
BR / 2010

INSURANCE ACT 1978

1978 : 39

**INSURANCE (PRUDENTIAL STANDARDS) (CLASS 4 SOLVENCY
REQUIREMENT) AMENDMENT ORDER 2010**

In exercise of the powers conferred upon the Bermuda Monetary Authority by section 6A of the Insurance Act 1978, the following Order is made:

Citation and commencement

1 This Order may be cited as the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Amendment Order 2010, and shall come into operation on the 31st day of December 2010, except for the Schedules which come into effect on the 31st day of December 2011.

Interpretation

2 In this Order “principal Order” means the Insurance (Prudential Standards) (Class 4 Solvency Requirement) Order 2008.

Paragraph 2 of principal Order amended

3 Paragraph 2 of the principal Order is amended by inserting the following definitions in their alphabetical order—

“catastrophe risk” means the risk of a single catastrophic event or series of catastrophic events that lead to a significant deviation in actual claims from the total expected claims;

“concentration risk” means the risk of exposure to losses associated with inadequate diversification of portfolios of assets or obligations;

“credit risk” includes the risk of loss arising from an insurer’s inability to collect funds from debtors;

“encumbered assets” means assets held for security or as collateral against a liability or contingent liability of the insurer or other person or any other use restriction, excluding encumbered assets for policyholder obligations of the insurer;

“encumbered assets for policy holder obligations” means the total assets held for security or as collateral or otherwise restricted to meet the liabilities to the policyholders of the insurer in the event of a loss;

“group risk” means any risk of any kind, arising from membership of a group;

“legal risk” means the risk arising from (a) an insurer’s failure to comply with statutory or regulatory obligations; or (b) failure to comply with its bye-laws; or (c) failure to comply with any contractual agreement;

“liquidity risk” means (a) the risk arising from an insurer’s inability to meet its obligations as they fall due or (b) an insurer’s inability to meet such obligations except at excessive cost;

“market risk” means the risk arising from fluctuations in values of, or income from, assets or in interest rates or exchange rates;

“operational risk” means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, including legal risk;

“premium risk” means the risk that premium is insufficient to meet future obligations;

“reputational risk” includes risk of adverse publicity regarding an insurer’s business practices and associations;

“reserve risk” means the risk that an insurer’s reserves would be insufficient to satisfy its obligations;

“strategic risk” means the risk of an insurer’s inability to implement appropriate business plans and strategies, make decisions, allocate resources, or adapt to changes in the business environment.

Paragraph 3 of principal Order amended

4 Paragraph 3 (3) of the principal Order is amended by inserting “Class 3B or ” before “Class 4”.

Paragraph 5 of principal Order amended

5 Paragraph 5 (1) of the principal Order is amended by inserting “Class 3B or ” before “Class 4”.

Paragraph 6 of principal Order amended

6 Paragraph 6 (2) of the principal Order is amended—

(a) by inserting “Class 3B or ” before “Class 4”; and

(b) by deleting “and VI” where it appears in subparagraphs (1), (2) and 2A(b) and by inserting “, VI, VII, VIII, IX, and X.”.

Schedule I amended

7 Schedule I of the principal Order is amended –

(a) by inserting into Table 4 after “Structured / finite reinsurance”:

Health	Schedule IV, Line (24)	15.0%
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(b) by inserting into Table 5 after “Structured / finite reinsurance”:

Health	Schedule IV, Line (24)	12.5%
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Schedule III amended

8 Schedule III of the principal Order is amended –

(c) by deleting “24. Total [Form 1A Line 17(d)] XXX XXX” and replacing with:

“24. Health XXX XXX

25. Total [Form 1A Line 17(d)] XXX XXX”; and

(d) by inserting in the instructions affecting Schedule III the following:

Health	Health – Coverage of care, curative, or preventive medical treatment (or financial compensation) arising from illness, accident, disability, or frailty, including hospital, physician, dental, vision and extended benefits
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Schedule IV amended

9 Schedule IV of the principle Order is amended by deleting “24. Total [Form 1A Line 17(d)] XXX XXX” and replacing with:

“24. Health XXX XXX

25. Total [Form 1A Line 17(d)] XXX XXX”

Schedule V amended

10 The Schedule of Risk Management of Schedule V of the principal Order is amended —

- (a) in the subheading by inserting “Class 3B or ” before “Class 4” ;
- (b) by deleting paragraphs (j) and (k) and inserting:
 - “(j) list of statutory lines and statutory territories that have catastrophe exposures as set out under paragraph (o) of the Instructions;
 - (k) the projected net premiums written, underwriting profit or loss, and net income or loss and a description of underwriting strategy”;
- (c) by deleting the “and” after paragraph (m) and by deleting the period after paragraph (n) and inserting a semi colon;
- (d) by adding after paragraph (n) the word “and” and the following paragraph
 - “(o) the risk register.”.
- (e) by amending “**INSTRUCTIONS AFFECTING SCHEDULE V**” and by deleting paragraphs (j) and (k) and substituting the following—
 - “(j) list of statutory lines and statutory territories that have catastrophe exposures as set out under paragraph (o);
 - (k) the projected net premiums written, underwriting profit or loss, and net income or loss and a description of underwriting strategy shall disclose:
 - i) the insurer’s latest estimate of annual net premiums written;
 - ii) underwriting profit or loss;
 - iii) net income or loss for the year following the relevant year either for the insurer or on a group basis with disclosure of the estimated percentage of the insurer’s contribution relative to the group and
 - iv) a description of the insurer’s underwriting strategy to be used in an attempt to achieve the objectives.”.
- (f) by amending “Instructions Affecting Schedule V” by adding the following paragraph after paragraph (o)-
 - “(p) **risk register disclosing:**
 - i A description of the insurer’s material risks;

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- ii Owners of the respective risks;
 - iii The impact and quantitative or qualitative probability of the risk and the overall risk assessment;
 - 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.”.

