

# MARKET BULLETIN

REF: Y4158

<b>Title</b>	Solvency II – QIS4
<b>Purpose</b>	To request managing agents' participation in QIS4 exercise and provide technical appendices to assist in completion of spreadsheet workbook and questionnaires
<b>Type</b>	Event
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<b>Date</b>	23 May 2008
<b>Deadline</b>	<b>Friday 30 May 2008 – to notify participation in QIS4</b> <b>Monday 23 June 2008 – to submit QIS4 qualitative data to Lloyd's</b> <b>Monday 7 July 2008 – to submit QIS4 workbook to Lloyd's</b>
<b>Related links</b>	Appendix 1 – Lloyd's QIS4 Guidance notes Appendix 2 – Lloyd's risk code mapping to QIS4 accounting classes

## Solvency II – QIS4

The QIS4 exercise is being conducted throughout the European Union by CEIOPS (Committee of European Insurance and Occupational Supervisors). The objective of QIS4 is to test the principles with respect to the valuation of technical provisions, own funds, solvency capital requirement (SCR) and minimum capital requirement (MCR) as set out in the Framework Directive.

QIS4 is being co-ordinated in the UK by the FSA ([www.fsa.gov.uk](http://www.fsa.gov.uk)). The QIS4 specification has now been issued by CEIOPS ([www.ceiops.org](http://www.ceiops.org)) together with guidance notes for completion and links to the relevant information are provided in this bulletin.

### Lloyd's and managing agents' participation in QIS4

It is important for agents to participate in QIS4; all agents will need to understand the key principles of Solvency II and the basis of calculation for the SCR well ahead of the 2012 implementation date and QIS4 provides an opportunity for agents to gain a better understanding of the potential impact at syndicate level. QIS4 will also assist agents in preparation for internal model approval requirements.

As for QIS3, Lloyd's will be making a market level submission to the FSA in respect of QIS4 based on centrally held data as at 31 December 2007. This bulletin, which is a follow up to the QIS4 presentation and workshop provided to managing agents and consultants on 19

May, seeks syndicate level QIS4 returns to be provided to us, building on the valuable support provided last year by managing agents who participated in QIS3. Whilst agent participation in QIS4 is not compulsory, Lloyd's would like to strongly encourage all agents to provide as much data as they can so that each agent and Lloyd's can fully assess the potential impact on their individual businesses and on different areas of the market, both in terms of size of syndicates and type of business written.

QIS4 is also likely to be the last opportunity to influence the outcome of the Solvency II project and it is important that Lloyd's is able to collect sufficiently representative information to be in a position to respond fully on behalf of the market.

### **Completion of QIS4 documents**

QIS4 comprises a spreadsheet workbook together with helper tabs, simplification tabs and an additional plug-in for information on internal models. There are also three questionnaires seeking qualitative information on the QIS4 exercise generally, operational risk and internal models.

The workbook is arranged into three sections: input, calculation and results sheets and Appendix 1 of this bulletin provides Lloyd's specific guidance notes for completion of the workbook.

The specified line of business splits used within the QIS4 worksheets are different to both Lloyd's risk codes and to the FSA Enhanced Capital Requirement (ECR) splits. Lloyd's has provided a risk code mapping in Appendix 2 to assist agents and an electronic spreadsheet version of this mapping is also available on request from [solvency2@lloyds.com](mailto:solvency2@lloyds.com).

Managing agents are asked to complete QIS4 in respect of each managed syndicate, both active and run off, in accordance with the instructions provided by CEIOPS, FSA and additional guidance provided as Appendix 1 to this bulletin. Agents are asked to complete QIS4 at syndicate level on the basis of a 'solo entity'. However, Lloyd's will also be very interested in seeing any QIS4 submissions which have been completed in respect of groups with Lloyd's and non-Lloyd's activities.

If you are unable to complete the whole return, a partial submission would still be appreciated. QIS4 does not require agent or audit sign off; however returns should be completed on a basis consistent with the financial position of the syndicate at 31 December 2007. Lloyd's would also like to receive as many qualitative comments as possible in order that these can be incorporated into the central response to the FSA.

The FSA are interested in seeing syndicate level submissions. If you are content for your submission to be forwarded by us to FSA, please indicate this when filing your QIS4 return.

### **Links to QIS4 material**

Specific links to the QIS4 spreadsheet and qualitative questionnaires to be completed, together with guidance material are included below.

**The documents to be completed** are (references per CEIOPS QIS4 web page) :

[B1a] [QIS4 spreadsheet solo entities \(revised\)](#) (*incorporates both general and operational risk qualitative questionnaires and also Q1-Q3 on internal models*)

[B1e] [Spreadsheet plug in for internal models](#) (*incorporates qualitative questionnaire on internal models Q4-Q51*)

In addition, **the following will be of assistance:**

[A4] [CEIOPS guidance note](#)

[B1b] [Helper Tabs to solo entities \(revised\)](#)

[B1c] [Technical specification](#)

[B1d] [Simplification tabs](#)

[B3] [Spreadsheet instructions](#)

**Additional information** on the full QIS4 technical specification (including material to be completed for groups) can be found on the CEIOPS QIS4 web page: [CEIOPS QIS4 Material](#)

The FSA also have guidance information available on their Solvency II/QIS4 web page which can be accessed here: [FSA - Solvency II](#). They will shortly be publishing guidance notes on completion of QIS4 together with example spreadsheets.

