{Before}^{CCY,NQ}$ = refers to the market value of non-qualified assets which are derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) before shock ω (ω=Up or Down) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;

$MVA_{After}^{CCY,NQ}$ = refers to the revaluation of non-qualified assets which are derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking interest rates by $\chi(CCY,\omega)$ where (CCY) refers to currency type, ω refers to shock Down and Up, and χ refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 1EBS prescribed in Table 3B;

MVL_{Before}^{CCY} = refers to the best estimate of insurance liabilities and other liabilities before shock ω (ω=Up or Down by currency type that has been converted to the functional currency as reported in Form 1EBS;

MVL_{After}^{CCY} = refers to the revaluation of the best estimate of insurance liabilities and other liabilities after shocking interest rates by $\chi(CCY,\omega)$ where (CCY) refers to currency type, ω refers to shock Down and Up, and χ refers to the shock vector where the revalued amount has been converted to the functional currency as reported in Form 1EBS prescribed in Table 3B;

$BELiability_{BaseScenario}$ = refers to best estimate of liabilities in the base case scenario when using the scenario-based approach; and

$BELiability_{WorstScenario}$ = refers to best estimate of liabilities in the worst-case scenario when using the scenario-based approach.

Table 3B – Shock vectors for Interest Rate – Liquidity Risk

Currency	$MVA_{Before}^{CCY,Q}$ - $MVA_{After}^{CCY,Q}$	MVL_{Before}^{CCY} - MVL_{After}^{CCY}	Shock Vector $\chi(CCY, Down)$
Interest Rate Down – Exposures without Derivatives			
United States Dollars	Schedule XXIII, Column A Line 1 Less Schedule XXIII Column B, Line 1	Schedule XXIII, Column C Line 1 Less Schedule XXIII Column D, Line 1	*
Euro	Schedule XXIII, Column A Line 2 Less Schedule XXIII Column B, Line 2	Schedule XXIII, Column C Line 2 Less Schedule XXIII Column D, Line 2	*
United Kingdom Pounds	Schedule XXIII, Column A Line 3 Less Schedule XXIII Column B, Line 3	Schedule XXIII, Column C Line 3 Less Schedule XXIII Column D, Line 3	*
Japan Yen	Schedule XXIII, Column A Line 4 Less Schedule XXIII Column B, Line 4	Schedule XXIII, Column C Line 4 Less Schedule XXIII Column D, Line 4	*
Canada Dollars	Schedule XXIII, Column A Line 5 Less Schedule XXIII Column B, Line 5	Schedule XXIII, Column C Line 5 Less Schedule XXIII Column D, Line 5	*
Swiss Francs	Schedule XXIII, Column A Line 6 Less Schedule XXIII Column B, Line 6	Schedule XXIII, Column C Line 6 Less Schedule XXIII Column D, Line 6	*
Australia Dollars	Schedule XXIII, Column A Line 7 Less Schedule XXIII Column B, Line 7	Schedule XXIII, Column C Line 7 Less Schedule XXIII Column D, Line 7	*
New Zealand Dollars	Schedule XXIII, Column A Line 8 Less Schedule XXIII Column B, Line 8	Schedule XXIII, Column C Line 8 Less Schedule XXIII Column D, Line 8	*
Other currency 1	Schedule XXIII, Column A Line 9 Less Schedule XXIII Column B, Line 9	Schedule XXIII, Column C Line 9 Less Schedule XXIII Column D, Line 9	*
Other currency 2	Schedule XXIII, Column A Line 10 Less Schedule XXIII Column B, Line 10	Schedule XXIII, Column C Line 10 Less Schedule XXIII Column D, Line 10	*
Other currency 3	Schedule XXIII, Column A Line 11 Less Schedule XXIII Column B, Line 11	Schedule XXIII, Column C Line 11 Less Schedule XXIII Column D, Line 11	*
Other currency 4	Schedule XXIII, Column A Line 12 Less Schedule XXIII Column B, Line 12	Schedule XXIII, Column C Line 12 Less Schedule XXIII Column D, Line 12	*
Other currency 5	Schedule XXIII, Column A Line 13 Less Schedule XXIII Column B, Line 13	Schedule XXIII, Column C Line 13 Less Schedule XXIII Column D, Line 13	*
Other currency 6	Schedule XXIII, Column A Line 14 Less Schedule XXIII Column B, Line 14	Schedule XXIII, Column C Line 14 Less Schedule XXIII Column D, Line 14	*
Other currency 7	Schedule XXIII, Column A Line 15 Less Schedule XXIII Column B, Line 15	Schedule XXIII, Column C Line 15 Less Schedule XXIII Column D, Line 15	*
Other currency 8	Schedule XXIII, Column A Line 16 Less Schedule XXIII Column B, Line 16	Schedule XXIII, Column C Line 16 Less Schedule XXIII Column D, Line 16	*
Other currency 9	Schedule XXIII, Column A Line 17 Less Schedule XXIII Column B, Line 17	Schedule XXIII, Column C Line 17 Less Schedule XXIII Column D, Line 17	*
Other currency 10	Schedule XXIII, Column A Line 18 Less Schedule XXIII Column B, Line 18	Schedule XXIII, Column C Line 18 Less Schedule XXIII Column D, Line 18	*

Currency	$MVA^{CCY,Q}_{Before}$ - $MVA^{CCY,Q}_{After}$	$MVA^{CCY,NQ}_{Before}$ - $MVA^{CCY,NQ}_{After}$	MVL^{CCY}_{Before} - MVL^{CCY}_{After}	Shock Vector $\chi(CCY, Down)$
Interest Rate Down – Derivative Exposure				
United States Dollars	Schedule XXIII, Column G Line 1 Less Schedule XXIII Column H, Line 1	Schedule XXIII, Column I Line 1 Less Schedule XXIII Column J, Line 1	Schedule XXIII, Column K Line 1 Less Schedule XXIII Column L, Line 1	*
Euro	Schedule XXIII, Column G Line 2 Less Schedule XXIII Column H, Line 2	Schedule XXIII, Column I Line 2 Less Schedule XXIII Column J, Line 2	Schedule XXIII, Column K Line 2 Less Schedule XXIII Column L, Line 2	*
United Kingdom Pounds	Schedule XXIII, Column G Line 3 Less Schedule XXIII Column H, Line 3	Schedule XXIII, Column I Line 3 Less Schedule XXIII Column J, Line 3	Schedule XXIII, Column K Line 3 Less Schedule XXIII Column L, Line 3	*
Japan Yen	Schedule XXIII, Column G Line 4 Less Schedule XXIII Column H, Line 4	Schedule XXIII, Column I Line 4 Less Schedule XXIII Column J, Line 4	Schedule XXIII, Column K Line 4 Less Schedule XXIII Column L, Line 4	*
Canada Dollars	Schedule XXIII, Column G Line 5 Less Schedule XXIII Column H, Line 5	Schedule XXIII, Column I Line 5 Less Schedule XXIII Column J, Line 5	Schedule XXIII, Column K Line 5 Less Schedule XXIII Column L, Line 5	*
Swiss Francs	Schedule XXIII, Column G Line 6 Less Schedule XXIII Column H, Line 6	Schedule XXIII, Column I Line 6 Less Schedule XXIII Column J, Line 6	Schedule XXIII, Column K Line 6 Less Schedule XXIII Column L, Line 6	*
Australia Dollars	Schedule XXIII, Column G Line 7 Less Schedule XXIII Column H, Line 7	Schedule XXIII, Column I Line 7 Less Schedule XXIII Column J, Line 7	Schedule XXIII, Column K Line 7 Less Schedule XXIII Column L, Line 7	*
New Zealand Dollars	Schedule XXIII, Column G Line 8 Less Schedule XXIII Column H, Line 8	Schedule XXIII, Column I Line 8 Less Schedule XXIII Column J, Line 8	Schedule XXIII, Column K Line 8 Less Schedule XXIII Column L, Line 8	*
Other currency 1	Schedule XXIII, Column G Line 9 Less Schedule XXIII Column H, Line 9	Schedule XXIII, Column I Line 9 Less Schedule XXIII Column J, Line 9	Schedule XXIII, Column K Line 9 Less Schedule XXIII Column L, Line 9	*
Other currency 2	Schedule XXIII, Column G Line 10 Less Schedule XXIII Column H, Line 10	Schedule XXIII, Column I Line 10 Less Schedule XXIII Column J, Line 10	Schedule XXIII, Column K Line 10 Less Schedule XXIII Column L, Line 10	*
Other currency 3	Schedule XXIII, Column G Line 11 Less Schedule XXIII Column H, Line 11	Schedule XXIII, Column I Line 11 Less Schedule XXIII Column J, Line 11	Schedule XXIII, Column K Line 11 Less Schedule XXIII Column L, Line 11	*
Other currency 4	Schedule XXIII, Column G Line 12 Less Schedule XXIII Column H, Line 12	Schedule XXIII, Column I Line 12 Less Schedule XXIII Column J, Line 12	Schedule XXIII, Column K Line 12 Less Schedule XXIII Column L, Line 12	*
Other currency 5	Schedule XXIII, Column G Line 13 Less Schedule XXIII Column H, Line 13	Schedule XXIII, Column I Line 13 Less Schedule XXIII Column J, Line 13	Schedule XXIII, Column K Line 13 Less Schedule XXIII Column L, Line 13	*
Other currency 6	Schedule XXIII, Column G Line 14 Less Schedule XXIII Column H, Line 14	Schedule XXIII, Column I Line 14 Less Schedule XXIII Column J, Line 14	Schedule XXIII, Column K Line 14 Less Schedule XXIII Column L, Line 14	*
Other currency 7	Schedule XXIII, Column G Line 15 Less Schedule XXIII Column H, Line 15	Schedule XXIII, Column I Line 15 Less Schedule XXIII Column J, Line 15	Schedule XXIII, Column K Line 15 Less Schedule XXIII Column L, Line 15	*
Other currency 8	Schedule XXIII, Column G Line 16 Less Schedule XXIII Column H, Line 16	Schedule XXIII, Column I Line 16 Less Schedule XXIII Column J, Line 16	Schedule XXIII, Column K Line 16 Less Schedule XXIII Column L, Line 16	*
Other currency 9	Schedule XXIII, Column G Line 17 Less Schedule XXIII Column H, Line 17	Schedule XXIII, Column I Line 17 Less Schedule XXIII Column J, Line 17	Schedule XXIII, Column K Line 17 Less Schedule XXIII Column L, Line 17	*
Other currency 10	Schedule XXIII, Column G Line 18 Less Schedule XXIII Column H, Line 18	Schedule XXIII, Column I Line 18 Less Schedule XXIII Column J, Line 18	Schedule XXIII, Column K Line 18 Less Schedule XXIII Column L, Line 18	*

Currency	MVA_{Before}^{CCY} - MVA_{After}^{CCY}	MVL_{Before}^{CCY} - MVL_{After}^{CCY}	Shock Vector $\chi(CCY, Up)$
Interest Rate Up – Exposures without Derivatives			
United States Dollars	Schedule XXIII, Column A Line 20 Less Schedule XXIII Column B, Line 20	Schedule XXIII, Column C Line 20 Less Schedule XXIII Column D, Line 20	*
Euro	Schedule XXIII, Column A Line 21 Less Schedule XXIII Column B, Line 21	Schedule XXIII, Column C Line 21 Less Schedule XXIII Column D, Line 21	*
United Kingdom Pounds	Schedule XXIII, Column A Line 22 Less Schedule XXIII Column B, Line 22	Schedule XXIII, Column C Line 22 Less Schedule XXIII Column D, Line 22	*
Japan Yen	Schedule XXIII, Column A Line 23 Less Schedule XXIII Column B, Line 23	Schedule XXIII, Column C Line 23 Less Schedule XXIII Column D, Line 23	*
Canada Dollars	Schedule XXIII, Column A Line 24 Less Schedule XXIII Column B, Line 24	Schedule XXIII, Column C Line 24 Less Schedule XXIII Column D, Line 24	*
Swiss Francs	Schedule XXIII, Column A Line 25 Less Schedule XXIII Column B, Line 25	Schedule XXIII, Column C Line 25 Less Schedule XXIII Column D, Line 25	*
Australia Dollars	Schedule XXIII, Column A Line 26 Less Schedule XXIII Column B, Line 26	Schedule XXIII, Column C Line 26 Less Schedule XXIII Column D, Line 26	*
New Zealand Dollars	Schedule XXIII, Column A Line 27 Less Schedule XXIII Column B, Line 27	Schedule XXIII, Column C Line 27 Less Schedule XXIII Column D, Line 27	*
Other currency 1	Schedule XXIII, Column A Line 28 Less Schedule XXIII Column B, Line 28	Schedule XXIII, Column C Line 28 Less Schedule XXIII Column D, Line 28	*
Other currency 2	Schedule XXIII, Column A Line 29 Less Schedule XXIII Column B, Line 29	Schedule XXIII, Column C Line 29 Less Schedule XXIII Column D, Line 29	*
Other currency 3	Schedule XXIII, Column A Line 30 Less Schedule XXIII Column B, Line 30	Schedule XXIII, Column C Line 30 Less Schedule XXIII Column D, Line 30	*
Other currency 4	Schedule XXIII, Column A Line 31 Less Schedule XXIII Column B, Line 31	Schedule XXIII, Column C Line 31 Less Schedule XXIII Column D, Line 31	*
Other currency 5	Schedule XXIII, Column A Line 32 Less Schedule XXIII Column B, Line 32	Schedule XXIII, Column C Line 32 Less Schedule XXIII Column D, Line 32	*
Other currency 6	Schedule XXIII, Column A Line 33 Less Schedule XXIII Column B, Line 33	Schedule XXIII, Column C Line 33 Less Schedule XXIII Column D, Line 33	*
Other currency 7	Schedule XXIII, Column A Line 34 Less Schedule XXIII Column B, Line 34	Schedule XXIII, Column C Line 34 Less Schedule XXIII Column D, Line 34	*
Other currency 8	Schedule XXIII, Column A Line 35 Less Schedule XXIII Column B, Line 35	Schedule XXIII, Column C Line 35 Less Schedule XXIII Column D, Line 35	*
Other currency 9	Schedule XXIII, Column A Line 36 Less Schedule XXIII Column B, Line 36	Schedule XXIII, Column C Line 36 Less Schedule XXIII Column D, Line 36	*
Other currency 10	Schedule XXIII, Column A Line 37 Less Schedule XXIII Column B, Line 37	Schedule XXIII, Column C Line 37 Less Schedule XXIII Column D, Line 37	*

Currency	$MVA^{CCY,Q}_{Before}$ - $MVA^{CCY,Q}_{After}$	$MVA^{CCY,NQ}_{Before}$ - $MVA^{CCY,NQ}_{After}$	MVL^{CCY}_{Before} - MVL^{CCY}_{After}	Shock Vector $\chi(CCY, Up)$
Interest Rate Up – Derivative Exposure				
United States Dollars	Schedule XXIII, Column G Line 20 Less Schedule XXIII Column H, Line 20	Schedule XXIII, Column I Line 20 Less Schedule XXIII Column J, Line 20	Schedule XXIII, Column K Line 20 Less Schedule XXIII Column L, Line 20	*
Euro	Schedule XXIII, Column G Line 21 Less Schedule XXIII Column H, Line 21	Schedule XXIII, Column I Line 21 Less Schedule XXIII Column J, Line 21	Schedule XXIII, Column K Line 21 Less Schedule XXIII Column L, Line 21	*
United Kingdom Pounds	Schedule XXIII, Column G Line 22 Less Schedule XXIII Column H, Line 22	Schedule XXIII, Column I Line 22 Less Schedule XXIII Column J, Line 22	Schedule XXIII, Column K Line 22 Less Schedule XXIII Column L, Line 22	*
Japan Yen	Schedule XXIII, Column G Line 23 Less Schedule XXIII Column H, Line 23	Schedule XXIII, Column I Line 23 Less Schedule XXIII Column J, Line 23	Schedule XXIII, Column K Line 23 Less Schedule XXIII Column L, Line 23	*
Canada Dollars	Schedule XXIII, Column G Line 24 Less Schedule XXIII Column H, Line 24	Schedule XXIII, Column I Line 24 Less Schedule XXIII Column J, Line 24	Schedule XXIII, Column K Line 24 Less Schedule XXIII Column L, Line 24	*
Swiss Francs	Schedule XXIII, Column G Line 25 Less Schedule XXIII Column H, Line 25	Schedule XXIII, Column I Line 25 Less Schedule XXIII Column J, Line 25	Schedule XXIII, Column K Line 25 Less Schedule XXIII Column L, Line 25	*
Australia Dollars	Schedule XXIII, Column G Line 26 Less Schedule XXIII Column H, Line 26	Schedule XXIII, Column I Line 26 Less Schedule XXIII Column J, Line 26	Schedule XXIII, Column K Line 26 Less Schedule XXIII Column L, Line 26	*
New Zealand Dollars	Schedule XXIII, Column G Line 27 Less Schedule XXIII Column H, Line 27	Schedule XXIII, Column I Line 27 Less Schedule XXIII Column J, Line 27	Schedule XXIII, Column K Line 27 Less Schedule XXIII Column L, Line 27	*
Other currency 1	Schedule XXIII, Column G Line 28 Less Schedule XXIII Column H, Line 28	Schedule XXIII, Column I Line 28 Less Schedule XXIII Column J, Line 28	Schedule XXIII, Column K Line 28 Less Schedule XXIII Column L, Line 28	*
Other currency 2	Schedule XXIII, Column G Line 29 Less Schedule XXIII Column H, Line 29	Schedule XXIII, Column I Line 29 Less Schedule XXIII Column J, Line 29	Schedule XXIII, Column K Line 29 Less Schedule XXIII Column L, Line 29	*
Other currency 3	Schedule XXIII, Column G Line 30 Less Schedule XXIII Column H, Line 30	Schedule XXIII, Column I Line 30 Less Schedule XXIII Column J, Line 30	Schedule XXIII, Column K Line 30 Less Schedule XXIII Column L, Line 30	*
Other currency 4	Schedule XXIII, Column G Line 31 Less Schedule XXIII Column H, Line 31	Schedule XXIII, Column I Line 31 Less Schedule XXIII Column J, Line 31	Schedule XXIII, Column K Line 31 Less Schedule XXIII Column L, Line 31	*
Other currency 5	Schedule XXIII, Column G Line 32 Less Schedule XXIII Column H, Line 32	Schedule XXIII, Column I Line 32 Less Schedule XXIII Column J, Line 32	Schedule XXIII, Column K Line 32 Less Schedule XXIII Column L, Line 32	*
Other currency 6	Schedule XXIII, Column G Line 33 Less Schedule XXIII Column H, Line 33	Schedule XXIII, Column I Line 33 Less Schedule XXIII Column J, Line 33	Schedule XXIII, Column K Line 33 Less Schedule XXIII Column L, Line 33	*
Other currency 7	Schedule XXIII, Column G Line 34 Less Schedule XXIII Column H, Line 34	Schedule XXIII, Column I Line 34 Less Schedule XXIII Column J, Line 34	Schedule XXIII, Column K Line 34 Less Schedule XXIII Column L, Line 34	*
Other currency 8	Schedule XXIII, Column G Line 35 Less Schedule XXIII Column H, Line 35	Schedule XXIII, Column I Line 35 Less Schedule XXIII Column J, Line 35	Schedule XXIII, Column K Line 35 Less Schedule XXIII Column L, Line 35	*
Other currency 9	Schedule XXIII, Column G Line 36 Less Schedule XXIII Column H, Line 36	Schedule XXIII, Column I Line 36 Less Schedule XXIII Column J, Line 36	Schedule XXIII, Column K Line 36 Less Schedule XXIII Column L, Line 36	*
Other currency 10	Schedule XXIII, Column G Line 37 Less Schedule XXIII Column H, Line 37	Schedule XXIII, Column I Line 37 Less Schedule XXIII Column J, Line 37	Schedule XXIII, Column K Line 37 Less Schedule XXIII Column L, Line 37	*

* Shall be prescribed by the Authority.

INSTRUCTIONS AFFECTING TABLE 3B: Shock Vectors for Interest rate – Liquidity

(a) all assets sensitive to interest rates shall be included in the table, including but not limited to fixed income assets, hybrid instruments, deposits, loans (including mortgage and policyholder loans), reinsurance balance receivables and exposures as determined by application of the "look-through" approach calculated in accordance with criteria prescribed by the Authority for the following items:
 (i) collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
 (ii) segregated accounts assets;
 (iii) deposit asset;
 (iv) other sundry;
 (v) derivatives;
 (vi) funds held by ceding insurers.

(b) all liabilities sensitive to interest rates shall be included in the table, including but not limited to best estimate of insurance liabilities, other liabilities (except risk margin) and liability exposures determined by application of the "look-through" approach calculated in accordance with the criteria prescribed by the Authority for the following items:
 (i) segregated accounts liabilities;
 (ii) deposit liabilities;
 (iii) other sundry liabilities;
 (iv) derivatives;
 (v) funds held under retrocession.

(c) amounts are to be reported on an EBS Valuation basis.

30. The currency risk charge calculation shall be established in accordance with the following formula-

$$C_{Currency} = \sum_i \max\left\{\begin{bmatrix} \left(MVA_{i,Before} - MVA_{i,After}(\chi_i)\right) + \left(MVDL^Q_{i,Before} - MVDL^Q_{i,After}(\chi_i)\right) + \cdots \\ + \left(MVDS^Q_{i,Before} - MVDS^Q_{i,After}(\chi_i)\right) + \max\left(MVDL^{NQ}_{i,Before} - MVDL^{NQ}_{i,After}(\chi_i), 0\right) + \cdots \\ + \max\left(MVDS^{NQ}_{i,Before} - MVDS^{NQ}_{i,After}(\chi_i), 0\right) - \left(MVL_{i,Before} - MVL_{i,After}(\chi_i)\right) + \cdots \\ + Currproxybscr_i \times \chi_i \end{bmatrix}, 0\right\}$$

Where—

χ_i = the instantaneous shocks prescribed in Table 4A for each type of currency where ($MVA_{i,Before} + MVDL^Q_{i,Before} + MVDS^Q_{i,Before} + MVDL^{NQ}_{i,Before} +$ $MVDS^{NQ}_{i,Before}$ - $MVL_{i,Before}$ - $Currproxybscr_i$)<0 and 0 otherwise;

$Currency_i$ = refers to currency type that has been converted to the functional currency as reported in Form 1EBS

$MVA_{i,Before}$ = refers to the market value of assets excluding currency-sensitive derivatives by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;

$MVA_{i,After}$ = refers to the revaluation of assets excluding currency-sensitive derivatives after shocking by $\chi(\text{CCY})$ where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;

$MVDL^Q_{i,Before}$ = refers to the market value of long positions in derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;

$MVDL^{Q}_{i,After}$	=	refers to the revaluation of long positions in derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking by $\chi(\mathrm{CCY})$ where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;
$MVDS^{Q}_{i,Before}$	=	refers to the market value of short positions in derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;
$MVDS^{Q}_{i,After}$	=	refers to the revaluation of short positions in derivatives qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking by $\chi(\mathrm{CCY})$ where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;
$MVDL^{NQ}_{i,Before}$	=	refers to the market value of long positions in derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;
$MVDL^{NQ}_{i,After}$	=	refers to the revaluation of long positions in derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking by $\chi(\mathrm{CCY})$ where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;
$MVDS^{NQ}_{i,Before}$	=	refers to the market value of short positions in derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) by currency type (CCY), that has been converted to the functional currency as reported in Form 1EBS;
$MVDS^{NQ}_{i,After}$	=	refers to the revaluation of short positions in derivatives not qualifying as held for risk-mitigating purposes (determined in accordance with the criteria prescribed by the Authority) after shocking by $\chi(\mathrm{CCY})$ where (CCY) refers to currency type, and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;
$MVL_{i,Before}$	=	refers to the market value of the best estimate of insurance liabilities and other liabilities by currency type that has been converted to the functional currency as reported in Form 1EBS;
$MVL_{i,After}$	=	refers to the revaluation of the best estimate of insurance liabilities and other liabilities after shocking by $\chi(\mathrm{CCY})$ where (CCY) refers to currency type and χ refers to the shock, where the revalued amount has been converted to the functional currency as reported in Form 1EBS;
$Currproxybscr_i$	=	refers to the product of $MVL_{i,Before}$ and BSCR Proxy factor
BSCR Proxy factor	=	greater of paragraphs (a) and (b) below: (a) the ECR divided by Form 1EBS Line 39 Total Liabilities for the preceding year and (b) the average of the above ratio for the preceding three years. Where there are no prior submissions available, the BSCR proxy factor is the above ratio that would be obtained from the current submission without taking into account the currency risk charge.

Table 4A – Shocks for Currency Risk

Currency		Long Exposure		Short Exposure			Shock	
	$MVA_{i,Before}$ - $MVA_{i,After}$	$MVDL^{Q}_{i,Before}$ - $MVDL^{Q}_{i,After}$	$MVDL^{NQ}_{i,Before}$ - $MVDL^{NQ}_{i,After}$	$MVDS^{Q}_{i,Before}$ - $MVDS^{Q}_{i,After}$	$MVDS^{NQ}_{i,Before}$ - $MVDS^{NQ}_{i,After}$	$MVL_{i,Before}$- $MVL_{i,After}$	If reporting currency χ_i	Other wise χ_i
United States Dollar	Schedule XXA, Column A, Line 1 Less Schedule XXA, Column G, Line 1	Schedule XXA, Column B, Line 1 Less Schedule XXA, Column H, Line 1	Schedule XXA, Column C, Line 1 Less Schedule XXA, Column I, Line 1	Schedule XXA, Column D, Line 1 Less Schedule XXA, Column J, Line 1	Schedule XXA, Column E, Line 1 Less Schedule XXA, Column K, Line 1	Schedule XXA, Column F, Line 1 Less Schedule XXA, Column L, Line 1	0%	A
Bermuda Dollar	Schedule XXA, Column A, Line 2 Less Schedule XXA, Column G, Line 2	Schedule XXA, Column B, Line 2 Less Schedule XXA, Column H, Line 2	Schedule XXA, Column C, Line 2 Less Schedule XXA, Column I, Line 2	Schedule XXA, Column D, Line 2 Less Schedule XXA, Column J, Line 2	Schedule XXA, Column E, Line 2 Less Schedule XXA, Column K, Line 2	Schedule XXA, Column F, Line 2 Less Schedule XXA, Column L, Line 2	0%	B
Qatari Riyal	Schedule XXA, Column A, Line 3 Less Schedule XXA, Column G, Line 3	Schedule XXA, Column B, Line 3 Less Schedule XXA, Column H, Line 3	Schedule XXA, Column C, Line 3 Less Schedule XXA, Column I, Line 3	Schedule XXA, Column D, Line 3 Less Schedule XXA, Column J, Line 3	Schedule XXA, Column E, Line 3 Less Schedule XXA, Column K, Line 3	Schedule XXA, Column F, Line 3 Less Schedule XXA, Column L, Line 3	0%	C
Hong Kong Dollar	Schedule XXA, Column A, Line 4 Less Schedule XXA, Column G, Line 4	Schedule XXA, Column B, Line 4 Less Schedule XXA, Column H, Line 4	Schedule XXA, Column C, Line 4 Less Schedule XXA, Column I, Line 4	Schedule XXA, Column D, Line 4 Less Schedule XXA, Column J, Line 4	Schedule XXA, Column E, Line 4 Less Schedule XXA, Column K, Line 4	Schedule XXA, Column F, Line 4 Less Schedule XXA, Column L, Line 4	0%	D
Euro	Schedule XXA, Column A, Line 5 Less Schedule XXA, Column G, Line 5	Schedule XXA, Column B, Line 5 Less Schedule XXA, Column H, Line 5	Schedule XXA, Column C, Line 5 Less Schedule XXA, Column I, Line 5	Schedule XXA, Column D, Line 5 Less Schedule XXA, Column J, Line 5	Schedule XXA, Column E, Line 5 Less Schedule XXA, Column K, Line 5	Schedule XXA, Column F, Line 5 Less Schedule XXA, Column L, Line 5	0%	E
Danish Krone	Schedule XXA, Column A, Line 6 Less Schedule XXA, Column G, Line 6	Schedule XXA, Column B, Line 6 Less Schedule XXA, Column H, Line 6	Schedule XXA, Column C, Line 6 Less Schedule XXA, Column I, Line 6	Schedule XXA, Column D, Line 6 Less Schedule XXA, Column J, Line 6	Schedule XXA, Column E, Line 6 Less Schedule XXA, Column K, Line 6	Schedule XXA, Column F, Line 6 Less Schedule XXA, Column L, Line 6	0%	F
Bulgarian Lev	Schedule XXA, Column A, Line 7 Less Schedule XXA, Column G, Line 7	Schedule XXA, Column B, Line 7 Less Schedule XXA, Column H, Line 7	Schedule XXA, Column C, Line 7 Less Schedule XXA, Column I, Line 7	Schedule XXA, Column D, Line 7 Less Schedule XXA, Column J, Line 7	Schedule XXA, Column E, Line 7 Less Schedule XXA, Column K, Line 7	Schedule XXA, Column F, Line 7 Less Schedule XXA, Column L, Line 7	0%	G
West African CFA Franc	Schedule XXA, Column A, Line 8 Less Schedule XXA, Column G, Line 8	Schedule XXA, Column B, Line 8 Less Schedule XXA, Column H, Line 8	Schedule XXA, Column C, Line 8 Less Schedule XXA, Column I, Line 8	Schedule XXA, Column D, Line 8 Less Schedule XXA, Column J, Line 8	Schedule XXA, Column E, Line 8 Less Schedule XXA, Column K, Line 8	Schedule XXA, Column F, Line 8 Less Schedule XXA, Column L, Line 8	0%	H
Central African CFA Franc	Schedule XXA, Column A, Line 9 Less Schedule XXA, Column G, Line 9	Schedule XXA, Column B, Line 9 Less Schedule XXA, Column H, Line 9	Schedule XXA, Column C, Line 9 Less Schedule XXA, Column I, Line 9	Schedule XXA, Column D, Line 9 Less Schedule XXA, Column J, Line 9	Schedule XXA, Column E, Line 9 Less Schedule XXA, Column K, Line 9	Schedule XXA, Column F, Line 9 Less Schedule XXA, Column L, Line 9	0%	I
Comorian Franc	Schedule XXA, Column A, Line 10 Less Schedule XXA, Column G, Line 10	Schedule XXA, Column B, Line 10 Less Schedule XXA, Column H, Line 10	Schedule XXA, Column C, Line 10 Less Schedule XXA, Column I, Line 10	Schedule XXA, Column D, Line 10 Less Schedule XXA, Column J, Line 10	Schedule XXA, Column E, Line 10 Less Schedule XXA, Column K, Line 10	Schedule XXA, Column F, Line 10 Less Schedule XXA, Column L, Line 10	0%	J