Schedule VI amended

11 Schedule VI of the principal Order is amended in paragraph (a) by inserting “Class 3B or” before “Class 4”.

Schedules VII, VIII, IX and X added

12 The principal Order is amended by the insertion of new Schedules VII, VIII, IX and X after Schedule VI as follows:

“SCHEDULE VII

(Paragraph 6)

SCHEDULE OF COMMERCIAL INSURER’S SOLVENCY SELF ASSESSMENT (CISSA)

The Schedule of CISSA shall provide particulars of the following matters:

- a) Table 8: CISSA capital summary disclosing the insurer’s own capital computations, insurer’s plans for raising additional capital and contingency arrangements impacting the available capital.
- b) Table 8A: CISSA general questions relating to an insurer’s risk management and governance program, the review and approval of CISSA, integration of CISSA into the strategic decision making process.
- c) Table 8B: CISSA assessment of material risks of the insurer, the determination of both the quality and quantity of capital required to cover its risks, the forward looking analysis and its ability to manage its capital needs, the review and approval of CISSA and the governance and controls surrounding model(s)/tool(s) used to compute the CISSA capital

INSTRUCTIONS AFFECTING SCHEDULE VII

Table 8:

CISSA Capital Summary

Risk categories	(a) CISSA capital	(b) BSCR or capital from an approved internal model at 99.0% TVaR
Catastrophe risk		
Reserve risk		
Premium risk		
Market risk		
Credit risk		
Liquidity risk		
Operational risk		
Group, Concentration, Reputational and Strategic risk		
Other (specify)		
Total capital pre-diversification between risk categories		
Diversification credit between risk categories		
Total capital after diversification between risk categories		

Where:

- a) CISSA capital is the amount of capital the insurer has determined that it requires to achieve its strategic goals upon undertaking an assessment of all material (reasonably foreseeable) risks arising from its operations or operating environment; and
- b) Regulatory capital as determined by the BSCR or an approved internal capital model at 99.0% Tail Value-at-Risk ("TVaR") over a one year time horizon.

Table 8, continued

ADDITIONAL INFORMATION

1. What is the primary reason(s) (select multiple responses where applicable) for aiming at the disclosed CISSA amount? (select all that apply):
 - target agency rating (e.g. "A-", "AA", etc);
 - market share;
 - business expansion;
 - nature of product(s) (e.g. risk characteristics);
 - manage downgrade risk; and
 - others.
2. What methodology is used to aggregate the risk categories in deriving the CISSA capital?
3. What contingency plans are in place for raising additional capital under stress situations? (select all that apply)
 - parental guarantees;
 - revolving letters of credit;
 - issue subordinated debt;
 - issue preference shares;
 - float additional shares;
 - capital injections from parent;
 - contingent surplus notes;
 - catastrophe derivatives (e.g. bonds, swaps and options); and
 - Others
4. Does the insurer have arrangements/ contractual commitments to provide support to affiliates/other companies in stressed situations? (Yes or No)
If yes, briefly describe the arrangement(s) and the aggregate exposure.
5. Has the insurer down streamed debt to establish equity positions (participations) or, engaged in double or multiple gearing? (Yes or No)
If yes, provide details and amount of capital .

Instructions affecting Table 8

- Total capital pre-diversification between risk categories shall be derived by aggregating all the risk categories prior to recognition of diversification between the risk categories (i.e. prior to “top of the house” diversification).
- Total capital after diversification between risk categories shall be derived by deducting the diversification benefit (calculated by an insurer) from the “Total capital pre-diversification between risk categories”.
- The insurer should select the appropriate response or otherwise provide a brief description or an attachment. Where an attachment is provided, an insurer shall include references (e.g. page number, paragraph number) of where the information can be located within the attachment.

Table 8A

CISSA General Questions

1. Is the CISSA and its underlying information integrated (i.e.; considered when making key strategic decisions) into the insurer's strategic and risk management decision-making processes? (Yes or No)

If yes, how is CISSA and its underlying information used? (select all that apply)

- strategic planning;
- annual business planning;
- setting risk limits;
- defining risk appetite;
- evaluation of capital adequacy;
- allocation of capital to business segments and lines of business;
- capital management;
- determination of rates of return for pricing and underwriting guidelines;
- reinsurance purchase;
- determination of investment policies and strategies;
- meeting regulatory requirements;
- improving credit rating;
- improving investor relations;
- assessing risk adjusted product profitability;
- performance measurement and assessment;
- improving mergers and acquisition decisions; and
- others (list)

Table 8A, cont'd

2. **Has the insurer applied reverse stress testing to both identify the scenarios that could cause business failure and the required actions to manage such situations? (Yes or No)**

3. **Is the CISSA process clearly documented and regularly amended for changes in strategic direction, risk management framework, and market developments? (Yes or No)**

4. **How often is the information underlying CISSA discussed and reviewed by the board and chief and senior executives?**

5. **Has the board and chief and senior executives ensured that an appropriate oversight process is in place, including an appropriate level of independent verification, whereby material deficiencies are reported on a timely basis and suitable actions taken? (Yes or No)**

Optionally the insurer may provide brief comments.

Instructions affecting Table 8A

- The insurer should select the appropriate response or otherwise provide a brief description or an attachment. Where an attachment is provided, an insurer shall include references (e.g. page number, paragraph number) of where the information can be located within the attachment.

independent verification shall be conducted by an internal or external auditor or any other appropriately skilled internal or external function; as long as they have not been responsible for the part of the CISSA process they review, and are therefore deemed to be independent in their assessment.