Both websites are regularly updated with new material, errata and FAQs and whilst Lloyd's will endeavour to keep agents advised of key updates, agents completing QIS4 should check these pages regularly.

### **QIS4 timetable**

Lloyd's would like to determine which agents will be participating in QIS4 and to what extent, and thus we ask all agents to send an email to [solvency2@lloyds.com](mailto:solvency2@lloyds.com) **advising whether or not you will be taking part, by Friday 30 May.**

Lloyd's has taken into account feedback received from agents in respect of the completion deadline originally proposed at the workshop, and the timetable is modified as follows:

Lloyd's completed QIS4 return must be filed with the FSA by no later than 7 July. Lloyd's will incorporate syndicates' qualitative responses into the Lloyd's response and we would therefore ask syndicates to **submit the qualitative information by Monday 23 June**. This will allow Lloyd's to review the information received and respond fully to the FSA by the 7 July deadline, taking into account the qualitative comments made in syndicate submissions.

The syndicate specific quantitative data will not be used in the Lloyd's central return. However can you please **submit the quantitative information by Monday 7 July**. Lloyd's will review each syndicate's submission in detail and provide individual managing agent feedback later this autumn.

Whilst we would like agents to adhere to this timetable as far as possible, responses received subsequently will still be of value to Lloyd's. Whilst we will be unable to include any qualitative comments received after 23 June in our central return to the FSA, we will review the data and include this in the market feedback sessions after the QIS4 exercise is complete.

Agents should note that completed QIS4 spreadsheets and qualitative questionnaires should be submitted electronically to [solvency2@lloyds.com](mailto:solvency2@lloyds.com). A hard copy submission is not required.

**Queries and Technical assistance**

A central email address has been set up to receive all correspondence relating to Solvency II and this can also be used by agents to submit queries: [solvency2@lloyds.com](mailto:solvency2@lloyds.com). Lloyd's will answer queries and provide technical support to agents for QIS4 wherever possible and key members of the Solvency II project team are shown below:

Paul Appleton, Accounting Policy  
Lorraine Harfitt, Market Finance  
Jerome Kirk, Market Reserving & Capital  
Kate Burling, Market Reserving & Capital  
Tracey Moore, Market Reserving & Capital

If managing agents have any questions on this bulletin or the overall QIS4 process they should contact any of the individuals listed above or email [solvency2@lloyds.com](mailto:solvency2@lloyds.com).

Paul Appleton  
Senior Manager, Accounting Policy

# **SOLVENCY II**

## **LLOYD'S QIS4 GUIDANCE NOTES**

**MAY 2008**

## **QIS4 completion guide**

These notes are intended to provide summary guidance to syndicates on completion of the QIS4 workbook and highlight the key areas. The notes also provide references to data which can be used to populate some of the worksheets. These notes are not exhaustive and agents should also refer to the CEIOPS technical specification and guidance provided by the FSA when completing their QIS4 submission.

### ***General***

QIS4 must be completed in respect of data as at 31 December 2007. It must be completed for the syndicate as a whole. QIS4 does not require a managing agent sign-off and is not audited. However, the syndicate data disclosed therein should be consistent with data reported in the 2007 annual return (AR) and solvency and reserving data (SRD). Further details are provided below in these guidance notes.

The QIS4 spreadsheet only contains the option to provide information in Euros. However, for the purposes of submission to Lloyd's, agents may complete the spreadsheet in Sterling provided that the currency being used is made clear in the submission e-mail. If you wish to submit the syndicate level spreadsheets to FSA can you please create a separate version in Euro, converting all items at the 31.12.2007 year end rate of £1 = 1.36 Euro. The spreadsheet also contains the option to use either thousands or millions but we would ask for consistency that agents complete using thousands only.

### ***Capital supporting syndicates***

When preparing the QIS4 submission, please include the funds at Lloyd's (FAL) supporting the syndicate, whether held within or separately from syndicate assets. **This is a change from last year, and is being requested so that a more meaningful position of the capital available to meet the MCR and SCR may be presented.**

### ***FAL amount to be reported***

For a syndicate where all of the capital is provided by a member or group of members participating solely on that syndicate, please report the FAL as at 31 December 2007.

For a syndicate where all of the capital is provided by a member or group of members participating on that syndicate and one or more other syndicates managed by the same managing agent, then please apportion the FAL held at 31 December 2007 between the syndicates concerned pro rata to the 2008 Enhanced Capital Assessment (ECA) of the syndicates concerned.