United Kingdom Pound	Schedule XXA, Column A, Line 11 Less Schedule XXA, Column G, Line 11	Schedule XXA, Column B, Line 11 Less Schedule XXA, Column H, Line 11	Schedule XXA, Column C, Line 11 Less Schedule XXA, Column I, Line 11	Schedule XXA, Column D, Line 11 Less Schedule XXA, Column J, Line 11	Schedule XXA, Column E, Line 11 Less Schedule XXA, Column K, Line 11	Schedule XXA, Column F, Line 11 Less Schedule XXA, Column L, Line 11	0%	25.00%
Canada Dollar	Schedule XXA, Column A, Line 12 Less Schedule XXA, Column G, Line 12	Schedule XXA, Column B, Line 12 Less Schedule XXA, Column H, Line 12	Schedule XXA, Column C, Line 12 Less Schedule XXA, Column I, Line 12	Schedule XXA, Column D, Line 12 Less Schedule XXA, Column J, Line 12	Schedule XXA, Column E, Line 12 Less Schedule XXA, Column K, Line 12	Schedule XXA, Column F, Line 12 Less Schedule XXA, Column L, Line 12	0%	25.00%
Japan Yen	Schedule XXA, Column A, Line 13 Less Schedule XXA, Column G, Line 13	Schedule XXA, Column B, Line 13 Less Schedule XXA, Column H, Line 13	Schedule XXA, Column C, Line 13 Less Schedule XXA, Column I, Line 13	Schedule XXA, Column D, Line 13 Less Schedule XXA, Column J, Line 13	Schedule XXA, Column E, Line 13 Less Schedule XXA, Column K, Line 13	Schedule XXA, Column F, Line 13 Less Schedule XXA, Column L, Line 13	0%	25.00%
Other currency 1	Schedule XXA, Column A, Line 14 Less Schedule XXA, Column G, Line 14	Schedule XXA, Column B, Line 14 Less Schedule XXA, Column H, Line 14	Schedule XXA, Column C, Line 14 Less Schedule XXA, Column I, Line 14	Schedule XXA, Column D, Line 14 Less Schedule XXA, Column J, Line 14	Schedule XXA, Column E, Line 14 Less Schedule XXA, Column K, Line 14	Schedule XXA, Column F, Line 14 Less Schedule XXA, Column L, Line 14	0%	25.00%
Other currency 2	Schedule XXA, Column A, Line 15 Less Schedule XXA, Column G, Line 15	Schedule XXA, Column B, Line 15 Less Schedule XXA, Column H, Line 15	Schedule XXA, Column C, Line 15 Less Schedule XXA, Column I, Line 15	Schedule XXA, Column D, Line 15 Less Schedule XXA, Column J, Line 15	Schedule XXA, Column E, Line 15 Less Schedule XXA, Column K, Line 15	Schedule XXA, Column F, Line 15 Less Schedule XXA, Column L, Line 15	0%	25.00%
Other currency 3	Schedule XXA, Column A, Line 16 Less Schedule XXA, Column G, Line 16	Schedule XXA, Column B, Line 16 Less Schedule XXA, Column H, Line 16	Schedule XXA, Column C, Line 16 Less Schedule XXA, Column I, Line 16	Schedule XXA, Column D, Line 16 Less Schedule XXA, Column J, Line 16	Schedule XXA, Column E, Line 16 Less Schedule XXA, Column K, Line 16	Schedule XXA, Column F, Line 16 Less Schedule XXA, Column L, Line 16	0%	25.00%
Other currency 4	Schedule XXA, Column A, Line 17 Less Schedule XXA, Column G, Line 17	Schedule XXA, Column B, Line 17 Less Schedule XXA, Column H, Line 17	Schedule XXA, Column C, Line 17 Less Schedule XXA, Column I, Line 17	Schedule XXA, Column D, Line 17 Less Schedule XXA, Column J, Line 17	Schedule XXA, Column E, Line 17 Less Schedule XXA, Column K, Line 17	Schedule XXA, Column F, Line 17 Less Schedule XXA, Column L, Line 17	0%	25.00%
Other currency 5	Schedule XXA, Column A, Line 18 Less Schedule XXA, Column G, Line 18	Schedule XXA, Column B, Line 18 Less Schedule XXA, Column H, Line 18	Schedule XXA, Column C, Line 18 Less Schedule XXA, Column I, Line 18	Schedule XXA, Column D, Line 18 Less Schedule XXA, Column J, Line 18	Schedule XXA, Column E, Line 18 Less Schedule XXA, Column K, Line 18	Schedule XXA, Column F, Line 18 Less Schedule XXA, Column L, Line 18	0%	25.00%
Other currency 6	Schedule XXA, Column A, Line 19 Less Schedule XXA, Column G, Line 19	Schedule XXA, Column B, Line 19 Less Schedule XXA, Column H, Line 19	Schedule XXA, Column C, Line 19 Less Schedule XXA, Column I, Line 19	Schedule XXA, Column D, Line 19 Less Schedule XXA, Column J, Line 19	Schedule XXA, Column E, Line 19 Less Schedule XXA, Column K, Line 19	Schedule XXA, Column F, Line 19 Less Schedule XXA, Column L, Line 19	0%	25.00%
Other currency 7	Schedule XXA, Column A, Line 20 Less Schedule XXA, Column G, Line 20	Schedule XXA, Column B, Line 20 Less Schedule XXA, Column H, Line 20	Schedule XXA, Column C, Line 20 Less Schedule XXA, Column I, Line 20	Schedule XXA, Column D, Line 20 Less Schedule XXA, Column J, Line 20	Schedule XXA, Column E, Line 20 Less Schedule XXA, Column K, Line 20	Schedule XXA, Column F, Line 20 Less Schedule XXA, Column L, Line 20	0%	25.00%
Other currency 8	Schedule XXA, Column A, Line 21 Less Schedule XXA, Column G, Line 21	Schedule XXA, Column B, Line 21 Less Schedule XXA, Column H, Line 21	Schedule XXA, Column C, Line 21 Less Schedule XXA, Column I, Line 21	Schedule XXA, Column D, Line 21 Less Schedule XXA, Column J, Line 21	Schedule XXA, Column E, Line 21 Less Schedule XXA, Column K, Line 21	Schedule XXA, Column F, Line 21 Less Schedule XXA, Column L, Line 21	0%	25.00%
Other currency 9	Schedule XXA, Column A, Line 22 Less Schedule XXA, Column G, Line 22	Schedule XXA, Column B, Line 22 Less Schedule XXA, Column H, Line 22	Schedule XXA, Column C, Line 22 Less Schedule XXA, Column I, Line 22	Schedule XXA, Column D, Line 22 Less Schedule XXA, Column J, Line 22	Schedule XXA, Column E, Line 22 Less Schedule XXA, Column K, Line 22	Schedule XXA, Column F, Line 22 Less Schedule XXA, Column L, Line 22	0%	25.00%
Other currency 10	Schedule XXA, Column A, Line 23 Less Schedule XXA, Column	Schedule XXA, Column B, Line 23 Less	Schedule XXA, Column C, Line 23 Less Schedule XXA, Column I, Line 23	Schedule XXA, Column D, Line 23 Less Schedule XXA, Column J, Line 23	Schedule XXA, Column E, Line 23 Less Schedule XXA, Column K, Line 23	Schedule XXA, Column F, Line 23 Less Schedule XXA, Column L, Line 23	0%	25.00%

	G, Line 23	Schedule XXA, Column H, Line 23						

INSTRUCTIONS AFFECTING TABLE 4A: Shock factors for Currency Risk

(a) The initials "A" to "J" on the column labeled "Shock Otherwise χ_i" shall be replaced by the following shock values:

- "A" by:
  - "0%" if the reporting currency is the Bermuda Dollar or,
  - "5.00%" if the reporting currency is the Qatari Riyal or,
  - "1.00%" if the reporting currency is the Hong Kong Dollar or,
  - "25%" otherwise.
- "B" by:
  - "0%" if the reporting currency is the United States Dollar or,
  - "25%" otherwise.
- "C" by:
  - "5.00%" if the reporting currency is the United States Dollar or,
  - "25%" otherwise.
- "D" by:
  - "1.00%" if reporting currency is the United States Dollar or,
  - "25%" otherwise.
- "E" by:
  - "0.39%" if the reporting currency is the Danish Krone or,
  - "1.81%" if the reporting currency is the Bulgarian Lev or,
  - "2.18%" if the reporting currency is the West African CFA Franc or,
  - "1.96%" if the reporting currency is the Central African CFA Franc or,
  - "2.00%" if the reporting currency is the Comorian Franc or,
  - "25%" otherwise.
- "F" by:
  - "0.39%" if reporting currency is the Euro or,
  - "25%" otherwise.
- "G" by:
  - "1.81%" if reporting currency is the Euro or,
  - "25%" otherwise.
- "H" by:
  - "2.18%" if reporting currency is the Euro or,
  - "25%" otherwise.
- "I" by:
  - "1.96%" if reporting currency is the Euro or,
  - "25%" otherwise.
- "J" by:
  - "2.00%" if reporting currency is the Euro or,
  - "25%" otherwise.

(b) all assets and liabilities (except the risk margin) whose value is subject to currency risk shocks shall be reported on a basis consistent with that used for purposes of economic balance sheet reporting. These assets and liabilities shall include currency risk exposures determined by application of the "look-through approach" calculated in accordance with criteria prescribed by the Authority for the following items:

   i. collective investment vehicles and other investments packaged as funds, including related undertakings used as investment vehicles;
   ii. segregated accounts assets and liabilities;
   iii. deposit asset and liabilities;
   iv. assets and liabilities held by ceding insurers or under retrocession;
   v. other sundry assets and liabilities; and
   vi. derivatives.

(c) where the reporting currency is the United States Dollar, the capital factor χ_i charge shall be reduced to:

   i. 0.00% for the Bermuda Dollar;
   ii. 5.00% for the Qatari Riyal;
   iii. 1.00% for the Hong Kong Dollar.

(d) where the reporting currency is the Bermuda Dollar the capital factor χ_i charge shall be reduced to 0.00% for the United States Dollar.

(e) where the reporting currency is the Qatari Riyal the capital factor χ_i charge shall be reduced to 5.00% for the United States Dollar.

(f) where the reporting currency is the Hong Kong Dollar the capital factor χ_i charge shall be reduced to 1.00% for the United States Dollar.

(g) where the reporting currency is Euros, the capital factor χ_i shall be reduced to:

   i. 0.39% for the Danish Krone;
   ii. 1.81% for the Bulgarian Lev;
   iii. 2.18% for the West African CFA Franc;
   iv. 1.96% for the Central African CFA Franc;
   v. 2.00% for the Comorian Franc.

(h) where the reporting currency is the Danish Krone the capital factor χ_i charge shall be reduced to 0.39% for the Euro.

(i) where the reporting currency is the Bulgarian Lev the capital factor χ_i charge shall be reduced to 1.81% for the Euro.

(j) where the reporting currency is the West African CFA Franc the capital factor χ_i charge shall be reduced to 2.18% for the Euro.

(k) where the reporting currency is the Central African CFA Franc the capital factor χ_i charge shall be reduced to 1.96% for the Euro.

(l) where the reporting currency is the Comorian Franc the capital factor χ_i charge shall be reduced to 2.00% for the Euro.

(m) insurance groups are to report currencies representing at least 95% of their economic balance sheet liabilities; and

(n) amounts are to be reported on an EBS Valuation basis.

31. The concentration risk charge calculation shall be determined in accordance with the following formula-

$$C_{Concentration} = \sum_{i} \chi_i \times Concastclass_i;$$

Where—

χ_i = the capital charge factors prescribed in Table 5A for each type of $Concastclass_i$ or in table 5 for each type of $Concastclass_i$ for equity exposures that are grandfathered according to paragraph 28A and

$Concastclass_i$ = the value of the corresponding asset prescribed in Table 5A, for each type of Asset Class; or the value of the corresponding asset prescribed in Table 5, for each type of Asset Class for equity exposures that are grandfathered according to paragraph 28A.

Table 5A – Capital charge factors for $Concastclass_i$

Asset Class	**Statement Source** These Rules	**Capital Factor** χ_i
Cash and Cash Equivalents		
BSCR rating 0	Schedule XXIA, Column D	0.0%
BSCR rating 1	Schedule XXIA, Column D	0.1%
BSCR rating 2	Schedule XXIA, Column D	0.2%
BSCR rating 3	Schedule XXIA, Column D	0.3%
BSCR rating 4	Schedule XXIA, Column D	0.5%
BSCR rating 5	Schedule XXIA, Column D	1.5%
BSCR rating 6	Schedule XXIA, Column D	4.0%
BSCR rating 7	Schedule XXIA, Column D	6.0%
BSCR rating 8	Schedule XXIA, Column D	9.0%
Corporate & Sovereign Bonds		
BSCR rating 0	Schedule XXIA, Column D	0.0%
BSCR rating 1	Schedule XXIA, Column D	0.4%
BSCR rating 2	Schedule XXIA, Column D	0.8%
BSCR rating 3	Schedule XXIA, Column D	1.5%
BSCR rating 4	Schedule XXIA, Column D	3.0%
BSCR rating 5	Schedule XXIA, Column D	8.0%
BSCR rating 6	Schedule XXIA, Column D	15.0%
BSCR rating 7	Schedule XXIA, Column D	26.3%
BSCR rating 8	Schedule XXIA, Column D	35.0%
Residential Mortgage-Backed Securities		
BSCR rating 0	Schedule XXIA, Column D	0.0%
BSCR rating 1	Schedule XXIA, Column D	0.6%
BSCR rating 2	Schedule XXIA, Column D	1.2%
BSCR rating 3	Schedule XXIA, Column D	2.0%
BSCR rating 4	Schedule XXIA, Column D	4.0%
BSCR rating 5	Schedule XXIA, Column D	11.0%
BSCR rating 6	Schedule XXIA, Column D	25.0%
BSCR rating 7	Schedule XXIA, Column D	35.0%
BSCR rating 8	Schedule XXIA, Column D	35.0%
Commercial Mortgage-Backed Securities/Asset Backed Securities		

BSCR rating 0	Schedule XXIA, Column D	0.0%
BSCR rating 1	Schedule XXIA, Column D	0.5%
BSCR rating 2	Schedule XXIA, Column D	1.0%
BSCR rating 3	Schedule XXIA, Column D	1.8%
BSCR rating 4	Schedule XXIA, Column D	3.5%
BSCR rating 5	Schedule XXIA, Column D	10.0%
BSCR rating 6	Schedule XXIA, Column D	20.0%
BSCR rating 7	Schedule XXIA, Column D	30.0%
BSCR rating 8	Schedule XXIA, Column D	35.0%
Bond Mutual Funds		
BSCR rating 0	Schedule XXIA, Column D	0.0%
BSCR rating 1	Schedule XXIA, Column D	0.4%
BSCR rating 2	Schedule XXIA, Column D	0.8%
BSCR rating 3	Schedule XXIA, Column D	1.5%
BSCR rating 4	Schedule XXIA, Column D	3.0%
BSCR rating 5	Schedule XXIA, Column D	8.0%
BSCR rating 6	Schedule XXIA, Column D	15.0%
BSCR rating 7	Schedule XXIA, Column D	26.3%
BSCR rating 8	Schedule XXIA, Column D	35.0%
Preferred Shares		
BSCR rating 1	Schedule XXIA, Column D	0.6%
BSCR rating 2	Schedule XXIA, Column D	1.2%
BSCR rating 3	Schedule XXIA, Column D	2.0%
BSCR rating 4	Schedule XXIA, Column D	4.0%
BSCR rating 5	Schedule XXIA, Column D	11.0%
BSCR rating 6	Schedule XXIA, Column D	25.0%
BSCR rating 7	Schedule XXIA, Column D	35.0%
BSCR rating 8	Schedule XXIA, Column D	35.0%
Mortgage Loans		
Insured/Guaranteed Mortgages	Schedule XXIA, Column D	0.3%
Other Commercial and Farm Mortgages	Schedule XXIA, Column D	5.0%
Other Residential Mortgages	Schedule XXIA, Column D	1.5%
Mortgages Not In Good Standing	Schedule XXIA, Column D	25%
Other Asset Classes		
Infrastructure	Schedule XXIA, Column D	25.0%
Listed Equity Securities in Developed Markets	Schedule XXIA, Column D	35.0%
Other Equities	Schedule XXIA, Column D	45.0%
Strategic Holdings	Schedule XXIA, Column D	20.0%
Duration Based	Schedule XXIA, Column D	20.0%
Letters of Credit	Schedule XXIA, Column D	20.0%
Advances to Affiliates	Schedule XXIA, Column D	5.0%
Policy Loans	Schedule XXIA, Column D	0.0%
Equity Real Estate 1	Schedule XXIA, Column D	10.0%
Equity Real Estate 2	Schedule XXIA, Column D	20.0%
Collateral Loans	Schedule XXIA, Column D	5.0%

INSTRUCTIONS AFFECTING TABLE 5A: Capital factor charge for $Concastclass_i$

(a) $Concastclass_i$ shall only apply to an insurance groups' ten largest counterparty exposures based on the aggregate of all assets set out in the in Table 5A relating to that counterparty;

(b) for the purposes of Table 5A, a counterparty exposure shall be reported on the valuation of individually underlying assets i.e. determined by application of the "look through" approach in accordance with criteria prescribed by the Authority for all amounts reported on the balance sheet;

(c) for the purposes of Table 5A, a counterparty shall include all related or connected counterparties captured by either of the following criteria:

(i) controller relationship: if a counterparty, directly or indirectly, has control of (as a result of its majority shareholding in or effective management) which it is a subsidiary company; or

(ii) economic interdependence: if one of the counterparties were to experience financial difficulties which directly or indirectly affect the ability of any or all of the remaining counterparties to perform their financial obligations (for example where a counterparty becomes unable to fund or repay certain financial contractual obligations, and as a result, other counterparties, are likely to be unable to fund or repay certain obligations imposed on them);

32. The premium risk charge calculation shall be established in accordance with the following formula-

$$C_{Premium} = \sqrt{\sum_{i,j} CorrPrem_{i,j} \times C_i \times C_j} - avgpremcap \times \frac{avgannloss}{catlossratio};$$

Where—

$Corr\,Prem_{i,j}$	=	the correlation factors of the premium risk module correlation matrix in accordance with Table 6B;
i,j	=	the sum of the different terms should cover all possible combinations of i and j; and
C_i and C_j	=	risk charge i and risk charge j which are replaced by the following: $C_{premium_j}$, $C_{premium_j}$ as calculated in accordance with paragraph 33;
$avgpremcap$	=	weighted average premium risk capital charge factor for $BaseExp_i$, as defined below, (excluding the Property Catastrophe line of business and after correlation adjustment, allowing for geographic diversification);
$avgannloss$	=	average annual loss estimated with catastrophe models;
$catlossratio$	=	expected industry average catastrophe loss ratio prescribed by the Authority.

Table 6B – Premium Risk Module Correlation Matrix

$Corr\ Prem_{i,j}$	Prop Cat	Prop	Prop NP	PA	PA NP	Aviat n	Aviatn NP	C/S	C/S NP	Ergy O/M	Ergy O/M NP	US Cas	US Cas NP	US Prof	US Prof NP	US Spec	US Spec NP	Int Motor	Int Motor NP	Int Cas	Int Cas NP	Retro Prop	Str/ Fin Re	Health
Prop Cat	1																							
Prop	0.25	1																						
Prop NP	0.25	0.5	1																					
PA	0.25	0.25	0.25	1																				
PA NP	0.25	0.25	0.25	0.5	1																			
Aviat n	0.25	0.25	0.25	0.25	0.25	1																		
Aviatn NP	0.25	0.25	0.25	0.25	0.25	0.5	1																	
C/S	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1																
C/S NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1															
Ergy O/M	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1														
Ergy O/MNP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1													
US Cas	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1												
US CasNP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1											
US Prof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	1										
US Prof NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	1									
US Spec	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1								
US Spec NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1							
Int Motor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1						
Int Motor NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1					
Int Cas	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.25	0.25	0.25	1				
Int Cas NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.25	0.25	0.25	0.5	1			
Retro Prop	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1		
Str / Fin Re	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1	
Health	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1

33. The Line of Business premium risk charge $C_{premium_i}$ calculation shall be determined in accordance with the following formula:

$$C_{premium_i} = [(\chi_i^1 \times BaseExp_i) + (\chi_i^2 \times FPExisting_i) + (\chi_i^3 \times FPFuture_i)]\frac{ExposureMeasure_i}{geolineprem_i}$$

Where—

χ_i^1	=	individual $BaseExp_i$ risk capital charge factor as prescribed in Table 6C;
$BaseExp_i$	=	the greater of premium written in reporting period and the estimate of the net premiums to be earned by the insurance group during the next twelve month accounting period;
$geolineprem_i$	=	geographic diversification of premium exposure measure for line of business i as prescribed in Table 6D;
χ_i^2	=	individual $FPExisting_i$ risk capital charge factor as prescribed in Table 6C;
$FPExisting_i$	=	expected present value of premiums to be earned by the insurance group after the next twelve month reporting period for existing qualifying multi-year insurance policies for line of business i as prescribed in Table 6C;
χ_i^3	=	individual $FPFuture_i$ risk capital charge factor as prescribed in Table 6C;
$FPFuture_i$	=	expected present value of net premiums to be earned by the insurance group after the next twelve month reporting period for qualifying multi-year insurance policies where the initial recognition date falls in the following twelve months for line of business i as prescribed in Table 6C;
$ExposureMeasure_i$	=	the sum of $BaseExp_i$, $FPExisting_i$ and $FPFuture_i$

Table 6C – Capital charge factors for Premium Risk

	(1)	(2)	(3)	(4)	(5)	(6)
Line of business	**Statement Source** These Rules $BaseExp_i$	**Capital Factor** χ_i^1	**Statement Source** These Rules $FPExisting_i$	**Capital Factor** χ_i^2	**Statement Source** These Rules $FPFuture_i$	**Capital Factor** χ_i^3
Property catastrophe	Schedule IVD, Line 1, Column (C)	0.0%	Schedule IVD, Line 1, Column (D)	11.5%	Schedule IVD, Line 1, Column (E)	5.8%
Property	Schedule IVD, Line 2, Column (C)	49.7%	Schedule IVD, Line 2, Column (D)	12.4%	Schedule IVD, Line 2, Column (E)	6.2%
Property non-proportional	Schedule IVD, Line 3, Column (C)	51.6%	Schedule IVD, Line 3, Column (D)	12.9%	Schedule IVD, Line 3, Column (E)	6.5%
Personal accident	Schedule IVD, Line 4, Column (C)	34.1%	Schedule IVD, Line 4, Column (D)	8.5%	Schedule IVD, Line 4, Column (E)	4.3%
Personal accident non-proportional	Schedule IVD, Line 5, Column (C)	41.2%	Schedule IVD, Line 5, Column (D)	12.4%	Schedule IVD, Line 5, Column (E)	6.2%
Aviation	Schedule IVD, Line 6, Column (C)	48.2%	Schedule IVD, Line 6, Column (D)	14.5%	Schedule IVD, Line 6, Column (E)	7.2%
Aviation non-proportional	Schedule IVD, Line 7, Column (C)	48.2%	Schedule IVD, Line 7, Column (D)	14.5%	Schedule IVD, Line 7, Column (E)	7.2%
Credit / surety	Schedule IVD, Line 8, Column (C)	39.8%	Schedule IVD, Line 8, Column (D)	11.9%	Schedule IVD, Line 8, Column (E)	6.0%
Credit / surety non-proportional	Schedule IVD, Line 9, Column (C)	45.4%	Schedule IVD, Line 9, Column (D)	13.6%	Schedule IVD, Line 9, Column (E)	6.8%
Energy offshore /marine	Schedule IVD, Line 10, Column (C)	42.1%	Schedule IVD, Line 10, Column (D)	12.6%	Schedule IVD, Line 10, Column (E)	6.3%

Energy offshore / marine non-proportional	Schedule IVD, Line 11, Column (C)	47.0%	Schedule IVD, Line 11, Column (D)	14.1%	Schedule IVD, Line 11, Column (E)	7.1%
US casualty	Schedule IVD, Line 12, Column (C)	50.3%	Schedule IVD, Line 12, Column (D)	25.1%	Schedule IVD, Line 12, Column (E)	12.6%
US casualty non-proportional	Schedule IVD, Line 13, Column (C)	55.6%	Schedule IVD, Line 13, Column (D)	27.8%	Schedule IVD, Line 13, Column (E)	13.9%
US professional	Schedule IVD, Line 14, Column (C)	51.2%	Schedule IVD, Line 14, Column (D)	25.6%	Schedule IVD, Line 14, Column (E)	12.8%
US professional non-proportional	Schedule IVD, Line 15, Column (C)	53.8%	Schedule IVD, Line 15, Column (D)	26.9%	Schedule IVD, Line 15, Column (E)	13.5%
US specialty	Schedule IVD, Line 16, Column (C)	51.4%	Schedule IVD, Line 16, Column (D)	25.7%	Schedule IVD, Line 16, Column (E)	12.9%
US specialty non-proportional	Schedule IVD, Line 17, Column (C)	52.7%	Schedule IVD, Line 17, Column (D)	26.3%	Schedule IVD, Line 17, Column (E)	13.2%
International motor	Schedule IVD, Line 18, Column (C)	42.2%	Schedule IVD, Line 18, Column (D)	12.7%	Schedule IVD, Line 18, Column (E)	6.3%
International motor non-proportional	Schedule IVD, Line 19, Column (C)	48.2%	Schedule IVD, Line 19, Column (D)	24.1%	Schedule IVD, Line 19, Column (E)	12.1%
International casualty non-motor	Schedule IVD, Line 20, Column (C)	50.0%	Schedule IVD, Line 20, Column (D)	25.0%	Schedule IVD, Line 20, Column (E)	12.5%
International casualty non-motor non-proportional	Schedule IVD, Line 21, Column (C)	53.6%	Schedule IVD, Line 21, Column (D)	26.8%	Schedule IVD, Line 21, Column (E)	13.4%
Retro property	Schedule IVD, Line 22, Column (C)	50.8%	Schedule IVD, Line 22, Column (D)	12.7%	Schedule IVD, Line 22, Column (E)	6.4%
Structured / finite reinsurance	Schedule IVD, Line 23, Column (C)	27.2%	Schedule IVD, Line 23, Column (D)	6.8%	Schedule IVD, Line 23, Column (E)	3.4%
Health	Schedule IVD, Line 24, Column (C)	15.0%	Schedule IVD, Line 24, Column (D)	3.8%	Schedule IVD, Line 24, Column (E)	1.9%

INSTRUCTIONS AFFECTING TABLE 6C: Capital charge factors for Premium Risk

(a) all reported net premium exposure measures as prescribed in Schedule IVD that are subject to capital charges within the premium risk charge shall be included;

(b) "qualifying multi-year insurance policies" means those insurance policies with a term longer than twelve months after allowing for the criteria prescribed by the Authority;

(c) all net premium exposure measures by statutory Line of Business shall be reported on a basis consistent with that prescribed in Schedule IVD; and

(d) an insurance group may provide net premium exposure measures for all statutory Lines of General Business, or for particular statutory Lines of General Business, split by geographic zone as set out in Table 6D. $geolineprem_i$ is then derived from the total premium for that Line of Business by reducing the total by 25% times $\frac{\sum x_i^2}{(\sum x_i)^2}$ where x_i = the net premium exposure measure in the Line of Business for $Zone_i$; and where the summation covers all zones; and

Table 6D – Underwriting Geographical Zones

Underwriting Zone	Location
Zone 1 - Central & Western Asia	Armenia, Azerbaijan, Bahrain, Georgia, Iraq, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Oman, Palestinian, Qatar, Saudi Arabia, Saudi Arab Republic, Tajikistan, Turkey, Turkmenistan, United Arab Emirates and Uzbekistan
Zone 2 - Eastern Asia	China, Hong Kong, Japan, Macao, Mongolia, North Korea, South Korea, and Taiwan
Zone 3 - South and South-Eastern Asia	Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, India, Indonesia. Iran, Lao PDR, Malaysia,

	Maldives, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste, and Vietnam
Zone 4 - Oceania	American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia, Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, N. Mariana Islands, Palau, Papua New Guinea, Pitcairn, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis & Futuna Island
Zone 5 - Northern Africa	Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Cote d' Ivoire, Egypt, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Saint Helena, Senegal, Sierra Leone, Sudan, Togo, Tunisia, and Western Sahara
Zone 6 - Southern Africa	Angola, Botswana, Burundi, Democratic Republic of Congo, Comoros, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Namibia, Republic of Congo, Reunion, Rwanda, Sao Tome & Principe, Seychelles, Somalia, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe
Zone 7 - Eastern Europe	Belarus, Bulgaria, Czech Republic, Hungary, Moldova, Poland, Romania, Russian Federation, Slovakia, and Ukraine
Zone 8 - Northern Europe	Aland Islands, Channel Islands, Denmark, Estonia, Faeroe Islands, FinlandGuernsey, Iceland, Republic of Ireland, Isle of Man, Jersey, Latvia, Lithuania, Norway, Svalbard, Jan Mayen, Sweden, United Kingdom
Zone 9 - Southern Europe	Albania, Andorra, Bosnia, Croatia, Cyprus, Gibraltar, Greece, Italy, fYR of Macedonia, Malta, Montenegro, Portugal, San Marino, Serbia, Slovenia, Spain, and Vatican City
Zone 10 - Western Europe	Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, and Switzerland
Zone 11 - Northern America (Excluding USA)	Bermuda, Canada, Greenland, and St Pierre & Miquelon
Zone 12 - Caribbean & Central America	Anguilla, Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican, El Salvador, Grenada, Guadeloupe Guatemala, Haiti, Honduras, Jamaica, Martinique, Mexico, Montserrat, Netherlands Antilles, Nicaragua, Panama, Puerto Rico, St-Barthelemy, St Kitts & Nevis, St Lucia, St Martin, St Vincent, Trinidad & Tobago, Turks & Caicos Islands, and US Virgin Islands
Zone 13 - Eastern South America	Brazil, Falkland Islands, French Guiana, Guyana, Paraguay, Suriname, and Uruguay
Zone 14 - Northern, Southern and Western South America	Argentina, Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela
Zone 15 - North-East United States	Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont
Zone 16 - South-East United States	Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, and West Virginia
Zone 17 - Mid-West United States	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin
Zone 18 - Western United States	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming

34. The reserve risk charge calculation shall be established in accordance with the following formula—

$$\boxed{C_{reserve} = \sqrt{\sum_{i,j} Corr\,Reserve_{i,j} \times C_i \times C_j}}\ ;$$

Where—

$Corr\,Reserve_{i,j}$	=	the correlation factors of the reserve risk module correlation matrix in accordance with table 7A;
i,j	=	the sum of the different terms should cover all possible combinations of i and j;
C_i and C_j	=	risk charge i and risk charge j which are replaced by the following: $C_{reserve_i}$, $C_{reserve_j}$ as calculated in accordance with paragraph 35.

Table 7A – Reserve Risk Module Correlation Matrix

$Corr\ Reserve_{i,j}$	Prop Cat	Prop	Prop NP	PA	PA NP	Aviat n	Aviatn NP	C/S	C/S NP	Ergy O/ M	Ergy O/M NP	US Cas	US Cas NP	US Prof	US Prof NP	US Spec	US Spec NP	Int Mot or	Int Motor NP	Int Cas	Int Cas NP	Retro Prop	Str/ Fin Re	Health
Prop Cat	1																							
Prop	0.25	1																						
Prop NP	0.25	0.5	1																					
PA	0.25	0.25	0.25	1																				
PA NP	0.25	0.25	0.25	0.5	1																			
Aviat n	0.25	0.25	0.25	0.25	0.25	1																		
Aviatn NP	0.25	0.25	0.25	0.25	0.25	0.5	1																	
C/S	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1																
C/S NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1															
Ergy O/M	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1														
Ergy O/MNP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1													
US Cas	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1												
US CasNP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1											
US Prof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	1										
US Prof NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	1									
US Spec	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1								
US Spec NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1							
Int Motor	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1						
Int Motor NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	1					
Int Cas	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.25	0.25	0.25	1				
Int Cas NP	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.5	0.5	0.25	0.25	0.25	0.25	0.5	1			
Retro Prop	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1		
Str / Fin Re	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1	
Health	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	1

35. The Line of Business reserve risk charge $C_{reserve_i}$ calculation shall be determined in accordance with the following formula—

$$\boxed{C_{reserve_i} = \beta_i \times geolinersvs_i};$$

Where—

β_i = individual $geolinersvs_i$ risk capital charge factor as prescribed in Table 7B;

$geolinersvs_i$ = geographic diversification of reserves for individual Lines of Business i as prescribed in Table 6D;

Table 7B – Capital charge factors for $geolinersvs_i$

Line of business $geolinersvs_i$	**Statement Source** These Rules	**Capital Factor** β_i
Property catastrophe	Schedule III, Line 1	46.2%
Property	Schedule III, Line 2	43.8%
Property non- proportional	Schedule III, Line 3	49.7%
Personal accident	Schedule III, Line 4	29.7%
Personal accident non-proportional	Schedule III, Line 5	34.9%
Aviation	Schedule III, Line 6	46.0%
Aviation non- proportional	Schedule III, Line 7	48.3%
Credit / surety	Schedule III, Line 8	38.4%
Credit / surety non- proportional	Schedule III, Line 9	43.5%
Energy offshore /marine	Schedule III, Line 10	39.5%
Energy offshore / marine non- proportional	Schedule III, Line 11	43.9%
US casualty	Schedule III, Line 12	43.0%
US casualty non- proportional	Schedule III, Line 13	48.8%
US professional	Schedule III, Line 14	46.3%
US professional non- proportional	Schedule III, Line 15	51.5%
US specialty	Schedule III, Line 16	46.5%
US specialty non- proportional	Schedule III, Line 17	48.3%
International motor	Schedule III, Line 18	37.1%
International motor non-proportional	Schedule III, Line 19	43.5%
International casualty non-motor	Schedule III, Line 20	43.7%
International casualty non-motor non-proportional	Schedule III, Line 21	49.4%
Retro property	Schedule III, Line 22	47.8%
Structured / finite reinsurance	Schedule III, Line 23	24.1%
Health	Schedule III, Line 24	12.5%

INSTRUCTIONS AFFECTING TABLE 7B: Capital charge factors for $geolinersvs_i$

(a) all reported net loss and loss expense provisions for the relevant year by statutory Line of Business as prescribed in this Schedule are subject to capital charges within the reserve risk charge and shall be included;

(b) all reported net loss and loss expense provisions by statutory Line of Business shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

(c) an insurance group may provide loss and loss expense provisions exposure for all statutory Lines of General Business, or for particular statutory Lines of General Business, split by geographic zone as set out in Table 6D. $geolinersvs_i$ is then derived from the total loss and loss expense provisions for that Line of Business by reducing the total by 25% times $\frac{\sum x_i^2}{(\sum x_i)^2}$

where x_i = best estimate net loss and loss expense provisions in that line of business for $Zone_i$; and where the summation covers all zones; and

(d) amounts are to be reported on an EBS Valuation basis.

36. The credit risk charge calculation shall be established in accordance with the following formula—

$$\boxed{C_{credit} = \sum_i \delta_i \times debtor_i \times \mu_r + CCROTC};$$

Where—

δ_i = the credit risk capital charge factor for type of $debtor_i$ as prescribed in Table 8A;

$debtor_i$ = receivable amount from $debtor_i$ net of any collateral in favour of the insurance group;

μ_r = additional diversification adjustment factor applied to reinsurance balances only taking into consideration diversification by number of reinsurers, equal to 40%.