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Table 8B

CISSA Assessment of material risks of the insurer

Undertake and file with the Authority an insurer's specific report comprising an assessment of the insurer's material risks and the determination of both the quality (types of capital) and quantity of CISSA capital required to cover these risks, while remaining solvent and achieving the insurer's business goals.

Minimally the assessment should include:

- 1. The identification and assessment of all reasonably foreseeable material risks, including those specified in the Insurance Code of Conduct (i.e. insurance underwriting risk; investment, liquidity, and concentration risk; market risk; credit risk; operational risk; group risk; strategic risk; reputational risk; and legal risk).**
- 2. The identification of the relationships of the material risks with one another, and the quantity and type of capital required to cover the risks.**
- 3. A description of the insurer's risk appetite, including limits imposed and how they are enforced.**
- 4. Assumptions and methodology used to assess and aggregate risks.**
- 5. A forward looking analysis of the risks faced by the insurer over its planning horizon and an analysis demonstrating the ability to manage its business and capital needs in adverse circumstances and still meet regulatory capital requirements.**
- 6. An evaluation of whether the insurer has sufficient capital and liquidity available to achieve its strategic goals over its planning horizon and any potential adverse consequences if insufficient.**
- 7. A description of business continuity and disaster plans.**
- 8. A description of how the results of the self assessment are integrated into the management and strategic decision making process.**
- 9. Approval and signed declaration of the CISSA assessment by two members of the Board of directors.**

Table 8B, cont'd

10. For each material risk identified the submission should minimally include:

- a) Identification of the risk owner, qualifications and responsibilities.**
 - b) The risk drivers (e.g. for catastrophe risk the drivers could be US earthquake, European windstorm, terrorism etc)?**
 - c) The primary model(s)/tool(s) used to calculate the CISSA capital for the risk, where applicable.**
 - d) The primary sources of data used as inputs to the model(s)/tool(s).**
 - e) The key assumptions used in the assessment of the risk.**
 - f) A description and quantitative impact of stress and scenario testing on capital (if any) including key assumptions.**
 - g) A description of measures taken to transfer or otherwise mitigate the risk.**
 - h) Quantification of the risk if the insurer is holding capital against it both pre and post diversification.**
 - i) An explanation of the primary reasons for any material deviations between the CISSA capital as it pertains to the risk and the associated capital (if holding capital against the risk) and the capital charge for the risk in the BSCR or capital from approved internal model at 99.0% TVaR over a one year time horizon, if the deviation is greater than 10%.**
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Table 8B, cont'd

11. Model(s)/tool(s) used to calculate the CISSA capital

Insurer should review the following questions on the model(s)/tool(s) used to calculate the CISSA capital and provide a brief description or any additional documents in support of its response. Where the insurer provides attachments, it should identify where the information is located within the document (page number, paragraph number or section number).

Governance
a) Does the board of directors, chief and senior executives approve the design, maintenance and use of the model(s)/tool(s)?
b) How often does the board or relevant board committees review outputs, changes and issues arising from the model(s)/tool(s) (review should be documented e.g. minutes, presentations etc)?
c) Does the board and chief and senior executives have a general understanding of the key assumptions/elements and the implications of the outputs (including limitations) of the model(s)/tool(s)?
Validation
d) Is the model(s)/tool(s) subject to a regular cycle of validation; which includes the monitoring of performance, review of appropriateness of model specifications and testing of forecast results against actual results?
e) How often is the validation of the model(s)/tool(s) performed?
f) Does the validation process demonstrate that the model(s)/tool(s) remain suitable during changing conditions (e.g. changes in inflation, interest rate, etc)? If no, provide comments.
Documentation
g) Does the insurer have formal documentation of the structure, design, operational details, input assumptions, parameters, governance process and controls of the model(s)/tool(s)?
h) If yes, to what extent is the model(s)/tool(s) documented such that it can be used by new personnel with limited user experience? (include comments for partial or no documentations)
i) How often does the board of directors or chief and senior executives review and approve the model/input documentation?

Internal controls
j) How does the insurer rate the effectiveness of the controls in place to monitor and evaluate the operation and maintenance of the model(s)/tool(s)?
k) Are there strict protocols in place restricting access to the model(s)/tool(s) and ability to make adjustments thereto?
Others
l) What is the risk measure (Var, TVaR etc), confidence interval (95%, 99.95% etc) and time horizon (1 year, 3 years etc) used to derive CISSA capital?

Instructions affecting Table 8B

- o The insurer should select the appropriate response or otherwise provide a brief description or an attachment. Where an attachment is provided, include references (e.g. page number, paragraph number) of where the information can be located within the attachment.

Schedule VIII

CATASTROPHE RISK RETURN

The schedule of catastrophe risk return shall provide particulars of the following matters:

- (a) Total Exceedance probability (“EP”) curves (Table 9): This represents an insurer’s exposure to loss arising from natural catastrophe from all insurance and reinsurance operations including the impact of any insurance linked securities for all perils combined for the year following the relevant year based upon the insurer’s catastrophe model.
- (b) EP curve for Insurance (Table 9A): This EP curve shall be required only when the percentage of net insurance premiums written to total net premiums written is greater than 10%.
- (c) EP curves for region-perils (Table 9B): Insurers shall provide information on EP curves for the following region-perils
 - o Atlantic basin hurricane;
 - o North American earthquake;
 - o European windstorm;
 - o Japanese earthquake;
 - o Japanese typhoon; and
 - o All other perils.
- (d) Statutory lines of Business and Zones Exposure per region-perils (Table 9C): Insurers shall disclose the statutory zones and the statutory lines of business to which it is exposed.
- (e) Accumulations overview (Table 9D) shall provide details of the features of accumulation methodologies, the catastrophe models used and the frequency of conducting accumulations.
- (f) Data analysis (Table 9E) shall consist of information on modeled versus non modeled catastrophe risk, the quality and comprehensiveness of data and how data is considered in accumulations and pricing.
- (g) Reinsurance disclosures (Table 9F) seeks to obtain information on the type of protection (reinsurance or retro) purchased against natural catastrophe losses.

