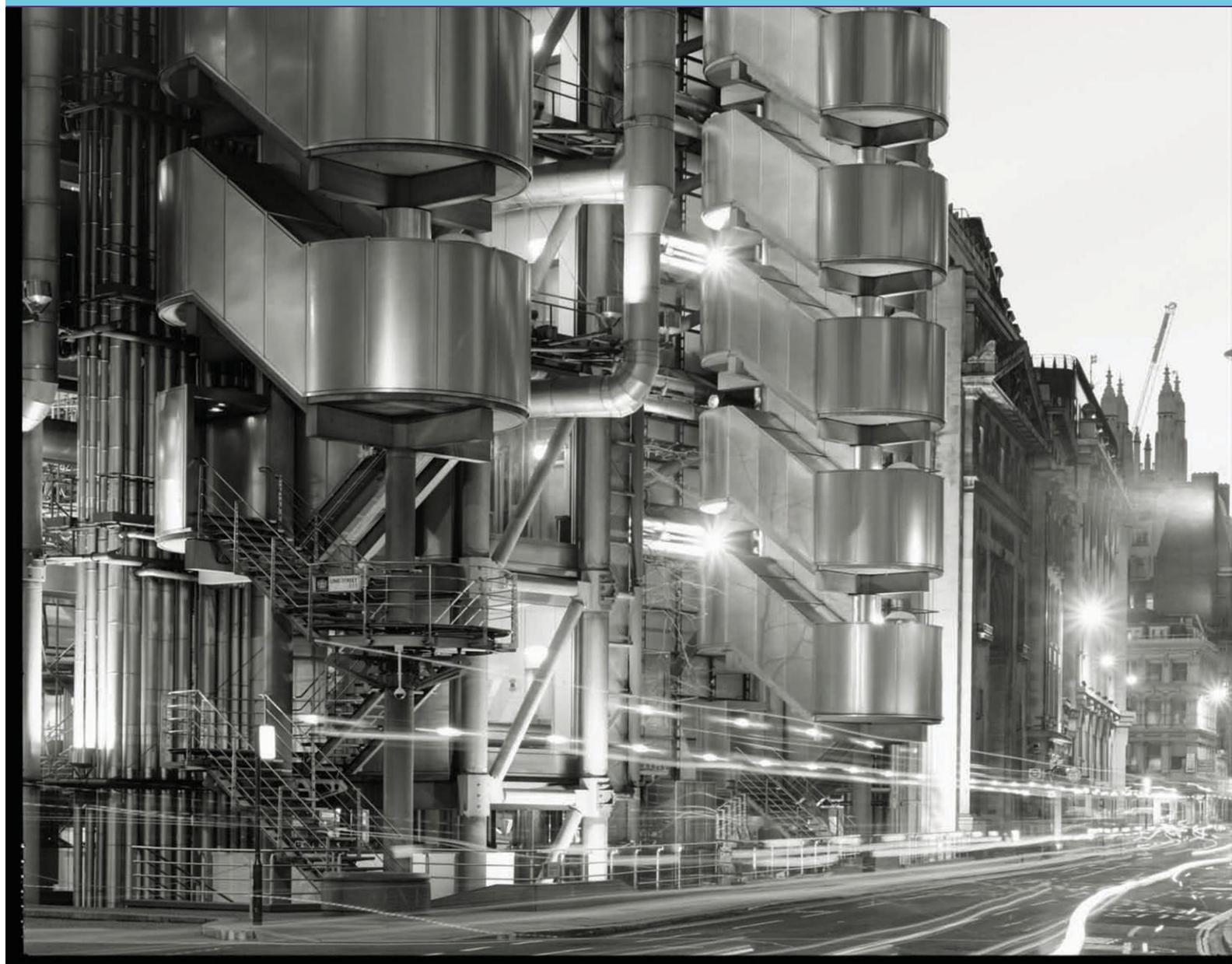


# SOLVENCY II SYNDICATE SCR FOR 2015 YEAR OF ACCOUNT

**INSTRUCTIONS FOR SUBMISSION OF THE LLOYD'S CAPITAL RETURN  
AND METHODOLOGY DOCUMENT FOR CAPITAL SETTING**

**GUIDANCE NOTES - MARCH 2014**





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# 1 PURPOSE

- 1.1 To provide instructions and guidance in respect of the contents of the Lloyd's Capital Return (LCR), its completion, and the purpose of each form.
- 1.2 To provide instructions and guidance in respect of the contents and depth of supporting material to be provided in the methodology document in respect of the Solvency Capital Requirement (SCR) as at 1 January 2015.
- 1.3 To provide information in respect of the structure and timing of Lloyd's review.



## 2 SCOPE

### Introduction

- 2.1 These instructions focus on submissions for the 2015 Syndicate SCRs for member capital setting. They do not represent a full revision of the 2010 ICA Minimum Standards & Guidance to bring them into line with full Solvency II standards. This will be conducted once the final Level 2 text is available and Level 3 guidance is produced. We expect the final Level 2 to be published in 2014.
- 2.2 The PRA has expressed an intent to allow firms to use Solvency II models under an enhanced ICAS regime prior to full implementation of Solvency II and engaged with the industry on what this means in practice. Your attention is drawn to a letter which Julian Adams sent to the CEO of all IMAF firms on 29 January 2013. In this letter, the PRA sets out its approach and encouragement of the early use of Solvency II work to meet existing ICAS requirements, an approach known as ICAS+.
