

## SUGGESTED GUIDELINES FOR OPERATIONAL RISK ALLOWANCE

### Version 1.3 Effective from 31 December 2012

#### 1 BACKGROUND

- 1.1 Section 6.10.9.1 of SAP 104 states that “The Statutory Actuary must ensure that an appropriate level of capital is held to cover operational risk” but does not provide detailed guidance. These guidelines are intended to assist in this regard by providing suggestions on how to make allowance for operational risk in the CAR.
- 1.2 Many regulatory regimes are aware of and make reference to the need for an allowance for operational risk, but few have developed any specific formulae or guidelines. General themes are as follows:
  - 1.2.1 A number are awaiting the finalisation of Solvency II and the new IFRS standards before making specific recommendations.
  - 1.2.2 There is a strong emphasis on qualitative reasoning for the allowances – low operational allowances must be supported by descriptions of strong Enterprise Risk Management (ERM) practices, high levels of risk transfer and mitigation, an independently tested system of controls etc.
- 1.3 A range of approaches is available when determining the operational risk allowance in the CAR. A possible starting point for the Statutory Actuary would be to calculate the Solvency II operational risk allowance. Where the Solvency II numbers are not considered appropriate, the Statutory Actuary should consider a range of factors before setting the operational risk allowance. These include:
  - 1.3.1 The effectiveness of the company's internal controls and operational risk framework
  - 1.3.2 Historic operational loss experience, both internal to the company and industry data (where available)
  - 1.3.3 Where deemed necessary, specific operational risk scenarios for the company. The Statutory Actuary is referred to the Individual Capital Assessment methodology of the UK's FSA, some extracts from which are included below.
  - 1.3.4 Other international operational risk capital requirements, except in territories where operational risk is implicit or excluded from the capital requirements.
- 1.4 It should be noted that the operational risks allowed for in the CAR do not need to cover:
  - 1.4.1 Risks that are immaterial
  - 1.4.2 Risks that are fully covered elsewhere in the CAR. Note, however, that while historic experience may include some operational losses, CAR should cover extreme (or tail) experience that may not have occurred in the past.

## 2 SOLVENCY II

2.1 At the time of writing (September 2008) Solvency II's operational risk allowance has not been finalised. The proposals are currently being passed through a series of Quantitative Impact Studies, the latest of which is QIS4. The Statutory Actuary should be mindful of the potential for changes to the Solvency II calculations, and should consider the following:

- 2.1.1 The Solvency II impact studies are intended to ensure solvency at a 99.5% confidence level over one year.
- 2.1.2 The impact studies contain "risk based" capital measures, similar to OCAR (as opposed to TCAR). Inclusion within CAR of an operational risk allowance would thus generally take place in the IOCAR calculation.
- 2.1.3 While the current Solvency II proposals imply a 100% correlation between operational risk and other risks, European insurers have opposed this and proposed the recognition of diversification effects (see comments to QIS3 below).

### 2.2 QIS 3

2.2.1 The third Quantitative Impact Study (QIS 3) released as part of the Solvency II project contained an allowance for operational risk as set out below.

#### 2.2.2 Description:

Operational risk is the risk of loss arising from inadequate or failed internal processes, people, systems or from external events. Operational risk also includes legal risks. Reputation risks and risks arising from strategic decisions do not count as operational risks. The operational risk module is designed to address operational risks to the extent that these have not been explicitly covered in other risk modules.

#### 2.2.3 Input:

Parameter	Description
TP(life)	Total life insurance liabilities (gross of reinsurance)
TL(h)	Total health insurance liabilities (gross of reinsurance)
EARN(life)	Total earned life premium (gross of reinsurance)
EARN(h)	Total earned health insurance premium (gross of reinsurance)
BSCR	Basic Standard Capital Requirement (similar to OCAR)

#### 2.2.4 Output:

OpRisk	The capital charge for operational risk
--------	---

#### 2.2.5 Calculation:

The capital charge for operational risk is determined as follows:

$$OpRisk = \min \left\{ \begin{array}{l} 30\% * BSCR; \\ \max \left\{ \begin{array}{l} 0.03 * EARN(life) + 0.02 * EARN(h); \\ 0.003 * TP(life) + 0.002 * TP(h) \end{array} \right\} \end{array} \right\}$$

2.2.6 QIS3 also notes that the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) is still working on an appropriate allowance for unit linked business.

2.2.7 In response to QIS3, European insurers provided the following comments on the operational risk capital calculation:

“Overall, the majority of undertakings that answered the questionnaire seem to recognise operational risk as an area that requires special attention. However, many participants considered the operational risk module as tested under QIS3 as being too simplistic. They opposed the 100% correlation between operational risk and other risk factors and demanded the recognition of diversification effects. Second, participants in 14 countries criticised the module for not taking into account the quality of operational risk management within the insurance firm – in its current form, the formula would not incentivise the development of adequate risk management systems. As a third area of concern participants in six countries mentioned the use of premiums and provisions instead of administrative costs – especially for unit-linked business the latter is seen as the more appropriate measure which would also be more in line with Basel II provisions.”