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- (h) Insurance terror exposure (Table 9G): For insurance business that has terrorism exposure, insurers shall disclose their exposure to conventional terrorism exposure and on Nuclear, Chemical, Biological or Radiological (NBCR) terrorism exposure separately at different levels of geographical resolution.
- Conventional terrorism: the insurers shall disclose information on the ten largest 150 metre accumulations of exposure to conventional terrorism losses on a gross basis.
 - NBCR insurance terrorism exposure: insurers shall disclose terrorism exposure information on the ten largest US states or countries outside of the USA for accumulations of exposure to NBCR terrorism losses. The exposure calculation should include all exposures within and outside the US and assume a total loss to insurance commitments within the area.
- (i) Reinsurance terrorism limits (Table 9H): Insurers shall disclose the top ten reinsurance limits exposed within or outside the US for conventional and NBCR acts of terrorism.
- (j) Assumed exchange rates (Table 9I): Contains information on all exchange rates used in compiling the EP curve information.

INSTRUCTIONS AFFECTING SCHEDULE VIII

Table 9

EP Curve Total

1. Exceedance probability information

Loss return period (years)	Gross loss		Pre-tax net loss	
	Gross per occurrence loss	Gross aggregate TVaR	Net per occurrence loss	Net TVaR
	(\$M)	(\$M)	(\$M)	(\$M)
50				
100				
250				
500				
1000				

	Gross loss (\$M)	Net loss (\$M)
Annual average aggregate gross loss		Annual average aggregate net loss (net of reinstatement terms)
Standard deviation of annual aggregate gross loss		Standard deviation of annual aggregate net loss (net of reinstatement terms)
Total gross statutory property catastrophe premium modeled		Total net statutory property catastrophe premium modeled (net of upfront reinsurance premiums paid)
Total gross all other premium modeled		Total net all other premium modeled (net of proportional reinsurance only)
Total gross statutory property catastrophe limits exposed - modeled		Total net statutory property catastrophe limits exposed - modeled (net of proportional reinsurance only)
Total gross statutory property catastrophe limits exposed - not modeled		Total net statutory property catastrophe limits exposed - not modeled (net of proportional reinsurance only)
Total gross all other lines limits exposed - modeled		Total net all other lines limits exposed - modeled (net of proportional reinsurance only)
Total gross all other lines limits exposed - not modeled		Total net all other lines limits exposed - not modeled (net of proportional reinsurance only)
Total gross premium without an occurrence or aggregate limit		Total net premium without an occurrence or aggregate limit
Total gross premium with non-determinable Total Insured Value ("TIV")		Total net premium with non-determinable TIV

2. Significant sources of catastrophe risk and associated loss included in the EP Curves:

	Select	If no, briefly explain
Allocated loss adjustment expense		
Property - buildings		
Property - contents		
Additional living expenses		
Business interruption		
Auto physical damage		
Worker's compensation		
Personal accident		
Life insurance		
Onshore energy		
Offshore energy		
Ocean marine		
Inland marine		
Flood		
Crop		
Other primary insurance		

3. Assumed reinsurance information

	Select	If no, briefly explain
Proportional - quota share		
Proportional - surplus share		
Non-proportional - catastrophe		
Non-proportional - per risk		
Other reinsurance assumed		

4. Pools and assessments information

Select

If no, briefly explain

Voluntary pools and/or assessments

Involuntary pools and/or assessments

5. Supplemental perils and model options

Select

If no, briefly explain

Fire following

Sprinkler leakage

Storm surge

Demand surge

Secondary uncertainty

Atlantic multi-decadal oscillation selection

6. Other adjustments information

Select

If no, briefly explain

Adjustments for exposure data quality

Adjustments for insurance to value

Adjustments for exposure growth

Supplemental losses for non-modeled line of business

Adjustments for model deficiencies - severity

Adjustments for model deficiencies - frequency

Additional demand surge loadings

Other factors for prudence

Average loading factor applied to ground up loss for all adjustments applied:

Is this average loading factor determined analytically or estimated?

Which vendor catastrophe models ("cat model") do you include in this modeling:

Which version of the model or version of the region-peril models are used for each cat model as appropriate:

Instructions affecting Table 9

- The responses for the "Exceedance probability information" section shall consist of amounts in \$millions.

- Except for the cat model and average loading factor questions in the section "Other adjustments information", where the response shall include amounts, responses to sections 2 through 6 shall include selecting the appropriate response that best reflects the insurer's position. Where the response is "no" the insurer shall provide a brief description.

Table 9A

EP Curve Insurance

The EP curve for insurance will be required only when the percentage of net insurance premiums written is greater than 10% of total net premiums written.