CCROTC = counterparty default risk for over-the-counter derivatives calculated as per the following formula:

$$\boxed{CCROTC = \sum_i Max\left(0, MVDerivativeP_i - (1-\beta_i)Min\left(MVderivativeP_i, MVCollateral_i\right)\right) \times \alpha_i}$$

$MVDerivativeP_i$ = Market value of over-the-counter derivatives with positive market values and BSCR rating *i*,

β_i = collateral factor as prescribed in Table 8B;

α_i = capital factor for the BSCR rating *i* as prescribed in Table 8B;

$MVCollateral_i$ = market value of collateral of over-the-counter derivatives with positive market values and BSCR rating *i*.

Table 8A – Capital charge factors for $debtor_i$

Type of debtor $debtor_i$	**Statement Source** These Rules	**Capital Factor** δ_i
Accounts and Premiums Receivable		
In course of collection	Form 1EBS, Line 10(a)	5.0%
Deferred - Not Yet Due	Form 1SFS, Line 10 (b)	5.0%
Receivables from retrocessional contracts less collateralized balances	Form 1EBS, Line 10(c) and instruction (c) below	10.0%
All Other Receivables		
Accrued investment income	Form 1EBS, Line 9	2.5%
Advances to affiliates	Form 1EBS, Line 4(g)	5.0%
Balances receivable on sale of investments	Form 1EBS, Line 13(f)	2.5%
Particulars of reinsurance balances shall be the maximum of the amounts calculated from paragraphs (i) and (ii) below:		
(i) Particulars of reinsurance balances for current year by BSCR Rating		
BSCR rating 0	Schedule XVIII paragraph (d)	0.0%
BSCR rating 1	Schedule XVIII paragraph (d)	0.7%
BSCR rating 2	Schedule XVIII paragraph (d)	1.5%
BSCR rating 3	Schedule XVIII paragraph (d)	3.5%
BSCR rating 4	Schedule XVIII paragraph (d)	7.0%

BSCR rating 5	Schedule XVIII paragraph (d)	12.0%
BSCR rating 6	Schedule XVIII paragraph (d)	20.0%
BSCR rating 7	Schedule XVIII paragraph (d)	17.0%
BSCR rating 8	Schedule XVIII paragraph (d)	35.0%
Less: Diversification adjustment	Schedule XVIII paragraph (d)	40.0%
(ii) Particulars of reinsurance balances for future premium by BSCR Rating		
Premium Risk Capital Charge (Gross)	As prescribed in paragraph (d)(ii)(B)	
Premium Risk Capital Charge (Net)	Premium Risk Charge as prescribed in paragraph 32	
Premium Risk Capital Charge (Ceded)	Premium Risk Capital Charge (Gross) less Premium Risk Capital Charge (Net)	

Type of debtor $debtor_i$	**Statement Source** These Rules	**Debtor Allocation**	**Capital Factor** δ_i
BSCR rating 0	paragraph (i) BSCR Rating 0 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	0.0%
BSCR rating 1	paragraph (i) BSCR Rating 1 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	0.7%
BSCR rating 2	paragraph (i) BSCR Rating 2 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	1.5%
BSCR rating 3	paragraph (i) BSCR Rating 3 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	3.5%
BSCR rating 4	paragraph (i) BSCR Rating 4 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	7.0%
BSCR rating 5	paragraph (i) BSCR Rating 5 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	12.0%
BSCR rating 6	paragraph (i) BSCR Rating 6 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	20.0%
BSCR rating 7	paragraph (i) BSCR Rating 7 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	17.0%
BSCR rating 8	paragraph (i) BSCR Rating 8 / paragraph (i) Sum(BSCR Ratings 0 – 8)	Premium Risk Capital Charge (Ceded)	35.0%
Less: Diversification adjustment		Schedule XVIII paragraph (d)	40.0%

INSTRUCTIONS AFFECTING TABLE 8A: Capital charge factors for $debtor_i$

(a) all accounts and premiums receivable and all other receivables that are subject to capital charges within the credit risk charge shall be included;

(b) all accounts and premiums receivable, reinsurance balances receivables, all other receivables, and reinsurance recoverable balances shall be reported on a basis consistent with that used for purposes of statutory financial reporting;

(c) "collateralized balances" for the purposes of this paragraph shall mean assets pledged in favor of the insurance group relating to accounts and premiums receivable under Table 8A – Capital charge factors for $debtor_i$;

(d) Particulars of reinsurance balances shall be the greater of paragraphs (i) and (ii) below

(i) Particulars of reinsurance balances for current year by BSCR rating are as follows:

(A) the net qualifying exposure which is comprised of reinsurance balances receivable and reinsurance balances recoverable, less the corresponding reinsurance balances payable and other payables less the qualifying collateral issued in favor of the insurance group in relation to the reinsurance balances;

(B) the "net qualifying exposure" referenced in paragraph (d)(i)(A) above shall be subject to the prescribed credit risk capital factor under Table 8A;

(C) the total capital requirement relating to the reinsurance balances shall be reduced by a diversification adjustment of up to a maximum of 40%;

(D) the "diversification" adjustment" referenced in paragraph (d)(i)(C) above shall be determined by calculating 40% multiplied by 1 minus the ratio of the largest net reinsurance exposure, on an individual reinsurer basis, to total net reinsurance exposure;

(ii) Particulars of reinsurance balances for future premium by BSCR rating are as follows:

(A) the Premium Risk Capital Charge (Gross), as prescribed in paragraph (d)(ii)(B) below, less the Premium Risk Capital Charge (Net), as prescribed in paragraph 32, shall be referred to as the "Premium Risk Capital Charge (Ceded)". Such amount shall be allocated to type of debtor ($debtor_i$) by BSCR rating Net Qualifying Exposure Measure as reported on Schedule XVIII;

(B) the Premium Risk Capital Charge (Gross) is calculated in the same manner as Premium Risk Capital Charge (Net) using the Gross Premium Exposure Measure (Schedule IVD, Column G) rather than the Net Premium Exposure Measure (Schedule IVD, Column F) as the input $ExposureMeasure_i$ parameter in paragraph 33. $ExposureMeasure_i$ is allocated to $BaseExp_i$, $FPExisting_i$ and $FPFuture_i$ for the Premium Risk Capital Charge (Gross) calculation in the same proportions as in the Premium Risk Capital Charge (Net) calculation.

(C) the Premium Risk Capital Charge (Ceded) shall be subject to the prescribed credit risk capital charge factor under Table 8A.

(D) the total capital requirement relating to the reinsurance balances shall be reduced by a diversification adjustment of up to a maximum of 40%;

(E) the "diversification" adjustment" referenced in paragraph (d)(i)(C) above shall be determined by calculating 40% multiplied by 1 minus the ratio of the largest net reinsurance exposure, on an individual reinsurer basis, to total net reinsurance exposure;

Table 8B – Capital charge factors for Default Risk for over-the-counter Derivatives

Rating of over-the-counter Derivatives Counterparty	Capital Factor α_i	Capital charge factors on Collateral β_i
BSCR Rating 0	0.0%	3.0%
BSCR Rating 1	0.4%	3.0%
BSCR Rating 2	0.8%	3.0%
BSCR Rating 3	1.5%	3.0%
BSCR Rating 4	3.0%	3.0%
BSCR Rating 5	8.0%	3.0%
BSCR Rating 6	15.0%	3.0%
BSCR Rating 7	26.3%	3.0%
BSCR Rating 8	35.0%	3.0%

37. The total catastrophe risk charge calculation for general business shall be a calculated as the total of the natural catastrophe risk charge and the man-made catastrophe risk charge established in accordance with the following formula

$C_{catastrophe} = \sqrt{{C_{nat\ cat-gb}}^2 + {C_{mmcat-gb}}^2}$ where -

(i) the natural catastrophe risk charge module (C_(nat cat-gb)) relates to natural catastrophe exposures only and shall be established in accordance with the following formula –

$C_{nat\ cat-gb} = NetPML - Netcatprem + CR_{PML}$;

Where—

$NetPML$	= net probable maximum loss as prescribed in Schedule V paragraph (h);
$Netcatprem$	= average annual loss excluding property catastrophe as prescribed in Schedule V paragraph (i) divided by {(estimated industry catastrophe loss ratio of 40% as prescribed in this Schedule) plus property catastrophe premium as included in Schedule IVD, Line 1, Column B}; and
CR_{PML}	= {(gross probable maximum loss as prescribed in Schedule V paragraph (g); minus net probable maximum loss as prescribed in Schedule V paragraph (h); minus arrangements with respect to property catastrophe recoverables as prescribed in Schedule V paragraph (k)(v) of these Rules); times (Credit risk charge, equal to 10%, associated with reinsurance recoveries of ceded catastrophe losses)}:

(a) all reported net probable maximum loss, gross probable maximum loss, average annual loss excluding property catastrophe, property catastrophe premium and arrangements with respect to property catastrophe recoverables as prescribed in Schedule V that are subject to capital charges herein shall be included; and

(b) the amount of collateral and other funded arrangements with respect to property catastrophe recoverables shall be reported and reduced by 2% to account for the market risk associated with the underlying collateral assets.

(i)the man-made catastrophe risk charge module ($C_{mmcat-gb}$) relates to man-made catastrophe exposures only and shall be established in accordance with the following formula –

$C_{mmCat-gb} = \text{Transitional}_{mmcat} \times \sqrt{Terrorism^2 + Credit\&Surety^2 + Aviation^2 + Marine^2}$ where -

Transitional$_{mmcat}$	= 1/3 for financial year beginning on or after 1st January 2024, 2/3 for financial year beginning on or after 1st January 2025, 3/3 for all subsequent financial years;
Terrorism	= net probable maximum loss arising from acts of terrorism as prescribed in Schedule V paragraph (bb);
Aviation	= net probable maximum loss arising from the Aviation and Aviation non - proportional statutory lines of general business as prescribed in Schedule V paragraph (cc);
Marine	= $\sqrt{Tanker^2 + Platform^2}$; where - *Tanker* = net probable maximum loss arising from the insurance of sea, lake, river and canal vessels as prescribed in Schedule V paragraph (dd); *Platform* = net probable maximum loss arising from the insurance of oil and gas offshore platforms as prescribed in Schedule V paragraph (ee);
Credit&Surety	<u>Option 1 (ICS)</u> = $\sqrt{\sum_{i,j} CorrC\&S_{i,j} \times C\&S_i \times C\&S_j}$; where –

$\boldsymbol{i, j}$	$\in \{\boldsymbol{Mortgage}, \boldsymbol{Surerty}, \boldsymbol{TradeCredit}\}$
$\boldsymbol{CorrC\&S_{i,j}}$	= 0.75 when $i \neq j$ and 1 when $i = j$;
$\boldsymbol{C\&S_{Mortgage}}$	= net probable maximum loss arising from mortgage insurance as prescribed in Schedule V paragraph (ff);
$\boldsymbol{C\&S_{Surety}}$	= net probable maximum loss arising from surety insurance as prescribed in Schedule V paragraph (gg);
$\boldsymbol{C\&S_{TradeCredit}}$	= $TC_{GR} - TC_{RI}$; where –

$\boldsymbol{TC_{RI}}$	= amount of reinsurance recoverable under the specified trade credit insurance stress scenario as prescribed in Schedule V paragraph (hh);
$\boldsymbol{TC_{GR}}$	$= \sum_i TCCharge_i \times TCPrem_i$; where –

$\boldsymbol{i}$	$\in \{\boldsymbol{Inv}, \boldsymbol{NonInv}\}$;
$\boldsymbol{TCCharge_i}$	= 80% when $i = Inv$ and 200% when $i =$ NonInv;
$\boldsymbol{TCPrem_{Inv}}$	= insurer's trade credit gross premium estimate earned over the next 12 months relating to investment grade exposures only as prescribed in Schedule V paragraph (ii);
$\boldsymbol{TCPrem_{NonInv}}$	= insurer's trade credit gross premium estimate earned over the next 12 months relating to non-investment grade exposures only as prescribed in Schedule V paragraph (jj);

Option 2 (SII)

$$= \sqrt{C\&S_{default}^{\ 2} + C\&S_{recession}^{\ 2} + C\&S_{np}^{\ 2}}; \text{ where –}$$

$\boldsymbol{C\&S_{default}}$	= net probable maximum Credit / surety (statutory line of business) loss arising from the default of credit insurance exposures as prescribed in Schedule V paragraph (kk);
$\boldsymbol{C\&S_{recession}}$	= net probable maximum Credit / surety (statutory line of business) loss arising from a recession as prescribed in Schedule V paragraph (ll);
$\boldsymbol{C\&S_{np}}$	= $C\&S_{np-Gr} - C\&S_{np-RI}$; where-

$\boldsymbol{C\&S_{np-RI}}$	= amount of reinsurance recoverable under the specified Credit / surety non- proportional (statutory line of business) insurance stress scenario as prescribed in Schedule V paragraph (mm);
$\boldsymbol{C\&S_{np-Gr}}$	$CSCharge_{np-Gr} \times CSPrem_{np-Gr}$ where -

$\boldsymbol{CSCharge_{np-Gr}}$	= 250%;
$\boldsymbol{CSPrem_{np-Gr}}$	= insurer's Credit / surety non- proportional (statutory line of business) gross premium estimate earned over the next 12 months only as prescribed in Schedule V paragraph (nn);

38. The insurance risk - mortality charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTmort} = \left[\sum_i \alpha 1_i \times NAAR1_i\right] + \left[\sum_i \alpha 2_i \times NAAR2_i\right];$$

Where —

$\alpha 1_i$	= capital charge factor for adjustable mortality long-term business as prescrib Table 9A;
$NAAR1_i$	= the Net Amount at Risk of all adjustable mortality long-term busines prescribed in Schedule VII, Column (9), Line 1 of these Rules;
$\alpha 2_i$	= capital charge factor for non-adjustable mortality long-term busines prescribed in Table 9A;
$NAAR2_i$	= the Net Amount at Risk of all non-adjustable mortality long-term busine prescribed in Schedule VII, Column (10), Line 1 of these Rules;

Table 9A – Capital charge factors for $NAAR1_i$ or $NAAR2_i$

Net Amount at Risk $NAAR1_i$ or $NAAR2_i$	Capital Factor $\alpha 1_i$	Capital Factor $\alpha 2_i$
First $1 billion	0.00199	0.00397
Next $4 billion	0.00090	0.00180
Next $5 billion	0.00072	0.00144
Next $40 billion	0.00065	0.00129
Excess over $50 billion	0.00057	0.00113

39. The insurance risk – stop loss charge calculation for long-term business shall be established in accordance with the following formula –

C_{LTsl}	= 50% x net annual premium for stop loss covers as prescribed in Schedule VII, Column (11), Line 14 of these Rules.

40. The insurance risk – rider charge calculation for long-term business shall be established in accordance with the following formula –

C_{LTr}	= 25% x net annual premium for insurance product riders not included elsewhere as prescribed in Schedule VII, Column (11), Line 15 of these Rules.

41. The insurance risk – morbidity and disability charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTmorb} = (a) + (b) + (c) + (d) + (e)$$

Where—

(a) = 7.00% x BSCR adjusted reserves for disability income claims in payment on waiver of premium and long-term care as prescribed in Schedule VII, Column (7), Line 9 of these Rules;

(b) = 10% x BSCR adjusted reserves for disability income claims in payment on other accident and sickness products as prescribed in Schedule VII, Column (7), Line 10 of these Rules;

(c) $= \left[\sum_i \alpha_i \times NAP_i\right]$

Where –

α_i = individual NAP_i capital charge factor as prescribed in Table 10A;

NAP_i = the Net Annual Premium for disability income business – active lives as described in Table 10A;

Table 10A – Capital charge factors for NAP_i

Net Annual Premium	Statement Source	Capital Factor

NAP_i	These Rules	α_i
Benefit period less than or equal to two years, premium guarantee less than or equal to 1 year	Schedule VII, Column (9), Line 7(a)	9.0%
Benefit period less than or equal to two years, premium guarantee of more than 1 year but less than or equal to 5 years	Schedule VII, Column (9), Line 7(b)	15.0%
Benefit period less than or equal to two years, premium guarantee of more than 5 years	Schedule VII, Column (9), Line 7(c)	22.5%
Benefit period greater than two years, premium guarantee less than or equal to 1 year	Schedule VII, Column (10), Line 7(a)	12.0%
Benefit period greater than two years, premium guarantee of more than 1 year but less than or equal to 5 years	Schedule VII, Column (10), Line 7(b)	20.0%
Benefit period greater than two years, premium guarantee of more than 5 years	Schedule VII, Column (10), Line 7(c)	30.0%

(d) = 12% x net annual premiums for disability income - active lives for other accident and sickness products as prescribed in Schedule VII, Column (11), Line 8; and

(e) $$= \left[\sum_i \alpha 1_i \times NAAR1_i\right] + \left[\sum_i \alpha 2_i \times NAAR2_i\right]$$

Where –

$\alpha 1_i$ = capital charge factor for adjustable critical illness insurance business as prescribed in Table 11A;

$NAAR1_i$ = the Net Amount at Risk of all adjustable critical illness insurance business in force as in Schedule VII, Column (9), Line 2;

$\alpha 2_i$ = capital charge factor for non-adjustable critical illness insurance business as prescribed in Table 11A;

$NAAR2_i$ = the Net Amount at Risk of all non-adjustable critical illness insurance business in force as in Schedule VII, Column (10), Line 2.

Table 11A – Capital charge factors for $NAAR1_i$ or $NAAR2_i$

Net Amount at Risk $NAAR1_i$ **Or** $NAAR2_i$	**Capital Factor** $\alpha 1_i$	**Capital Factor** $\alpha 2_i$
First $1 billion	0.00596	0.01191
Next $4 billion	0.00270	0.00540
Next $5 billion	0.00216	0.00432
Next $40 billion	0.00194	0.00387
Excess over $50 billion	0.00170	0.00339

42. The insurance risk – longevity charge calculation for long-term business shall be established in accordance with the following formula –

$$\boxed{C_{LTlong} = \sum_i \alpha_i \times BAR_i};$$

Where—

α_i = capital charge factor as prescribed in Table 12A; and

BAR_i = the BSCR adjusted reserves for longevity risk as described in Table 12A.

Table 12A – Capital charge factors for BAR_i

BSCR adjusted reserves BAR_i	**Statement Source** These Rules	**Capital Factor** α_i
Longevity (*immediate pay-out annuities, contingent annuities, pension blocks*) – Attained age of annuitant:		
0-55 years	Schedule VII, Column (7), Line 3(a)	2.0%
56-65 years	Schedule VII, Column (7), Line 3(b)	3.0%
66-70 years	Schedule VII, Column (7), Line 3(c)	4.0%
71-80 years	Schedule VII, Column (7), Line 3(d)	5.0%
81+ years	Schedule VII, Column (7), Line 3(e)	6.0%
Longevity (deferred pay-out annuities, future contingent annuities, future pension pay-outs) – Age at which annuity benefits commence:		
0-55 years	Schedule VII, Column (7), Line 4(a)	2.0%
56-60 years	Schedule VII, Column (7), Line 4(b)	3.0%
61-65 years	Schedule VII, Column (7), Line 4(c)	4.0%
66-70 years	Schedule VII, Column (7), Line 4(d)	5.0%
71-75 years	Schedule VII, Column (7), Line 4(e)	6.0%
76+ years	Schedule VII, Column (7), Line 4(e)	7.0%

INSTRUCTIONS AFFECTING TABLE 12A: Capital charge factors for BAR_i

(a) For joint and survivor annuities, the youngest age should be used.

43. The variable annuity guarantee risk charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTVA} = \text{either } \left(\sum_i TotalBSReq_i - TotalBAR - TotalGMB_{adj}\right) \text{ or } \left(IMCReq_{LTVA}\right)$$

Where—

(i) $TotalBSReq_i$ = higher of (a) $(\alpha 1_i \times GV1_i + \alpha 2_i \times GV2_i + \alpha 3_i \times GV3_i)$ and (b) $(\alpha 4_i \times NAR1_i + \alpha 5_i \times NAR2_i + \alpha 6_i \times NAR3_i)$;

(ii) $TotalBAR$ = the total BSCR adjusted reserves for variable annuity guarantee risk. The statement source for $TotalBAR$ is Schedule VII, line 17, column (7) of these Rules;

(iii) $TotalGMB_{adj}$ = the capital requirement charged on guaranteed minimum death benefit (GMDB) policies multiplied by the percentage of GMDB with multiple guarantees. The statement source for the percentage of GMDB with multiple guarantees is Schedule VIII, line 32, column (4) of these Rules;

(iv) $IMCReq_{LTVA}$ = the capital requirement for variable annuity guarantee risk determined in accordance with an insurance group's internal capital model, if applicable. The statement source for $IMC\mathrm{Re}q_{LTVA}$ is Schedule VIIIA, line 1, column (7) of these Rules;

(v) $(GV1_i, GV2_i, GV3_i, NAR1_i, NAR2_i, NAR3_i)$ have the statement source identified in Table 13A; and

(vi) $(\alpha 1_i, \alpha 2_i, \alpha 3_i, \alpha 4_i, \alpha 5_i, \alpha 6_i)$ are the capital factors as prescribed in Table 14A.

Table 13A – Capital charge factors for $\left(GV1_i, GV2_i, GV3_i, NAR1_i, NAR2_i, NAR3_i\right)$

Variable Annuity Benefit Type	Statement Source These Rules $GV1_i$	Statement Source These Rules $GV2_i$	Statement Source These Rules $GV3_i$	Statement Source These Rules $Nar1_i$	Statement Source These Rules $Nar2_i$	Statement Source These Rules $Nar3_i$
Guaranteed minimum death benefit: Return of premium, ratchet and reset	Schedule VIII, lines 1 and 16, column (2)	Schedule VIII, lines 1 and 16, column (3)	Schedule VIII, lines 1 and 16, column (4)	Schedule VIII, lines 1, column (5)	Schedule VIII, lines 1, column (6)	Schedule VIII, lines 1, column (7)
Guaranteed minimum death benefit: Enhanced benefits (roll up)	Schedule VIII, Lines 2 and 17, column (2)	Schedule VIII, Lines 2 and 17, column (3)	Schedule VIII, Lines 2 and 17, column (4)	Schedule VIII, Lines 2, column (5)	Schedule VIII, Lines 2, column (6)	Schedule VIII, Lines 2, column (7)
Guaranteed minimum income benefit	Schedule VIII, Lines 3 and 18, column (2)	Schedule VIII, Lines 3 and 18, column (3)	Schedule VIII, Lines 3 and 18, column (4)	Schedule VIII, Lines 3, column (5)	Schedule VIII, Lines 3, column (6)	Schedule VIII, Lines 3, column (7)
Guaranteed minimum withdrawal benefit	Schedule VIII, Lines 4 and 19, column (2)	Schedule VIII, Lines 4 and 19, column (3)	Schedule VIII, Lines 4 and 19, column (4)	Schedule VIII, Lines 4, column (5)	Schedule VIII, Lines 4, column (6)	Schedule VIII, Lines 4, column (7)
Guaranteed enhanced earnings benefit	Schedule VIII, Lines 5 and 20, column (2)	Schedule VIII, Lines 5 and 20, column (3)	Schedule VIII, Lines 5 and 20, column (4)	Schedule VIII, Lines 5, column (5)	Schedule VIII, Lines 5, column (6)	Schedule VIII, Lines 5, column (7)
Guaranteed minimum accumulation benefit with 1 year or less to maturity	Schedule VIII, Lines 6 and 21, column (2)	Schedule VIII, Lines 6 and 21, column (3)	Schedule VIII, Lines 6 and 21, column (4)	Schedule VIII, Lines 6, column (5)	Schedule VIII, Lines 6, column (6)	Schedule VIII, Lines 6, column (7)
Guaranteed minimum accumulation benefit with more than 1 year but less than or equal to 2 years to maturity	Schedule VIII, Lines 7 and 22, column (2)	Schedule VIII, Lines 7 and 22, column (3)	Schedule VIII, Lines 7 and 22, column (4)	Schedule VIII, Lines 7, column (5)	Schedule VIII, Lines 7, column (6)	Schedule VIII, Lines 7, column (7)
Guaranteed minimum accumulation benefit with more than 2 years but less than or equal to 3 years to maturity	Schedule VIII, Lines 8 and 23, column (2)	Schedule VIII, Lines 8 and 23, column (3)	Schedule VIII, Lines 8 and 23, column (4)	Schedule VIII, Lines 8, column (5)	Schedule VIII, Lines 8, column (6)	Schedule VIII, Lines 8, column (7)
Guaranteed minimum accumulation benefit with more than 3 years but less than or equal to 4 years to maturity	Schedule VIII, Lines 9 and 24, column (2)	Schedule VIII, Lines 9 and 24, column (3)	Schedule VIII, Lines 9 and 24, column (4)	Schedule VIII, Lines 9, column (5)	Schedule VIII, Lines 9, column (6)	Schedule VIII, Lines 9, column (7)
Guaranteed minimum accumulation benefit with more than 4 years but less than or equal to 5 years to maturity	Schedule VIII, Lines 10 and 25, column (2)	Schedule VIII, Lines 10 and 25, column (3)	Schedule VIII, Lines 10 and 25, column (4)	Schedule VIII, Lines 10, column (5)	Schedule VIII, Lines 10, column (6)	Schedule VIII, Lines 10, column (7)
Guaranteed minimum accumulation benefit with more than 5 years but less than or equal to 6 years to maturity	Schedule VIII, Lines 11 and 26, column (2)	Schedule VIII, Lines 11 and 26, column (3)	Schedule VIII, Lines 11 and 26, column (4)	Schedule VIII, Lines 11, column (5)	Schedule VIII, Lines 11, column (6)	Schedule VIII, Lines 11, column (7)
Guaranteed minimum accumulation benefit with more than 6 years but less than or equal to 7 years to maturity	Schedule VIII, Lines 12 and 27, column (2)	Schedule VIII, Lines 12 and 27, column (3)	Schedule VIII, Lines 12 and 27, column (4)	Schedule VIII, Lines 12, column (5)	Schedule VIII, Lines 12, column (6)	Schedule VIII, Lines 12, column (7)
Guaranteed minimum accumulation benefit with more than 7 years but less than or equal to 8 years to maturity	Schedule VIII, Lines 13 and 28, column (2)	Schedule VIII, Lines 13 and 28, column (3)	Schedule VIII, Lines 13 and 28, column (4)	Schedule VIII, Lines 13, column (5)	Schedule VIII, Lines 13, column (6)	Schedule VIII, Lines 13, column (7)

Guaranteed minimum accumulation benefit with more than 8 years but less than or equal to 9 years to maturity	Schedule VIII, Lines 14 and 29, column (2)	Schedule VIII, Lines 14 and 29, column (3)	Schedule VIII, Lines 14 and 29, column (4)	Schedule VIII, Lines 14, column (5)	Schedule VIII, Lines 14, column (6)	Schedule VIII, Lines 14, column (7)
Guaranteed minimum accumulation benefit with more than 9 years to maturity	Schedule VIII, Lines 15 and 30, column (2)	Schedule VIII, Lines 15 and 30, column (3)	Schedule VIII, Lines 15 and 30, column (4)	Schedule VIII, Lines 15, column (5)	Schedule VIII, Lines 15, column (6)	Schedule VIII, Lines 15, column (7)

Table 14A – Capital charge factors for $(\alpha1_i, \alpha2_i, \alpha3_i, \alpha4_i, \alpha5_i, \alpha6_i)$

Variable Annuity Benefit Type	**Capital Charge** $\alpha1$	**Capital Charge** $\alpha2$	**Capital Charge** $\alpha3$	**Capital Charge** $\alpha4$	**Capital Charge** $\alpha5$	**Capital Charge** $\alpha6$
Guaranteed minimum death benefit: Return of premium, ratchet and reset	0.25%	0.50%	0.75%	4.00%	8.50%	13.00%
Guaranteed minimum death benefit: Enhanced benefits (roll up)	0.75%	1.00%	1.25%	12.00%	16.50%	21.00%
Guaranteed minimum income benefit	5.00%	6.50%	8.00%	100.00%	130.00%	160.00%
Guaranteed minimum withdrawal benefit	3.25%	4.25%	5.00%	60.00%	75.00%	90.00%
Guaranteed enhanced earnings benefit	0.00%	0.50%	1.00%	1.00%	9.00%	17.00%
Guaranteed minimum accumulation benefit with 1 year or less to maturity	3.20%	5.00%	9.00%	90.00%	130.00%	250.00%
Guaranteed minimum accumulation benefit with more than 1 year but less than or equal to 2 years to maturity	3.00%	5.00%	8.90%	80.00%	115.00%	200.00%
Guaranteed minimum accumulation benefit with more than 2 years but less than or equal to 3 years to maturity	3.00%	5.00%	8.90%	70.00%	105.00%	160.00%
Guaranteed minimum accumulation benefit with more than 3 years but less than or equal to 4 years to maturity	2.80%	5.00%	8.80%	60.00%	95.00%	135.00%
Guaranteed minimum accumulation benefit with more than 4 years but less than or equal to 5 years to maturity	2.40%	4.30%	8.00%	55.00%	85.00%	115.00%
Guaranteed minimum accumulation benefit with more than 5 years but less than or equal to 6 years to maturity	2.00%	3.50%	6.80%	50.00%	75.00%	100.00%
Guaranteed minimum accumulation benefit with more than 6 years but less than or equal to 7 years to maturity	1.70%	2.80%	5.90%	45.00%	65.00%	90.00%
Guaranteed minimum accumulation benefit with more than 7 years but less than or equal to 8 years to maturity	1.40%	2.10%	4.90%	40.00%	55.00%	80.00%
Guaranteed minimum accumulation benefit with more than 8 years but less than or equal to 9 years to maturity	1.10%	1.70%	4.30%	35.00%	50.00%	70.00%
Guaranteed minimum accumulation benefit with more than 9 years to maturity	1.00%	1.40%	3.90%	30.00%	45.00%	60.00%

44. The other insurance risk charge for long-term business calculation shall be established in accordance with the following formula –

Where—

α_i = individual BAR_i capital charge factor as prescribed in Table 15A; and

BAR_i = the BSCR adjusted reserves for other insurance risk for long-term business as described in Table 15A.

Table 15A – Capital charge factors for

BSCR adjusted reserves BAR_i	**Statement Source** These Rules	**Capital Factor** α_i
Mortality (term insurance, whole life, universal life)	Schedule VII, Column (7), Line 1	2.0%
Critical illness (including accelerated critical illness products)	Schedule VII, Column (7), Line 2	2.0%
Longevity (immediate pay-out annuities, contingent annuities, pension pay-outs)	Schedule VII, Column (7), Line 3(f)	0.5%
Longevity (deferred pay-out annuities, future contingent annuities, future pension pay- outs)	Schedule VII, Column (7), Line 4(g)	0.5%
Annuities certain only	Schedule VII, Column (7), Line 5	0.5%
Deferred accumulation annuities	Schedule VII, Column (7), Line 6	0.5%
Disability income: active lives – including waiver of premium and long-term care	Schedule VII, Column (7), Line 7(d)	2.0%
Disability income: active lives – other accident and sickness	Schedule VII, Column (7), Line 8	2.0%
Disability income: claims in payment – including waiver of premium and long-term care	Schedule VII, Column (7), Line 9	0.5%
Disability income: claims in payment – other accident and sickness	Schedule VII, Column (7), Line 10	0.5%
Group life	Schedule VII, Column (7), Line 11	0.5%
Group disability	Schedule VII, Column (7), Line 12	0.5%
Group health	Schedule VII, Column (7), Line 13	0.5%
Stop loss	Schedule VII, Column (7), Line 14	2.0%
Rider (other product riders not included above)	Schedule VII, Column (7), Line 15	2.0%

44A. Lapse risk covers the risk of adverse changes in assets or liabilities due to unexpected changes in the level or volatility of rates of policy lapses, terminations, renewals and surrenders. The Lapse risk charge calculation for long-term business shall be established in accordance with the following formula –

$$C_{LTlapse} = max(LapseUp, LapseDown, MassLapse, 0)$$

Where –

$LapseUp$	= change in net asset value resulting from applying the prescribed lapse up stresses per region and summing over all regions;
$LapseDown$	= change in net asset value resulting from applying the prescribed lapse down stresses per region and summing over all regions;
$MassLapse$	= change in net asset value resulting from applying the prescribed mass lapse stresses per region and summing over all regions;

where –

(a) the change in net asset value is calculated as the difference between the market value of assets and the prescribed value of insurance and other liabilities pre-stress and post-stress, as prescribed by the Authority;
(b) the calculation shall in all cases take into account all applicable legal or contractual options that can change the value of future cash flows; and
(c) the prescribed stresses are as follows:

1. For (re)insurance business originating from the European Economic Area (EEA) or the United Kingdom of Great Britain and Northern Ireland (UK): The lapse up, lapse down and mass lapse stresses shall be those prescribed in the Commission Delegated Regulation (EU) 2015/35 of 10 October 2014 supplementing Directive 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), as amended. For the purposes of this paragraph, any reference to any laws, rules and regulations shall also include successors to and functionally equivalent replacements of such laws, rules and regulations.