In the case of a syndicate where part of the capital is provided by an 'in house' corporate member and the rest by third party capital:

- The capital in respect of the 'in house' member may be accounted for as above (adjusted where necessary pro rata to the 2008 ECA if that member has one or more other syndicate participations)
- The third party capital may be estimated as the total of the 2008 ECA for that syndicate x the share of the 2008 capacity provided by the third party capital.
- If the 'in house' member provides 75% or more of the syndicate's capacity, Lloyd's will consider it a reasonable proxy to base the split of assets for the total ECA for the syndicate on the FAL held by that member. Where third party capital is more than 25% of the syndicate, Lloyd's will provide to agents on request an assumed split of assets to be used.

### *Allocation of FAL within the balance sheet*

Please allocate FAL to the underlying asset categories when completing the QIS4 balance sheet.

### *Recognition of FAL in SCR calculation*

Please take into account the value and the composition of FAL within the calculation of the SCR, including recognition of market risk, credit risk and counterparty default risk.

### *Groups*

All of the instructions set out here relate to completion in respect of a *syndicate*.

Lloyd's will be very interested in seeing QIS4 completed in respect of *groups with Lloyd's and non-Lloyd's activities*. In this respect the references to the annual return do not apply, and QIS4 should be completed in accordance with the accounting policies used for the group (as adjusted to meet the QIS4 technical specification).

### **Workbook structure**

The workbook is divided into three sections:

- Input forms (blue tabs)
- Calculation sheets (orange tabs)
- Results sheets (purple tabs)

A dataset sheet (summary of the inputs) and a parameters sheet (summary of the prescribed parameters) are also provided at the end of the workbook.

The workbook uses a variety of cell colours to indicate the type of cell e.g. data-entry, lookup, calculation etc. The blue cells are data entry cells.

The workbook also includes references to the technical specification if further clarification on inputs or calculations is required.

### **Helper and Simplification workbooks and proxies**

The QIS 4 package contains a 'helper' workbook which can be used to separately determine certain inputs which are needed for the main workbook. Please note that the outputs from the helper tabs need to be input manually into the main workbook and do not automatically feed through.

In addition there is a 'simplifications' workbook which accompanies the main workbook. Under the proportionality principle, agents may use simplified methods and techniques to calculate insurance liabilities, using actuarial methods and statistical techniques that are proportionate to the nature, scale and complexity of the risks they face. Data entered into these simplification sheets will feed through to the main workbook wherever it is indicated in the main workbook that a simplification can be used. In order for the simplification tabs to work in this way, the tabs must first be moved into the main workbook (the simplification workbook itself also provides guidance on doing this).

Proxies can also be used within QIS4 in circumstances where there is a lack of credible own data. Please see the end of this document for further guidance on the helper and simplification workbooks.

### **Qualitative questionnaires**

In addition, qualitative questionnaires on general activities, operational risk and internal models are provided for your completion. Please see below for more detail.



## ***Input section***

### **P. Read me**

This sheet explains how the workbook is set up, how it works and the colour coding system applied within the workbook.

### **P. Index**

This sheet provides hyperlinks to the various sheets which follow.

### **I. General**

This sheet collects the general information and balance sheet data.

#### 1. Participant information

<i>Description</i>	<i>Please enter</i>
Participant	Syndicate number
Legal form of the participant	'Syndicate'
Reporting basis	'Legal entity'
Type of reported data	'Property and casualty' or 'life'
Reporting reference	'2007'
Reporting currency	'000s of euro'*
Supervisor	Please leave blank
Local registration number	Please leave blank
Participant is part of a group	'No'**

\* Please complete in £000s or €000s for submission to Lloyd's, making it clear with the submission which currency has been used. Please provide a separate submission in €000s if you wish that to be submitted to FSA.

\*\* Or 'yes', if a group submission is being made.

#### 2. Balance sheet - Assets

*'Current bases', 'Solvency I valuation principles' and 'QIS4 valuation principles'*

Please complete using the same figures for all bases except for 'reinsurance' where the QIS4 methodology reserving must be used in the 'QIS4 valuation principles' column.

In respect of syndicate assets, each line must be consistent with the numbers reported in AR2 column A:

<i>Description</i>	<i>AR2 column A</i>
Called up but unpaid common equity capital	-
Intangibles	-
Reinsurance*	13
Investments:	
- Land and buildings	-
- Investments in affiliated and participating interests	-
- Bonds	2
- Equities	1
- Mutual funds	3
- Deposit related to reinsurance accepted	9
- Other	5+6+7
Unit linked investments	-

Loans and mortgages	4
Cash and bank deposits	23
Intra-group transactions (other than reinsurance or participations)	-
Deferred tax asset	-
Deferred acquisition costs	28
Other assets	17+21+22+24+25+27+29
Total*	31

\* In the 'QIS4 valuation principles' column this line must equal the reinsurers share of the QIS 4 technical provisions excluding the risk margin (I. Health and NonLife cell D32 minus D36). The total will accordingly be modified.