### 2.3 QIS4

2.3.1 The draft technical specifications for QIS 4 expand on the QIS3 formula as follows.

2.3.2 Inputs:

Parameter	Description
TP(life)	Total life insurance liabilities (gross of reinsurance)
TP(life_ul)	Total life insurance liabilities for unit-linked business (gross of reinsurance)
TL(h)	Total health insurance liabilities (gross of reinsurance)
EARN(life)	Total earned life premium (gross of reinsurance)
EARN(life_ul)	Total earned life premium for unit-linked business (gross of reinsurance)
EARN(h)	Total earned health insurance premium (gross of reinsurance)
EXP(ul)	Amount of annual expenses (gross of reinsurance) incurred in respect of unit-linked business
BSCR	Basic Standard Capital Requirement (similar to OCAR)

2.3.3 Calculation:

$$OpRisk = \min \left\{ \begin{array}{l} 0.30 * BSCR; \\ \max \left\{ \begin{array}{l} 0.03 * [EARN(life) - EARN(life\_ul)] + 0.02 * EARN(h); \\ 0.003 * [TP(life) - TP(life\_ul)] + 0.002 * TP(h) \end{array} \right\} \end{array} \right\} + 0.25 * EXP(ul)$$

## 3 REGULATORY REGIMES AROUND THE WORLD

### 3.1 Individual Capital Adequacy Standards (UK)

3.1.1 UK insurers are required to submit an Individual Capital Assessment that includes an allowance for operational risk. The FSA's Prudential Sourcebook for Insurers sets out the overall requirements for ICA's. In addition the UK actuarial profession provides ICA guidance in GN46, and established a working party on life insurance operational risk quantification. Lloyd's has also recently issued "ICA 2008 Minimum Standards and Guidance" that includes guidance on operational risk allowances.

Internet references to these documents, as well as extracts of the relevant sections, are included below.

- 3.1.2 Prudential Sourcebook for Insurers (UK)  
([http://www.fsa.gov.uk/pubs/policy/ps04\\_16.pdf](http://www.fsa.gov.uk/pubs/policy/ps04_16.pdf) )

**“Factors to consider when assessing operational risk**

2.3.29 Operational risk refers to the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

**PRU 2.3 Individual capital assessment**

2.3.30 A firm may wish to refer to SYSC 3A and PRU 6.1 when carrying out its operational risk assessment.

2.3.31 Examples of some issues that a firm might want to consider include:

- (1) the likelihood of fraudulent activity occurring that may impact upon the financial or operational aspects of the firm;
- (2) the obligation a firm may have to fund a pension scheme for its employees;
- (3) the technological risks that the firm may be exposed to regarding its operations. For example, risks relating to both the hardware systems and the software utilized to run those systems;
- (4) the reputational risks to which the firm is exposed. For example, the impact on the firm if the firm's brand is damaged resulting in a loss of policyholders from the underwriting portfolio;
- (5) the marketing and distribution risks that the firm may be exposed to. For example, the dependency on intermediary business or a firm's own sales force;
- (6) the impact of legal risks. For example a non-insurance related legal action being pursued against the firm;
- (7) the management of employees – for instance staff strikes, where dissatisfied staff may withdraw goodwill and may indulge in fraud or acts giving rise to reputational loss;
- (8) the resourcing of key functions such as the risk management function by staff in appropriate numbers and with an appropriate mix of skills such as underwriting, claims handling, accounting, actuarial and legal expertise;

2.3.32 A firm may consider that investigation of operational weaknesses and corrective action is a better response than holding capital and may consider that a certain degree of operational risk is within its pre-defined risk tolerance. However, until the firm corrects any identified deficiencies a firm should consider capital as a (interim) response to the risk.”

- 3.1.3 GN46: Individual Capital Assessment (v1.1 May 2006)  
(<http://www.actuaries.org.uk/research-and-resources/documents/gn46-individual-capital-assessment-version-11-adopted-bas-19-may-20>)

“3.3 This GN does not contain any specific standards relevant to the identification of and assessment of capital required to meet operational or group risks, which need to be considered. Nevertheless, if credible historic data on any relevant operational or group risks is available, either within the firm or from relevant industry or non-industry sources, the data should be regarded as an important input to the assessment of the potential exposure to risks of the type to which the data applies. More subjective methods will need to be used in the absence of credible data.

Account should be taken of any obligation which may exist in some adverse scenarios to provide financial support to associated companies.”

- 3.1.4 Lloyd's ICA 2010 Minimum Standards and Guidance  
(<http://www.lloyds.com/The-Market/Business-Timetable/Solvency/~media/Files/The%20Market/Business%20timetable/ICA/2010ICAMinimumStandardsandGuidance.pdf>)
- 3.1.5 Quantifying Operational Risk In Life Insurance Companies (Institute Working Party) May 2006  
(<http://www.actuaries.org.uk/research-and-resources/documents/quantifying-operational-risk-life-insurance-companies>)

### **3.2 Swiss Solvency Test**

In the Swiss Solvency Test operational risk is explicitly excluded from the quantitative capital assessment. The regulator took the view that any formula would be unreliable and has instead focused on how insurers manage operational risk as part of their qualitative review.

### **3.3 Basel II**

Banks' operational risk capital calculation under Basel II is described in the following document (along with other risks):  
<http://www.bis.org/publ/bcbs128b.pdf>