1. Exceedance probability information

Loss return period (years)	Gross loss		Pre-tax net loss	
	Gross per occurrence loss	Gross TVaR	Net per occurrence loss	Net TVaR
	(\$M)	(\$M)	(\$M)	(\$M)
50				
100				
250				
500				
1000				

Table 9A, cont'd

1. Exceedance probability information, cont'd

	Gross loss		Net loss
Annual average aggregate gross loss		Annual average aggregate net loss (net of reinstatement terms)	
Standard deviation of annual aggregate gross loss		Standard deviation of annual aggregate net loss (net of reinstatement terms)	
Total gross statutory property catastrophe premium modeled		Total net statutory property catastrophe premium modeled (net of upfront reinsurance premiums paid)	
Total gross all other premium modeled		Total net all other premium modeled (net of proportional reinsurance only)	
Total gross statutory property catastrophe limits exposed - modeled		Total net statutory property catastrophe limits exposed - modeled (net of proportional reinsurance only)	
Total gross statutory property catastrophe limits exposed - not modeled		Total net statutory property catastrophe limits exposed - not modeled (net of proportional reinsurance only)	
Total gross all other lines limits exposed - modeled		Total net all other lines limits exposed - modeled (net of proportional reinsurance only)	
Total gross all other lines limits exposed - not modeled		Total net all other lines limits exposed - not modeled (net of proportional reinsurance only)	
Total gross premium without an occurrence or aggregate limit		Total net premium without an occurrence or aggregate limit	
Total gross premium with non determinable Total Insured Value ("TIV")		Total net premium with non determinable TIV	

Table 9A, cont'd

2. Significant sources of catastrophe risk and associated loss included in the EP Curves:		
	Select	If no, briefly explain
Allocated loss adjustment expense		
Property - buildings		
Property - contents		
Additional living expenses		
Business interruption		
Auto physical damage		
Worker's compensation		
Personal accident		
Life insurance		
Onshore energy		
Offshore energy		
Ocean marine		
Inland marine		
Flood		
Crop		
Other primary insurance		
3. Assumed reinsurance information		
	Select	If no, briefly explain
Proportional - quota share		
Proportional - surplus share		
Non-proportional - catastrophe		
Non-proportional - per risk		
Other reinsurance assumed		

4. Pools and assessments information

Select

If no, briefly explain

Voluntary pools and/or assessments

Involuntary pools and/or assessments

5. Supplemental perils and model options

Select

If no, briefly explain

Fire following

Sprinkler leakage

Storm surge

Demand surge

Secondary uncertainty

Atlantic multi-decadal oscillation selection

6. Other adjustments information

Select

If no, briefly explain

Adjustments for exposure data quality

Adjustments for insurance to value

Adjustments for exposure growth

Supplemental losses for non-modeled line of business

Adjustments for model deficiencies - severity

Adjustments for model deficiencies - frequency

Additional demand surge loadings

Other factors for prudence

Average loading factor applied to ground up loss for all adjustments applied:

Is this average loading factor determined analytically or estimated?

Which vendor catastrophe models (“cat model”) do you include in this modeling:

Which version of the model or version of the region-peril models are used for each vendor catastrophe model as appropriate:

Instructions affecting Table 9A

- The responses for the “Exceedance probability information” section shall consist of amounts in \$millions.
- Except for the question on catastrophe model and average loading factor questions in the section “Other adjustments information”, where the response shall include amounts, responses to sections 2 through 6 shall include selecting the appropriate response that best reflects the insurer’s position. Where the response is “no” the insurer shall provide a brief description.

Table 9B

EP Curves for region-perils

The insurer shall complete the table below for each of the following region-perils:

- Atlantic basin hurricane
- North American earthquake
- European windstorm
- Japanese earthquake
- Japanese typhoon
- All other perils

Exceedance probability information

Which model(s) is used for EP Curve?

Loss return period (years)	Gross loss		Pre-tax net loss	
	Gross per occurrence loss	Gross aggregate TVaR	Net per occurrence loss	Net aggregate TVaR
	(\$M)	(\$M)	(\$M)	(\$M)
50				
100				
250				
500				
1000				

Instructions affecting Tables 9B

- The responses for the “Exceedance probability information” section shall consist of amounts in \$millions.

Table 9C

Statutory Lines of Business and Zones Exposure per region-perils

The insurer shall select the statutory zones (Schedule V (o)) and statutory lines of business (Schedule IV) that it is exposed to with regards to the following region-perils.

a) Exposure to statutory zones (Schedule V (o))

	EP Curve Atlantic Hurricane	EP Curve North American Earthquake	EP Curve European Windstorm	EP Curve Japanese Earthquake	EP Curve Japanese Typhoon	EP Curve All Other Perils
Zone 1						
Zone 2						
Zone 3						
Zone 4						
Zone 5						
Zone 6						
Zone 7						
Zone 8						
Zone 9						
Zone 10						
Zone 11						
Zone 12						
Zone 13						

b) Exposure to statutory lines of business (Schedule IV)

	EP Curve Atlantic Hurricane	EP Curve North American Earthquake	EP Curve European Windstorm	EP Curve Japanese Earthquake	EP Curve Japanese Typhoon	EP Curve - All Other Perils
Line 1						
Line 2						
Line 3						
Line 4						
Line 5						
Line 6						
Line 7						
Line 8						
Line 9						
Line 10						
Line 11						
Line 12						
Line 13						
Line 14						
Line 15						
Line 16						
Line 17						
Line 18						
Line 19						
Line 20						
Line 21						
Line 22						
Line 23						
Line 24						

Instructions affecting Tables 9C

- o “All Other Perils” shall consist of the residual natural catastrophe exposure retained by the company for all other region-perils except Atlantic basin hurricane, North American earthquake, European windstorm, Japanese earthquake, Japanese typhoon.