### 3. Balance sheet - Liabilities

*'Current bases', 'Solvency I valuation principles' and 'QIS4 valuation principles'*

Please complete using the same figures for all bases except for 'insurance liabilities' and 'risk margin' where the QIS4 methodology must be used in the 'QIS4 valuation principles' column.

The change in the syndicate balance arising from the difference in QIS4 net technical provisions (including the risk margin) minus current net technical provisions must be reflected in the 'Called up or paid up common equity capital, and reserves' line.

Each line must agree to the AR as follows:

<i>Description</i>	<i>AR2 column C (reverse sign)</i>
Called up or paid up common equity capital, and reserves*	32
Subordinated liabilities/hybrid capital	-
Other financial liabilities	-
Unit linked liabilities	-
Insurance liabilities*	36
Risk margin (net of reinsurance)*	-
Deposits from reinsurers	38
Intra-group transactions (other than reinsurance)	-
Deferred tax liabilities	-
Employee benefits	-
Other liabilities	37+44+50+51
Total*	52

\* In the 'QIS4 valuation principles' column please report the gross QIS 4 technical provisions excluding the risk margin ie I. Health and NonLife cell D32 in 'insurance liabilities' and risk margin in 'risk margin (net of reinsurance)'. The 'Called up or paid up common equity capital, and reserves' and 'total' lines will accordingly be modified.

### 4. Current Solvency I position

Please leave blank, except where you know the current 'MCR' for that syndicate ie in the case where a single member or group of members which support that syndicate only, in which case the MCR at 31.12.2007 for that/those members should be reported.

If completing in respect of a group, please complete based on the disclosures made in your 2007 FSA return.

## 5. QIS 4 balance sheet assets - additional information

### 5.1. Intangibles

Please leave blank.

### 5.2. Reinsurance

Please complete in respect of the QIS4 position as set out on the spreadsheet. Cell E77 = F24.

### 5.3. Participations

Please leave blank.

### 5.4. Investment in securities

In respect of syndicate assets, each line must be consistent with the numbers reported in AR201 column A:

<i>Description</i>	<i>AR201 column A</i>
Fixed interest securities – government	5
Fixed interest tranching securitisations	-
Fixed interest securities – other	6
Tranching securitisations – other	-
Variable interest securities – other	7+8

Cell E121 must equal cell F28.

### 5.8. Valuation method applied for assets

Please complete in percentages as set out on the spreadsheet.

## 6 QIS 4 balance sheet liabilities – additional information

### 6.1 Eligible elements

In respect of assets held by the syndicate, please put the 'reserves' amount from spreadsheet line 44 into cell D150 (Solvency I) and F150 (QIS4). However, if the syndicate has FAL invested with the syndicate, this should be included at cell D149 (Solvency II) and F149 (QIS4). Any LOC's/Bank Guarantees should be included in 'ancillary own funds'

6.1.4 – 'unbudgeted' supplementary calls – please leave blank.

### 6.2. Subordinated liabilities and other hybrid instruments

Please leave blank.

### 6.3. Detail of insurance liabilities (gross)

Please enter the same numbers in both the 'current bases' and 'Solvency 1' columns.

In respect of syndicate liabilities, each line must be consistent with the numbers reported in AR205 column A.

<i>Description</i>	<i>AR205 column A (reverse sign)</i>
Provision for unearned premium (life)	5
Provision for unearned premium (non-life)	5
Life assurance provision	-
Claims provisions (life)	1+2+3
Claims provisions (non-life)	1+2+3
Provision for bonuses and rebates (life)	-
Provision for bonuses and rebates (non-life)	-
Equalisation provision	-
Other provisions (life)	6+4
Other provisions (non-life)	6+4
Thereof: provisions for unexpired risk	4
Total	7 = line 48 of this spreadsheet

### Detail of QIS4 insurance liabilities

Please enter as set out on the spreadsheet. All liabilities will normally be non-hedgeable.

### 6.4 Additional information on risk margin

This should equal the balance sheet value.

### 6.6 Valuation method applied for liabilities

Please enter as set out on the spreadsheet.

## **I. Premiums**

### 1. Premiums by line of business

Please complete as set out on the spreadsheet.

Nothing is to be entered in the Accident & Health section (spreadsheet rows 18 to 21), however you may allocate Accident & Health business to Health (other) in row 22.

You may use any reasonable basis to allocate business to the CEIOPS lines of business. Appendix 2 contains a suggested mapping of each risk code to a line of business.

By using a risk code allocation only non-proportional specific risk codes will be mapped to classes 13-15. All other business is mapped to classes 1-12.

Total premiums must be consistent with the numbers reported in AR1 column A as set out below:

<i>Description</i>	<i>AR1 column A</i>
Total gross written	3
Total gross earned	3+6
Total ceded written	4 (reverse sign)
Total ceded earned	4+7 (reverse sign)

## 2. Premiums by geographical area

This is a new QIS data requirement, which is being collected to enable a credit for geographical diversification to be applied in the SCR calculation.

A reasonable basis of estimation may be applied in completing this section. The total for each line of business must agree to the relevant amount in section 1 (premiums by line of business).