2. For (re)insurance business originating from all other regions:

(i) Lapse Up: A permanent stress increase in the option take-up rate assumptions in all future years for all homogeneous risk groups adversely affected by such risk (and only for those homogeneous risk groups). The increase shall be 40% for all regions except Japan, and 20% for Japan; in all cases subject to an absolute maximum rate of 100%.
(ii) Lapse Down: A permanent stress decrease in the option take-up rate assumptions in all future years for all homogeneous risk groups adversely affected by such risk (and only for those homogeneous risk groups). The decrease shall be 40% for all regions except Japan, and 20% for Japan.
(iii) Mass Lapse: An immediate stress surrender of policies. The annual mass lapse stress magnitude shall be, for each policy, equal to three times the applicable annual base lapse rate assumption for that policy, subject to the absolute floors prescribed in Table 15B. The mass lapse charge shall be calculated both without offset and with full offset, and the average of the two calculations shall be taken (a '50% offset'). The following further apply:
   a. The stressed mass lapse rate shall apply for the first 12 months within the projections used to determine the best estimate of insurance liabilities;
   b. Calculation 'without offset' means that the results of the mass lapse stress for any homogeneous risk groups for which mass lapse is beneficial are floored at zero (i.e., gains from policies where lapsing is beneficial for the insurer are not allowed to offset losses from policies where lapsing is adverse for the insurer); calculation 'with full offset' means that results of the mass lapse stress are not floored to zero (i.e., gains from policies where lapsing is beneficial are allowed to offset losses from policies where lapsing is adverse);
   c. 'Retail' means policies where the policyholder is a retail customer. 'Non-Retail' means policies where the policyholder is not a retail customer (e.g., is an institution or a corporation). Four product categories are defined for each of Non-Retail and Retail products ; and

d. The mapping of individual products to the floor categories will be as prescribed by the Authority in Instructions. Except for categories A.NR and A.R, the use of other categories may require approval from the Authority, as further prescribed by the Authority.

Table 15B – Mass lapse stress factor floors per Product Category

Type	Product Category	Stress Floor
Non-Retail	A.NR	60%
Non-Retail	B.NR	30%
Non-Retail	C.NR	20%
Non-Retail	D.NR	10%
Retail	A.R	20%
Retail	B.R	15%
Retail	C.R	10%
Retail	D.R	5%

Where the Product Categories are defined as follows:

(i) Product Category 'A.NR' includes the following products:
  a. Guaranteed Investment Contracts (GICs) and Funding Agreements redeemable with no or insignificant penalties.
  b. All other institutional financial/investment/savings products.

(ii) Product Category 'B.NR' includes the following products:
  a. Category 'A.NR' products with significant mitigating features. BMA approval shall be required to classify for this Category and use the applicable floor.

(iii) Product Category 'C.NR' includes the following products:
  a. General Account Bank or Corporate Owned Life Insurance (BOLI/COLI).
  b. Separate Account COLI/BOLI.
  c. Retirement Variable Annuity (VA) (plan-level terminations).
  d. All other institutional protection products.

(iv) Product Category 'D.NR' includes the following products:
  a. Category 'C.NR' products with significant mitigating features. BMA approval required.

(v) Product Category 'A.R' includes the following products:
  a. VA without guarantees or with guarantees and out of the money.
  b. Accumulation FIA and FA with guaranteed crediting rate or option budget less than 10-yr Treasury Rate – 200bps.
  c. All other financial/investment/savings products not specified elsewhere.

(vi) Product Category 'B.R' includes the following products:
  a. Accumulation fixed index annuity (FIA) and fixed annuity (FA) products with risk profile in-between those under categories A and C.
  b. Universal Life (UL) (Indexed UL, Variable UL, UL).
  c. All whole life products.
  d. Term without Return of Premium (ROP) or with cash value ROP.
  e. Individual disability.
  f. All other protection-type products.

(vii) Product Category 'C.R' includes the following products:
  a. Accumulation FIA and FA with guaranteed crediting rate or option budget greater than 10-yr Treasury Rate + 200bps + with at least 3 years of surrender charge period remaining + material GWLB.
  b. VA with material in the money GLWB/GMIB/GMAB.
  c. Retail Variable annuities with GMDB greater than account value.
  d. All products in Category B with at least 3 years of surrender charge period remaining excluding FIA/FA/savings/financial/investment products. BMA approval required.

(viii) Product Category 'D.R' includes the following products:
   a. UL with secondary guarantees (lifetime or greater than age 90).
   b. Long-Term Care (base) and combo(non-acceleration).
   c. Term with ROP at end of level term period (during level period).

44B. Expense risk covers the risk of adverse changes in liabilities due to unexpected changes in expenses incurred. The Expense risk charge for long-term business shall be calculated as the change in net asset value resulting from simultaneously applying the combination of the following stresses:

(i) a relative increase of **x**% in future expenses; and
(ii) an absolute increase of **y**% in the per annum expense inflation rate;

where **x** and **y** depend on the region as specified in Table 15C. The Expense risk charge shall be no lower than zero.

Table 15C – Expense risk stress factors

Region	**x% (relative increase in future expenses)**	**y% (absolute increase in expense inflation rate)**
EEA and Switzerland	6%	1%
US and Canada	6%	1%
China	8%	Year 1 – 10: 3%; Year 11 – 20: 2%; Year 21 onwards: 1%
Japan	6%	1%
Other developed markets	8%	Year 1 – 10: 2%; Year 11 onwards: 1%
Other emerging markets	8%	Year 1 – 10: 3%; Year 11 – 20: 2%; Year 21 onwards: 1%

45. The operational risk charge calculation shall be established in accordance with the following formula—

$$C_{Operational} = \rho \times (Basic\ BSCR + Adj_{TP});$$

Where —

ρ = an amount between 1% and 20% as determined by the Authority in accordance with Table 16G;

$Basic\ BSCR$ = Basic BSCR risk module charge as calculated in accordance with paragraph 22;

Adj_{TP} = adjustment for the loss-absorbing capacity of technical provisions as calculated in accordance with paragraph 48;

Table 16G – Operational Risk Charge for ρ

Overall Score	Applicable Operational Risk Charge ρ
<=4000	20.0%
>4000 <=5200	18.0%
>5200 <=6000	15.0%
>6000 <=6650	12.0%
>6650 <=7250	9.0%
>7250 <=7650	7.0%
>7650 <=7850	5.0%
>7850 <=8050	3.0%
>8050 <=8250	2.0%
>8250	1.0%

INSTRUCTIONS AFFECTING TABLE 16G

In this table, "overall score" means an amount equal to the sum of the aggregate score derived from each of tables 16H, 16I, 16J, 16K, 16L, and 16M.

TABLE 16H
Corporate Governance Score Table

Criterion	Implemented	Score
Parent company's board sets risk policies, practices and tolerance limits for all material foreseeable operational risks at least annually and ensures they are communicated to insurance group entities		200
Parent company's board monitors adherence to operational risk tolerance limits more regularly than annually		200
Parent company's board receives, at least annually, reports on the effectiveness of material operational risk internal controls as well as senior manager's plans to address related weaknesses		200
Parent company's board ensures that systems and/or procedures are in place to identify, report and promptly address internal control deficiencies related to operational risks		200
Parent company's board promotes full, open and timely disclosure from senior management on all significant issues related to operational risk		200
Parent company's board ensures that periodic independent reviews of the risk management function are performed and		200

receives the findings of the review		
Total		**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16H

The total score is derived by adding the score for each criterion of corporate governance that the parent company's board has implemented.

TABLE 16I
Risk Management Function ('RMF') Score Table

Criterion	**Implemented**	**Score**
RMF is independent of other operational units and has direct access to the parent company's Board of Directors		150
RMF is entrenched in strategic planning, decision making and the budgeting process		150
RMF ensures that the risk management procedures and policies are well documented and approved by the parent company's Board of Directors		150
RMF ensures that the risk management policies and procedures are communicated throughout the insurance group		150
RMF ensures that operational risk management processes and procedures are reviewed at least annually		150
RMF ensures that loss events arising from operational risks are documented and loss event data is integrated into the risk management strategy		150
RMF ensures that risk management recommendations are documented for operational units, ensures that deficiencies have remedial plans and that progress on the execution of such plans are reported to the parent company's Board of Directors at least annually		150
Total		**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16I

The total score is derived by adding the score for each criterion of an insurance group's risk management function that the parent company's board has implemented.

TABLE 16J
Risk Identification Processes ('RIP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RIP are ad hoc								
2	100	RIP have been implemented but not standardized across the insurance group								
3	150	RIP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RIP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16J

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RIP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16K
Risk Measurement Processes ('RMP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RMP are ad hoc								
2	100	RMP have been implemented but not standardized across the insurance group								
3	150	RMP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RMP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16K

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RMP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16L
Risk Response Processes ('RRP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RRP are ad hoc								
2	100	RRP have been implemented but not standardized across the insurance group								
3	150	RRP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RRP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16L

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RRP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

TABLE 16M
Risk Monitoring and Reporting Processes ('RMRP') Score Table

Progression		**Criterion**	**Operational Risk Areas**							
Stage	Scoring		Fraud	HR	Outsourcing	Distribution Channels	Business Processes	Business Continuity	IT	Compliance
1	50	RMRP are ad hoc								
2	100	RMRP have been implemented but not standardized across the insurance group								
3	150	RMRP have been implemented, well documented and understood by relevant staff, and standardized across the entire insurance group								
4	200	In addition to Stage 3, RMRP are reviewed at least annually with the view to assessing effectiveness and introducing improvements								
		Total	XX	XX	XX	XX	XX	XX	XX	**XX**

Comments

INSTRUCTIONS AFFECTING TABLE 16M

(a) the total score is derived by adding the individual score for each operational risk area corresponding to the stage of the insurance group's implementation in respect of its RMRP;

(b) where the insurance group's assessment of the operational risk area is between stages (i.e. exceeds the criterion for each given stage, while only partially meeting the criterion of the next stage), the insurance group shall be deemed to have met the criterion of the lower stage; and

(c) where an operational risk area is not applicable to the insurance group's operations, the insurance group shall record such fact and the reasons for arriving at this conclusion in the comments section and be deemed to have met the criterion of the highest stage.

46. The regulatory capital requirement for regulated non-insurance financial operating entities shall be determined in accordance with Schedule XIA – "Schedule of regulated non-insurance financial operating entities". This amount shall be equal to the sum of the insurance group's proportionate share of each registered entity's regulatory capital requirement in accordance with the applicable solvency laws of the jurisdiction where the entity was licensed or registered.

47. (1) The capital requirement for unregulated entities, where the parent company exercises control as defined in subparagraph 19(4) of the Group Rules, shall be determined in accordance with Schedule XIB – "Schedule of unregulated entities where the group exercises control"

(2) This amount shall be equal to the sum of the capital requirement based on the capital charges applied to each unregulated entity's net assets as follows-

(a) 0% to unregulated entities that conduct ancillary services to members of the insurance group;

(b) 15% to unregulated non-financial operating entities; and

(c) 50% to unregulated financial operating entities.

48. The capital charge adjustment for the loss-absorbing capacity of technical provisions due to management actions shall be established in accordance with the following formula—

$$\boxed{Adj_{TP} = -\max(\min(Basic\ BSCR - Basic\ nBSCR, FDB), 0)};$$

Where—

$$\text{Basic nBSCR} = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times nC_i \times nC_j}$$

$$\text{Basic BSCR} = \sqrt{\sum_{i,j} CorrBBSCR_{i,j} \times C_i \times C_j}$$

$CorrBBSCR_{i,j}$ = the correlation factors of the Basic BSCR correlation matrix in accordance with Table A of Paragraph 22;

C_i = risk module charge i which are replaced by the following:

C_{Market}, $C_{\text{P\&C}}$, C_{LT}, C_{Credit};

C_{Market} = market risk module charge as calculated in accordance with paragraph 23;

$C_{\text{P\&C}}$ = P&C risk module charge as calculated in accordance with paragraph 24;

and

C_{LT} = Long-Term risk module charge as calculated in accordance with paragraph 25;

C_{Credit} = credit risk module charge as calculated in accordance with paragraph 36.

nC_i = net risk module charge i which are calculated the same way as C_i but by allowing the future discretionary benefits to change and by allowing managements actions to be performed in accordance to with the criteria prescribed by the Authority and which are replaced by the following:

$nC_{Market}, nC_{P\&C}, nC_{LT}, nC_{Credit}$;

FDB = net present value of future bonuses and other discretionary benefits.

49. The adjustment for the loss-absorbing capacity of deferred taxes shall be established in accordance with the following formula—

$$\boxed{C_{otheradj} = Min\left(\left((Basic\ BSCR + C_{operational} + C_{regulatoryadj} + Adj_{TP}\right) \times t, Limit, \left(Basic\ BSCR + C_{operational} + C_{regulatoryadj} + Adj_{TP}\right) \times 20\%\right)}$$

Where —

$Basic\ BSCR$ = Basic BSCR risk module charge as calculated in accordance with paragraph 22;

$C_{operational}$ = operational risk charge as calculated in accordance with paragraph 45;

$C_{regulatoryadj}$ = regulatory capital requirement for regulated non-insurance financial operating entities as determined in accordance with paragraphs 46 and 47;

Adj_{TP} = = adjustment for the loss-absorbing capacity of technical provisions as calculated in accordance with paragraph 48

t = insurance group's effective (federal) tax rate

$Limit$ = $PastLAC + CurrentLAC + FutureLAC$

$PastLAC$ = Loss Carryback Provision multiplied by t;

$CurrentLAC$ = Current Deferred Tax Liabilities minus Current Deferred Tax Assets and

$FutureLAC$ = Risk Margin as reported on Form 1EBS Line 18 multiplied by t.

SCHEDULE V **(Paragraph 6)**

SCHEDULE OF RISK MANAGEMENT

The schedule of risk management of an insurance group shall disclose the following matters-

(a) governance;

(b) group structure;

(c) intra-group transactions and insurance group's risk concentrations;

(d) Revoked;

(e) effective duration of assets;

(f) effective duration of liabilities;

(g) description of the effective duration of assets and liabilities calculations and key assumptions;

(h) gross probable maximum loss;

(i) net probable maximum loss;

(j) average annual loss for general insurance business excluding property catastrophe;

(k) actual attritional losses and large claims losses in the relevant year;

(l) arrangements with respect to property catastrophe recoverables;

(m) mutual fund disclosures;

(n) summary of projected performance;

(o) summary of long-term product features and risks;

(p) financial impact and description of stress and scenario tests;

(q) investments and derivatives strategies and policy;

(r) modified co-insurance arrangements;

(s) deferred accumulation annuities disclosures;

(t) reconciliation from group financial statements to group Form 1EBS;

(u) description of the insurance group's risk management program;

(v) the risk register;

(w) list of statutory lines and statutory territories that have catastrophe exposures;

(x) Revoked;

(y) Revoked;

(z) Revoked; and

(aa) details of deposit assets and liabilities;

(bb) net probable maximum loss arising from acts of terrorism;

(cc) net probable maximum loss arising from the Aviation and Aviation non - proportional statutory lines of general business;

(dd) net probable maximum loss arising from the insurance of sea, lake, river and canal vessels;

(ee) net probable maximum loss arising from the insurance of oil and gas offshore platforms;

(ff) net probable maximum loss arising from mortgage insurance;

(gg) net probable maximum loss arising from surety insurance;

(hh) amount of reinsurance recoverable under the specified trade credit insurance stress scenario;

(ii) insurer's trade credit gross premium estimate earned over the next 12 months relating to investment grade exposures only;

(jj) insurer's trade credit gross premium estimate earned over the next 12 months relating to non-investment grade exposures only;

(kk) net probable maximum credit and surety loss arising from the default of direct and proportional credit insurance exposures;

(ll) net probable maximum credit and surety loss arising from a recession;

(mm) amount of reinsurance recoverable under the specified credit and surety insurance stress scenario;

(nn) insurer's Credit / surety (statutory line of business) non- proportional gross premium estimate earned over the next 12 months only.

INSTRUCTIONS AFFECTING SCHEDULE V:

(a) the governance structure must disclose-

(i) the name of the parent company;

(ii) the structure of the parent company's board of directors, including names role, residence, and work experience;

(iii) the management structure of the parent company; including names, role, work experience, employee arrangement and description of responsibilities of the chief and senior executive;

(iv) terms of reference of the parent company board and its sub-committees;

(v) all major shareholder controllers; and

(vi) the group organisational chart.

(b) the group structure must disclose-

(i) list of regulated entities, the sectors in which they operate in and their place of incorporation grouped by country or state (for United States);

(ii) list of unregulated entities, the sectors in which they operate in and their place of incorporation grouped by country or state (for United States);

(iii) the description of the strategic purpose of each entity;

(iv) the type of each entity categorized either as a holding entity, operating entity, branch, or other;

(v) the description of the products and services sold to external parties;

(vi) the total assets of each entity;

(vii) the total net assets or equity of each entity;

(viii) the gross and net premiums written of each entity, if applicable;

(ix) group's participation share (percentage) of each entity; and

(x) sector classification is as follows:

Sector	Industries in Sector
Energy	Oil, gas, consumable fuels and energy equipment
Materials	Chemicals; Construction materials, containers and packing; Metals and mining; and Paper and forest products
Industrial	Machinery and equipment; Construction, engineering and building products; Commercial and professional services; and Transportation (air, road and water)
Consumer Discretionary	Automobile and components; Consumer durables and textile apparel; Hotels and restaurants; Consumer services; and retailing Media
Consumer Staples	Food and staples retailing; Agricultural products; beverage and tobacco; Household and personal products
Healthcare	Healthcare equipment and services; Pharmaceuticals, biotechnology and life sciences
Financial	Banks; Diversified financials; Insurance; Real Estate; Capital markets
Information Technology	Software and internet services; Technology hardware and equipment; IT services, computer components and semiconductor equipment
Telecommunications Services	Telecommunications services
Utilities	Electric, water and gas utilities
Other	Unspecified industry group

(c) intra-group transactions that the insurance group's risk concentrations shall include the following-

(i) details of material intra-group transactions between and among the members of the group, including (where applicable):

(A) exposure value (face value or market value, if the latter is available);

(B) counterparties involved including where they are located; and

(C) summary details of the transactions – including purpose, terms and transaction costs, duration of the transaction and performance triggers;

(ii) details surrounding all intra-group reinsurance and retrocession arrangements, and other intra-group risk transfer insurance business arrangements including:

(A) aggregated values of the exposure limits (gross and net) by counterparties broken down by counterparty rating;

(AA) counterparties involved, including where they are located;

(B) aggregated premium flows between counterparties (gross and net); and

(C) the proportion of the group's insurance business exposure covered by internal reinsurance, retrocession and other risk transfer insurance business arrangements;

(iii) details of the ten largest exposures to unaffiliated counterparties and any other unaffiliated counterparty exposures or series of linked unaffiliated counterparty exposures, excluding 10% of the group's statutory capital and surplus, including:

(A) name of unaffiliated counterparty, including where the counterparty is located;

(B) exposure values (face value or market value, if the latter is available); and

(C) transaction type;

(d) Revoked;

(e) the effective duration of assets must be determined using the aggregate of the bonds and debentures (as reflected in Form1EBS, Lines 2(b) and 3(b)), preferred stock (as reflected in Form 1EBS, Lines 2(c)(ii) and 3(c)(ii)), and mortgage loans portfolios (as reflected in Form 1EBS, Line 5(c)) as a basis;

(f) the effective duration of liabilities must be determined using the reserves (as reflected in Form 1EBS, Lines 17(d) and 27(d)) as a basis;

(g) a description of the process used for determining the effective duration of assets calculation and effective duration of liabilities calculation, and key assumptions for these calculations;

(h) the gross probable maximum loss for natural catastrophe losses arising from general business (prior to reinsurance) must be calculated at the 99.0% Tail Value-at-Risk level for annual aggregate exposure to all risks and all perils, including reinstatement premiums, for the year following the relevant year based upon the insurance group's catastrophe model. The documentation used to derive the gross probable maximum loss must be retained for at least 5 years from the date required at the designated insurer's office and made available to the Authority upon request;

(i) the net probable maximum loss for natural catastrophe losses arising from general business (after reinsurance) must be calculated at the 99.0% TVaR level for annual aggregate exposure to all risks and all perils, including reinstatement premiums, for the year following the relevant year based on the insurance group's catastrophe model, with the documentation used to derive the net probable maximum loss be retained for at least 5 years commencing from the date required at the designated insurer's office and made available to the Authority upon request;

(j) the average annual loss for general business excluding property catastrophe must be calculated as follows-

(i) the expected net natural catastrophe loss arising from general business (after reinsurance), including reinstatement premiums, for annual aggregate exposure to all risks and all perils other than those relating to the property catastrophe statutory line of general insurance business (as described under the Instructions Affecting Schedule III) for the year following the relevant year based on the insurance group's catastrophe model;

(ii) the calculation should be determined from the same underlying loss distribution used to determine the gross probable maximum loss and the net probable maximum loss (excluding the property catastrophe component); and

(iii) the supporting documentation used to derive the average annual loss must be retained for at least 5 years commencing from the date required at the designated insurer's office and made available to the Authority upon request.

(k) the actual attritional losses and large claims losses in the relevant year shall disclose the actual aggregate losses (classified by the insurance group as attritional and large claims losses in accordance with its own policy) experienced by the insurance group in the relevant year (not including prior year reserve releases or adverse development);

(l) the arrangements with respect to property catastrophe recoverables shall disclose the amounts of-

(i) collateral;

(ii) catastrophe bonds;

(iii) special purpose insurer (indemnity basis);

(iv) special purpose insurer (other basis); and

(v) total

(m) mutual fund disclosures shall include the name, type and amount of each mutual fund used by the members of the group;

(n) the summary of projected performance by the insurance group for the year following the relevant year shall disclose -

(i) the insurance group's latest estimate of annual net premiums written;

(ii) the estimated underwriting profit or loss;

(iii) the estimated net income or loss; and

(iv) a qualitative description of the insurance group's business and underwriting strategy to be used in an attempt to achieve the estimates in (i) and (iii) above;

(o) the summary of long-term product features and risks must cover the primary long-term product features and benefits provided and any policyholder options or guarantees that could materially affect the insurance group;

(p) the financial impact and description of stress and scenario tests shall disclose the results from the stress and scenario tests prescribed by the Authority annually and published in such manner as the Authority directs;

(q) the investments and derivatives strategies and policy must disclose –

(i) a description of the insurance group's investment strategy governing investment selection and composition of the group's investment portfolio; and

(ii) a description of the policies and strategies surrounding the use of derivatives and other hedging instruments;

(r) modified co-insurance arrangements shall disclose details of such arrangements including—

(i) name of ceding company;

(ii) type of coverage;

(iii) amount of reserve; and

(iv) aggregate asset allocation (book value) and the related affiliated or unaffiliated cedant;

(s) deferred accumulation annuities disclosures shall include—

(i) total reserves for deferred accumulation annuities;

(ii) total reserves for deferred accumulation annuities with contractual guaranteed annuitization rates;

(iii) total reserves for deferred accumulation annuities annuitized in the past year at contractual guaranteed rates (prior to annuitization); and

(iv) total reserves for deferred accumulation annuities annuitized in the past year at contractual guaranteed rates (post annuitization);

(t) a reconciliation of amounts reported in total assets, total liabilities, net income and total statutory capital and surplus comprising of any adjustments applied to the group's GAAP financial statements to arrive at the Form 1EBS;

(u) the description of the insurance group's risk management program shall disclose -

(i) a description of the risk management process, including how the risk management program is used for strategic management decision- making, capital allocation and capital adequacy;

(ii) a description of the governance surrounding the risk management process including the identification of the owners of the process and the extent of the board of directors' involvement;

(iii) a description of the risk appetite including the process for setting and embedding risk limits, and the identification of the types of stress testing carried out to ascertain the suitability of the risk appetite; and

(iv) a description of the process undertaken to monitor material risk concentration;

(v) risk register disclosing -

(i) a description of the insurer's material risks;

(ii) owners of the respective risks;

(iii) the impact and probability of the risk and the overall risk crystallizing expressed as quantitative or qualitative measures;

(iv) a summary of risk mitigation/controls in place and an assessment of their effectiveness in reducing the probability and/or impact of the risk; and

(v) overall assessment of the impact and probability of the residual risk expressed as quantitative or qualitative measures;

(w) the list of statutory lines and statutory territories that have catastrophe exposures as set out below-

Zone	**Territories**
1	Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, New Jersey, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, the District of Columbia, Alabama, Arkansas, Louisiana, Mississippi, Texas, Florida, Georgia, North Carolina, and South Carolina
2	Caribbean
3	Arizona, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Montana, Minnesota, Missouri, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, Utah, Wisconsin, and Wyoming
4	California
5	Oregon, Washington
6	Hawaii
7	Canada, Alaska
8	United Kingdom, Continental Europe
9	Australia / New Zealand
10	Japan
11	Nationwide covers
12	Worldwide covers
13	All exposures not included in Zones 1 to 12

(x) Revoked

(y) Revoked

(z) Revoked

(aa) in respect of business for which deposit accounting approaches have been followed: a description of business, total assets held in trust or other collateral, gross premiums written for the period, net premiums written for the period, limits (maximum exposure). For business that has limited exposure, provide the results at a 99.0% TVaR and for business with unlimited exposure, provide details of such business.";

(bb) the net probable maximum loss arising from acts of terrorism must be calculated as the sum insured for the largest building concentration, after deduction of amounts recoverable from outwards reinsurance arrangements, covering property and content damage due to fire or explosion, including as a result of terrorist attacks.

When calculating the net probable maximum loss arising from acts of terrorism. the measure of concentration of exposure to be taken into account, are buildings that are fully or partially covered within a radius of 200 metres, Such concentration may occur over one or multiple insurance contracts;

(cc) the net probable maximum loss arising from the Aviation and Aviation non - proportional statutory lines of general business shall be calculated as the single largest aircraft sum insured across both hull and liability perils, net of the amounts recoverable from any outwards reinsurance arrangements;

(dd) the net probable maximum loss arising from the insurance of sea, lake, river and canal vessels shall be calculated as he maximum sum insured for a single vessel across the hull, liability and pollution exposures, net of the amounts recoverable from any outwards reinsurance arrangements;

the net probable maximum loss arising from the insurance of oil and gas offshore platforms shall be calculated as the maximum sum insured for a single (oil or gas) platform, net of the amounts recoverable from any outwards reinsurance arrangements. It shall also include the sum insured for compensation for property damage, wreckage removal, loss of production, capping and securing the well and liability obligations;

(ee) the net probable maximum loss arising from mortgage insurance shall be calculated as the average net (of the amounts recoverable from any outwards reinsurance arrangements) annual loss resulting from an increase in the frequency of delinquency, defaults and loss severity that results from a 25% decline in home prices;

(ff) the net probable maximum loss arising from surety insurance shall be calculated as the sum of the two largest net, of co-surety, cash collateral in custody and amounts recoverable from any outwards reinsurance arrangements, losses arising from two separate surety counterparties (principals).

(gg) For the purposes of calculating the net probable maximum loss, gross loss to exposure ratios, should be calibrated at the 90th percentile for US exposures and 95th percentile for non-US exposures, and should be applied to the insurer's largest individual surety counterparties exposures in order to identify the two largest net losses;

(gg) the amount of reinsurance recoverable under the specified trade credit insurance stress scenario shall be calculated as the amounts recoverable, from any outwards reinsurance arrangements, for the assumed gross trade credit stress loss (TC_{GR}) as defined in paragraph 37 of Schedule I;

(hh) the insurer's trade credit gross premium estimate earned over the next 12 months relating to investment grade exposures only shall be calculated as the trade credit premium that is expected to be earned over the next 12 months for which the counterparty to the policyholder has a credit rating of investment grade or above;

(ii) the insurer's trade credit gross premium estimate earned over the next 12 months relating to non-investment grade shall be calculated as the trade credit premium the insurer expects to earn over the next 12 months for which the counterparty to the policyholder has a credit rating of below investment grade;

(jj) the net probable maximum Credit / surety (statutory line of business) loss arising from the default of credit insurance exposures shall be calculated as the loss that would arise from an immediate default of the two largest credit insurance exposures. This calculation should take into account that

(i) the assumption is made that the loss-given-default, before the deduction of the amounts recoverable from any outwards reinsurance arrangements, of each credit insurance exposure is 10% of the sum insured in relation to the exposure; and

(ii) the determination of the two largest credit insurance exposures of the insurance or reinsurance undertaking is based on a comparison of the net loss-given-default of the credit insurance exposures, where the loss-given default is after deduction of the amounts recoverable from any outwards reinsurance arrangements; and

(iii) direct and proportional credit and surety (Credit / surety statutory line of business) exposures only has been considered;

(kk) the net probable maximum Credit / surety (statutory line of business) loss arising from a recession shall be equal to the loss that would result from an instantaneous loss of an amount that, before the deduction of the amounts recoverable from any outwards reinsurance arrangements, is equal to 100 % of the Credit / surety statutory line of business premiums earned during the following 12 months. The estimated loss should be net of the amounts recoverable from any outwards reinsurance arrangements;

(ll) the amount of reinsurance recoverable under the specified Credit / surety non- proportional (statutory line of business) stress scenario m–shall be the amounts recoverable, from any outwards reinsurance arrangements, for the assumed gross stress loss for non-proportional credit and surety ($C\&S_{np-Gr}$) as defined in paragraph 37;

(mm) the insurer's Credit / surety non- proportional (statutory line of business) gross premium estimate earned over the next 12 months only – shall be input as the Credit / surety non-proportional (statutory line of business) premium the insurer expects to earn over the next 12 months.

SCHEDULE VII **(Paragraph 6)**

SCHEDULE OF LONG-TERM BUSINESS DATA AND RECONCILIATION

All amounts expressed in .... (currency used)

		(1)	(7)	(9)	(10)	(11)
				Net Amount at Risk		
Line No	Description	Bermuda EBS Best Estimate Provision	BSCR Adjusted Reserve [Greater of Column (1) and 0	Adjustable Product/ Treaty (000)	Non-adjustable Product/ Treaty (000)	Total (000)
1.	Mortality (term assurance, whole life, universal life)					
2.	Critical illness (including accelerated critical illness products)					
3.	Longevity (immediate pay- out annuities, contingent annuities, pension pay- outs)					
	Attained age of annuitant:					
	(a) 0-55					
	(b) 55-65					
	(c) 66-70					
	(d) 71-80					
	(e) 81+					
	(f) Total					
4.	Longevity (deferred pay- out annuities, future contingent annuities, future pension pay-outs)					
	Age at which annuity benefits commence					
	(a) 0-55					
	(b) 55-60					
	(c) 61-65					
	(d) 66-70					
	(e) 71-75					
	(f) 75+					
	(g) Total					
5.	Deferred annuities					
6.	Deferred accumulation annuities					
7.	Disability income: active lives - including waiver of premium and long-term care					
	Length of premium guarantee:			Benefit Period <=2	Benefit Period >2	Total (000)
	(a) <=1 year					

	(b) >1 year but					
	(c) >5 years					
	(d) Total					
8.	Disability income: active lives - other accident and sickness					
9.	Disability income: claims in payment – including waiver of premium and long-term care					
10.	Disability income: claims in payment – other accident and sickness					
11.	Group life					
12.	Group disability					
13.	Group health					Annual Premiums (000)
14.	Stop loss					
15.	Rider (other product riders not included above)					
16.	Total (excluding variable annuities)					
17.	Total for variable annuities					
18.	Total with variable annuities					

INSTRUCTIONS AFFECTING SCHEDULE VII:

(a) Bermuda EBS best estimate provisions are to be calculated in accordance with Economic Balance Sheet valuation principles under Schedule XXV;

(b) The amounts in columns (12) to (20) shall be the line of business breakdowns of the relevant amounts shown in the Notes to Form 1EBS as set out in Schedule XIV.