- 2.3 This letter is also available on the PRA's (then the FSA's) website ([Letter to CEOs](#)) and confirms the encouraged use of Solvency II models and balance sheets to meet the ICAS requirements, as a stepping stone towards full Solvency II implementation. In particular, agents should note the following key points:
- The current ICAS rules will continue to apply
  - The PRA, within their ICAS+ review, will review the firm's ICA and set ICG; provide feedback on the development of the firm's Solvency II internal model; and provide an updated workplan for the Solvency II model review
  - The PRA will review the 'in development' ORSA.
- 2.4 The ICAS+ approach is largely consistent with the approach that Lloyd's has already introduced with respect to capital setting and the phased implementation of other elements of Solvency II. Lloyd's does not therefore expect this to impact the plans already established but we will continue to liaise with the PRA as their approach on ICAS+ develops.
- 2.5 The instructions and guidance set out in this document are based on Lloyd's interpretation of the current requirements in the current transitional phase, ICAS+. Agents should note, however, that all guidance issued is subject to on-going discussion and potential change as PRA requirements become clearer and may be affected by further guidance or instructions from the European Commission (EC) or European Insurance and Occupational Pensions Authority (EIOPA).

### Submission requirements and deadlines

- 2.6 The Lloyd's Capital Return (LCR) and supporting methodology document are required for all syndicates with an open underwriting year of account at 30 June 2014, including those in run-off or offering RITC only. This includes syndicates planning to close all years of account at December 2014, since this information is required for calculating the reinsuring member(s) capital requirement.