The provision of data by geographical area is optional, although we do encourage agents to carry out this exercise if possible. However, even if you do not seek to gain benefit for diversification, it is still necessary to enter the net earned premium, net written premium and expected net written premium under one of the countries specified in order for the spreadsheet to work correctly.

### **I. Life (*applicable to life syndicates only*)**

Please complete as set out on the spreadsheet.

Current basis – amounts must be consistent with AR201/AR205 column A as set out below:

<i>Description</i>	<i>AR (reverse sign)</i>
Gross – current bases	
- provision for unearned premium	AR205 line 5
- life assurance provision	AR205 lines 1+2+3+4
- provision for bonuses and rebates	-
- other provisions	AR206 line 6
- unit linked	-
- deferred acquisition costs	AR201 line 57 (do not reverse sign)
Net – current bases	
- provision for unearned premium	AR205 line 5 + AR201 line 24
- life assurance provision	AR205 lines 1+2+3+4 +AR201 lines 21+22+23
- provision for bonuses and rebates	-
- other provisions	AR205 line 6 + AR201 line 25
- unit linked	-
- deferred acquisition costs	AR201 line 57 (do not reverse sign)

All Lloyd's life business should be included as "death"

## I. Health and Non-Life (*applicable to non-life syndicates only*)

This form analyses technical provisions by line of business.

### 1. Provisions (current and QIS4)

For each line, the analysis by line of business must agree to the total disclosures on the balance sheet. In addition the total provisions must be consistent with the AR as set out below:

<i>Description</i>	<i>AR</i>
Gross – current basis	
Provision for unearned premium	AR205 line 5
Life assurance provision	-
Claims outstanding	AR205 lines 1+2+3
Provision for bonuses and rebates	-
Equalisation provision	-
Other technical provisions	AR205 line 6+4
- thereof: provisions for unexpired risk	AR205 line 4
Deferred acquisition costs	AR201 line 57 (do not reverse sign)
Net – current basis	
Provision for unearned premium	AR205 line 5 + AR201 line 24
Life assurance provision	-
Claims outstanding	AR205 lines 1+2+3 AR201 lines 21+22
Provision for bonuses and rebates	-
Equalisation provision	-
Other technical provisions	AR205 line 6+4 + AR201 line 23+25
- thereof: provisions for unexpired risk	AR205 line 4 + AR201 line 23
Deferred acquisition costs	AR201 line 57 (do not reverse sign)

You may use any reasonable basis to allocate business to the CEIOPS lines of business. Appendix 2 contains a suggested mapping of each risk code to a line of business. Please do not enter anything in the health (long-term) or health (short-term) columns (spreadsheet columns E and F.) Health (other) may be used for ‘accident and health’ business.

Please analyse technical provisions between direct (including facultative), proportional reinsurance and non-proportional reinsurance.

Please note that amounts in section 1 on the QIS4 basis should be discounted best estimate only and should not include the risk margin. Agents should attempt where possible to enter true best estimate figures here (i.e. estimates that contains no margins for prudence or optimism).

Where possible, agents should attempt to enter a premium provision (lines 34 and 38) which allows for anticipated profit on new business rather than simply entering a UPR in this section.

### 2 Risk margins

A helper sheet which incorporates various simplifications for the cost of capital approach is available to assist agents with calculating this risk margin. The FSA has also provided a similar non life risk margin helper tab and accompanying instructions (available from the FSA website). An alternative simplification is given in the simplifications workbook – please also see the simplifications section of this note.

You should select which method you are using to calculate the risk margin in row 100.

### 3 Own estimate of standard deviation (optional)

This section is optional and provides agents with a means of using entity specific standard deviations for both premium and reserve risk. If this option is chosen, agents should ensure that they are using the prescribed basis for calculation, as described in the technical specification. If carrying out this option, please ensure that the switch in row 111 is set accordingly.

### 4 Historical data

Data which is input into this section will be used to determine an undertaking specific standard deviation to apply to premium risk. Historical ULRs should ideally be on an accident year basis and should reflect the expected ULR as at the end of the year in question. Most agents will need to use sensible approximations to complete this section. All business should be included in these historical ULRs (e.g. agents should not attempt to strip out catastrophe losses or RITC business).

Please note that the formula in the spreadsheet applies a credibility weighting to own data and it may therefore still be worthwhile providing some data even if the maximum number of years of historical experience is not available.

### 5 Best estimate of outstandings by geographical area

Claim amounts can also be provided by geographical area on this page if agents wish to gain credit for geographical diversification. Again, a reasonable approximation should be made. In order to gain the maximum credit available for diversification, agents should complete this section as well as the geographical split of premium.

Entries in this section should be net best estimates and the total for each class should therefore be equal to the amounts in row 39.

## **I. Scenarios**

Please complete in accordance with the instructions.

### 1 Market risk scenarios and 2 Counterparty default risk

Results of the market risk and counterparty default risk stress tests must be entered in these sheets. There are various helper tabs and simplification options which may be useful for calculating these results. Please also see the helper tabs and simplifications section below.