SCHEDULE VIII **(Paragraph 6)**

SCHEDULE OF LONG-TERM VARIABLE ANNUITY GUARANTEES DATA AND RECONCILIATION

All amounts expressed in .... (currency used)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Guaranteed Value			Net Amount at Risk		
Line No.	Description	Bermuda EBS Best Estimate Provisions	Volatility 0%-10%	Volatility 10%- 15%	Volatility >15%	Volatility 0%-10%	Volatility 10%- 15%	Volatility >15%
		(000)	(000)	(000)	(000)	(000)	(000)	(000)
	In-the-money							
1.	GMDB: Return of premium, ratchet & reset							
2.	GMDB: Enhanced benefits (roll up)							
3.	GMIB							
4.	GMWB							
5.	GEEB							
	GMAB							
6.	Time to maturity – 0-1 year							
7.	Time to maturity – 1-2 years							
8.	Time to maturity – 2-3 years							
9.	Time to maturity – 3-4 years							
10.	Time to maturity – 4-5 years							
11.	Time to maturity – 5-6 years							
12.	Time to maturity – 6-7 years							
13.	Time to maturity – 7-8 years							
14.	Time to maturity – 8-9 years							
15.	Time to maturity – >9 years							
16.	**Out-the-money**							
17.	GMDB: Return of premium, ratchet & reset							
18.	GMDB: Enhanced benefits (roll up)							
19.	GMIB							
20.	GMWB							
21.	GEEB							
	GMAB							
22.	Time to maturity – 0-1 year							
23.	Time to maturity – 1-2 years							
24.	Time to maturity – 2-3 years							
25.	Time to maturity – 3-4 years							
26.	Time to maturity – 4-5 years							
27.	Time to maturity – 5-6 years							
28.	Time to maturity – 6-7 years							
29.	Time to maturity – 7-8 years							

30.	Time to maturity – 8-9 years							
31.	Time to maturity – >9 years							
32.	Percentage of GMDB with multiple guarantees							

		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Line No	Description	Bound But Not Incepted (BBNI) Premium	Best Estimate Provision In Respect to BBNI	Best Estimate Provision Using Transitional Arrangements	Equivalent of Column (14) if Transitional Arrangements were not used	Scenario Based approach Best Estimate For Technical Provisions	Equivalent of column (16) if the Scenario based approach were not used	Equivalent of column (16) if the Base Scenario were used	BBNI Premium	Best Estima Provisio In Respec to BBN
		[Form 1EBS,note Line 27(d)-(i)]	[Form 1EBS,note Line 27(d)-(ii)]	[Form 1EBS,note Line 27(d)-(iii)]	[Form 1EBS,note Line 27(d)-(iv)]	[Form 1EBS,note Line 27(d)-(v)]	[Form 1EBS,note Line 27(d)-(vi)]	[Form 1EBS,note Line 27(d)-(vii)]	[Form 1EBS,note Line 27B(d)-(i)]	[Form 1EBS,n e Line 27B(d)
1.	Mortality (term assurance, whole									
2.	Critical illness (including accelerated critical illness products)									
3.	Longevity (immediate pay- out annuities, contingent annuities,									
	Attained age of annuitant:									
	(a) 0-55									
	(b) 55-65									
	(c) 66-70									
	(d) 71-80									
	(e) 81+									
	(f) Total									
4.	Longevity (deferred pay- out annuities, future contingent									
	Age at which annuity benefits									
	(a) 0-55									
	(b) 55-60									
	(c) 61-65									
	(d) 66-70									
	(e) 71-75									
	(f) 75+									

	(g) Total									
5.	Deferred annuities									
6.	Deferred accumulation annuities									
7.	Disability income: active lives - including waiver of premium and									
	Length of premium guarantee:									
	(a) <=1 year									
	(b) >1 year but									
	(c) >5 years									
	(d) Total									
8.	Disability income: active lives - other accident and sickness									
9.	Disability income: claims in payment – including waiver of									
10.	Disability income: claims in payment – otheraccident and sickness									
11.	Group life									
12.	Group disability									
13.	Group health									
14.	Stop loss									
15.	Rider (other product riders not									
16.	Total (excluding variable annuities)									
17.	Total for variable annuities									
18.	Total with variable annuities									

INSTRUCTIONS AFFECTING SCHEDULE VIII:

(a) Factors should be applied to NAR defined as:

(i) Guaranteed minimum accumulation benefit (GMAB) - Total claim payable if all contracts mature immediately

(ii) Guaranteed minimum death benefit (GMDB) - Total claim amount payable upon immediate death of all policyholders

(iii) Guaranteed minimum income benefit (GMIB) - Total claim payable upon full and immediate annuitization of all policies using an 80% factor applied to the GV (the 80% represents the ratio between current market annuitization factors and the guaranteed annuitization factors)

(iv) Guaranteed minimum withdrawal benefit (GMWB) - Total claim payable if 100% of the guaranteed withdrawal benefit base in excess of the current account value is withdrawn immediately

(v) Guaranteed enhanced earnings benefit (GEEB) - Total guaranteed enhanced payments upon immediate death of all policyholders

(b) Where ratchets, resets and roll-ups exist, please use the roll-up category.

(c) NAR is net of reinsurance.

(d) The proportion used for the account value under reinsurance is the proportion used for NAR.

(e) For the purposes of Schedule VIII, “volatility” is defined as the annual volatility of the fund. In the case where there is no, or insufficient, history of the annual volatility of the fund available to determine volatility, the volatility of the benchmark (for the fund) should be used to determine volatility; and

(f) Bermuda EBS best estimate provisions are to be calculated in accordance with Economic Balance Sheet valuation principals under Schedule XXV

SCHEDULE VIIIA **(Paragraph 6)**

SCHEDULE OF LONG-TERM VARIABLE ANNUITY GUARANTEES – INTERNAL CAPITAL MODEL

The Schedule of long-term variable annuity guarantees – internal capital model – shall provide particulars of the following matters—

(a) Information for each section (if applicable)—

	(1)	(2)	(3)	(4)	(5)
	Bermuda EBS Best Estimate Provisions	Policy count	Account value (000)	Guarantee value (000)	Net amount at risk (000)
By policy type:					
By number of years since issuance:					
By policy position (in the money vs. out of the money):					
By fund volatility					
By number of years to next maturity **(for GMAB only)**:					

(b) The capital requirement based on the insurance group's internal capital model including—

Line Schedule No.	Description	(6) Without Hedging (000)	(7) With Hedging (000)
2.	Prescribed economic stress tests:		
	(a) Equity – immediate shock of 20% to separate account funds		
	(b) Absolute immediate increase of 10% in implied volatility		
	(c) Interest rates – immediate parallel shift up/down by 100bps		
3.	Stresses to actuarial assumptions for mortality and policyholder behavior		
	(a) (Provide description)		
	(b) (Provide description)		
	(c) (Provide description)		
	(d) (Provide description)		

(c) An actuarial memorandum—The insurance group must file with the Authority an actuarial memorandum that should minimally include the particulars described below. When the information is already available in other documents within the Capital and Solvency Return, it is acceptable to attach those documents and simply make reference to them in the actuarial memorandum. The insurance group should indicate any significant changes from the last memorandum filed with the Authority

Line No.	Section	**Provide a brief summary or description of the following details under each section:**
1.	Executive summary	Required capital amount and drivers of result; Key risks and associated risk mitigation techniques; and The modeling methods used.
2.	Overview of business	Type of business; and Key product features and specifications
3.	Key risk exposures	Qualitative description of key risk exposures, such as economic, mortality, surrender, annuitisation, withdrawal, expense and counterparty risks
4.	Description of model	The approach used to calculate total assets and required capital; Key model details, including: - Source of asset and liability data; - Aggregations used to generate model cells; - Allocation of assets to variable annuity blocks; - The reserve basis; - Timestep of model (e.g. monthly); - The rate used to accumulate and discount cash flows; and -The treatment of interim solvency (e.g. how are periods of negative cash flows followed by positive cash flows allowed for)
5.	Description of assumptions	Basis for economic scenarios, including underlying model and parameters; Information on the average return and volatility on the equity investment funds; For mortality and all policyholder behavior assumptions (e.g. premium payments, withdrawals, annuitizations, and lapses): - Source of data (e.g. company-specific experience); - Any margins for conservatism that were used; and - Any future mortality improvement; Approach to investment fund mapping; Insurer's crediting strategy; Expenses and commissions; Treatment of taxes; and Future management actions (other than hedging and reinsurance
6.	Reinsurance	Reinsurance (both assumed and ceded), including a list of counterparties; Nature of arrangements, including caps, floors and recapture provisions; The approach to modeling these arrangements; and Collateral requirements, if relevant.
7.	Hedging	Business covered; Hedge target;

		Hedged parameters (i.e. Greeks) managed/monitored by the insurer; Internal governance procedures; Currently-held derivatives and range of derivatives approved for trading; Unhedged exposures; Historical hedge effectiveness; Sample attribution reports; and How hedging is reflected in the determination of required capital and stress tests, including how any modeling limitations or simplifications are addressed.
8.	Risk mitigation arrangements other than hedging	Business covered; Nature of arrangements; Internal governance procedures; and Other supporting details such as internal analyses, historical results, etc.
9.	Results and model output	Capital results (summarised also in Line 1 of the Table under b)) and commentary; Results of stress tests (summarised also in Lines 2 and 3 of the Table under b)) with description and justification for tests selected and commentary on results; Sensitivity results for key assumptions/risk exposures; and The output from model for a single scenario in the tail (e.g. that which most closely corresponds to the TVaR 95% result) showing cash flows by guaranteed rider type, accumulation and discounting of cash flows, and total assets required for that scenario.
10.	Reviewer and signatory	The memorandum is required to be reviewed and signed by the Approved Actuary

INSTRUCTIONS AFFECTING SCHEDULE VIIIA

Bermuda EBS best estimate provisions are to be calculated in accordance with Economic Balance Sheet valuation principals under Schedule XXV

SCHEDULE XIV (Paragraph 6)

GROUP STATUTORY ECONOMIC BALANCE SHEET

Schedule XIV Group Statutory Economic Balance Sheet (EBS), shall provide particulars of the following matters—

Form 1EBS

GROUP STATUTORY ECONOMIC BALANCE SHEET

[*blank*] name of Parent

as at [*blank*] (day/month/year)

expressed in [*blank*] (currency used)

Line No		20XX	20XX-1
1.	**CASH AND CASH EQUIVALENTS**	**XXX**	**XXX**
2.	**QUOTED INVESTMENTS:**		
(b)	Total Bonds and Debentures	XXX	XXX
(c)	Equities		
	(i) Common stocks	XXX	XXX
	(ii) Preferred stocks	XXX	XXX
	(iii) Mutual funds	XXX	XXX
(d)	Total equities	XXX	XXX
(e)	Other quoted investments	XXX	XXX
(f)	Total quoted investments	XXX	XXX
3.	**UNQUOTED INVESTMENTS:**		
(b)	Total Bonds and Debentures	XXX	XXX
(c)	Equities		
	(i) Common stocks	XXX	XXX
	(ii) Preferred stocks	XXX	XXX
	(iii) Mutual Funds	XXX	XXX
(d)	Total equities	XXX	XXX
(e)	Other unquoted investments	XXX	XXX
(f)	Total unquoted investments	XXX	XXX
4.	**INVESTMENTS IN AND ADVANCES TO AFFILIATES (Equity)**		
(a)	Unregulated entities that conduct ancillary services	XXX	XXX
(b)	Unregulated non-financial operating entities	XXX	XXX
(c)	Unregulated financial operating entities	XXX	XXX
(d)	Regulated non-insurance financial operating entities	XXX	XXX
(e)	Regulated insurance financial operating entities	XXX	XXX
(f)	Total investments in affiliates	XXX	XXX
(g)	Advances to affiliates	XXX	XXX

(h)	Total investments in and advances to affiliates (equity)	XXX	XXX
5.	**INVESTMENTS IN MORTGAGE LOANS ON REAL ESTATE:**		
(a)	First liens	XXX	XXX
(b)	Other than first liens	XXX	XXX
(c)	Total investment in mortgage loans on real estate	XXX	XXX
6.	**POLICY LOANS**	**XXX**	**XXX**
7.	**REAL ESTATE:**		
(a)	Occupied by the group (less encumbrances)	XXX	XXX
(b)	Other properties (less encumbrances)	XXX	XXX
(c)	Total real estate	XXX	XXX
8.	**COLLATERAL LOANS**	**XXX**	**XXX**
9.	**INVESTMENT INCOME DUE AND ACCRUED**	**XXX**	**XXX**
10.	**ACCOUNTS AND PREMIUMS RECEIVABLE**		
(a)	In course of collection	XXX	XXX
(c)	Receivables from retrocessional contracts	XXX	XXX
(d)	Total accounts and premiums receivable	XXX	XXX
11.	**REINSURANCE BALANCES RECEIVABLE**		
(a)	Foreign affiliates	XXX	XXX
(b)	Domestic affiliates	XXX	XXX
(c)	Pools & associations	XXX	XXX
(d)	All other insurers	XXX	XXX
(e)	Total reinsurance balance receivable	XXX	XXX
12.	**FUNDS HELD BY CEDING REINSURERS**		
(a)	Affiliated	XXX	XXX
(b)	Non-affiliated	XXX	XXX
(c)	Total funds held by ceding reinsurers	XXX	XXX
13.	**SUNDRY ASSETS:**		
(a)	Derivative instruments	XXX	XXX
(b)	Segregated accounts - LT business – variable annuities	XXX	XXX
(c)	Segregated accounts - LT business - other	XXX	XXX
(d)	Segregated accounts - General business	XXX	XXX
(e)	Deposit assets	XXX	XXX
(f)	Balances receivable on sale of investments	XXX	XXX
(g)	Intangible assets	XXX	XXX
(h)	Deferred tax assets	XXX	XXX
(i)	Pension Benefit Surplus	XXX	XXX
(j)	Other sundry assets (please specify)	XXX	XXX
(k)	Total other assets	XXX	XXX
14.	**LETTERS OF CREDIT, GUARANTEES AND OTHER INSTRUMENTS**		

(a)	Letters of credit	XXX	XXX
(b)	Guarantees	XXX	XXX
(c)	Other instruments	XXX	XXX
(d)	Total letters of credit, guarantees and other instruments	XXX	XXX
15.	**TOTAL ASSETS**	**XXX**	**XXX**
	GENERAL BUSINESS INSURANCE TECHNICAL PROVISIONS		
16.	**BEST ESTIMATE PREMIUM PROVISIONS**		
(a)	Gross premium provisions	XXX	XXX
(b)	Less: Reinsurance recoverable balance		
	(i) Foreign affiliates	XXX	XXX
	(ii) Domestic affiliates	XXX	XXX
	(iii) Pools & associations	XXX	XXX
	(iv) All other reinsurers	XXX	XXX
(c)	Total reinsurance recoverable balance	XXX	XXX
(d)	Net premium provisions	XXX	XXX
17.	**BEST ESTIMATE LOSS AND LOSS EXPENSE PROVISIONS**		
(a)	Gross loss and loss expense provisions	XXX	XXX
(b)	Less: Reinsurance recoverable balance		
	(i) Foreign affiliates	XXX	XXX
	(ii) Domestic affiliates	XXX	XXX
	(iii) Pools & associations	XXX	XXX
	(iv) All other reinsurers	XXX	XXX
(c)	Total reinsurance recoverable balance	XXX	XXX
(d)	Net loss and loss expenses provisions	XXX	XXX
18.	**RISK MARGIN – GENERAL INSURANCE BUSINESS**	**XXX**	**XXX**
19.	**TOTAL GENERAL BUSINESS INSURANCE TECHNICAL PROVISIONS**	**XXX**	**XXX**
	LONG-TERM BUSINESS INSURANCE TECHNICAL PROVISIONS		
20.	**BEST ESTIMATE RESERVES FOR REPORTED CLAIMS**	**XXX**	**XXX**
21.	**BEST ESTIMATE RESERVES FOR UNREPORTED CLAIMS**	**XXX**	**XXX**
22.	**BEST ESTIMATE POLICY RESERVES - LIFE**	**XXX**	**XXX**
23.	**BEST ESTIMATE POLICY RESERVES – ACCIDENT AND HEALTH**	**XXX**	**XXX**
24.	**BEST ESTIMATE POLICYHOLDERS' FUNDS ON DEPOSIT**	**XXX**	**XXX**

25.	**BEST ESTIMATE LIABILITY FOR FUTURE POLICYHOLDERS' DIVIDENDS**	**XXX**	**XXX**
26.	**BEST ESTIMATE OTHER LONG-TERM BUSINESS INSURANCE RESERVES**	**XXX**	**XXX**
27.	**TOTAL BEST ESTIMATE LONG-TERM BUSINESS INSURANCE PROVISIONS**		
(a)	Total gross long-term business insurance provisions	XXX	XXX
(b)	Less: Reinsurance recoverable balance on long-term business		
	(i) Foreign affiliates	XXX	XXX
	(ii) Domestic affiliates	XXX	XXX
	(iii) Pools & associations	XXX	XXX
	(iv) All other insurer	XXX	XXX
(c)	Total reinsurance recoverable balance	XXX	XXX
(d)	Total net long-term business insurance provisions	XXX	XXX
27A.	**RISK MARGIN – LONG-TERM INSURANCE BUSINESS**	**XXX**	**XXX**
27B.	**LONG-TERM TECHNICAL PROVISIONS CALCULATED AS A WHOLE**		
(a)	Total gross long-term business insurance technical provisions calculated as a whole	XXX	XXX
(b)	Less: Reinsurance recoverable balance on long-term business calculated as a whole		
	(i) Foreign affiliates	XXX	XXX
	(ii) Domestic affiliates	XXX	XXX
	(iii) Pools & associations	XXX	XXX
	(iv) All other insurer	XXX	XXX
(c)	Total reinsurance recoverable balance	XXX	XXX
(d)	Total net long-term business insurance technical provisions calculated as a whole	XXX	XXX
27C.	**TOTAL LONG-TERM BUSINESS INSURANCE TECHNICAL PROVISIONS**	**XXX**	**XXX**
	OTHER LIABILITIES		
28.	**INSURANCE AND REINSURANCE BALANCES PAYABLE**	**XXX**	**XXX**
29.	**COMMISSIONS, EXPENSES, FEES AND TAXES PAYABLE**	**XXX**	**XXX**
30.	**LOANS AND NOTES PAYABLE**	**XXX**	**XXX**
31.	**TAX LIABILITIES**		
	(a) INCOME TAXES PAYABLE	XXX	XXX
	(b) DEFERRED INCOME TAXES	XXX	XXX
32.	**AMOUNTS DUE TO AFFILIATES**	**XXX**	**XXX**
33.	**ACCOUNTS PAYABLE AND ACCRUED LIABILITIES**	**XXX**	**XXX**
34.	**FUNDS HELD UNDER REINSURANCE CONTRACTS**		
(a)	Affiliated	XXX	XXX

(b)	Non-affiliated	XXX	XXX
(c)	Total funds held under reinsurance contracts	XXX	XXX
35.	**DIVIDENDS PAYABLE**	**XXX**	**XXX**
36.	**SUNDRY LIABILITIES:**		
(a)	Derivative instruments – held for hedging purposes	XXX	XXX
(b)	Derivative instruments – not held for hedging purposes	XXX	XXX
(c)	Segregated accounts - LT business – variable annuities	XXX	XXX
(d)	Segregated accounts - LT business - other	XXX	XXX
(e)	Segregated accounts - General business	XXX	XXX
(f)	Deposit liabilities	XXX	XXX
(g)	Pension benefit obligations	XXX	XXX
(h)	Balances payable for purchase of investments	XXX	XXX
(i)	Other sundry liabilities (please specify)	XXX	XXX
(j)	Total sundry liabilities	XXX	XXX
37.	**LETTERS OF CREDIT, GUARANTEES AND OTHER INSTRUMENTS**		
(a)	Letters of credit	XXX	XXX
(b)	Guarantees	XXX	XXX
(c)	Other instruments	XXX	XXX
(d)	Total letters of credit, guarantees and other instruments	XXX	XXX
38.	**TOTAL OTHER LIABILITIES**	**XXX**	**XXX**
39.	**TOTAL INSURANCE TECHNICAL PROVISIONS AND OTHER LIABILITIES**	**XXX**	**XXX**
	STATUTORY ECONOMIC CAPITAL AND SURPLUS		
40.	**TOTAL STATUTORY ECONOMIC CAPITAL AND SURPLUS**	**XXX**	**XXX**
41.	**TOTAL**	**XXX**	**XXX**

NOTES TO FORM 1EBS

The notes to the group statutory economic balance sheet shall include the following, and any other information which in the opinion of the group's directors is required to be disclosed if the group statutory economic balance sheet is not to be misleading –

Additional Disclosures		20XX
Line 10	Details of the amount of any collateral placed in favour of the members of the Group	XXX
Line 11(e)	Details of the amount of any collateral placed in favour of the members of the Group	XXX
Line 17(c)-(ii)	Details of the amount of any collateral placed in favour of the members of the Group	XXX
Line 27(c)-(ii)	Details of the amount of any collateral placed in favour of the members of the Group	XXX
Line 27B(c)-(ii)	Details of the amount of any collateral placed in favour of the members of the Group	XXX
Line 13(j)	Details of the assets included as "other sundry assets" as part of Line 13(j).	XXX
Line 36(i)	Details of the liabilities included as "other sundry liabilities" as part of Line 36(i).	XXX
Line 15	The total amount of encumbered assets that are not securing policyholder obligations shall be disclosed, split between the following items, and stating the purpose of the encumbrance: Line 1: Cash and cash equivalents Line 2(f): Total quoted investments Line 3(f): Total unquoted investments Line 12: Funds held by ceding reinsurers Other assets	XXX
Line 13(e)	Details of business treated under deposit accounting techniques as an asset	XXX
Line 36(f)	Details of business treated under deposit accounting techniques as a liability	XXX
Line 37	Details of the basis used to derive the amounts disclosed on this line, including the undiscounted amounts of the liabilities.	XXX
Line 40	A reconciliation between Line 40 of Form 1EBS and Line 40 of Form 1 required under Schedule 1 of the Insurance (Group Supervision) Rules 2011	XXX

General Business Provisions Additional Disclosures		
Line 16(c)	The adjustment included in the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default (for whatever reason, including reinsurer insolvency or contractual disputes)	XXX
Line 17(c)-(i)	The adjustment included in the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default (for whatever reason, including reinsurer insolvency or contractual disputes)	XXX
Line 16(d)-(i)	The amount of premium included as 'Bound But Not Incepted' (as defined in paragraph 33 of the Economic Balance Sheet Valuation Principles under Schedule XXV) in the calculation of line 16(d),	XXX
Line 16(d)-(ii)	The amount of best estimate premium provision included in line 16(d) in respect of the 'Bound but Not Incepted' business identified above.	XXX

	The amount shall be separately split between the statutory lines of general business set out in Schedule III.	
Line 17(d)-(i)	The amount by which the best estimate loss and loss expense provisions were reduced as a result of discounting.	XXX
Line 17(d)-(ii)	The amount of best estimate loss and loss expense provisions calculated using the scenario-based approach (as set out in paragraph 28 of the Economic Balance Sheet Valuation Principles under Schedule XXV) included in line 17(d), along with details of the business it was applied to.	XXX

Long-Term Business Provisions Additional Disclosures		
Line 27(c)-(i)	The adjustment included in the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default (for whatever reason, including reinsurer insolvency or contractual disputes)	XXX
Line 27(d) – (i)	The amount of premium included as 'Bound but Not Incepted' (as defined in paragraph 33 of the Economic Balance Sheet Valuation Principles under Schedule XXV) in the calculation of line 27 long-term business provisions. The amount shall be separately split between the statutory lines of business set out Schedule IVB.	XXX
Line 27(d) – (ii)	The amount of best estimate provision included in line 27(d) in respect of the 'Bound But Not Incepted' business identified above. The amount shall be separately split between lines of business set out in Schedule IVB.	XXX
Line 27(d) – (iii)	The amount of best estimate provisions which have been calculated making use of the 16 year transitional arrangements (as defined in paragraph 37 of the Economic Balance Sheet Valuation Principles under Schedule XXVI) The amount shall be split between the statutory lines of business set out in Schedule IVB.	XXX
Line 27(d) – (iv)	In respect of the amount identified in the above note (Line 27(d)-(iii), the amount of best estimate provisions which would have resulted had the transitional arrangements not been applied. The amount shall be separately split between the lines of business set out in Schedule IVB.	XXX
Line 27(d) – (v)	Where the 'Scenario-based approach' (as defined in paragraph 28 of the Economic Balance Sheet Valuation Principles under Schedule XXVI) has been used for some of its business, the Group shall disclose the amount of best estimate technical provisions included in line 27(d) relating to that business. The amount shall be separately split between the lines of business set out in Schedule IVB.	XXX
Line 27(d) – (vi)	Where the 'Scenario-based approach' (as defined in paragraph 28 of the Economic Balance Sheet Valuation Principles under Schedule XXVI), the Group shall disclose the amount of best estimate technical provisions relating to that business had the 'standard approach' (as defined in paragraph 27 of Economic Balance Sheet Valuation Principles under Schedule XXVI) been used. The amount shall be separately split between the lines of business set out in Schedule IVB.	XXX
Line 27(d) – (vii)	Where the 'Scenario-based approach' (as defined in paragraph 28 of the Economic Balance Sheet Valuation Principles under Schedule XXV), the Group shall disclose the amount of best estimate technical	XXX

	provisions relating to that business if only the 'base scenario' were used. The amount shall be separately split between the lines of business set out in Schedule IVB.	
Line 27B(c)-(i)	The adjustment included in the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default (for whatever reason, including reinsurer insolvency or contractual disputes)	XXX
Line 27B(d)-(i)	The amount of premium included as 'Bound but Not Incepted' (as defined in paragraph 33 of the Economic Balance Sheet Valuation Principles under Schedule XXV)	XXX
Line 27B(d) – (ii)	The amount of technical provision included in line 27B(d) in respect of the 'Bound But Not Incepted' business identified above.	XXX

General Business Reserves:

	20XX
Net best estimate loss and loss expense provisions at start of year (line 17(d) prior year)	XXX
Net loss and loss expenses incurred related to business written in prior years	XXX
Foreign exchange and other adjustments	XXX
Unwind discount (start year discount curve)	XXX
Impact of change in discount curve	XXX
Net loss and loss expenses incurred related to prior years	XXX
Net best estimate loss and loss expense provisions at end of year related to prior years	XXX
Net loss and loss expenses incurred related to business written in current year	XXX
Net loss and loss expenses paid or payable related to current year	XXX
Net best estimate loss and loss expense provisions at end of year related to current year	XXX
Net best estimate loss and loss expense provisions at end of year (line 17(d)	XXX

INSTRUCTIONS AFFECTING FORM 1EBS

Line of statutory economic balance sheet	**Instructions**	
1. Cash and cash equivalents	Cash and cash equivalents (maturities of less than 90 days) as at balance sheet shall be included here. This includes restricted cash	
2. Quoted investments	There shall be disclosed severally -	
	(b)	Total bonds and debentures;
	(c)	Equities –
	(i)	common stock: investments in quoted common shares
	(ii)	preferred shares: investments in quoted preferred shares; and
	(iii)	mutual funds: investments in quoted mutual funds, etc
	(d)	Total equities: The total of (c)(i), (ii) and (iii).
	(e)	Other quoted investments: Other quoted investments not included in 2(b) and 2(d) e.g. alternative funds.
	(f)	Total quoted investments: The total of 2(b), (d) and (e).
3. Unquoted investments	There shall be disclosed severally -	
	(b)	Total bonds and debentures;
	(c)	Equities –
	(i)	common stock: investments in unquoted common shares
	(ii)	preferred shares: investments in unquoted preferred shares; and
	(iii)	mutual funds: investments in unquoted mutual funds, etc
	(d)	Total equities: The total of (c)(i), (ii) and (iii).
	(e)	Other unquoted investments: Other unquoted investments not included in 3(b) and 3(d) e.g. alternative funds.
	(f)	Total unquoted investments: The total of 3(b), (d) and (e).
4. Investment in and advances to affiliates (equity)	All investments where the Group does not hold a majority equity interest but has the ability to exercise significant influence (generally at least a 20% interest or a general partner interest) over operating and financial matters shall be included here and should be accounted for under the equity method of accounting. Economic Balance Sheet valuation principles shall be applied to the affiliates before deriving values to be included here. There shall be disclosed severally	
	(a)	Unregulated entities that conduct ancillary services : All unregulated entities that conduct ancillary services accounted for under equity method shall be included here;
	(b)	Unregulated non-financial operating entities: All unregulated non-financial operating entities accounted for under equity method shall be included here;

	(c)	Unregulated financial operating entities: All unregulated financial operating entities accounted for under equity method shall be included here;
	(d)	Regulated non-insurance financial operating entities: All regulated non-insurance financial operating entities accounted for both under control and equity method shall be included here;
	(e)	Regulated insurance financial operating entities: All regulated insurance financial operating entities accounted for under equity method shall be included here.
	(f)	Total investments in affiliates: The total of (a) to (e) inclusive.
5. Investments in mortgage loans on real estate	Residential and commercial investment loans shall be included here. There shall be disclosed severally	
	(a)	First liens.
	(b)	Liens other than first liens.
	(c)	Total investments in mortgage loans on real estate: The total of (a) and (b).
6. Policy loans	Loans to policyholders on the security of cash surrender value of the policyholder's long-term insurance policy shall be included here.	
7. Real estate	Commercial investments occupied by group members shall be included here.	
	(a)	Occupied by any member of the group (less encumbrances): Both land and buildings and any other commercial investments occupied by group members shall be included here.
	(b)	Other properties (less encumbrances): Other residential and commercial investments.
	(c)	Total real estate: The total of (a) and (b).
8. Collateral loans	Other loans shall be included here.	
9. Investment income due and accrued	Accrued investment income shall be included here.	
10. Accounts and premiums receivable	Amounts due in more than one year shall be discounted at the relevant risk free rate. There shall be disclosed severally:	
	(a)	In course of collection: Insurance balances receivable and accounts receivable. Note that amounts not yet due should not be included here as they will be reflected in the insurance technical provisions
	(c)	Receivables from retrocessional contracts: Insurance balances receivable
	(d)	Total accounts and premiums receivable: The total of (a) to (c) inclusive.
11. Reinsurance balances receivable	Amounts due in more than one year shall be discounted at the relevant risk free rate. The amount of any collateral placed in favour of members of the Group shall be disclosed in a supplementary note. There shall be disclosed severally -	
	(a)	Foreign affiliates: reinsurance balance received from foreign affiliates

	(b)	Domestic affiliates: reinsurance balance received from domestic affiliates
	(c)	Pools and associations: Reinsurance balances receivables from pools and associations
	(d)	All other insurers
	(e)	Total reinsurance balances receivable: The total of (a) to (d) inclusive.
12. Funds held by ceding	Funds held by ceding reinsurers shall be included here. Any amounts deemed uncollectible shall be deducted.	
	(a)	Affiliated;
	(b)	Non-affiliated;
	(c)	The total of (i) and (ii
13. Sundry assets	Any asset not accounted for in lines 1 to 12 and 14 may be included here if it has a readily realisable value. There shall be disclosed severally –	
	(a)	Derivative instruments: Derivative instruments with a favourable position shall be included here
	(b)	Segregated accounts – LT business – variable annuities
	(c)	Segregated accounts – LT business - other
	(d)	Segregated accounts – General business
	(e)	Deposit assets.
	(f)	Balances receivable on the sale of investments
	(g)	Intangible assets These shall only be recognised if it is probable that the expected future economic benefits will flow to the insurer and the value of the assets can be reliably measured. The assets must be separable and there should be evidence of exchange transactions for the same or similar assets indicating they are saleable in the market place. If a fair value assessment of an intangible asset is not possible then such asset should be valued at nil. Goodwill shall be valued at nil.
	(h)	Deferred tax assets
	(i)	Pension Benefit surplus
	(j)	Any other assets – please provide details in a supplementary note
	(k)	Total sundry assets: The total of (a) to (j) inclusive.
14. Letters of credit, guarantees and other instruments	These are contractual rights arising from off-balance sheet arrangements to receive financial assets through:	
	(a)	Letters of Credit
	(b)	Guarantees
	(c)	Other instruments
	(d)	Total letters of credit, guarantees and other instruments: The total of (a) to (c).
	Such assets may, with the approval of the Authority obtained on an application made for that purpose, be recorded and the capital increased by a corresponding amount. Letters of credit, guarantees	

	or other instruments in favour of the group which relate to insurance or reinsurance contracts shall not be recorded.	
15. Total Assets	This shall be the total of lines 1 to 14 inclusive. The total amount of encumbered assets that are not securing policyholder obligations shall be disclosed, stating the purpose of the encumbrance.	
General Business Insurance Technical Provisions		
16. Best Estimate Premium Provisions	Best estimate premium provisions shall be assessed using the Economic Balance Sheet valuation principles under Schedule XXV, and shall cover all claims events that are expected to be incurred after the valuation date in respect of all contracts written on or before the valuation date – this includes business which has been written on or before the valuation date and incepts after the valuation date ('bound but not incepted' business). They shall also take into account any guaranteed options included in these contracts for future coverage on rates and terms and conditions which are fixed and which the Group is unable to change. Cash flows to be considered here include all those referred to in paragraph 16 of the Economic Balance Sheet valuation principles under Schedule XXV There shall be disclosed severally -	
	(a)	Gross premium provisions: Gross premium provisions assessed on the Economic Balance Sheet valuation principles under Schedule XXV
	(b)	Less: reinsurance recoverable balances): Amounts expected to be recoverable from reinsurers assessed on the Economic Balance Sheet valuation principles under Schedule XXV on a basis consistent with the gross assessment. Allowance shall be made for any reinstatement premiums that may be payable to reinsurers. Allowance shall be made for expected uncollectable amounts (for whatever reason). The amounts shall be subdivided between:
	(i)	Foreign affiliates
	(ii)	Domestic affiliates
	(iii)	Pools and associations
	(iv)	All other reinsurers
	(c)	Total reinsurance recoverable balance: The total of (b) (i) to (iv) The adjustment to the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default shall be disclosed in a supplementary note.
	(d)	Net premium provisions: The total of (a) and (c).
17. Best Estimate Loss and loss expense provisions	Best Estimate loss and loss expense provisions shall be assessed on the Economic Balance Sheet valuation principles under Schedule XXV. It shall include all unpaid amounts in respect of claim events that have occurred on or before the valuation date, whether reported to the Group or not. There shall be disclosed severally -	
	(a)	Gross loss and loss expense provisions: Gross unpaid loss and loss expenses assessed on the Economic Balance Sheet valuation principles under Schedule XXV

	(b)	Less: reinsurance recoverable balances): Losses and loss expenses recoverable shall be assessed on the Economic Balance Sheet valuation principles under Schedule XXV on a basis consistent with the gross assessment. Allowance shall be made for any reinstatement premiums that may be payable to reinsurers. Allowance shall be made for expected uncollectable amounts (for whatever reason). The amounts shall be subdivided between:
	(i)	Foreign affiliates
	(ii)	Domestic affiliates
	(iii)	Pools and associations
	(iv)	All other reinsurers
	(c)	Total reinsurance recoverable balance: The total of (b) (i) to (iv) The adjustment to the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default shall be disclosed in a supplementary note. The amount of any collateral placed in favour of members of the Group shall be disclosed in a supplementary note.
	(d)	Net loss and loss expense provisions: The total of (a) and (c).
18. Risk Margin – General Insurance Business	The risk margin shall be calculated using the cost of capital method as per the Economic Balance Sheet valuation principles under Schedule XXV.	
19. Total general insurance business technical provisions	This shall be the total of lines 16(d), 17(d), and 18 inclusive.	
Long-term Business Insurance Technical Provisions		
20. Best Estimate Reserves for reported claims	Best estimate reserves, calculated in line with Economic Balance Sheet valuation principles under Schedule XXV, to meet unpaid claims at the valuation date and made under long-term insurance policies in respect of incidents occurring and reported to the insurer before the valuation date, net of any expected recoverable amounts	
21. Best Estimate Reserves for unreported claims	Best estimate reserves, calculated in line with Economic Balance Sheet valuation principles under Schedule XXV, to meet unpaid claims at the valuation date and made under long-term insurance policies in respect of incidents occurring but not reported to the insurer before the valuation date, net of any expected recoverable amounts.	
22. Best Estimate Policy reserves - life	Best estimate provisions, calculated in line with Economic Balance Sheet valuation principles under Schedule XXV, in respect of future guaranteed benefits as they become payable under the provisions of life insurance policies in force, including any 'bound but not incepted' business. These may also include amounts applicable to other life contract benefits (such as disability waiver of premium, disability income benefits and additional accidental death benefits). These amounts are net of any expected recoverable balances.	
23. Best Estimate Policy reserves – accident and health	Best estimate provisions, calculated in line with Economic Balance Sheet valuation principles under Schedule XXV, in respect of accident and health policies, including any 'bound but not incepted' business. These amounts are net of any expected recoverable balances	
24. Best Estimate Policyholders' funds on deposit	These consist of premiums paid in advance of the due date, and shall be valued in line with Economic Balance Sheet valuation principles under Schedule XXV.	