- 2.7 All forms within the LCR must be completed in each submission. A draft LCR must be submitted by 3 July 2014. The final LCR must be submitted by 16 September 2014. The LCR, which captures the quantitative information required including the SCR, must be submitted via the Core Market Returns system.
- 2.8 A supporting SCR methodology document and the 2015 SCR Supplementary Questionnaire must be provided by 3 July with the draft LCR and submitted as an attachment to the LCR via form 990.
- 2.9 Lloyd's will provide feedback on the July submission as soon as possible and to all agents by mid-August. Lloyd's will endeavour to at least cover all perceived significant items of feedback in this initial assessment. This does not mean that further issues will not arise as reviews and discussion continue to take place. The receipt of early feedback should enable agents to address significant issues, and reduce time pressures, prior to the September submission. It is expected that more minor items will continue to be discussed after the initial feedback.
- 2.10 Lloyd's requires agents to conduct a full validation cycle and submit a validation report by 23 September 2014. The SCR methodology document should include a summary of the validation work supporting the SCR (see Appendix 4). Agents should also note as set out at the capital briefing on 21 January, an interim validation report can be submitted with the draft SCR on 3 July. This is a voluntary additional submission and is not mandatory and does not remove the need to submit a full validation report by 23 September. The interim report, however, may form a component of the full report.
- 2.11 Where the submission has changed materially between July and September, agents should include an analysis of change with the September return. This should be consistent with the areas considered under agents' Model Change Policy. More information and detail provided on the movements between submissions will enhance the effectiveness and efficiency of our review. The analysis of change should be submitted as a separate attachment to the LCR via form 990 or included within the updated SCR methodology document. Lloyd's will require all agents to submit a report of model changes on 3 July 2014 made in conjunction with the submission of the draft SCR submission due 3 July.

### **Regulatory requirements**

- 2.12 The regulatory reporting requirements under Solvency I and the PRA Handbook continue to apply on the current basis up until the implementation of Solvency II. Consequently, solvency is calculated under the current regime, based inter alia on Lloyd's Valuation of Liabilities rules and members' Minimum Capital Resources Requirement. Solvency needs to be demonstrated on a continuous basis.
- 2.13 As noted above, Lloyd's will utilise the syndicate internal models developed for Solvency II to meet its obligations under ICAS during 2015 provided that equivalent protection is provided to policyholders, with appropriate reconciliations.
- 2.14 INSPRU requires firms to assess capital resources so that the value of assets exceeds liabilities to a 99.5% confidence level over a one year time frame. The time horizon is one year, which guidance clarifies as one year of new business and should not exclude material risks simply because they are unlikely to emerge within the next 12 months.

- 2.15 The starting point for assessing capital requirements is an assumed nil net assets balance sheet at time zero. Under ICAS, this is as valued under Solvency I, which is the audited financial statements prepared in accordance with UK GAAP including undiscounted technical provisions, subject to asset disallowances per PRA concentration limits etc. For Lloyd's, solvency also reflects loadings where Statements of Actuarial Opinions require higher reserves to cover their best estimate of future liabilities by year of account. Under Solvency II, the net nil assets are assessed on a Solvency II basis and the reconciliation between the two bases are discussed in 2.24 below.

### **One year SCR and “SCR to ultimate”**

- 2.16 The critical difference between the two risk measures is that the Solvency II regulatory one year SCR captures the risk that emerges over the next 12 months (to December 2015) and the ultimate measure captures the adverse development until all liabilities have been paid. The one year SCR is the difference between the current balance sheet (projected as at December 2014) and what it would be in one year's time (i.e. December 2015) including claims paid during the year, given a 99.5th percentile adverse outcome.
- 2.17 This means, inter alia, that at December 2015 for the one year SCR calculation, there is no need to model downside risk that would happen in 2016 on policies that were written during 2015 but expire in 2016. For example on a risk written 1 October 2015, all the risks and rewards of that policy go to the 2015 year of account, but the one year SCR would consider the adverse outcomes for events and knowledge up to 31 December 2015 and not the potential adverse outcome for the period of exposure 1 January 2016 to 30 September 2016.
- 2.18 Consequently, the outcomes on this business for the 2016 period of the policy cover are included at their mean best estimate of the premiums and claims arising – it is contracted for, so needs to be in the balance sheet at Time 1. The one year SCR at 1 January 2015 considers the adverse development in reserves over 2015 only, although our modelling shows that (particularly for long tail business) reserves can continue to move out significantly after 12 months – so within the ultimate calculation required by Lloyd's, but outside the one year SCR.
- 2.19 We consider that the ultimate SCR is the more appropriate risk measure on which to base member capital setting at Lloyd's. This captures the risk in respect of the planned underwriting for the prospective year of account in full covering ultimate adverse development and all exposures.