### 3 Life risk scenarios and 4 Accident and health scenarios

Please ignore these sections.

### 5 Non-life scenarios

The results of the non-life catastrophe risk element of the SCR must be input in this section. For QIS 4, there is a new 3 layer approach to catastrophe risk where the options are a) a formulaic approach based on premiums, b) a regulator specified scenario and c) an undertaking specified scenario. Lloyd's would urge agents to attempt approach c) (note that approach b) has not been specified by the UK regulator and is therefore not an option for QIS 4). If nothing is entered in this section, the default is to use the formulaic approach.

#### 6 Adjustment between BSCR and SCR

Please ignore the adjustment for deferred taxes which is not relevant for syndicates.

#### 7 Ring-fenced structures

Please ignore this section.

### **Qualitative questionnaires**

#### **Q. General questions**

This sheet requests general qualitative information on the completion of the QIS 4 exercise. Please complete as indicated on the spreadsheet. A word version of the questionnaire is also available on the CEIOPS website if agents have additional comments to make.

#### **Q. Operational risk**

This sheet requests qualitative information relating to operational risk within your organisation. Please complete as indicated on the spreadsheet.

#### **Q. Internal Model**

This sheet requests qualitative information relating to your current internal model. Please complete as indicated on the spreadsheet.

Note that this sheet only contains questions 1 to 3 of 51 relating to internal models. The remaining questions form part of the internal models plug in (see 'IM. Internal Models Questions 2' below).

#### **Internal models plug in**

The workbook plug in for internal models is available from the CEIOPS website and consists of 5 separate sheets:

##### IM. General

Please enter participant information as per sheet I. General section 1.

##### IM. Internal Model Results

Please enter the results of your internal model exercise in this section, using reasonable approximations to split the total result into the QIS4 required categories.

A reasonable approach for this section would be to use, as a starting point, the output of your 2008 ICA exercise. However, agents are of course free to adapt their internal models to be more consistent with the Solvency II basis and to provide the results of this exercise in this section if they wish to.



Where premium risk and reserve risk is required in rows 30 to 41, please enter your equivalent underwriting and reserving risk figures,

Premiums (for the prospective year) and claims (reserves) by line of business are also required on this sheet.

#### IM. Internal Model Parameters

Please enter equivalent parameters from your internal model. Again, reasonable approximations may need to be made in order to convert parameters to fit in with the QIS4 framework.

#### IM. Internal Model Risk Measures

Please enter the risk measure, confidence level and time horizon used within your internal model. For those using their 2008 ICA as a basis for their internal model results, this should be 99.5% VaR with one year of new business and all risks considered to ultimate. If this is the case, we suggest entering "1 year" into the time horizon cell.

#### IM. Internal Models Questions 2

This sheet contains the remaining questions on internal models (questions 4 to 51). Please also see the internal models questionnaire notes above.

**Results section****TS.VIII.A-C SCR OpRisk BSCR**

No input required. This sheet contains the results of the SCR calculation split into the basic SCR (BSCR), operational risk element (SCROp) and adjustments for deferred tax and future profit sharing (Adj).

**TS.XV MCR**

No input required. This sheet shows the results of the MCR linear approach and the MCR combined approach (linear approach after application of the floor and cap).

**O. Graphical output**

Please insert the internal model SCR result in section 3, cell E48.

**Calculations section****TS.IX Market risk**

No input required. This sheet contains the intermediate calculations required to determine the market risk element of the SCR. The results in column J are passed into the SCR calculation sheet.

**TS.X Counterparty risk**

No input required. This sheet contains the intermediate calculations required to determine the counterparty risk element of the SCR. The results in column D are passed into the SCR calculation sheet.

**TS.XI Life Underwriting**

No input required.

**TS.XII.A Health, TS. XII.B Health long term, TS.XII.C Health short term, TS. XII.D Workers compensation**

No input required in any of these sheets. Intermediate calculations for Health (other) are contained in TS.XII.C Health short term and TS.XII.A Health. There should be no business allocated to any other Health class,

**TS.XIII Non-Life**

No input required. This sheet contains the intermediate calculations required to determine the non life underwriting element of the SCR. The results in J9 (SCR NonLife) are passed into the SCR calculation sheet.

***Other sheets*****P. Parameters**

No input required. This sheet contains all of the prescribed parameters used within the QIS4 exercise.

**D. Datasets**

This sheet contains a summary of all the data input for the QIS4 exercise. In most cases, no input is required on this sheet. However, this sheet can be used to select which dataset is used (if for example you have alternative sets of results saved). Please input the dataset used into cell D2 if this is the case.

## **Helper workbook**

The helper workbook contains the following helper tabs:

### **H. Index**

Contains hyperlinks to all helper tabs.

### **H. Used term structure**

This sheet provides interest rate term structures as at the end of 2007 for various EEA and other currencies for use when discounting best estimate provisions. It also contains the option to enter own yield curves if none of the pre-populated term structures are appropriate. The Euro term structure is based on swap rates and the other currencies are also derived consistently – any interest rate term structures for non specified currencies should also use a similar approach.