25. Best Estimate Liability for future policyholders' dividends	Best estimate dividends payable, as declared by the directors, on participating life policies which qualify for such dividends, and valued in line with Economic Balance Sheet valuation principles under Schedule XXV.	
26. Best Estimate Other long-term business insurance reserves	Best estimate reserves not included in lines 20 to 25, and valued in line with Economic Balance Sheet valuation principles under Schedule XXV, including any 'bound but not incepted' business.	
27. Total Best Estimate long-term business insurance provisions	Best estimate long-term business insurance provisions calculated in line with Economic Balance Sheet valuation principles under Schedule XXV (and are not included on Form1EBS, Line 27B). It comprises the total of lines 20 to 26 inclusive, showing an analysis between the gross and net positions. There shall be disclosed severally -	
	(a)	Total gross long-term business insurance provisions: Gross unpaid loss and loss expenses assessed on the Economic Balance Sheet valuation principles under Schedule XXV.
	(b)	Less: reinsurance recoverable balances): The amount of recoverables shall be assessed on the Economic Balance Sheet valuation principles under Schedule XXV on a basis consistent with the gross assessment. Allowance shall be made for any reinstatement premiums that may be payable to reinsurers. Allowance shall be made for expected uncollectable amounts (for whatever reason). The amounts shall be subdivided between:
	(i)	Foreign affiliates
	(ii)	Domestic affiliates
	(iii)	Pools and associations
	(iv)	All other reinsurers
	(c)	Total reinsurance recoverable balance: The total of (b) (i) to (iv) The adjustment to the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default shall be disclosed in a supplementary note. The amount of any collateral placed in favour of members of the Group shall be disclosed in a supplementary note.
	(d)	Net long term business provisions: The total of (a) and (c) – which is also the same as the sum of lines 20 to 26 inclusive.
27A. Risk Margin – Long-term insurance business	The risk margin shall be calculated using the cost of capital method as per the Economic Balance Sheet valuation principles under Schedule XXV. It shall not be split between the line items 20-26.	
27B. Long-term technical provisions calculated as a whole	Long-term technical provisions calculated as a whole calculated in line with the Economic Balance Sheet valuation principles under Schedule XXV. This line shall contain the total of all technical provisions calculated as a whole, which have been determined based on the market price of financial instruments that reliably replicate the cash flows of the insurance obligations. There shall be disclosed severally -	
	(a)	Total gross long-term business insurance reserves calculated as a whole.
	(b)	Less: reinsurance recoverable balances): The amount of recoverables shall be assessed on a basis consistent with the gross assessment. Allowance shall be made for any reinstatement premiums that may be payable to reinsurers. Allowance shall be made for expected uncollectable amounts (for whatever reason). The amounts shall be subdivided between:

	(i)	Foreign affiliates
	(ii)	Domestic affiliates
	(iii)	Pools and associations
	(iv)	All other reinsurers
	(c)	Total reinsurance recoverable balance: The total of (b) (i) to (iv) The adjustment to the best estimate of reinsurance recoveries that was made to reflect expected losses due to counterparty default shall be disclosed in a supplementary note. The amount of any collateral placed in favour of members of the Group shall be disclosed in a supplementary note.
	(d)	Net long term business technical provisions: The total of (a) and (c).
27C. Total Long-term insurance business technical provisions	This shall be the total of lines 27(d), 27A and 27B(d).	
Other Liabilities		
28. Insurance and Reinsurance balances payable	These are amounts payable to reinsurers (eg, premiums received in advance, reinsurance premiums payable. etc.) Amounts payable in more than one year shall be discounted at the relevant risk free rate.	
29. Commissions, expenses, fees and taxes payable	All unearned commissions shall be included here. Amounts payable in more than one year shall be discounted at the relevant risk free rate.	
30. Loans and notes payable	Loans and notes payable shall be included here. This shall include subordinated debt. Amounts payable in more than one year shall be discounted at the relevant risk free rate.	
31. Tax liabilities		Amounts payable in more than one year shall be discounted at the relevant risk free rate. There shall be disclosed severally:
	(a)	Income taxes payable
	(b)	Deferred income taxes
32. Amounts due to affiliates	All amounts due to affiliates shall be included here. Amounts payable in more than one year shall be discounted at the relevant risk free rate.	
33. Accounts payable and accrued liabilities	All accounts payable and accrued liabilities shall be included here Amounts payable in more than one year shall be discounted at the relevant risk free rate.	
34. Funds held under reinsurance contracts	Funds held under reinsurance contracts shall be included here, and shall be included at amounts consistent with the fair value of the underlying assets.	
	(a)	Affiliated reinsurers
	(b)	Non-affiliated reinsurers
	(c)	This shall be the total of (a) and (b)
35. Dividends payable	All dividends payable shall be included here	
36. Sundry liabilities	There shall be disclosed severally:	
	(a)	Those derivative instruments which are held for hedging purposes, with an unfavourable position shall be included here;

	(b)	Other derivative instruments (ie those which are not held for hedging purposes), with an unfavourable position shall be included here;
	(c)	Segregated accounts – LT business – variable annuities
	(d)	Segregated accounts – LT business - other
	(e)	Segregated accounts – General business
	(f)	Deposit liabilities
	(g)	Pension benefit obligations
	(h)	Balances payable for purchase of investments
	(i)	Any other liabilities – please provide details in a supplementary note
	(j)	This shall be the total of (a) to (i) inclusive
37. Letters of credit, guarantees and other instruments	All contractual liabilities or contingent liabilities arising from off-balance sheet arrangements are reported in this line. A liability is recorded decreasing the statutory capital and surplus equal to the expected present value of such contingent obligations discounted to take into consideration the time value of money at an appropriate rate (to be disclosed). Material contingent liabilities shall be recognised and recorded on this line. The Contingent liabilities shall be valued based on the expected present value of future cash-flows required to settle the contingent liability over the lifetime of that contingent liability, using the basic risk-free interest rate. Where the present value of contingent obligations cannot be determined, the amount of the liability must be recorded at its undiscounted value. Letters of credit, guarantees or other instruments not in favour of a member of the group which relate to the group's insurance or reinsurance contracts shall not be recorded. Details of the basis used to derive amounts disclosed shall be set out in a supplementary note, including the undiscounted amounts of the liabilities. There shall be disclosed severally -	
	(a)	Letters of credit
	(b)	Guarantees
	(c)	Other instruments
	(d)	This shall be the total of (a) to (c) inclusive
38. Total other liabilities	This shall be the total of lines 28 to 37 inclusive	
39. Total insurance technical provisions and other liabilities	This shall be the total of lines 19, 27C and 38 inclusive	
40. Total statutory economic capital and surplus	This is the capital and surplus total as at the valuation date. It is derived as line 15 less line 39 A reconciliation between this amount and line 40 for Form 1 required under Schedule 1 of the Insurance (Group Supervision) Rules 2011 shall be shown in a supplementary note.	
41. Total	This shall be the total of lines 39 and 40 It should equal line 15	

SCHEDULE XV (Paragraph 6)

GROUP ACTUARY'S OPINION

1 The group actuary's Opinion must state whether or not, in the opinion of the group actuary, the aggregate amount of technical provisions shown at Line 19 and Line 27C in the Group Statutory Economic Balance Sheet as at the end of the relevant financial year:

(a) meets the requirements of the Insurance Act 1978 and related rules and regulations;

(b) makes reasonable provision for the total technical provisions of the group under the terms of its insurance contracts and agreements.

2 The group actuary shall state their own best estimates (and/or ranges for the best estimates) and confirm that such estimates have been determined in accordance with the requirements set out in Schedule XIV. The group actuary shall also state (but is not limited to) their best estimates for following matters (as applicable):

(a) Line 16(a)
(b) Line 16(d)
(c) Line 17(a)
(d) Line 17(d)
(e) Line 27(a)
(f) Line 27(d)
(g) Line 27B(a)
(h) Line 27B(d)

3 The group actuary is required to state their estimates for the risk margin (Line 18 and line 27A) and state whether or not, in their opinion, these amounts have been calculated in accordance with the requirements of Schedule XIV.

4 In relation to Lines 16(a), 27(a) and 27B(a), the group actuary shall provide commentary on the assumptions made in relation to Bound But Not Incepted business, as described in-paragraph 33(6) to(9) inclusive of the Economic Balance Sheet valuation principles set out in Schedule XXV.

5 The group actuary shall provide commentary for Lines 16(d), 17(d), 27(d) and 27B(d on the assumptions made for expected losses due to counterparty default (for whatever reason, including reinsurer insolvency or contractual dispute) in relation to reinsurance recoveries.

6 In relation to Lines 27B (a) and 27B(d), the group actuary shall provide commentary on the nature of the business valued 'as a whole' and whether or not their approach is in accordance with the requirements of Schedule XIV.

7 Where the group actuary has not used risk discount curves provided by the Authority they shall state the rates used for calculation and provide commentary on how they were derived.

8 Where the Group has made use of the 16 year transitional arrangements for certain insurance business, the group actuary shall provide estimates for that business for both the EBS approach and the approach consistent with the valuation approach in force before EBS requirements came into force, as referred to in paragraph 37 of the Economic Balance Sheet valuation principles set out in Schedule XXV

9 The group actuary shall provide commentary on any aspects of the technical provisions of the Group which give rise to greater levels of uncertainty than would typically be associated with the group's business.

10 The group actuary's Opinion shall further confirm:

(a) the group actuary's name, employer and professional designations attained (which qualifies them to issue the opinion and formed the basis for their application to the

Authority for approval as Group Actuary) ;

(b) whether or not the group actuary continues to be a qualified member in good standing of all official actuarial bodies included in their application to the Authority for approval;

(c) whether or not the group actuary is in full compliance with the most recent Continuing Professional Development requirements of their official actuarial body;

(d) whether or not the group actuary has any perceived conflicts of interest relative to providing the opinion.

(e) whether or not the work supporting the Opinion complies with applicable standards of actuarial practice.

11 Working papers supporting the group actuary's Opinion are required to be made available to the Authority by the group actuary upon request, and should be sufficient in and of themselves to enable the completion of an independent review of the Opinion and supporting analysis by another unrelated but experienced actuary.

12 The Opinion shall be signed and dated by the group actuary and must include their current contact information, including but not limited to, telephone number and email address.

SCHEDULE XXI - SCHEDULE OF CONCENTRATION RISK

(Paragraph 6)

[blank] name of Company
As at [blank] (day/month/year)

All amounts expressed in .... (currency used)

Name of Exposure	**Asset Type (A)**	**Asset sub-type (B)**	**BSCR Rating (C)**	**Asset Value (D)**

INSTRUCTIONS AFFECTING SCHEDULE XXI:

(i) Disclosure of an insurance group's 10 largest exposures to single counterparty risk by reporting the name, the exposure and allocation by asset type, bond / mortgage type (if applicable), BSCR Rating (if applicable) and asset value consistent with Form 1EBS.

(ii) a counterparty shall include all related/connected counterparties defined as:

(A) Control relationship: if the counterparty, directly or indirectly, has control over the other(s); or
(B) Economic interdependence: if one of the counterparties were to experience financial problems, in particular funding or repayment difficulties, the other(s) as a result, would also be likely to encounter funding or repayment difficulties.

(iii) Asset Type (Column A) shall be one of the following lines taken from Form 1EBS;

(A) Cash and cash equivalents (Line 1)
(B) Quoted Investments (Line 2)
(C) Unquoted investments (Line 3)
(D) Investments in and Advances to Affiliates (Line 4)
(E) Investments in Mortgage Loans on Real estate (Line 5)
(F) Policy Loans (Line 6)
(G) Real Estate (Line 7)
(H) Collateral Loans (Line 8)
(I) Funds held by ceding Reinsurers (Line 12)

(iv) Asset sub-type (Column B) shall provide further details of the type of asset as included in Table 1, Table 2 or Table 8 as appropriate;

(v) BSCR Rating (Column C) shall be the BSCR rating that was allocated to the asset when it was included in Table 1, Table 2 or Table 8 as appropriate; and

(vi) Asset Value (Column D) shall be the value of the asset as required by the Economic Balance Sheet valuation principles as set out in Schedule XXV.

Schedule XXIA - Schedule of Concentration Risk

(Paragraph 6)

[blank] name of Parent

As at [blank] (day/month/year)

All amounts expressed in .... (currency used)

Name of Exposure	**Asset Type (A)**	**Asset sub-type (B)**	**BSCR Rating (C)**	**Asset Value (D)**

INSTRUCTIONS AFFECTING SCHEDULE XXIA:

(i) disclosure of an insurance group's ten largest exposures to single counterparty risk by reporting the name, the exposure and allocation by asset type, bond or mortgage type (if applicable), BSCR Rating (if applicable) and asset value consistent with Form 1EBS.

(ii) for the purposes of this Schedule, a counterparty shall include all related or connected counterparties captured by either of the following criteria:

(i) controller relationship: if a counterparty, directly or indirectly, has control of (as a result of its majority shareholding in or significant influence) the other counterparties; or

(ii) economic interdependence: if one of the counterparties were to experience financial difficulties which directly or indirectly affect the ability of any or all of the remaining counterparties to perform their financial obligations (for example where a counterparty becomes unable to fund or repay certain financial contractual obligations, and as a result, other counterparties, are likely to be unable to fund or repay certain obligations imposed on them);

(iii) asset Type (Column A) shall be determined by the insurer as one of the following:

(i) cash and cash equivalents (as defined in Schedule XIX Column B Schedules IIB, IIC, IID, IIE, and IIF Column (1), Line 68);

(ii) quoted and Unquoted Investments (as defined in Schedules IIB, IIC, IID, IIE, and IIF Column (11), Line 14);

(iii) equity holdings (as defined in Schedules IIB, IIC, IID, IIE, and IIF Column (11), Line 37);

(iv) advances to Affiliates (reported on Form 1EBS, Line 4(g));

(v) policy Loans (reported on Form 1EBS, Line 6);

(vi) real Estate 1 (reported on Form 1EBS, Line 7(a));

(vii) real Estate 2 (reported on Form 1EBS, Line 7(b));

(viii) collateral Loans (reported on Form 1EBS, Line 8);

(ix) for equity exposures that are grandfathered according to paragraph 28A, the appropriate asset type given in Instructions affecting Schedule XXI, point (iii).

(iv) when reporting asset sub-type (under Column B) shall provide further details of the type of asset as included in Table 1, Table 2 or Table 8 as appropriate;

(v) when applying the BSCR Rating (under Column C) the designated insurer shall apply the BSCR rating that was allocated to the asset when it was included in Table 1, Table 2 or Table 8 as appropriate; and

(vi) asset value (under Column D) shall be the value of the asset as required by the Economic Balance Sheet valuation principles as set out in Schedule XXV.

SCHEDULE XXIV

SCHEDULE OF ADJUSTMENTS

1. A designated insurer may make an application to the Authority in accordance with section 6D (7) of the Act, to request for any of the following adjustments to be made to the insurance group's enhanced capital requirement, available statutory capital and surplus, total statutory capital and surplus or available statutory economic capital and surplus, and any adjustment approved by the Authority shall take effect on the date determined by the Authority—

   (a) to allow for the recognition of material limits and other risk mitigation techniques when not adequately captured by the insurance group's ECR calculation;

   (b) to modify the BSCR premium risk and reserve risk capital charge factors for general business;

   (c) to allow for deductions of premiums derived from an acquisition of legacy insurance reserves from the BSCR premium risk calculation for general business;

   (d) *to s*et the '*TransitionalFactor*' or '$\text{Transitional}_{mmcat}$' of the BSCR calculation to 100%;

   (e) to allow the use of alternative credit ratings for determining the BSCR Ratings within the BSCR calculation;

   (f) to allow the modelling of variable annuity guarantee risk using internal models;

   (g) to assess correct classification of specific assets or liabilities;

   (h) to adjust the insurance reserves;

   (i) to modify the calculation of the minimum margin of solvency requirement.

2. The Authority may request a designated insurer to provide it with any information and documents required in order to appropriately assess an application made to it by a designated insurer under paragraph 1.

3. In reviewing an application for an adjustment by a designated insurer under paragraph 1., the Authority shall take into consideration the nature, scale, risk profile and complexity of the insurance group's business.

4. Further consideration may be made by the Authority to the following matters, which include but are not limited to the following—

   (a) materiality of the adjustment;

   (b) scope and reasoning for the adjustment;

   (c) quality of supporting analysis provided;

   (d) data completeness, accuracy and appropriateness;

   (e) consistency in the design, assumptions, methodologies and calibration of the BSCR;

   (f) solvency position of the insurance groups pre and post the proposed adjustment;

(g) appropriateness and suitability of the methodologies utilised in preparing the adjustment requested (for example calibration and statistical analysis applied);

(h) validation and documentation;

(i) governance and risk management requirements of the insurance group and whether such aligns with the proposed adjustment;

(j) governance relating to the production, review and use of the proposed adjustment;

(k) adjustments already granted to the insurance group;

(l) the extent to which the model underpinning the proposed adjustment is used in and plays an important role in the group's system of governance.

5. Where an application for approval has been granted by the Authority under section 6D (7) prior to 31 December 2023, insurance groups shall apply the following calculations to any transitional arrangements agreed by the Authority at the time the application was granted. For an insurance group with a liability duration of—

(a) < (less than) 5 years, a five-year transition will apply;

(b) >= (greater than or equal to) 5 years, a transition period equal to the insurance groups' liability duration will apply up to ten years.

6. The Authority, at its discretion, may approve applications under subsection 6D(7) for adjustments outside the scope set out in paragraph 1. The conditions that apply to adjustments made under paragraph 1 will also apply to adjustments made under this paragraph. Additionally –

(a) In determining whether to approve such applications, the Authority will also consider the extent to which the scope of the proposed adjustment overlaps with the scope of the adjustments listed in paragraph 1.

(b) Where an approval is granted by the Authority to adjust an insurance group's ECR with an adjustment that does not fall under the adjustments listed under paragraph 1, a floor equal to 90% of the unadjusted ECR will apply for the duration of the adjustment.

SCHEDULE XXV

SCHEDULE OF ECONOMIC BALANCE SHEET VALUATION PRINCIPLES

PART 1: ECONOMIC BALANCE SHEET – VALUATION PRINCIPLES

1 The economic balance sheet (EBS) shall be produced on a consolidated basis in line with GAAP principles adopted by the insurance group, as notified and agreed by the Authority (" GAAP Principles") Except where specifically mentioned below, the consolidated assets and liabilities shall be assessed and fair-valued in line with the GAAP principles adopted by the Group, as notified to and agreed by the Authority.

2 For cases where the GAAP principles permit both a fair value model and a non-economic valuation model for valuing an asset or liability, the insurance group shall apply the fair value model.

3 For cases where the GAAP principles do not require an economic valuation the insurance group shall fair value the asset or liability using the following hierarchy of high level principles of valuation of assets and liabilities:

(a) Quoted market prices in active markets for the same or similar assets or liabilities must be used whenever possible;

(b) Where the use of quoted market prices for the same assets or liabilities is not possible, quoted market prices in active markets for similar assets and liabilities with adjustments to reflect differences shall be used;

(c) If there are no quoted market prices in active markets available, mark-to-model techniques, which are alternative valuation techniques that have to be benchmarked, extrapolated or otherwise calculated as far as possible from a market input, should be used; and

(d) Maximum use must be made of relevant observable inputs and market inputs and rely as little as possible on undertaking-specific inputs, minimising the use of unobservable inputs.

4 When valuing liabilities, no adjustments shall be made to take account of the own credit standing of the insurance group.

5 Insurance groups shall follow the GAAP principles it has adopted in the treatment of insurance contracts that do not transfer significant insurance risk,

6 The exceptions to these principles are mainly related to line items affecting the valuation of insurance technical provisions.

7 All contractual liabilities or contingent liabilities arising from off-balance sheet arrangements are to be recognised on the EBS. Contractual liabilities should be valued consistently with GAAP principles. In cases where the GAAP principles do not require fair value, the insurer should value the contractual liabilities using the valuation hierarchy in paragraph 3. Contingent liabilities shall be valued based on the expected present value of future cash-flows required to settle the contingent liability over the lifetime of that contingent liability, using the basic risk-free interest rate. Where the present value of contingent obligations cannot be determined, the liability should be valued at its undiscounted value.

PART 2: TECHNICAL PROVISIONS – APPLICATION PRINCIPLES

Proportionality, nature, scale, complexity and simplifications

8 (1) Insurance groups shall use methods to calculate technical provisions which are proportionate to the nature, scale and complexity of the risks underlying their insurance obligations. In determining whether a method of calculating technical provisions is proportionate, insurance groups shall carry out an assessment which includes an assessment of the nature, scale and complexity of the risks underlying their insurance obligations and an evaluation of the error introduced in the results of the method due to any deviation between the following -

(a) the assumptions underlying the method in relation to the risks;

(b) the results of the assessment referred to in subparagraph 8(1).;

(2) The assessment referred to in subparagraph 8(1) shall include all risks which affect the amount, timing or value of the cash in- and out-flows required to settle the insurance obligations over their lifetime. This shall include, insurance groups taking into account, at least, the following risk characteristics, where applicable —

(a) the degree of homogeneity of the risks;
(b) the variety of different sub-risks or risk components of which the risk is comprised;
(c) the manner in which these sub-risks are interrelated with one another;
(d) the level of uncertainty of the cash flows, including the extent to which future cash flows can be estimated;
(e) the nature of the occurrence or crystallisation of the risk in terms of frequency and severity;
(f) the type of the development of claims payments over time;
(g) the extent of potential loss, including the tail of the claims distribution;
(h) the type of business from which the risks originate;
(i) the degree of dependency between different risk types, including the tail of the risk distribution;
(j) the risk mitigation instruments applied, if any, and their impact on the underlying risk profile.

(3) A method shall be considered to be disproportionate to the nature, scale and complexity of the risks if the error referred to in subparagraph 8(1) leads to a misstatement of technical provisions or their components that could influence the decision- making or judgment of the intended user of the information relating to the value of technical provisions, unless one of the following conditions are met:

(a) no other method with a smaller error is available and the method is not likely to result in an underestimation of the amount of technical provisions —
(b) the method leads to an amount of technical provisions of the insurance obligations that is higher than the amount that would result from using a proportionate method and the method does not lead to an underestimation of the risk inherent in the insurance obligations that it is applied to.;

(4) Where appropriate, insurance groups may make suitable simplifications in the calculation of technical provisions as follows —

(a) simplification methods referred to in sub - paragraph 8(4) may include —
    (i) scaling, mapping to similar products to gross up;
    (ii) using a deterministic model instead of stochastic model;
    (iii) performing an aggregate calculation instead of policy by policy calculation;
(b) simplification methods may also apply to the determination of best estimate liabilities and risk margin, including but not limited to expected losses on reinsurance recoverables due to counterparty default, reinstatement premiums on reinsurance recoverables, or application of contract boundaries.

Application of assumptions and expert judgement relating to technical provisions

9 (1) Insurance groups may utilise expert judgement when applying data used in the calculation of the technical provisions, the assumptions underlying the calculations, and the method applied to derive the technical provisions.

(2) Where expert judgement is utilised by an insurance group to calculate the technical provisions in accordance with subparagraph 9(1), the following additional requirements apply -

(a) the use of expert judgement shall not replace appropriate collection, processing and analysis of data;

(b) expert judgement shall not be used in isolation unless there is no reliable alternative.;

(c) where expert judgement is solely utilised in accordance with point 9(2)(b), or results in a material impact on the derived best estimate, reasonable alternative assumptions are required to be tested by the insurance group to ensure the selected assumption appropriately reflects the uncertainty in the outcome.

(d) persons applying expert judgment shall have adequate experience and sufficient relevant knowledge and understanding of the subject.

(3) Insurance groups shall, ensure that internal users, which includes, but is not limited to external service providers to whom functions or activities have been outsourced, of relevant assumptions are informed about the content, reliability and limitations of such assumptions.

(4) Where an insurance group uses a model to produce projections of future financial market parameters, such model shall comply with the following requirements ––

(a) it shall be risk neutral;
(b) it generates prices that are consistent with deep, liquid, and transparent financial markets;
(c) it assumes no arbitrage opportunity;
(d) the calibration of the parameters and scenarios used is consistent with the relevant risk-free interest rate term structure used to calculate the best estimate.

(5) Assumptions used by insurance groups in the calculation of these technical provisions shall meet the following minimum requirements:

(a) they are clear and justified, whereby insurance groups have taken into account:
(i) the significance of the assumption;
(ii) any uncertainty in the use of the assumption ; and
(ii) any relevant alternative assumption;

(b) they are consistent with the characteristics of the portfolio of the insurance group's insurance obligations;

(c) they are used by the insurance group consistently over time and within homogeneous risk groups and lines of business, without arbitrary change;

(d) they adequately reflect any uncertainty underlying the insurance group's cash flows.

PART 3: TECHNICAL PROVISIONS – GENERAL CALCULATION PRINCIPLES

General

10 (1) Every insurance group is required to establish technical provisions under these Rules, with respect to insurance obligations relating to insurance contracts.

(2) The value of technical provisions shall be equal to the sum of a best estimate and a risk margin. The two components shall be calculated separately unless the technical provisions as a whole approach, under paragraph 36, is used.

(3) Notwithstanding subparagraph 10(1), where cash flows associated with insurance obligations can be replicated using financial instruments, then insurance groups may use the market values of those financial instruments as the technical provisions.

(4) The value of technical provisions shall correspond to the current amount insurance groups would have to pay if they were to transfer their insurance obligations immediately to another insurer in an arm's length transaction.

(5) Insurance groups shall ensure that the calculation of the technical provisions shall include and be consistent with up to date financial market information and generally available data on insurance risks.

Segmentation

11 (1) Insurance groups shall segment insurance obligations into homogeneous risk groups when calculating the technical provisions.

Insurance obligation recognition and contract boundaries

12 (1) When calculating the technical provisions, insurance groups shall recognise an insurance obligation at the date an insurer becomes a party to the contract that gives rise to the obligation or the date the insurance cover begins, whichever date occurs earlier. Insurance groups shall only recognise the obligations within the boundary of the contract.

(2) Insurance groups shall no longer recognise insurance obligations referred to in subparagraph 12(1), from the date such obligations become extinguished, including but not limited to, where they are discharged, cancelled or upon the date of expiration of the insurance policy.

(3) All obligations relating to an contract of insurance will be considered by an insurance group to be within the boundaries of such contract until any of the following matters arise —

(a) an insurer in the group is no longer required to provide coverage under the contract of insurance;

(b) an insurer in the group has the contractual right or ability to reassess the risk of a policyholder or beneficiary of a contract of insurance and, as a result, can set a price that fully reflects the revised risk;

(c) where an insurance group has the ability to reassess the risk of the portfolio that contains a contract of insurance and, as a result can set a price that fully reflects the risk of that portfolio.

Data

13 (1) Insurance groups shall implement internal processes and procedures to ensure the appropriateness, completeness and accuracy of the data utilised in the calculation of technical provisions applicable to them.

(2) Where, insurance groups have insufficient, quality, data to apply a reliable actuarial method to a set or subset of insurance obligations, or amounts recoverable from outwards reinsurance contracts, approximations, including case-by-case approaches, may be used in the calculation of the best estimate.

Comparison against experience

14 (1) Insurance groups shall implement processes and procedures to ensure that the best estimate calculation, and the assumptions underlying such calculation, are regularly compared against experience.

(2) Where the review identifies systematic deviation between experience and the best estimate calculations conducted in accordance with the technical provisions Rules, the insurance group shall make appropriate adjustments to the actuarial methods being used or the assumptions being made.

PART 4: TECHNICAL PROVISIONS - BEST ESTIMATE

Overview

15 (1) Insurance groups shall ensure that the best estimate calculation that is applied shall—

(a) correspond to the probability-weighted average of future cash flows discounted, using the relevant interest rate term structure.

(b) take into account the time value of money, using the relevant risk-free interest rate term structure with an appropriate illiquidity adjustment.

(c) allow for uncertainty in future cash flows, and reflect the full potential range of possible outcomes, each weighted to reflect their respective probability of occurrence.

(d) be based upon up-to-date, reliable, and credible information and realistic current assumptions and be performed using adequate, applicable and relevant actuarial and statistical methods. At each valuation date, the insurance group shall consider whether the assumptions and methods applied continue to be appropriate and justify changes or no-changes.

(2) The best estimate gross of any recoverable amounts, from outwards reinsurance contracts, and the corresponding best estimate of the recoverable amounts shall be calculated, and be able to be shown, separately.

Cashflows and uncertainty in future cashflows

16 (1) The cash flows used in the calculation of the best estimate shall include all future cash in- and out- flows required to settle insurance obligations that are within the contract boundaries (as defined in paragraph 12) of the existing insurance contracts.

(2) In relation to cash flows used in the calculation of best estimates in subparagraph 16 (1), insurance groups shall take into account of the following types of cashflows, including but not limited to—

(a) premium payments, including outwards (reinstatement or otherwise) premiums, and any additional cash flows resulting from such premiums;

(b) benefit payments, including discretionary benefits, to cedents, policyholders and beneficiaries;

(c) payments that the insurance group will incur in providing contractual benefits in kind;

(d) expenses (including payments to intermediaries, claim costs, servicing costs and profit commissions) incurred in servicing insurance obligations over their lifetime;

(e) investment costs including payments between the insurance group and investment firms in relation to contracts with index-linked and unit-linked benefits;

(f) payments between the insurance group and intermediaries related to insurance obligations;

(g) payments for salvage and subrogation to the extent that such do not qualify as separate assets or liabilities in accordance with international accounting standards (such as IFRS or GAAP);

(h) taxation payments which are, or are expected to be, charged to policyholders and beneficiaries or are required to settle the insurance obligations;

(i) payments between the insurance group and its reinsurers or other providers of risk mitigation, making due allowance for any expected shortfall in amounts to be received due to counterparty default (for whatever reason, including, but not limited to counterparty insolvency or contractual dispute);

(j) Any other cashflow items which are expected to be charged to policyholders of required to settle the obligations.

(3) cash flow projections applied in the calculation of the best estimate shall, take account of the following uncertainties in the cash flows, including uncertainties ––

(a) in the timing, frequency and severity of insured events;

(b) in claim amounts, including uncertainty in claims inflation, and in the period needed to settle and pay claims;

(c) in the amount of expenses;

(d) in expected future developments;

(e) in policyholder behaviour;

(f) dependency between two or more causes of uncertainty;

(g) dependency of cash flows on circumstances prior to the date of the cash flow.

Expenses

17 (1) The best estimate shall reflect all cash-flows arising from expenses that will be incurred in servicing insurance obligations. This shall include but not be limited to the following expenses––

(a) administrative;

(b) claims management;

(c) acquisition ;

(d) investment ;

(e) overhead.

(2) In relation to point 17(1)(e), overhead expenses shall include but are not limited to:

(a) salaries of general managers,

(b) auditing costs :

(c) day-to-day costs;

(d) new business development expenses;

(e) advertising and improvements of internal processes.

(3) Insurance groups shall consider whether sufficient future new business will be sold to enable existing per policy expenses to be maintained with an appropriate rate of inflation. For closed books or declining business, consideration shall be given to whether additional expense reserves are required to reflect increasing per policy expenses as the business runs off.

(4) In the calculation of the best estimate, insurance groups may include investment- related expenses as a separate series of cashflows or such may be offset against the discount rate.

(5) The investment expenses in relation to subparagraph 17(1)(d) may be based on the hypothetical costs relating to a theoretical investment portfolio for business for which the Standard Approach, as defined in paragraph 27 has been adopted. Where the Scenario Based Approach (as

defined in paragraphs 28-32) is applied, then investment expenses shall reflect the costs associated with the insurance group's current investment portfolio.