### **1:200 stress point is equivalent under ICAS to Lloyd's “ultimate SCR” – the Solvency II balance sheet plus ultimate SCR provides equivalent policyholder protection to ICAS**

- 2.20 For 2015, we require managing agents to prepare an SCR for each managed syndicate that meets the one year balance sheet to balance sheet Solvency II regulatory test at the 99.5th percentile. This approach is set out in the Solvency II 2013 plan guidance and has support from the LMA Solvency II committee despite the deferral of the formal Solvency II directive implementation.

- 2.21 We also require an “ultimate SCR” for member capital setting. As noted above, the ultimate SCR takes account of one year of new business in full attaching to the next underwriting year and the risks over the lifetime of the liabilities (“to ultimate”). The requirements include risks for all business attaching to the next underwriting year (through Inception Date Accounting). This is an equivalent recognition of risks and exposures and 1:200 confidence level as required under ICAS at Lloyd’s.
- 2.22 The 1:200 estimated economic loss to ultimate and associated cash flows are not materially affected by the change in presentation of the December 2014 (Time 0 or T0) balance sheet from Solvency I to Solvency II.
- 2.23 The differences in assessment of technical provisions at T0 are all identifiable, including the material change through re-allocation of future premiums from debtors to (negative) technical provisions. We consider that the impact of each and every adjustment made to technical provisions when moving from Solvency I to Solvency II is offset by a contra adjustment between ICAs and SCRs on an ultimate basis as defined by Lloyd’s in 2.16 above. This includes, for example, the run-off of the risk margin to zero in the ultimate calculation. More detail is provided in Appendix 1.
- 2.24 We consider that the aggregate of the Solvency I net nil assets at T0 plus 1:200 Capital Requirement under ICAS is materially the same as the aggregate of the Solvency II net nil assets at T0 plus 1:200 Capital Requirement per the SCR on an ultimate basis. Insurers are required to set out a reconciliation from published financial statements to their solvency position now (performed in the PRA Return) and will be required to do so under Solvency II.
- 2.25 For these reasons, we consider that preparation of SCRs to ultimate is an appropriate and prudential method of meeting ICAS requirements and provides an equivalent protection to policyholders as the ICAS regime.

### **Tiering**

- 2.26 The SCR considers the movement in basic own funds. Lloyd’s assumes that all assets held at syndicate level are tier 1 and consequently, there is no requirement for agents to take into account considerations around tiering or definitions of basic own funds, ancillary own funds etc. Agents should contact Lloyd’s as soon as possible if there is any concern that syndicate assets do not qualify as basic own funds (tier 1). Lloyd’s will address the issue of tiering within member capital outside of the syndicate SCR submission and review process.

### **Lloyd’s Capital Return**

- 2.27 Article 101 in the Level 1 Directive requires firms to ensure all quantifiable risks are taken into account and that they model their risks, including calibration to the 99.5th percentile over a one-year period (SCR). The LCR captures quantitative information that, alongside the qualitative model validation work, allows agents to demonstrate that they have systems enabling them to identify, measure, manage and report risk and calculate the SCR.
- 2.28 The LCR provides two figures for the 99.5th percentile: the Solvency II statutory one year balance sheet to balance sheet SCR and also the Lloyd’s risk to ultimate “SCR”.

The LCR provides data that forms a direct input into and is used to calibrate the Lloyd’s Internal Model (LIM). The critical data points used are the mean and the 99.5<sup>th</sup> percentile. The other distribution points are required to validate the parameterisation / calibration produced for the LIM at syndicate level.

- 2.29 The supporting analysis within each form provides additional evidence that the model is producing reasonable and adequate capital assessments for each risk category. The prescriptive basis for completion, as set out in detail in Section 5, will also enable meaningful benchmarking. These supplement the notes provided with the LCR on Core Market Returns.