### **H. Value of liabilities**

This helper tab can be used to calculate the discounted value of liability cashflows based on the yield curve selected in 'H. Used term structure' above. The inputs to this sheet are the cashflows payable.

### **H. Value of FI assets**

Helper tab for use in determining interest rate risk (section 1 of I. Scenarios). Calculates the effect of upwards and downwards shocks in interest rates based on the selected yield curve. User must input annual coupon, amount payable on redemption, year of redemption and current market value.

### **H.RM Non-Life**

This helper tab performs the cost of capital calculation by calculating the present value of the required elements of the SCR for time  $t=0$  and subsequent years. User must input claims and premiums provisions and run off patterns (claims and premiums) for each class of business.

### **H. Spread risk**

Helper tab for use in determining spread risk for bonds and structured credits for section 1.5 of I. Scenarios. User must input rating class, modified duration and market value. The output in rows 8 to 15 can then be used directly in rows 70-77 of I.Scenarios.

### **H. Concentration risk**

Helper tab for determining concentration risk (cell D97 of I.Scenarios). User must input total assets, counterparty, rating class, equity exposure, fixed income exposure and specifically protected debt instruments,

### **H. Counterparty risk**

Helper tab for counterparty default risk. Output from this tab can then be used in cells D103 and D104 of I. Scenarios. Please note that there is still a considerable amount of work that needs to be done outside of this helper tab in determining reinsurance counterparty risk. The SCR needs to be calculated with and without each reinsurance counterparty and the results are used as an input to this sheet (rather than this being something which the helper

tab calculates). The simplification to this outlined in the technical specification is to carry out these calculations for each rating class rather than for each counterparty, although this is still likely to involve a considerable amount of work. Please also see below for details of the counterparty default risk simplification spreadsheet.

***Simplification workbook***

This workbook allows agents to carry out various simplified approaches to some of the calculations within the main QIS 4 workbook.

The sheets that are likely to be of most value to agents are:

**S. Reinsurance**

This tab carries out the simplification described in section TS.II.B.31 of the technical specification for calculating reinsurance recoverables using QIS 4 principles.

**S. Risk Margins Non-Life**

This tab carries out the simplification as described in section TS.II.C.25 of the technical specification for calculating the non-life risk margin under QIS 4. Note that the calculation carried out in this sheet is not the same as the calculation carried out in the risk margin sheet in the helper workbook (which uses the approach described in section TS.II.C.20). The calculation in this sheet provides an alternative simplified version.

**S. Market Risk**

This tab provides simplifications for interest rate risk (TS. IX.B9), equity risk (TS.IX.C20) and spread risk (TS.IX.F19). It also provides a dampener calculation for equity risk (TS.IX.C26).

**S. Counterparty Default**

This tab provides simplifications for all elements of counterparty default risk (TS.X.A.22) – namely counterparty risk for reinsurance, counterparty risk for derivatives, counterparty risk for intermediaries and counterparty risk for other credit exposure.

# **SOLVENCY II**

## **LLOYD'S RISK CODE MAPPINGS FOR QIS4**

**MAY 2008**



<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
1	Marine, aviation and transport
2	Marine, aviation and transport
3	Marine, aviation and transport
4	Marine, aviation and transport
5	Marine, aviation and transport
6	Marine, aviation and transport
7	Marine, aviation and transport
8	Marine, aviation and transport
9	Marine, aviation and transport
1E	Marine, aviation and transport
1T	Health (other)
2E	Marine, aviation and transport
2T	Marine, aviation and transport
3E	Fire and other damage to property
3T	Marine, aviation and transport
4E	Third-party liability
4T	Credit and suretyship
5T	Motor, third party liability
6T	Fire and other damage to property
7T	Third-party liability
8T	Marine, aviation and transport
AG	Fire and other damage to property
AO	Marine, aviation and transport
AP	Marine, aviation and transport
AR	NP reins MAT
AW	Marine, aviation and transport
AX	NP reins MAT
B	Marine, aviation and transport
B2	Fire and other damage to property
B3	Fire and other damage to property
B4	Fire and other damage to property
B5	Fire and other damage to property
BB	Third-party liability
BD	Fire and other damage to property
BS	Credit and suretyship
CA	Fire and other damage to property
CF	Credit and suretyship
CN	NP reins casualty
CP	Credit and suretyship
CR	Credit and suretyship