(6) Current administrative, claims management, investment as defined under subparagraph 17(1) and overhead expenses as defined in subparagraph 17(1) shall be projected forward by insurance groups using an appropriate rate of expense inflation.

Different currencies application- best estimate calculation

18 (1) The time value of money of future cash-flows in different currencies shall be calculated by insurance groups using the relevant interest rate term structure for each relevant currency.

(2) Insurance groups shall ensure that discounted future cash-flows are converted to the reporting currency at the exchange rates in effect as of the valuation date, to obtain the best estimate.

(3) Best estimates to be calculated by currency shall be produced using material currencies and the insurance group's reporting currency.

(4) Insurance groups shall consider data availability in creating and applying homogeneous risk groups by currency, to ensure that appropriate discount rates are available in the calculation the best estimate.

Allowance for recoveries from outwards (re)insurance contracts

19 (1) The best estimate of inflows and outflows from outwards (re)insurance contracts shall be based on principles similar to, and consistent with, those underlying the gross (of outwards (re)insurance) best estimate.

(2) Relevant cash flows, relating to outwards (re)insurance contracts, to be considered for calculation of the best estimate requirement shall include, where applicable, reinstatement premiums required to be paid to a (re)insurer, and expenses in relation to the management and administration of outwards (re)insurance claims.

(3) Insurance groups shall include projected outwards reinstatement premiums within the premium provisions. When calculating the best estimate of the reinstatement premiums under subparagraph 19(2), insurance groups shall ensure that -

(a) they capture the uncertainty of claims experience, taking into account the likelihood and severity of all outcomes; and

(b) the approach used to assess the level of reinstatement premiums is consistent with the valuation of the best estimate claims costs allowed for in the premium provisions; and

(c) the administrative expenses associated with the cost of handling the reinstatement is also included in the premium provisions.

(4) Where recoveries from outwards (re)insurance contract are not dependent directly on gross claims payments, then the insurance group shall take into account any structural mismatch between gross claims payments and amounts recoverable in determining their best estimate.

(5) Insurance groups shall consider the potential impact of timing differences between payment of gross claims and receiving related recoveries from (re)insurers.

Allowance for counterparty default

20 (1) The best estimate of outwards (re)insurance recoveries shall be adjusted to take account of expected losses due to counterparty default for whatever reason, including (re)insurer insolvency and contractual dispute.

(2) The adjustment shall be calculated separately as the expected present value of the change in cash-flows underlying the amounts recoverable from the counterparty, resulting from a default

of the counterparty at a certain point in time. This calculation shall therefore take into account possible default events over the lifetime of the rights arising from the corresponding outwards reinsurance contract and the dependence on time of the probability of default.

(3) Insurance groups may make allowance for counterparty credit risk mitigation techniques they have adopted as follows—

(a) where such allowance involves the use of collateral assets, then the potential market risk on the relevant assets shall be taken into account; and

(b) where security has been obtained by way of letter of credit, guarantee or similar arrangement, then insurance groups shall replace the rating of the reinsurer with the rating of the security provider.

Expected Future Developments

21 (1) An insurance group's calculation of the best estimate shall take into account future developments, including trends, that may have a material impact on the cash in- and out-flows required to settle insurance obligations of a contract for insurance for the duration of the contract.

(2) Insurance groups shall regard future developments for the purposes of calculation of the best estimate requirement in subparagraph 21(1), to include demographic, legal, medical, technological, social, environmental and economic developments including inflation.

Allowance for Management Actions

22 (1) Insurance groups shall ensure that the best estimate calculation reflects potential management actions (that is any action the officers of an insurance group may expect to carry out under specific future circumstances) and where and to the extent required, potential changes in policyholder behaviour.

(2) Management actions shall be reflected by insurance groups in the valuation of the best estimate provided that the management actions where such actions:

(a) are clearly documented;
(b) have been approved by the chief executive or senior executive;
(c) are consistent with representations made to policyholders;
(d) are realistic and consistent with the insurer's current business practice and business strategy, including the use of risk-mitigation techniques where there is sufficient evidence that the insurer will change its practices or strategy, the assumed management actions are consistent with the changed practices or strategy;
(e) reflect the time and cost required to implement;
(f) are consistent with past evidence of similar actions in similar circumstances;
(g) are not contrary to any obligations towards policyholders and beneficiaries or to legal requirements applicable to the insurer;
(h) are consistent with each other;
(i) are determined in an objective manner.

(3) Assumptions relating to management actions shall be relevant to the insurance groups operations and shall take into account all of the following matters —

(a) a comparison of assumed future management actions with management actions taken previously by the insurance group;

(b) a comparison of future management actions taken into account in the current and in the past calculations of the best estimate;

(c) an assessment of the impact of changes in the assumptions on future management actions on the value of the technical provisions; and

(d) the time needed to implement the management actions and any expenses relating to them.

Use of management actions shall not apply to reinvestment and disinvestment assumptions in the scenario-based approach. Refer to paragraph 17.

Policyholder Behaviour

23 (1) When determining the likelihood that policyholders will exercise contractual options, including lapses and surrenders, insurance groups shall conduct an analysis of past policyholder behaviour and a prospective assessment of expected policyholder behaviour.

(2) That analysis required in subparagraph 23(1) shall take into account all of the following matters—

(a) analysis of previous data on policyholder actions, if available;

(b) analysis of the degree to which it would be in the policyholder's interest to exercise the available option;

(c) changes in the operating environment;

(d) potential interaction with management actions;

(e) the influence of economic conditions;

(f) any other circumstances that are likely to influence decisions by policyholders on whether to exercise the option; and

(g) possibility of recaptures for reinsurance transactions.

(3) An insurance group shall consider whether the insurance liabilities may be materially affected by either management actions or policyholder behaviour across a range of potential future economic scenarios.

(4) In relation to liabilities that may be materially affected by management action and policyholder behaviour, assumptions are required to be taken into account by an insurance group across a range of economic scenarios. Where such assumptions already exist, these are required to be reviewed by an insurance group to ensure they are appropriate to be taken into account.

(5) The allowance for management action and policyholder behaviour shall be disclosed, together with information indicating the possible materiality on the calculation of the best estimate.

Discretionary benefits

24 (1) Where future discretionary benefits depend on the assets held by the insurance group, insurance groups shall base the calculation of the best estimate on the assets currently held by the insurance and shall assume future changes of their asset allocation in accordance with the requirements relating to management actions. Insurance groups shall ensure that assumptions applied on the future returns of the assets are consistent with the relevant interest rate term structure utilised.

Valuation of material guarantees and contractual options

25 (1) When calculating the best estimate, insurance groups shall identify and take into account all material financial guarantees, non-financial guarantees and contractual options included in insurance contracts (whether such are contained in the insurance liabilities or the assets backing the insurance liabilities).

(2) When calculating the best estimate, insurance groups shall take into account all factors which may affect the likelihood that policy holders will exercise contractual options or realise the value of financial guarantees.

Best estimate calculation method

26 (1) The best estimate shall be calculated in such a way as to ensure that the calculation method and the results that derive from it are capable of review by a qualified expert.

(2) The selection of actuarial and statistical methods utilised by insurance groups for the calculation of the best estimate requirement, shall—

(a) reflect the risks affecting the underlying cash flows and the nature of the insurance obligations of insurer's contracts; and

(b) be consistent with and make use of, all relevant data available for the calculation of the best estimate.

(3) Where a calculation method is based on grouped policy data, insurance groups shall ensure that the grouping of policies creates homogeneous risk groups that appropriately reflect the risks of the individual policies included in such groups.

(4) Insurance groups shall analyse the extent to which the present value of cash flows depend both on the—

(a) expected outcome of future events and developments; and
(b) how the actual outcome in certain scenarios could deviate from the expected outcome.

(5) Where the present value of cash flows depends on future events and developments in accordance with sub-paragraph (4), insurance groups shall calculate the best estimate for cash flows applying methods which reflect such dependencies.

Discounting - 'Standard Approach'

27 (1) When calculating the best estimate, insurance groups shall take into account the time value of money using an applicable risk-free interest rate term structure with an appropriate illiquidity adjustment. The interest rate term structure applied shall take into account a partial reflection of the illiquidity premium existing in underlying assets held and mitigate artificial volatility on its balance sheets.

(2) Risk-free discount curves and illiquidity premium adjusted risk-free discount curves relating to certain currencies shall be prescribed by the Authority on its website at *www.bma.bm/* and shall be applied by the insurance groups which use the standard approach in determining the best estimate for some or part of their liabilities.

(3) When insurance groups have liabilities in a currency where discount curves are not available under subparagraph 27(2), they should apply to the Authority under Section 6D of the Act for determining suitable discount curves for that currency.

(5) Where assumptions on investment returns are required for the purposes of calculating the best estimate, the investment returns shall be consistent with the relevant risk-free term structure applied by the insurance group and shall take into account the illiquidity premium adjusted risk-free discount curves (as determined by the Authority) under subparagraph 27(2).

Discounting – 'Scenario-based approach'

28

(1) When determining the best estimate liabilities, insurance groups may elect to adopt the scenario-based approach (as defined hereafter) for some or part of their long-term business only subject to their liabilities meeting the requirements included in paragraph 28 and paragraph 29(1). The scenario-based approach is a best estimate valuation methodology in which the illiquidity premium embedded in the asset yields of the group insurer is reflected in the discounting of liabilities.

(2) When determining the best estimate liabilities, insurance groups may use either the standard approach (as defined under paragraph 27) for certain business underwritten by an insurer or the scenario-based approach.

(3) The Authority may at its discretion, require an insurance group to use either the scenario-based approach or the standard approach. In making such determination, the Authority shall among other factors take into account the degree of asset and liability matching, the insurance group's nature, scale and complexity as well as the results of the supervisory review process.

(4) Insurance groups may not split insurance contracts to achieve scenario-based approach eligibility.

(5) Insurance groups shall ensure the asset liability portfolios for which the scenario-based approach is used are well-matched.

(6) In determining the best estimate liability using the scenario-based approach, insurance groups shall run the calculation through nine scenarios. The specific scenarios are as follows:

(i) No adjustment to the rates.
(ii) All rates decrease annually to total decrease of 1.5% in tenth year; unchanged thereafter.
(iii) All rates increase annually to total increase of 1.5% in tenth year; unchanged thereafter.
(iv) All rates decrease annually to total decrease of 1.5% in fifth year, then back up again by tenth year.
(v) All rates increase annually to total increase of 1.5% in fifth year, then back down again by tenth year.
(vi) Decrease with positive twist to the following net change after ten years (interpolate for other durations):
  (i) Year 1 spot rate -1.5%
  (ii) Year 10 spot rate -1.0%
  (iii) Year 30 spot rate -0.5%
(vii) Decrease with negative twist to the following net change after for ten years (interpolate for other durations):
  (i) Year 1 spot rate -0.5%
  (ii) Year 10 spot rate -1.0%
  (iii) Year 30 spot rate -1.5%
(viii) Increase with positive twist to the following net change after ten years (interpolate for other durations):
  (i) Year 1 spot rate +0.5%
  (ii) Year 10 spot rate +1.0%
  (iii) Year 30 spot rate +1.5%
(ix) Increase with negative twist to the following net change after for ten years (interpolate for other durations):
  (i) Year 1 spot rate +1.5%
  (ii) Year 10 spot rate +1.0%
  (iii) Year 30 spot rate +0.5%

(7) When calculating best estimate liabilities under the scenario-based method, insurance groups shall determine the future yield curves under each scenario as follows—

(i) Convert initial spot rates to the corresponding forward rates.
(ii) Build spot rate curves at years 2,3, etc. using the appropriate forward rates from step (i).
(iii) Apply adjustments from the previous paragraph to determine the spot rate curve at each future year along each scenario.
(iv) The spot rate curves shall then be used, together with the assumed spreads for each modelled asset class, to calculate the yields and prices of each asset at the moment it is purchased or sold.
(v) The scenario for which no adjustment is made to the rates shall be called the base scenario.
(vi) For each scenario, at each future year, the liability cash-flows shall be compared to the asset cash-flows; where there is an asset cash-flow shortfall, assets shall be sold at the indicated yields to cover the shortfall, and where there are excess asset cash-flows, assets shall be purchased at the indicated yields in accordance with the insurer's investment and reinvestment guidelines. Under the different scenarios, the required asset purchases and sales will be different depending on the degree to which there is interest rate matching.

(8) Insurance groups shall calculate the best estimate liabilities under the scenario-based approach as follows—

(i) Insurance groups shall use the existing asset portfolio and reinvestment guidelines to determine the amount of held assets required to cover the liability cash- flows under the base scenario.
(ii) Insurance groups shall determine under each alternative stress scenario, the revised amount of assets required to cover liability cash-flows.
(iii) Insurance groups shall set the best estimate liabilities to be equal to the highest asset requirement across all scenarios.

(9) In the scenario where the highest asset requirement (the biting scenario) will vary depending on the nature of the business, insurance groups may use, for sets of liabilities where full fungibility exists, the scenario that produces the highest asset requirement in aggregate. Where fungibility between any sets of liabilities (portfolios or blocks of business) is restricted, those liabilities should not be aggregated for the purposes of determining the biting scenario, i.e. the biting scenario should be determined separately for non-fungible sets.

(10) The following category of assets may be used in the scenario-based approach calculation:

(i) Assets that are generally acceptable as defined in subparagraph 11.
(ii) Asset classes that are not acceptable in accordance with subparagraph 13 (except as described in paragraph 15).
(iii) Asset classes that may be acceptable on a limited basis in accordance with subparagraph 14.

(11) Assets that are generally acceptable, shall be investment grade assets and include the following:

(i) government bonds;
(ii) municipal bonds;
(iii) corporate bonds;
(iv) preferred stock; and
(v) certificates of deposit.

(12) An insurance group shall obtain prior approval to use other investment grade fixed income assets such as structured securities and commercial mortgage loans as generally acceptable assets in the scenario-based approach calculation. Structured securities shall include but not limited to, mortgage-backed securities, asset backed securities, and collateralised loan obligations.

(13) The following asset classes are not acceptable to be applied by an insurance group in the scenario-based approach calculation (except as approved by the Authority under paragraph 15):

(i) Equities; and
(ii) Other instruments whose cash flows are not well-defined and whose (future) asset values are difficult to predict. For example, equity tranches of securitised debt instruments

(14) Other assets may be acceptable on a limited basis for use by insurance groups within the scenario-based approach calculation when the below criteria has been met—

(i) Prior written approval from the Authority. Such approval application shall be made under Section 6A and be supported by a comprehensive analysis. The analysis shall include but not be limited to; descriptions of the underlying business, investment strategy and governance, liquidity risk management, lapse and ALM strategy, as well as a quantitative analysis of the risks for each asset class.
(ii) Relevant assets shall be limited to no more than 10% of the value of the portfolio used in the calculation at the time of the calculation. The Authority may impose a lower limit when approving an application under sub-subparagraph (i). Insurance groups shall be required to demonstrate that the use of this limit (or other limit as may be imposed by the Authority) is prudent. This shall be through the review work of the Approved Actuary and/or as part of the Authority's supervisory review process.

(iii) A minimum number of such instruments (with the size as a percentage of the total portfolio of any one asset being no more than 0.5%, unless approved by the Authority).

(iv) The Authority may set additional limitations on certain asset classes including but not limited to, spread caps.

(v) Examples of asset classes that may be acceptable on a limited basis:

(i) assets mentioned in paragraph 11 and 12 of these Rules that are below investment grade.

(ii) commercial real estate.

(iii) credit funds (containing fixed income instruments).

(vi) No assets under paragraph 14 shall be sold to meet cashflow shortfalls within the scenario-based approach projections.

(15) When calculating the best estimate liability using the scenario-based approach, insurance groups may make an application for approval under section 6A to the Authority regarding long term liabilities beyond 30 years, to use asset types that are otherwise not allowed for example, equities to derive an adjustment to capital. Such adjustment shall be determined as follows:—

(i) best estimate liabilities (with no allowance for not-acceptable assets);

(ii) best estimate liabilities with allowance for not-acceptable assets.

(iii) the difference between sub-paragraphs i and ii above may be considered as a positive adjustment to capital subject to limits imposed by the Authority.

(iv) Assets acceptable on a limited basis that are not already used in the scenario-based approach calculation may also be used for purposes of determining the adjustment.

(v) The best estimate liabilities with allowance for not-acceptable assets shall be calculated such that each year, an annual cohort of not-acceptable assets is to be converted into investments that were generally acceptable (as defined in paragraph 11) to cover liability cashflows 30 years beyond that year.

(vi) yields on the non-acceptable assets shall be reduced by an amount that approximates one standard deviation of the cumulative return over the investment period for each cohort (ignoring any deviation related to interest rate risk or default risk).

(16) An application made to the Authority by an insurance group in accordance with subparagraph (15), shall be accompanied by:

(i) An overview of the characteristics of the underlying liabilities in the calculation;

(ii) Projected liability cash-flows;

(iii) Detailed implementation of the calculation demonstrating compliance with these Rules;

(iv) Detailed information on the asset portfolio used for the alternative calculation and explanation why these assets are considered to be appropriate;

(v) An analysis estimating the non-interest related and non-default related variability of the assets used in the alternative calculation;

(vi) An analysis demonstrating the stability and fixity of liability cashflows; and

(vii) An analysis demonstrating the robustness and prudence of the yield assumptions. The Authority may further limit the assumed yields.

(17) Insurance groups shall ensure that assets used in the scenario-based approach calculation shall provide predictable and stable cash flows with no or limited optionality, unless required to match liability cash flows, where appropriate and allowed in accordance with these Rules. Optionality and all other rate-sensitive assumptions in both assets and liabilities, shall be modelled under all the 9 scenario-based approach scenarios.

(18) Where optionality or behavioural components exist in relation to investments (e.g., call options for corporate bonds or prepayments for certain mortgage-backed securities), insurance groups shall ensure that such are modelled, whereby the resulting asset cash flows appropriately differ between the 9 scenario-based approach scenarios.

(19) The asset spreads applied in the scenario-based approach shall be net of default and downgrade costs. Default and downgrade costs are prescribed by the Authority for certain assets (with publicly available data) in accordance with subparagraph (21). For all other assets, the methodology for calculating default and downgrade costs shall be as prescribed by the Authority in these Rules (paragraph 23).

(20) Insurance groups shall ensure that default and downgrade costs applied in accordance with subparagraph (21), shall be reflected as a negative adjustment to the investment spread through reducing projected asset cash flows.

(21) The following applies to default and downgrade costs for certain assets as referenced in subparagraph (19):

(a) default and downgrade costs shall be prescribed by the Authority on its website at www.bma.bm;

(b) realised average default losses from past data shall be used as a baseline for default costs under sub-subparagraph (a);

(c) an uncertainty margin, assessed on top of baseline default cost, shall be used as a downgrade cost estimate under sub-subparagraph (a).

(22) Insurance groups seeking to apply assets [which do not meet the requirements of subparagraphs (20 and 21)], shall apply the requirements of subparagraph (23). An insurance group shall obtain approval under section 6A from the Authority prior to utilizing such assets in the calculation of the Scenario Based Approach.

(23) An insurance group shall consider the following requirements in estimating default and downgrade costs for assets where such are not prescribed by the Authority:

(i) the ultimate default and downgrade cost estimate assumption utilised in the scenario-based approach must be no less than publicly quoted assets of comparable credit quality;

(ii) the ultimate default and downgrade cost estimate assumption proposed for use in the scenario-based approach is no less prudent than that obtained using the approach proposed by the Authority as described above;

(iii) benchmarking analysis where applicable;

(iv) in relation to the consideration of assets acceptable on a limited basis in accordance with subparagraph (14):

a. the designated insurer of an insurance group shall be required to submit an application under section 6A of the Act for prior approval to use such assets;
b. in its review of any application made to it under sub-sub-subparagraph (a), the Authority shall have regard for uncertainty adjustment for the default cost in relation to such assets, which shall be not less than a one standard deviation of the baseline default costs;
c. the Authority may vary the requirement under sub-subparagraph (b), at the time of reviewing an application for approval under sub-subparagraph (a);
d. other measures the Authority may consider in relation to an application made in accordance with sub-subparagraph (a)

include, but are not limited to:

i. assessing a higher uncertainty adjustment than proposed by a designated insurer;

ii. spread caps.

(24) Additionally, an insurance group may be required to demonstrate that only the illiquidity premium that can be earned over the tenor of the asset is reflected in the best estimate liabilities. An insurance group shall provide an assessment of the relevant liability liquidity profile and the extent to which any estimated asset illiquidity premia could be earned.

(25) In limited cases, the Authority may consider varying the above criteria, e.g., where:

a. The designated insurer has obtained approval by the Authority in accordance with the requirements of section 6A of the Act to use its own internal model to calculate the capital requirements for credit default and downgrade risks; or

b. an internal ratings-based approach application made by the designated insurer in accordance with section 6D of the Act, has been approved by the Authority.

(26) The chief actuary and chief investment officer or other officer as agreed with the Authority to fulfil such responsibilities, shall attest to the prudence and appropriateness of the default and downgrade cost assumptions submitted for approval to the Authority, including confirming compliance with regulatory requirements as outlined above and if applicable, included in Instructions and/or Guidelines.

(27) Realistic transaction costs shall be applied to all assets sold and bought within the scenario-based approach projections. Where historical transaction costs for an asset type may not be representative of expected future transaction costs, the assumptions shall be adjusted accordingly, where that adjustment would lead to an increase in the transaction costs. Where there is a lack of credible data for a specific asset type or other uncertainty around the level of the assumptions, the assumptions shall be set prudently.

(28) For liquid publicly traded assets, a minimum requirement is to reflect observed bid-ask spreads, where it can be demonstrated that this adequately captures (and does not understate) the price impact.

(29) For all assets, the full expected price impact of selling (or buying) the asset shall be reflected within the scenario-based approach projections. This applies to liquid assets in case the market bid-ask spreads do not provide a full reflection of the price impact, but in particular, it applies to all less liquid assets.

(30) In addition to the price impacts of trading, any applicable fees, commissions and expenses required to purchase or sell assets—whether implicit or explicit—shall be included within the transaction cost assumptions.

(31) The calibration of the bid-ask spreads and liquidity/price impacts shall be regularly reviewed and tested against actual market data and the insurer’s own experience.

(32) Like all other assumptions in the scenario-based approach, these assumptions shall be subjected to internal challenge within an insurance group, independently assessed by the approved actuary and reported to the Authority as part of the Lapse, Liquidity and Scenario-based approach Return reporting.

(33) Prior approval by the Authority is required of all assets having counterparty credit exposure to an affiliate, related party or connected party. Insurers shall look-through the underlying counterparties in determining whether they are affiliates, related parties or connected parties. The following definitions shall be used to determine an affiliate, related party or connected party:

a. “Affiliated” means one company is affiliated with another company only if one of them is the subsidiary of the other or both are subsidiaries of the same company or each of them is controlled by the same person.

b. "Related party" means related party as defined under the respective insurer's accounting standards, namely the: International Financial Reporting Standards (IFRS); generally accepted accounting principles ('GAAP') that apply in Bermuda, Canada, the United Kingdom or the United States of America; or such other GAAP as the Authority may recognise.

c. "Connected party" means associated in any other way other than those defined above, i.e., affiliated, or related, and that association could give rise to a conflict of interest in relation to the investment.

(34) In the scenario-based approach model, excess net cash flow may be reinvested. Reinvestment assets shall be purchased only in line with an insurance group's existing and board approved ALM and investment policies. The following principles shall be applied in building and modelling the reinvestment assumptions:

a. Assumed asset purchases shall be made from a set of clearly defined asset classes in line with an insurance group's current asset allocation and in compliance with its ALM policy and investment policy asset allocation targets as approved by an insurance group's board of directors and the Authority. Where this is not the case, the most prudent approach shall be taken by default after discussion with the Authority;

b. While simplifications can be made to categorise some different alternative assets into one bucket for reinvestment purposes, this shall only be done as an exception, and even then, it shall be clearly demonstrated, quantitatively and/or qualitatively, that such simplification results in a more prudent best estimate liabilities output than if no simplification had been made;

c. At a minimum, the list of assets from which purchases can be made shall vary by rating and tenor within each asset class. The ratings shall be at the appropriate level of granularity. While the tenor may be simplified into buckets, there shall be no less than three buckets (i.e., short-term, medium-term and long-term maturities, each defined depending on an insurance group's liability and asset cash flow profile). Exceptions shall be discussed with the Authority before implementation;

d. The asset purchase prices shall be in line with the market values as projected under each scenario at a given time step for different asset classes for each combination of rating and tenor;

e. While the reinvestment strategy and, hence, asset purchases, shall be in line with an insurance group's investment policy, these shall not materially depart from an insurance group's current asset allocation. Over the projection period, long-term historical market averages shall be used; this, however, shall be done prudently in the context of the performance of an insurance group's existing asset portfolio. The grade-in period for moving from short-term spreads to long-term spreads shall be set prudently, such that it is longer when short-term spreads are lower than long-term spreads and shorter when short-term spreads are higher than long-term spreads. Any departures from this requirement shall be demonstrated to be of immaterial impact. Superior performance on the current portfolio cannot be assumed to continue over the projection period at variance with long-term historical market averages. All such assumptions shall be set robustly and critically, subjected to independent challenge and clearly documented as part of the internal governance process;

f. Asset types cannot be assumed to be purchased in the scenario-based approach model projections that an insurance groupdoes not already currently hold in its approved scenario-based approach asset portfolio;

g. It shall be demonstrated that the choice and implementation of the reinvestment strategy, and any simplifications thereof, result in a more prudent best estimate liabilities output than would have been produced had the existing asset allocation been used for reinvestment purposes, with or without similar simplifications. Insurers using the scenario-based approach shall be required to maintain a high degree of matching to ensure there is limited need for reinvestment. Where an insurer assesses that its reinvestment strategy does not fully meet this principle, a more prudent approach shall be taken by default. Otherwise, the Authority's approval shall be required; and

h. All material changes to an insurer's reinvestment strategies shall be discussed with the Authority.

(35) An insurance group shall have a clearly defined disinvestment strategy aligned with its investment and other relevant policies. Within the scenario-based approach, assets shall only be sold for purposes of meeting excess liability cashflows otherwise not met through cash flows from asset maturities and coupon payments. The selling related to portfolio rebalancing to maintain the existing asset allocation within existing duration limits over time is required. The cumulative impact of default costs shall be reflected in the sale proceeds within the projections. Negative net cashflows shall not be rolled forward in the scenario-based approach model projections and use of borrowing is not allowed. An insurer's modelled disinvestment strategy shall be realistic, aligned with an insurance group's disinvestment practices and avoid inappropriate simplifications. The modelled disinvestment strategy shall also comply with other relevant requirements in these Rules e.g., fungibility constraints and no selling of unsellable assets.

(36) Simplifications to the above are only permitted to the extent they can be demonstrated, quantitatively and/or qualitatively, that they are prudent.

(37) The chief investment officer (or another suitable and appropriate officer as agreed with the Authority) shall attest to both the reinvestment and disinvestment strategy modelled in the scenario-based approach model, confirming alignment with the insurer' practices and declaring compliance with the insurer' policies and the above requirements.

(38) The scenario-based approach uses the actual portfolio of specific assets assigned to back specific liabilities being valued under the scenario-based approach. Assets assigned to back the scenario-based approach best estimate liabilities shall be separately identified and reported. Such assets shall not be used or pledged for any purpose other than meeting the policyholder liabilities for which the assets are assigned. An insurance group shall establish adequate controls to ensure that assets backing the scenario-based approach liabilities are only exposed to and used to meet payment of the liabilities being valued under the scenario-based approach. The assets assigned to back the liabilities being valued under the scenario-based approach shall not be used to cover losses arising from other activities of an insurance group.

(39) An insurance group may use different approaches to assign assets to back liabilities valued under the scenario-based approach, provided the assignment for purposes of the scenario-based approach model is consistent with how an insurance group manages its business and operates its ALM program. The approach adopted by an insurance group shall demonstrate a high degree of matching while reflecting all constraints (e.g., legal, regulatory, and operational limitations or encumbrances) that may govern specific portfolios of assets and liabilities, restricting full fungibility (under normal and adverse scenarios) of cashflows and assets between different blocks of scenario-based approach liabilities. Where constraints exist, an insurance group shall demonstrate that such constraints have been appropriately considered and fully reflected in the valuation of best estimate liabilities under the scenario-based approach. For example, where an insurance group has a block of scenario-based approach liabilities backed by legally or operationally ring-fenced assets, the cashflows arising from such assets shall only back liability cash flow needs arising from the same block.

(40) An insurance group shall explain how it assigns specific assets to back specific liabilities and justify any fungibility assumed across scenario-based approach models.

(41) The scenario-based approach model shall be documented, with the following requirements:

a. Model documentation shall allow a knowledgeable third party to understand the design and details of the model, assess the materiality of assumptions, identify limitations and form a sound judgment as to the model's compliance with regulatory requirements;
b. The documentation shall provide a proportionately detailed description of the structure, scope, theory, data, assumptions, expert judgment, parameterisation, results, validation, model changes, model governance and model policies. Furthermore, the documentation shall detail all the key software, external models (including their customisation), data and the reasons for their use;
c. An insurance group shall have a model documentation standard (e.g., as part of supporting standards to the model risk management policy) that defines the approach to document various aspects of the model, such as roles, development, sign-off, update and review processes, and sets out mechanisms that ensure that the standard is adequately implemented;
d. The documentation shall be appropriately structured, complete, and kept up to date and include an inventory

of all the documents forming the model documentation;

e. The documentation shall identify the main limitations, simplifications and weaknesses of the model and conditions under which the model may not adequately determine the insurer's best-estimate liability and technical provisions;
f. Proportionate documentation applies to all model risk management activities, including but not limited to model development, implementation, testing, ongoing monitoring, review, validation and management deliberation on model risk reports with escalation to board committees, as necessary; and
g. Model documentation shall clearly show how the model for the best estimate liabilities and technical provisions calculation interacts with other models (upstream and downstream models) and the end-to-end calculation process.
h. The level and detail of documentation shall be proportionate with the materiality of each model area and independent control functions shall be required to review and challenge how the proportionality principle is applied to avoid risk leakages.

(42) Insurers shall have an approved data policy in place supported by documented internal processes and procedures to ensure data used in the calculation of technical provisions is complete, accurate and appropriate. This applies to all scenario-based approach data, including liability and asset data. More specifically, an insurance group shall align their policy with the following:

a. Data used in the calculation of technical provisions shall, at minimum, meet the following conditions to satisfy the completeness requirement:
    i. The data includes sufficient historical information to assess the characteristics of the underlying risks and to identify trends in the risks; and
    ii. The data is available for each of the relevant homogeneous risk groups used in the calculation of the technical provisions, and no relevant data is excluded from being used in the calculation of the technical provisions without justification.
b. Data used in the calculation of technical provisions shall, at minimum, meet the following conditions to satisfy the accuracy requirement:
    i. The data is free from material errors;
    ii. Data from different time periods used for the same estimation is consistent;
    iii. The data is recorded in a timely manner and consistently over time; and
    iv. Data extensions, capping or modifications shall be documented and justified. The process for dealing with outliers and data-smoothing shall be performed prudently such that there is no material underestimation of the technical provisions.
c. Data used in the calculation of technical provisions shall, at a minimum, meet the following conditions to satisfy the appropriateness requirement:
    i. The data shall be consistent with the purposes for which it will be used;
    ii. The amount and nature of the data ensure that the estimations made in the calculation of the technical provisions based on the data do not include a material estimation error;
    iii. The data is consistent with the assumptions underlying the actuarial and statistical techniques that are applied to them in the calculation of the technical provisions;
    iv. The data appropriately reflects the risks to which an insurance group is exposed as relevant to the technical provisions calculation;
    v. The data is used consistently over time in calculating the technical provisions. Where data is not used consistently over time, a description of the inconsistent use and its justification shall be documented and disclosed in the scenario-based approach memorandum and approved actuary's opinion and report; and
d. Insurers may use data from external sources provided that, in addition to fulfilling the requirements set out above in paragraphs a to b, all the following requirements are met:
    i. Insurers shall demonstrate that the use of that data is more suitable than the use of data that is exclusively available from an internal source;
    ii. Insurers know the origin of that data and the assumptions or methodologies used to process the data;
    iii. Insurers identify any trends in that data and the variation, over time or across data, of the assumptions or methodologies in the use of that data;
    iv. Insurers shall demonstrate that the assumptions and methodologies referred to in sub-sub paragraphs (ii) and (iii) reflect the characteristics of the insurer's portfolio of insurance and reinsurance obligations; and
    v. Insurers shall demonstrate what other data could have been used, its impact and why it was not chosen. This also includes choices within the same data where a different choice could have been made.

(43) Where an insurance group cannot satisfy the requirement above due to other considerations, e.g., due to the external data being proprietary, an assessment shall be carried out by the independent control functions to assess the materiality of use of such data and such assessment shall be subjected to annual review by the Approved Actuary and disclosed as part of regulatory reporting.

(44) An insurance group shall formally document the data controls in place and checks carried out on data used to calculate technical provisions and include an assessment of why the checks are considered adequate and appropriate.