Table 9D

Accumulations Overview

1. What frequency best describes the update process of accumulations?
2. Are there differences in the frequency of accumulations for various business units? If yes, briefly describe.
3. Which vendor catastrophe models does the insurer license?
4. Does the insurer incorporate internally developed stochastic catastrophe models within the accumulations that capture correlation across contracts or lines of business?
5. Which methodology best describes an insurer's accumulation methodology?
6. Where more than one catastrophe model is used in the accumulations, which methodology best describes how multiple models are considered?
7. Is the insurer's pricing and accumulations fully consistent?
8. How much business (other than insurance business), is measured as a percentage of total premium is written without occurrence limits?
9. Does the insurer provide reinsurance to both affiliated companies and unaffiliated companies?
10. If there is more than 2.5% of premium written without occurrence limits (other than insurance business) briefly describe this business, including information on territorial exposure, potential for correlation of losses across contracts/policies and the assessment of maximum loss potential for these exposures.
11. How are outwards reinsurance protections considered in accumulation calculations?

Instructions affecting Table 9D

- Item '7' requires insurers to provide a response on whether the annual expected loss implied in the accumulations is equal to the annual expected at the time of underwriting.

Table 9E

Data analysis

1. For all contracts written by the insurer, provide splits of those that are:

	US specific contracts - all exposures		All other contracts - all exposures		Total	
	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)
Modeled						
Not modeled						
Total						

2. For those contracts that are written by the insurer that may be modeled, provide splits of those that are:

	US specific contracts - all exposures		All other contracts - all exposures		Total	
	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)
Modeled						
Not modeled						
Total						

Table 9E, cont'd

3. For those contracts that are written by the insurer that are modeled, provide splits of those that are:

	US specific contracts - all exposures		All other contracts - all exposures		Total	
	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)
Detailed exposure data						
Aggregate exposure data						
A proxy peer insurer is selected and losses are derived from this insurer						
Derived from an industry loss curve utilizing market share						
Other						
Total						

If other is selected, describe the methodology as appropriate:

Table 9E, cont'd

4. For those contracts that are written by the insurer that may be modeled, provide splits of those that are:

	US specific contracts - all exposures		All other contracts - all exposures		Total	
	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)
Data deficient						
Model deficient						
Other						
Total						

If other is selected, describe the reasons for not modeling the contract(s).

5. For contracts that are written by the insurer that may be modeled, but are not modeled, describe what the insurer does from an accumulation perspective:

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Table 9E, cont'

6. For contracts that are written by the insurer that are unable to be modeled, provide splits of those that are:

	US specific contracts - all exposures		All other contracts - all exposures		Total	
	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)	Contract count	Limit provided (\$M)
Data deficient						
No catastrophe model exists						
Model deficient						
Other						
Total						

If other is selected, describe the reasons for not modeling the contract(s):

7. What percentage of total net premiums written represents contracts with no limits.

8. For contracts that are written by the insurer that are not modeled, describe what the insurer does from an accumulation perspective:

9. If there are contracts that are written by the insurer that have no occurrence limits or where TIV has not been included in the exposure in the above exhibits describe how this exposure is included in the above data:

Instructions affecting Table 9E

- o In this Table, where applicable, the responses shall include: inputting the amount/number and or providing a brief description in the comment fields.

Table 9F

Reinsurance disclosures

Reinsurance or Retro information:

	US specific contracts		Worldwide contracts		All other contracts	
	Premium	Occurrence Limit provided	Premium	Occurrence Limit provided	Premium	Occurrence Limit provided
	(\$M)	(\$M)	(\$M)	(\$M)	(\$M)s	(\$M)
Insurance Linked Securities protection						
Industry Loss Warranties contracts						
Other contracts and non-traditional methods of risk mitigation/assumption						
Property catastrophe contracts						
Catastrophe swaps						
Property per risk contracts						
Property retro contracts						
Quota share contracts						
Surplus share contracts						
Total						

If there are reinsurance or retro contracts that are purchased by the insurer that have no occurrence or aggregate limits provide details below for the total premium ceded, description of the underlying lines of business covered, territorial coverage limitations and details of the natural, man-made and pandemic perils covered on aggregate basis.

Table 9G

Insurance terror exposure

Conventional Insurance Terrorism Exposure - 150m Defined Geographical Radius

Conventional terrorism exposure		Latitude of accumulation centroid	Longitude of accumulation centroid	Zipcode/Postcode	State / Province	Country	Direct terrorism property exposure (\$M)	Total gross exposure (\$M)	TRIP or other terrorism pool recoverables if any (\$M)	Reinsurance recoveries if any (\$M)	Total net exposure (\$M)	Target location (if known)
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											

Table 9G, cont'd

NBCR Insurance Terrorism Exposure-State/Country

		U.S. State	Country	Direct terrorism property exposure (\$M)	Total gross exposure (\$M)	TRIP or other sovereign terror pool recoverables if any (\$M)	Reinsurance recoverable limits if any (\$M)	Total net net exposure (\$M)
NBCR terrorism exposure	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							

Instructions affecting Table 9G

Total gross exposure is the sum of:

- o Direct terrorism property exposure
- o Indirect terrorism property exposure
- o Value of lives exposed
- o Other insured exposures

Table 9H

Reinsurance terrorism limits

		U.S. State/Country	Direct reinsurance limits exposed to terrorism (\$M)	Total gross reinsurance limits exposed to terrorism (\$M)	TRIP or other terror pool recoverables if any (\$M)	Reinsurance or retro recoveries if any (\$M)	Total net reinsurance limits exposed to terrorism (\$M)
Conventional terrorism exposure	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

Table 9 H, Cont'd

		U.S. State/Country	Direct reinsurance limits exposed to terrorism (\$M)	Total gross reinsurance limits exposed to terrorism (\$M)	TRIP or other terror pool recoverables if any (\$M)	Reinsurance or retro recoveries if any (\$M)	Total net reinsurance limits exposed to terrorism (\$M)
NBCR terrorism exposure	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

Instructions affecting Table 9H

- The total gross exposure is derived by the sum of all reinsurance limits exposed to terrorism.
- Total net reinsurance limits exposed to terrorism is derived by subtracting the TRIP or other terror pool recoverables and reinsurance recoveries from the total gross reinsurance limits exposed to terrorism.