<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
CT	Marine, aviation and transport
CX	Marine, aviation and transport
D2	Third-party liability
D3	Third-party liability
D4	Third-party liability
D5	Third-party liability
DC	Fire and other damage to property
DM	Third-party liability
DO	Third-party liability
DX	NP reins casualty
E2	Third-party liability
E3	Third-party liability
E4	Third-party liability
E5	Third-party liability
E6	Third-party liability
E7	Third-party liability
E8	Third-party liability
E9	Third-party liability
EA	Third-party liability
EB	Third-party liability
EF	Fire and other damage to property
EG	Marine, aviation and transport
EH	Marine, aviation and transport
ET	Marine, aviation and transport
EW	Marine, aviation and transport
F	Fire and other damage to property
F2	Third-party liability
F3	Third-party liability
FA	Fire and other damage to property
FC	Marine, aviation and transport
FG	Credit and suretyship
FM	Credit and suretyship
FR	Fire and other damage to property
FS	Credit and suretyship
G	Marine, aviation and transport
GC	Marine, aviation and transport
GH	Third-party liability
GM	Third-party liability
GN	Third-party liability
GP	Third-party liability
GS	Fire and other damage to property
GT	NP reins casualty

<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
GX	NP reins MAT
H	Marine, aviation and transport
H2	Marine, aviation and transport
H3	Marine, aviation and transport
HA	Fire and other damage to property
HP	Fire and other damage to property
HX	NP reins MAT
JB	Fire and other damage to property
K	Health (other)
KA	Health (other)
KC	Health (other)
KD	Health (other)
KG	Health (other)
KK	Health (other)
KL	NP reins casualty
KM	Health (other)
KS	Health (other)
KT	Health (other)
KX	NP reins casualty
L	Marine, aviation and transport
L2	Marine, aviation and transport
L3	Marine, aviation and transport
LE	Legal expenses
LJ	Miscellaneous non-life insurance
LX	NP reins MAT
M2	Motor, other classes
M3	Motor, other classes
M4	Motor, other classes
M5	Motor, third party liability
M6	Motor, third party liability
M7	Motor, third party liability
MA	Motor, other classes
MB	Motor, third party liability
MC	Motor, third party liability
MD	Motor, other classes
ME	Motor, third party liability
MF	Motor, third party liability
MG	Motor, other classes
MH	Motor, third party liability
MI	Motor, third party liability
MK	Motor, other classes
ML	Motor, third party liability

<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
MM	Motor, other classes
MN	Motor, third party liability
MP	Motor, other classes
N	Fire and other damage to property
NA	Third-party liability
NB	Fire and other damage to property
NC	Third-party liability
NL	Third-party liability
NP	Fire and other damage to property
NX	NP reins property
O	Marine, aviation and transport
OX	NP reins MAT
P	Credit and suretyship
P2	Fire and other damage to property
P3	Fire and other damage to property
P4	Fire and other damage to property
P5	Fire and other damage to property
P6	Fire and other damage to property
P7	Fire and other damage to property
PB	Credit and suretyship
PC	Credit and suretyship
PD	Fire and other damage to property
PE	Credit and suretyship
PF	Credit and suretyship
PG	Fire and other damage to property
PI	Third-party liability
PL	Third-party liability
PM	Third-party liability
PN	Credit and suretyship
PO	Credit and suretyship
PP	Credit and suretyship
PQ	Assistance
PR	Credit and suretyship
PS	Credit and suretyship
PU	Credit and suretyship
PW	Credit and suretyship
PX	Marine, aviation and transport
PZ	Credit and suretyship
Q	Marine, aviation and transport
QL	Marine, aviation and transport
QX	NP reins MAT
RX	NP reins MAT

<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
SB	NP reins casualty
SC	Marine, aviation and transport
SL	Marine, aviation and transport
SO	Marine, aviation and transport
SR	NP reins MAT
SX	Marine, aviation and transport
T	Marine, aviation and transport
TC	Miscellaneous non-life insurance
TE	Fire and other damage to property
TO	Fire and other damage to property
TR	Fire and other damage to property
TS	Marine, aviation and transport
TU	Fire and other damage to property
TX	NP reins MAT
UA	Third-party liability
UC	Third-party liability
V	Marine, aviation and transport
VL	Marine, aviation and transport
VX	NP reins MAT
W	Marine, aviation and transport
W2	Third-party liability
W3	Third-party liability
W4	Third-party liability
WA	Credit and suretyship
WB	Marine, aviation and transport
WC	Third-party liability
WL	Fire and other damage to property
WS	NP reins casualty
WX	NP reins MAT
X1	NP reins MAT
X2	NP reins MAT
X3	NP reins property
X4	NP reins casualty
X5	NP reins MAT
XA	NP reins property
XC	NP reins property
XD	NP reins casualty
XE	NP reins MAT
XJ	NP reins property
XL	NP reins property
XM	NP reins property
XP	NP reins property

<b>LLOYD'S RISK CODE</b>	<b>CEIOPS QIS4 LINE OF BUSINESS</b>
XR	NP reins property
XT	NP reins property
XU	NP reins property
XX	NP reins property
XY	NP reins MAT
XZ	NP reins MAT
Y1	NP reins MAT
Y2	NP reins MAT
Y3	NP reins MAT
Y4	NP reins MAT
Y5	NP reins MAT
Y6	NP reins MAT
Y7	NP reins MAT
Y8	NP reins MAT
Y9	NP reins MAT
ZX	Marine, aviation and transport