(45) The following requirements on governance and internal control apply on the use of the scenario-based approach:

a. The board shall approve the initial use of the scenario-based approach and any major changes thereafter. Major changes shall be defined in advance within the scenario-based approach model change policy, or where not defined, a second-line opinion shall be sought at the time of the change on whether the change requires board or board committee approval;
b. The board shall be responsible for ensuring the ongoing appropriateness of the design and operations of the scenario-based approach model and that the scenario-based approach model continues to be appropriate for an insurance group;
c. There shall be an appropriate and suitably constituted committee(s) to effectively challenge new and ongoing model use, model and assumption change approval, and use and reporting of model output. Model validation reports shall also be discussed at the committees' level;
d. An insurance group shall implement policies to guide its model risk management activities as part of the overall risk management framework. At a minimum, an insurance group shall have a model risk management policy, a model change policy and a data quality policy. The model change and data quality policies can be standalone or part of the model risk management policy. The policies shall cover all model risk management and data aspects, including but not limited to data storage and quality, model development, model testing, model use, model change, validation, documentation, model outsourcing, reporting and governance. Other documentation, such as standards, processes and procedures, could be considered, proportional to the materiality of the model(s), to support the implementation of the policies;
e. The scenario-based approach model change policy shall classify material changes into minor and major changes, including changes triggered by the expansion of the scope of the scenario-based approach model (e.g., to cover new types of businesses that require materially different model specifications);
f. Roles of the control functions shall be clearly defined concerning the development, use, ongoing maintenance, monitoring and review, validation and reporting of results and risks of the scenario-based approach model;
g. A mechanism to identify and prevent conflicts of interest shall be in place and addressed in the model's governance framework, including clear guidance on reporting lines, allocation of responsibilities and escalation paths within an insurance group and to the Authority, as necessary. Where conflicts of interest cannot be avoided, e.g., due to proportionality considerations such as the size of an insurance group, the potential for conflict shall be taken into account and the requirement applied in an appropriate but proportionate manner;
h. An insurance group shall ensure the systems, infrastructure and resources in place are adequate;
i. There shall be adequate and effective controls in place regarding the scenario-based approach model's operation and maintenance; and
j. An insurance group can use third-party actuarial and investment software as part of their scenario-based approach model suite, including for scenario-based approach feeder models. Outsourcing of the process for running, maintaining and managing the scenario-based approach model and its feeder models is not allowed. Where outsourcing is already used either externally to third parties or internally to other affiliated insurers, an insurance group shall demonstrate oversight and clear accountability for all outsourced activities as if these were performed internally and subject to the insurer's own standards on governance and internal controls. Such outsourcing shall be discussed with the Authority before implementation or, where already in place, will be subject to the Authority's onsite review process.

(46) The use of the scenario-based approach is subject to model risk management requirements. Model risk management activities shall be guided by the insurer's model risk management policy and supporting standards. An insurance group shall have a materiality definition specific to the use of the scenario-based approach model, which shall be developed in consultation with the control functions. An insurance groups' definition of materiality shall determine whether model and assumption changes, enhancements, findings and other relevant considerations are material. Material changes to the SBA model classified as major shall require regulatory approval. The first

and second-line functions shall collaborate and ensure a clear definition and ownership for model risk management activities. This shall be performed by considering the need for independence for some activities (e.g., validation). An attestation of the adequacy of the model risk management practices employed by an insurance group, including compliance with the regulatory requirements outlined herein shall be obtained from the chief risk officer and the chief executive officer. The following requirements on model inventory shall be met:

a. Insurance Groups shall maintain a comprehensive set of information as part of the model inventory in line with best-practice model risk management. This applies to the scenario-based approach models implemented for use, under development or recently retired and any associated downstream and upstream models (e.g., liability models, asset models or stress testing models).

b. The following requirements on Model Development, Testing, Implementation and Use shall be met:
   i. The model development and implementation processes shall be structured and executed in a manner that is in keeping with the spirit and letter of regulatory guidance.
   ii. Software, computer code, algorithms, mathematical formulas and other information technology systems used to implement the model shall undergo rigorous quality control and change control procedures even though they may not be considered models. This ensures that the code and its implementation are correct. It shall only be edited by authorised parties and changes shall be recorded and auditable.
   iii. Testing is a crucial component of model development and shall be conducted as part of the scenario-based approach model's lifecycle. All the aspects of the model and its overall functionality shall be assessed to confirm if it is functioning as intended. This shall comprise determining the model's accuracy, proving its stability and robustness, identifying potential flaws, and analysing how the model responds to various inputs and scenarios.
   iv. Testing activities shall include the goal, design, and execution of test plans and the summary results with commentary and evaluation, including a detailed analysis of samples. The documentation of test activities shall be fit for purpose.
   v. Model users shall provide insight into whether the scenario-based approach models are functioning as intended, including assessing model performance as models are in use. Feedback shall be sought on both the scenario-based approach model and the associated upstream and downstream models, as these are connected in their impact. Insurers shall ensure adequate processes are in place to address user feedback and that the mechanism for assessing model use over time is functional and effectual.

c. An insurance group shall demonstrate that it understands the limitations and uncertainties of the scenario-based approach model and its feeder models, including how these are mitigated or accounted for.
   i. To the extent possible, the impact of such uncertainties shall be quantified. The quantification shall avoid spurious accuracy (e.g., using ranges instead of single-point estimates).
   ii. Where only a qualitative assessment is possible, insurer shall have processes to deal with such, including considerations on whether this shall be discussed with the Authority. This is an explicit assessment of the impact of model limitations and inaccuracies that is separate from the risk margin.
   iii. The quantitative and qualitative assessment results shall be reported as part of the model risk reporting and a determination shall be made on whether adjustments to the best estimate liabilities are required.

d. An insurance group's model risk management policy and standards shall detail the circumstances under which pre-model and post-model adjustments may or may not be used, including outlining processes regarding review, approval, continued use, removal and back-testing of such adjustments. Pre-model adjustments refer to cases where an insurer overrides a data input or assumption to a model. In-model adjustments refer to cases where an insurance group overrides (e.g., through a cap or floor) a calculated value in a model. Post-model adjustments refer to cases where an insurance group overrides a model's output by applying a model overlay.
   i. Such adjustments and overlays shall not be viewed as permanent solutions that dissuade an insurance group from making necessary improvements to the model. Processes to monitor and analyse such adjustments and overlays shall be in place to address underlying limitations and issues through data enhancements, model recalibration or redevelopment.
   ii. All model adjustments and overlays shall be well-documented in line with an insurance group's documentation standards and subject to a transparent process that links appropriate justification to specific model issues and limitations. As part of the process, model adjustments shall be clearly outlined, and model results shall be reported through an insurance group's internal governance processes with and without adjustments to enable decision-makers to understand the extent and impact of such adjustments.

e. An insurance group shall be required to conduct model validation. This is the set of processes and activities intended to verify that models perform as expected, in line with their design objectives, regulation and business uses. An insurer shall ensure its model validation is effective in reducing model risk through identifying and assessing the impact of model limitations and errors, corrective actions and appropriate use. An insurer shall be required to demonstrate the reliability of its models and understanding of the source and extent of model risk. The following requirements on model validation of the scenario-based approach model shall be met:

i. Model validation shall be performed by staff with appropriate incentives, competence, influence and authority so that there is an effective challenge mechanism. An insurance group shall demonstrate that the scenario-based approach model has been validated independently (externally or internally) from those who develop, change, update, run and use the model. Independence shall be demonstrated not just by the separation of lines but also by process, actions and outcomes. Overall, the quality of the validation process shall be judged by the degree and way in which models are subject to critical examination.
ii. All scenario-based approach models shall be validated before being used for regulatory reporting and at fixed intervals of at least three years thereafter or such other higher frequency considered appropriate by an insurance group in line with its model risk management policy requirements. The initial model validation shall be in-depth and detailed. Subsequent model validation activities shall be holistic and proportionate to the use and materiality of the scenario-based approach model to an insurance group and the extent of model changes since the last validation.
iii. The model validation process shall, among other items, specify the scope of validation, processes, methods and tools to be used, frequency of validation, treatment of model changes, persons involved, outputs and reporting.
iv. The model validation process shall apply to all scenario-based approach model components and cover all requirements. It shall also equally apply to models developed in-house and those purchased from or developed by vendors or consultants. Material model changes, for example—in terms of scope, structure, methodologies, assumptions and governance, and all model redevelopment—shall be subject to validation activities of appropriate range and rigour before implementation.
v. If a model is used as a feeder model (i.e., a model which produces outputs that are used as inputs for another model(s)) in the scenario-based approach model that is undergoing validation, validators shall confirm that an effective validation programme is in place for such feeder models and consider the extent to which the feeder model should be included in the current validation. The same applies to downstream models where the scenario-based approach model undergoing validation is used within other existing models. Validators shall consider the extent to which downstream models shall be included. Where there is limited access to feeder or downstream models (e.g., code, formulas), the requirements specified in the paragraph below on 'Use of and Reliance on Third Party Models' shall apply.
vi. Model validation shall go beyond reviewing or replicating model developers' work/code. As part of the validation process, an insurance group could consider a number of items, including but not limited to the following: Review of conceptual soundness elements, including developmental evidence; Sensitivity, stress and scenario testing; Dynamic and static validation; Roll-forward analysis; Unit/cell testing; Reconciliation against the input source or ledger; Outcome analysis, including back-testing; Trend analysis and stability testing; Profit and loss attribution; Independent full model replications, sample recalculations and formula inspection, as appropriate; Process and controls verification; and Benchmarking or alternative design methods/models.
vii. The items in sub-subparagraph (vi) above shall not be limited to independent validation work. Many of them shall be considered part of the first-line actuarial activities, such as a model review.
viii. The scenario-based approach model validation shall require an insurance group to produce detailed model validation reports. The reports shall document the validation process and conclude on the adequacy of the model component or model being validated and the appropriateness of the resulting technical provisions for regulatory reporting purposes.
ix. There shall be a clearly defined reporting structure to senior management and the board, a remediation and follow-up process for model validation findings, an action plan and implementation monitoring. If material deficiencies classified as major are noted as an outcome of the validation process, the model's use shall not be allowed or shall only be permitted under very tight constraints, including escalation to, and approval by, the Authority. The definition of major shall be in line with the definitions in an insurance group's model risk management and model change policies. Where some uncertainty still remains on whether a material finding should be classified as major, an insurance group shall consult with the model validators and the internal control functions.
x. Validation activities shall continue on an ongoing basis after a model goes into use to track known model limitations and identify any new ones.

f. The scenario-based approach model is subject to requirements on Model Review, Ongoing Development and

Monitoring:

i. An insurance group shall establish periodic review of the scenario-based approach models as part of its model risk management programme. The model review shall be carried out by any party as determined by an insurance group e.g., model developers, users, external party etc. The model review shall highlight changes since the last validation or reporting cycle, determine the sufficiency of the latest validation activities, highlight areas needing a deeper dive, model performance monitoring and reverify the technical aspects of the model. Such reviews shall be carried out regularly but no less frequently than annually. An insurance group shall consider whether feeder models, such as asset and liability models, shall be considered in the model review process and what reliance is placed on work already done on those models. The model review shall not be as detailed as model validation, but the level and scope of review shall be assessed to be proportionate and fit for purpose in line with the model tier, frequency of review and depth of the most recent review.

ii. The model's performance shall be regularly monitored, and key metrics observed and reported. As part of the monitoring process, an assessment shall be carried out to determine if the model's performance in production is in line with model development and testing stage expectations/results. An insurer should have mechanisms in place to gather insights about the models' performance. This could include applying key controls, such as best estimate liabilities and/or spread movement analysis, where the current-period best estimate liabilities and/or spread is reconciled with that from the prior period.

iii. The work carried out by first-line actuarial teams as part of ongoing reporting (e.g., regular model and control updates as part of quarterly or half-yearly reporting) does qualify as a model review to the extent that such work also covers a proportionate review of the technical aspects of the model, including model performance. Setting up a separate and dedicated model review team is not required. The requirements in these Rules can be fulfilled by ensuring model review is embedded in the work by first-line actuarial teams. A log shall be kept listing all model and control updates and changes. Updates considered material shall be subject to testing, and the testing results also captured in the log. The decision and rationale to include or exclude feeder models from the model review process shall also be logged. Material changes and the decision to include or exclude feeder models shall also be subject to the challenge of an appropriate management committee. An insurance group shall have mechanisms to monitor the aggregate impact of a combination of individually immaterial changes to the extent they become material. The minimum documentation requirement for model review is maintenance of the model review log. The model review log shall be subject to annual review by the Approved Actuary.

g. The scenario-based approach model is subject to requirements on Model Risk Reporting and Deliberation:

i. An insurance group shall ensure model risk is captured promptly and reported to a management committee regularly. This could take the form of standalone model risk management reports or dedicated sections within the existing wider risk and actuarial functions reporting. An insurer's risk, investment and actuarial functions shall collaborate and ensure there is clarity within the firm on ownership for model risk reporting for both the scenario-based approach and its feeder models to avoid leakages in reporting. Management shall be able to demonstrate (e.g., through management committee minutes, report improvements and ultimate decisions taken) that the level of deliberation on model risk reports offers appropriate challenge and is adequate considering an insurance group's nature, scale and complexity. While no explicit deliberation by the board on model risk reports is mandated, it is important that the board recognises it is the ultimate owner of the use of the scenario-based approach model and is, therefore, expected to have and be able to demonstrate an overall understanding of the application of the scenario-based approach and its importance for an insurance group's business.

ii. Model risk management reports shall be of the appropriate detail, covering all relevant key information proportionately. Information submitted to management committees on the use and application of the scenario-based approach shall include at least a reasoned analysis of the reliability and adequacy of the calculation and the sources and degree of uncertainty of the output. The reasoned analysis shall be supported by a sensitivity analysis that includes an investigation of the sensitivity of the output to each of the major risks underlying the obligations covered in the technical provisions, including an assessment of the impact of identified limitations. The risk and/or actuarial function shall clearly state and explain any concerns they may have regarding the adequacy of the best estimate liabilities and technical provisions.

iii. Tolerance levels shall be in place and reviewed periodically to ensure they are not set too low or too high in line with an insurance group's definition of materiality. Other items to be considered for reporting, including how they measure against tolerances, may include but shall not be limited to:

a. The volume of models considered high-risk;
b. Models with temporary exemptions or provisional approvals;

c. Status of model issues (e.g., past due, work in progress, partially completed);
d. Summary of model performance metrics, including a list of underperforming models and actions being taken;
e. Lists and trends by the tier of the number of models:
    i. With past-due validations;
    ii. In use without validation;
    iii. Used outside of approved purpose; and
    iv. Used despite rejection outcome from review/validation.
f. Model risk events/incidents reported for the period;
g. Quantification and treatment of material and/or aggregate model uncertainties;
h. Model development and enhancement efforts in progress and allocated resources;
i. Resource-related indicators (e.g., budget, people, infrastructure) and an assessment of the impact on other areas (e.g., impact on model testing, documentation, ongoing monitoring); and
j. Summary of key model outputs plus the outputs of key model risk management activities for the period under review.

h. The scenario-based approach model is subject to requirements on the use of and reliance on third-party models ('vendor models') and external experts:
  i. Vendor models shall be included in an insurance group's broader model risk management framework following the same principles as applied to in-house models, with any modifications appropriately justified and documented. An insurance group shall, for both scenario-based approach and scenario-based approach feeder models, obtain the following:
    a. Developmental evidence explaining the model's components, design and intended use to determine whether the model is appropriate for an insurance group's products and risk exposures;
    b. Information regarding the data used to develop the model, including the use and effect of alternative data;
    c. Sufficiently detailed testing results that show the third party's model works as expected;
    d. Documentation of the model's limitations and assumptions about when the model's use may be unsuitable or problematic;
    e. Clear instructions for model implementation, including any decisions that shall be made regarding parameters or thresholds;
    f. An insurance group shall require vendors to conduct ongoing performance monitoring and outcomes analysis, with disclosure to their clients, and to make appropriate modifications and updates over time;
    g. An insurance group is expected to validate their use of vendor products;
    h. An insurance group shall obtain information regarding the data used to develop the model and assess the extent to which that data is representative of their circumstances;
    i. An insurance group shall conduct ongoing monitoring and an outcomes analysis of vendor model performance using an insurance group's outcomes;
    j. Additionally, where third-party/vendor models do not provide complete access to development codes, an insurance group shall be able to demonstrate how they obtain confidence from using third-party models (e.g., through using in-house models for benchmarking and or building challenger models); and
    k. An insurance group shall have contingency plans for instances when the vendor model is no longer available or cannot be supported by the vendor.
  ii. Where reliance was placed on outside experts and third-party models (e.g., on asset assumptions) in developing the scenario-based approach models, systems and processes shall be in place to determine the appropriate level of reliance. The following shall be considered at a minimum:
    a. Whether the individual or individuals upon whom reliance has been placed are experts in the applicable field;
    b. The extent to which the model has been reviewed or validated by experts in the applicable field, including known material differences of opinion among experts concerning aspects of the model that could be material to the actuary's use of the model;
    c. Whether there are industry or regulatory standards that apply to the model or the testing or validation of the model, and whether the model has been certified as having met such standards; and
    d. Whether the science underlying the expertise is likely to produce useful models for

the intended purpose.

iii. Where it is practically not possible for an insurer to comply with some of the requirements above, an insurance group shall make reasonable efforts to meet the intended outcomes of the requirement and any remaining gaps shall be subject to internal challenge by the control functions and reported to the Authority.

i. Internal audit shall review all use of the scenario-based approach including model risk management to ensure there is an effective challenge provided by second-line and model validators to the model owner, developers, users and implementers and that the model risk management policy and procedures are kept current, in keeping with regulatory requirements and best practices. Internal audit shall provide assurance on the level of critical review and challenge provided by the validation and model review activities, adequacy and frequency of model risk reporting and the manner of challenge (and decisions thereof) by management and board to such reporting. Overall, internal audit shall form its own independent opinion and provide assurance or otherwise on the adequacy of the model risk management activities performed by both the first-line and second-line functions in line with the scenario-based approach regulatory requirements.

29 **Lapse risk in scenario-based approach**

(1) For eligibility to use the scenario-based approach, an insurance group shall satisfy one of the two conditions below:

1. The contracts underlying the insurance or reinsurance obligations include no options for the policyholder; or
2. Where policyholder options exist, the residual risk arising from asset/liability portfolios with such options shall be demonstrated to be insignificant through adequate modelling, robust ALM, stress testing and liquidity risk management. To satisfy this condition, an insurance group shall meet the following requirements:
   a. Hold a Lapse Cost (LapC) as part of the scenario-based approach best estimate liabilities. This shall apply to all business written post these Rules coming into force including any new business on flow business written under existing contracts. The LapC required to meet scenario-based approach eligibility conditions shall be calculated as outlined below:
      i) Calculate the difference between the historical actual and expected lapse rates expressed as a percentage of expected lapse rates.
      ii) Calculate the 1 standard deviation of lapse rate differences obtained from i) above. Round up the result to the nearest 1% to obtain the 1 standard deviation, i.e., lapse rate sigma. An insurance group can use other approaches to calculate the lapse rate sigma provided they are shown to be prudent.
      iii) Calculate the capital charge for lapse up or down using the prescribed lapse up or down BSCR shock, i.e., lapse up down capital requirement.
      iv) The LapC shall be given by the following formula:
      $$(\text{Lapse Rate Sigma} \div \text{BSCR lapse up down shock}) \times \text{Lapse up down capital requirement}$$
   b. Pass a 100% Enhanced Capital Ratio (ECR) under a 40% lapse-up or lapse-down stress test representing a permanent increase or decrease in base lapse rates;
   c. Pass a liquidity stress test with a minimum 105% Liquidity Coverage Ratio (LCR). The LCR shall be defined by the formula:
   $$(\text{Eligible Liquidity Sources} \div \text{Liability Outflows}) \times 100$$
   d. The eligible liquidity sources and shocks to determine the liability outflows shall be prescribed by the Authority;
   e. Through the Group Solvency Self-Assessment (GSSA) process and reporting, an insurance group shall demonstrate robust:
      i. ALM, capital and liquidity management;
      ii. lapse risk management through diligent underwriting, experience analysis and risk monitoring; and
      iii. insurer-specific solvency and liquidity stress testing;
   f. Provide the Lapse, Liquidity and Scenario-based approach Return reporting as prescribed by the Authority. See paragraph 32 on Lapse, Liquidity and Scenario-based approach Reporting.

30 **Scenario-based approach application package**

(1) The use of the scenario-based approach by insurance groups to determine the best estimate liabilities for some or all of their business, requires prior approval by the Authority under

Section 6A. The following requirements apply depending on the date of approval of using the scenario-based approach for any (sub-)portfolio:

1. insurance groups licensed on or after 1 January 2024 that propose to use the scenario-based approach will require approval by the Authority;
2. insurance groups licensed before 1 January 2024 and not using the scenario-based approach will be required to obtain approval from the Authority before using the scenario-based approach for all liability types not using the scenario-based approach; and
3. insurance groups licensed before 1 January 2024 and that are already using the scenario-based approach will be required to obtain prior approval from the Authority for material changes to their scenario-based approach model that are classified as major.

(2) Before the scenario-based approach can be used to determine the best estimate liabilities, an insurance group shall send an application to the Authority for approval. The application shall include all the information required for the use of scenario-based approach as outlined in the requirements for use of the scenario-based approach as included in these Rules to enable the Authority to assess if all requirements are met. An insurance group shall comply with any additional approval requirements as prescribed by the Authority.

31 **Liquidity Risk Management**

(1) Insurance groups that have as subsidiaries Class C, D or E insurers using the standard approach and have exposure to liquidity and mass lapse risk, and insurance groups using the scenario-based approach shall implement a liquidity risk management programme. An insurance group's liquidity risk management programme shall, at a minimum, meet the following requirements:

(2) An insurance group's board of directors (board) shall be responsible for ensuring that an insurance group has an effective liquidity risk management framework. The board shall ensure clear ownership in the organisation of key elements of the risk management framework. The framework shall be reviewed annually or more frequently as circumstances require. The roles of the first and second-line functions in liquidity risk management shall be clearly defined, including mechanisms to identify and mitigate conflicts of interest.

(3) An insurance group shall identify and thoroughly understand the sources of demand and supply of cash and how the dynamics of supply and demand could change under different scenarios. The level of liquidity risk that an insurance group has an appetite to seek or accept shall be formalised through a board-approved liquidity risk appetite. The liquidity risk appetite in this context shall be documented on a standalone basis or as part of an insurance group's other governance documents. The risk appetite shall be clear about the types, duration and severity of liquidity stress scenarios an insurance group targets to withstand. An insurance group shall be required to demonstrate that its liquidity risk appetite as informed by a number of considerations including liquidity stress and scenario testing. An insurance group's liquidity risk management framework shall be integrated into its wider risk management framework and demonstrated to inform day-to-day operations and key business decisions.

(4) An insurance group shall have clearly defined liquidity metrics and target thresholds in operationalising the board-cascaded risk appetite. These could take the form of liquidity coverage ratios or excess liquidity measures. An insurance group shall consider setting prudent risk limits for each source of liquidity risk. Where this is not the case, the rationale shall be clear, documented and subjected to independent challenge.

(5) An insurance group shall maintain a cash needs and sources register, which systematically documents each need and a potential source of liquidity. This register shall also critically assess the key characteristics associated with each need and source and the relevant uncertainties and risks. Such assessment shall feed into how the different liquidity needs and sources are used and categorised (e.g., in terms of liquidity quality, within an insurance groups' liquidity risk management framework).

(6) An insurance group shall hold a liquidity buffer. This refers to a pool of highly liquid assets that an insurance group shall specifically set aside to address any deficiencies in cash inflow that may arise to meet cash outflow requirements over a specified scenario horizon. An insurance group shall clearly demonstrate the process and criteria used to determine the appropriate size of the liquidity buffer and how it aligns with an insurance group's' defined risk appetite.

(7) An insurance group shall consider varying degrees of stressed conditions in various stressed scenarios, where a balance shall be struck between severity and plausibility. An insurance

group shall assess liquidity risk over different time horizons with a focus on those horizons over which particular risks are expected to arise. An insurance group shall consider insurer-specific and market-wide scenarios, including their combinations. The scenarios shall cover fast-moving and more sustained scenarios where an insurance group's liquidity position deteriorates slowly. An insurance group shall carry out tests to test an insurance group's liquidity breaking point (i.e., liquidity reverse stress tests).

(8) An insurance group shall put in place and document a liquidity contingency plan to serve as a playbook to meet potential liquidity deficits. Clear triggers shall be identified and regularly reviewed. An assessment shall be made on how this interacts with stress and scenario testing. For example, particular stress scenarios may adversely alter the efficacy of certain liquidity contingency measures. The liquidity contingency plan shall be regularly tested and enhanced through dry-run simulation exercises. The results of such testing shall be reported to the relevant committee(s), subjected to appropriate challenge and integrated into decision-making.

(9) An insurance group shall produce liquidity reporting which shall be of the appropriate detail while capturing the key liquidity risk areas. The reporting shall be proportionate, forward-looking (e.g., through early warning indicators) and able to facilitate informed decision-making. An insurance group shall put in place appropriate infrastructure and systems to access relevant data and, thus, assess and monitor its liquidity exposures.

32 **Lapse, Liquidity and Scenario-based approach Returns**

(1) Insurance groups shall provide on at least an annual basis the completed 'Lapse, Liquidity and Scenario-based approach Return' as shall be prescribed by the Authority.

(2) This reporting shall apply to all insurance groups that use the scenario-based approach, or not using the scenario-based approach but have exposure to lapse and/or liquidity risk.

Calculation principles specific to General Business

33 (1) The best estimate for general business shall be calculated by insurance groups and shown separately for premium provisions, as defined in subparagraph 33 (2), and for outstanding claims provisions.

(2) The premium provisions shall relate to future claim events covered by insurance obligations falling within the contract boundary (as defined in paragraph 12).

(3) The outstanding claims provisions shall relate to claim events that have already occurred, regardless of whether the claims arising from those events have been reported or not.

(3) Insurance groups shall produce best estimate outstanding claims by BSCR line of business for the purposes of calculating the BSCR.

(4) Where an insurance group has settled a claim and is making a series of payments over the lifetime of a policyholder or beneficiary, and the insurer is managing the claim using techniques similar to those usually employed by long-term business insurers for pay-out annuity business, then the insurer may elect to establish best estimate provisions for the outstanding claims for this business in a similar manner to a long- term business insurer.

(5) In relation to general business, insurance groups shall ensure that the risk margin shall not be split between premium provisions and loss and loss expense provisions.

(6) In relation to cashflows for insurance contracts with inception date after the valuation date, and the terms of the insurance contract cannot be changed unilaterally by an insurer, then such cashflows shall be included by insurance groups in the best estimate premium provisions as "bound but not incepted" or BBNI business.

(7) Premiums that relate to unincepted exposure (i.e. policies which incept after the valuation date) may include:

(a) Premiums written before the valuation date but incepting afterwards;

(b) "Tacit" renewals, which are renewals relating to offers that were made several months prior to the valuation date, but advice has not yet been received from the customer(s) that they wish to take them up.

(9) The insurance group, when determining whether to include such business within the premium provisions, shall consider whether or not the contracts are legally enforceable or on what terms the insurer could avoid the liability associated with the exposure. If the insurer is legally obliged to write the business and is not able to materially change the terms or premium associated with the policy, then the business shall be included within the premium provisions.

(10) Allowance shall be made by insurance groups for events that are not adequately reflected in the data used to derive the best estimate. The expected present value of future cash-flows relating to such events is referred to as "Events not in Data Set" (ENIDS).

(11) Insurance groups shall ensure that approaches to arriving at estimates of ENIDs in accordance with subparagraph 33 (10), shall be governed by well-informed assessments of the tail risks that apply to the portfolio being reviewed.

Calculation principles specific to Long-Term business

34 (1) The cash-flow projections used in the calculation of best estimates for long-term business insurer obligations shall be made separately for each policy. Where the separate calculation for each policy would be a burden on the insurer, it may carry out the projection by grouping policies, provided that:

(a) There are no significant differences in the nature and complexity of the risks underlying the policies in the same group;

(b) The grouping of policies does not misrepresent the risk underlying the policies and does not misrepresent their expenses;

(c) The grouping of policies is likely to give approximately the same results for the best estimate calculation as a calculation on a per policy basis, in particular in relation to financial guarantees and contractual options included in the policies.

(2) Insurance groups shall ensure that no implicit or explicit surrender value floor shall be assumed for the amount of the market consistent value of liabilities for a contract.

PART 5: TECHNICAL PROVISIONS - RISK MARGIN AND TECHNICAL PROVISIONS AS A WHOLE

Risk margin

35 (1) The risk margin of every insurer within an insurance group shall be calculated to ensure that the value of its Technical Provisions is equivalent to the amount that third party insurers would be expected to require in order to take over and meet the insurance obligations.

(2) Where insurance groups value the best estimate and the risk margin separately, the risk margin shall be calculated by determining the cost of providing an amount of available statutory economic capital and surplus equal to the ECR necessary to support the existing insurance obligations over their lifetime.

(3) Every insurance group shall calculate its risk margin as the sum of the risk margins of each insurer within the group. The risk margin for each insurer within the group shall be calculated using the cost of capital approach prescribed in the remaining of paragraph 35.

(4) The risk margin for an insurer's entire portfolio of insurance obligations shall be calculated using the following formula:

$$RM = CoC \sum_{t \geq 0} \frac{ModECR_t}{(1+r_{t+1})^{t+1}}$$

Where:

CoC = the Cost-of-Capital rate as prescribed by the Authority on its *website at www.bma.bm;*

$ModECR_t$ = the projected ECR at time t, for the insurance, credit, operational and material, non-hedgeable market risks only. It shall be calculated at the valuation date (t=0), and annually thereafter until all insurance obligations have been settled.

r_t= the risk-free discount rate, as provided by the Authority, for maturity at time t, for the currency in which the EBS has been prepared in.

(5) insurance groups shall further ensure that the calculation of the risk margin under subparagraph 35 (4), covers the full period required to run-off insurance liabilities and be discounted, applying the relevant risk-free discount curve (without the illiquidity adjustment) prescribed by the Authority;

(6) The calculation of the $ModECR_t$ component of the risk margin shall be calculated under the same principles as the insurance group's ECR.

(7) The risk margin shall be calculated net of outwards reinsurance, at an aggregate level, separately by insurance groups relating to any general business or long-term business.

Technical provisions as a whole

36 (1) Where future cash flows associated with insurance obligations can be replicated reliably using financial instruments for which a reliable market value is observable, the value of technical provisions associated with those future cash flows shall be determined on the basis of the market value of those financial instruments. Insurance groups are not required to provide separate calculations of the best estimate and the risk margin in connection with such cash flows.

(2) For the purpose of determining the circumstances where some or all future cash flows associated with insurance obligations can be replicated reliably using financial instruments for which a reliable market value is observable under subparagraph 36(1), insurance groups shall —

(a) assess whether all the criteria set out in the following three sub-paragraphs are met;

(b) ensure that the value of technical provisions associated with such future cash flows, shall be equal to the market price of the financial instruments used in the replication; and

(c) further separate a policy into two or more components as appropriate ('unbundling') in order to satisfactorily identify liabilities for this purpose, with some parts valued 'as a whole' and others where a best estimate is calculated.

(3) The cash flows of the financial instruments shall replicate the uncertainty, in amount and timing, of the cash flows associated with the insurance obligations, in relation to the risks underlying the cash flows associated with the insurance obligations in all possible scenarios. The cash flows of the financial instruments must, therefore, provide not only the same expected amount as the cash flows associated with the insurance obligations, but also the same pattern of variability.

(4) The following cash flows associated with insurance obligations shall not be regarded by the Authority as able to be replicated in a reliable manner by an insurance group -

(a) cash flows associated with insurance obligations that depend on the likelihood that policyholders will exercise contractual options, including lapses and surrenders;

(b) cash flows associated with insurance obligations that depend on the level, trend, or volatility of mortality, disability, sickness and morbidity rates;

(c) all expenses that will be incurred in servicing insurance obligations.

(5) For insurance groups to use financial instruments in replications, these shall be traded in active, deep, liquid and transparent markets

PART 6: TECHNICAL PROVISIONS - MISCELLANEOUS AND SUPPLEMENTAL

Sixteen (16) year transitional arrangements for Long-Term business

37 (1) This applies only for long-term business written on or before 31 December 2015 for which the Standard Approach has been applied.

(2) The transitional arrangements allow an insurer to phase in the new valuation arrangements over 16 years. Using a linear interpolation between the reserves determined under the 2015 reserve valuation principles and the reserves determined under the Economic Balance Sheet Valuation Principles.

(3) The technical provisions under the transitional arrangements (TP_y) shall be calculated by applying the following formula:

$$TP_y = \frac{Min(y-2015,1)}{16} EBSTP_y + \left(1 - \frac{Min(y-2015,1)}{16}\right) CurrentRes_y$$

Where:

y ∈ {2016, 2017, 2018…, 2023} – year of yearend submission;

$EBSTP_y$= technical provision, for the business within the scope of the transitional arrangements, at end of year y as determined under the these Rules;

$CurrentRes_y$ = Reserves, for the business within the scope of the transitional arrangements, at end of year y as determined by the reserve valuation methodology that was in force in 2015.

(4) Due to the manner in which an insurer's risk margin is determined , and where insurance groups are unable to directly attribute the risk margin to business written pre and post an insurer's 2015 financial yearend, insurance groups shall allocate a process to determine the risk margin. In the application to apply the transitional adjustments, an insurance group shall provide details of the business subject to the transition adjustments and any allocations or approximations to be used.