Table 9I

Assumed exchange rates

Currency	EP Curve Total all perils combined
USD	1.00
USD:EUR	
USD:GBP	
USD:Yen	
USD:CHF	
USD:Other(s)	

Instructions affecting Table 9I

- In this Table the insurer shall input the exchange rates used to translate the EP curves.

SCHEDULE IX

(Paragraph 6)

SCHEDULE OF LOSS TRIANGLES OR RECONCILIATION OF NET LOSS RESERVES

a) The insurer shall provide either loss triangles (Table 10) or a reconciliation of its beginning and ending net loss reserve balances (Table 11) for the following 8 statutory lines of business:

<u>Number</u>	<u>Loss triangle lines of business</u>	<u>Number</u>	<u>Statutory line of business (Schedule III)</u>
1	Property Catastrophe	1	Property Catastrophe
2	Property	2	Property
		4	Personal Accident
		6	Aviation
		10	Energy Offshore / Marine
		18	International Motor
		22	Retro Property
3	Property Non-Proportional	3	Property Non-Proportional
		7	Aviation Non-Proportional
		11	Energy Offshore / Marine Non-Proportional
		19	International Motor Non-Proportional
4	Casualty	4	Personal Accident
		12	US Casualty
		14	US Professional
		20	International Casualty Non-Motor
5	Casualty Non-Proportional	5	Personal Accident Non-Proportional
		13	US Casualty Non-Proportional
		15	US Professional Non-Proportional
		21	International Casualty Non-Motor Non-Proportional
6	Financial lines	8	Credit / Surety
		9	Credit / Surety Non-Proportional
7	Other specialty lines	16	US Specialty
		17	US Specialty Non-Proportional
8	Structured/Finite lines	23	Structured / Finite Reinsurance

Table 10: Loss Triangles

Insurers shall complete the Table below for the 8 statutory lines of business.

Insurers may use either “Accident Year or Underwriting Year” and shall notify the Authority which has been used.

Accounting Basis:	INCURRED (ESTIMATED ULTIMATE) NET LOSSES AND ALLOCATED LOSS ADJUSTMENT EXPENSES REPORTED AT YEAR END (\$000)										11	12	13	
	Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10	Ultimate Catastrophe Losses	Development One Year Development	Development Two Year Development
	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx		
L1	Prior													
L2	20xx													
L3	20xx	XX												
L4	20xx	XX	XXX											
L5	20xx	XX	XXX	XXX										
L6	20xx	XX	XXX	XXX	XXX									
L7	20xx	XX	XXX	XXX	XXX	XXX								
L8	20xx	XX	XXX	XXX	XXX	XXX	XXX							
L9	20xx	XX	XXX	XXX	XXX	XXX	XXX	XXX						
L10	20xx	XX	XXX	XXX	XXX	XXX	XXX	XXX	XXX					XXX
L11	20xx	XX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX			XXX	XXX
L12	Totals													

Table 10: Loss Triangles, cont'd

	Years in Which Policies Were Written	CUMULATIVE PAID NET LOSSES AND ALLOCATED LOSS ADJUSTMENT EXPENSES REPORTED AT YEAR END (\$000)										24
		14	15	16	17	18	19	20	21	22	23	Paid Catastrophe Losses
		20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	
L13	Prior											
L14	20xx											
L15	20xx	XXX										
L16	20xx	XXX	XXX									
L17	20xx	XXX	XXX	XXX								
L18	20xx	XXX	XXX	XXX	XXX							
L19	20xx	XXX	XXX	XXX	XXX	XXX						
L20	20xx	XXX	XXX	XXX	XXX	XXX	XXX					
L21	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX				
L22	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX			
L23	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
L24	Totals											

Table 10: Loss Triangles, cont'd

	Years in Which Policies Were Written	BULK & IBNR RESERVES ON NET LOSSES AND ALLOCATED LOSS ADJUSTMENT EXPENSES REPORTED AT YEAR END (\$000)										35
		25	26	27	28	29	30	31	32	33	34	Losses
		20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	20xx	Bulk & IBNR Reserves
L25	Prior											
L26	20xx											
L27	20xx	XXX										
L28	20xx	XXX	XXX									
L29	20xx	XXX	XXX	XXX								
L30	20xx	XXX	XXX	XXX	XXX							
L31	20xx	XXX	XXX	XXX	XXX	XXX						
L32	20xx	XXX	XXX	XXX	XXX	XXX	XXX					
L33	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX				
L34	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX			
L35	20xx	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX		
L36	Totals											

Table 10: Loss Triangles, cont'd

Years in which Premiums Were Earned and Losses Were Incurred	36	37	38	39	Unallocated Loss Adjustment Expenses		Calendar Year	42	43	44	45
	Gross Premiums Written	Gross Premiums Earned	Net Premiums Written	Net Premiums Earned	40	41		Commission and Brokerage Expense (Form 2A, Line 9)	General and Administrative Expense (Form 2A, Line 10)	Personnel Costs (Form 2A, Line 11)	Other Expense (Form 2A, Line 12)
					Paid	Incurred					
L37	Prior	XXX	XXX	XXX	XXX		Prior				
L38	20xx						20xx				
L39	20xx						20xx				
L40	20xx						20xx				
L41	20xx						20xx				
L42	20xx						20xx				
L43	20xx						20xx				
L44	20xx						20xx				
L45	20xx						20xx				
L46	20xx						20xx				
L47	20xx						20xx				
L48	20xx	XXX	XXX	XXX	XXX		Totals				
COMMENTS											

Instructions affecting Table 10

- o Insurers shall disclose the accounting basis (accident year or underwriting year).
- o Insurers only have to complete Table 10 or Table 11, not both. For Table 10, insurers must complete loss triangles by broad line of business groupings: 'Property catastrophe', 'Property', 'Property Non-proportional', 'Casualty', 'Casualty Non-proportional', 'Financial Lines', 'Other Specialty' and 'Structured/finite Reinsurance' as defined in the Schedule of Loss Triangles or Reconciliation of Net Loss Reserves."

Table 11: Net Loss Reserve Reconciliation by Lines of Business

The insurer shall provide a reconciliation of its beginning and ending net loss reserve balances for the 8 statutory lines of business, as an alternative to the loss triangles (Table 10).

	20XX	20XX
Net loss and loss expense provisions at beginning of year		
Less: Claims paid in the reporting year		
Add(less): Net loss releases/net adverse development for prior years		
Add: Case reserves and IBNR recorded during year		
Add(Less): Foreign exchange adjustments		
Net loss and loss expense provisions at end of year		

Instructions affecting Table 11

Insurers only have to complete Table 10 or Table 11, not both. For Table 11, insurers must complete a reconciliation of beginning and ending net loss reserve balances for broad line of business groupings 'Property catastrophe', 'Property', 'Property non-proportional', 'Casualty', 'Casualty non-proportional', 'Financial lines', 'Other specialty' and 'Structured/finite reinsurance' as defined in the Schedule of Loss Triangles or Reconciliation of Net Loss Reserves.

SCHEDULE X

(Paragraph 6)

SCHEDULE OF ELIGIBLE CAPITAL

The schedule of eligible capital shall provide particulars of the following matters:

- a) Tier 1, Tier 2 and Tier 3 eligible capital (Table 1); and
- b) particulars of each capital instrument approved by the Authority as “ Any other fixed capital” (in accordance with Form 8, STMT LINE 1 (c) under the Insurance Accounts Regulations 1980).

Table 1

Total statutory capital and surplus (Form 8, STMT LINE 3)	XXX
Less: Encumbered assets (not securing policyholder obligations)	XXX
Subtotal:	<u>XXX</u>
Tier 1 capital	
(a) Fully paid shares (Form 8, STMT LINE 1a)	XXX
(b) Contributed surplus or share premium (Form 8, STMT LINE 1b)	XXX
(c) Statutory surplus- End of Year (Form 8, STMT LINE 2 (h) (deficit) or retained earnings]	XXX
(d) Hybrid capital instruments:	
(i) Non-cumulative, perpetual or fixed term preference shares	XXX
(e) Perpetual or fixed term subordinated debt	XXX
(f) Other:	XXX
(g) Less: Difference between encumbered assets for policyholder obligations and policyholder obligations (Form 1A, STMT LINE17(d))	<u>XXX</u>
<u>Total Tier 1 available capital</u>	<u>XXX</u>

Tier 2 -basic capital

(a) hybrid capital instruments:	
Cumulative preference shares	XXX
(b) Subordinated debt	XXX
(c) Other:	XXX
(d) Add: Difference between encumbered assets for policyholder obligations and policyholder obligations (Form 1A, STMTLINE17(d)) deducted from Tier 1 (if it qualifies)	XXX

Tier 2 -ancillary capital

(a) Unpaid and callable common shares	XXX
(b) Qualifying unpaid and callable hybrid capital	XXX
(c) Qualifying unpaid and callable non-cumulative, perpetual preference Shares	XXX
(d) Approved letters of credit (Form 8, STMT LINE 1c)	XXX
(e) Approved guarantees (Form 8, STMT LINE 1c)	XXX
<u>Total Tier 2 available capital</u>	XXX

Tier 3 -basic capital

(a) Short-term hybrid capital instruments	
Cumulative preference shares	XXX
(b) Short-term subordinated debt	XXX

Tier 3- ancillary capital

(a) Short-term subordinated liabilities	XXX
(b) Approved letters of credit (Form 8, STMT LINE 1c)	XXX
(c) Approved guarantees (Form 8, STMT LINE 1c)	XXX
<u>Total Tier 3 available capital</u>	XXX

Instructions affecting Table 1

The insurer to include all components of total statutory capital and surplus (Form 8, Line 3 of the Insurance Accounts Regulations 1980) in Table 1 in accordance with the provisions of Eligible Capital Rules.

For the Tier 1 capital, to calculate the amount for the encumbered assets for policy holder obligations; the insurer will determine the difference between the encumbered assets for the policyholder obligations and the higher of the policyholder obligations of the insurer for which assets have been held and calculated in accordance with Form 1A, line 17(d) and the capital requirement applicable to the encumbered assets for policy holder obligations.

For Tier 2-basic capital, to calculate the amount for the encumbered assets for policy holder obligations; the insurer will determine the difference between the encumbered assets for the policy holder obligations and the higher of the policy holder obligations of the insurer for which assets have been held and calculated in accordance with Form 1A, line 17(d) and the capital requirement applicable to the encumbered assets for policy holder obligations.

Table 2

Description of capital instrument	Date of issue	Maturity date (as applicable)	Value of the capital instrument	Eligible capital Tier
-----------------------------------	---------------	-------------------------------	---------------------------------	-----------------------

XXX

XXX

Instructions affecting Table 2

The insurer to include every capital instrument contributing to the amount reported in Form 8, **STMT LINE** 1c of the Insurance Accounts Regulations 1980 in Table 2 in accordance with the provisions of Eligible Capital Rules.

Made this day of , 2010.

Bermuda Monetary Authority

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