### **SCR methodology documentation**

- 2.30 Although a single SCR methodology document is encouraged, where the methodology has been set out in previous Solvency II submissions to Lloyd's and remains relevant agents do not need to repeat information. A clear reference to the appropriate sections within other documentation will suffice.
- 2.31 For 2015 capital setting, the documentation is required to demonstrate that the SCR produced by the internal model meets the minimum standards under ICAS, not the revised additional tests and standards under Solvency II. The document is required to set out the methodology and derivation of capital requirements so Lloyd's review team can assess adequacy. Together with the LCR, the document should provide sufficient evidence that the SCR meets ICAS requirements, which are similar to the test set by Article 101, extended at Lloyd's to also cover the ultimate SCR.
- 2.32 As a guideline, managing agents should prepare the methodology document in accordance with requirements under Article 125 to document the design and operational details of the internal model. The document should be prepared with the objective of demonstrating equivalent compliance with Articles 121 to 124 and provide a detailed outline of the theory, assumptions and mathematical and empirical bases underlying the internal model. Agents should consider the principles of Article 231 TSIM20 in the latest Level 2 text so that "the document [is] sufficient to ensure that any independent knowledgeable party would be able to understand the design and operational details of the internal model and form a sound judgement as to its compliance with Articles 101, 112, 120 to 124 and 126". Managing agents should treat the Lloyd's review team member(s) as the knowledgeable party. Appendix 4 contains a list of topics that should be covered to enable Lloyd's review team to gain a sufficient understanding of the model.
- 2.33 Accordingly, agents should include all information that they would reasonably believe would influence the judgement of a third party regarding the appropriateness of the methodology and the adequacy of the SCR produced. As a guideline, if agents consider an analysis or commentary might be useful then we would encourage its inclusion.

### **Link to Validation**

- 2.34 Lloyd's considers model validation is an essential process both for validating the SCR and an agent's status against the tests and standards. We therefore require agents to conduct a full validation cycle and submit a validation report on 23 September 2014. The report should validate and support the SCR submission made and will also be expected to address feedback provided from Lloyd's review of the validation report submitted on 26 September 2013.

### **Interim July submission**

- 2.35 Agents should also note as set out at the capital briefing on 21 January, an interim validation report can be submitted with the draft SCR on 3 July. This is a voluntary additional submission and does not remove the need to submit a full validation report on 23 September. As noted in 2.10, the interim report may be seen as a component of the full report. Lloyd's would encourage agents to perform as much validation work as possible ahead of the final SCR number being submitted in September. In particular, some of the qualitative elements of validation (e.g. model methodology, model governance, documentation and use) can be validated ahead of the SCR submission. Lloyd's will review all validation reports submitted on 3 July and provide feedback on any critical issues to agents so that they may be addressed in the final report on 23 September.

### **Independence requirements**

- 2.36 Lloyd's considers that there should be objective challenge within the validation process; furthermore, in order to satisfy the Solvency II requirements the person taking responsibility for the validation should be independent of the model build and not "own" it. However, independent does not necessarily mean external to the firm, although Lloyd's recognises that it may be harder to achieve without some external input. Likewise, it does not mean that all the validation tests should be carried out by someone independent (i.e. agents do not need a parallel "validation team").
- 2.37 Whilst full Solvency II requirements in validation are not yet in place, in order to meet the principles of the Solvency II tests and standards, agents are required to demonstrate how independence can be achieved and that the validation process is sustainable under business as usual. Lloyd's also recognises that the independence element does not necessarily apply under ICAS but agents are encouraged to continue to adopt a degree of independence to build experience and learn lessons now ahead of full Solvency II implementation.
- 2.38 The process to achieve independence should now be reflected in agents' validation policies and whilst full independence of validation will not be mandated in 2014, the validation report submitted must include evidence of objective challenge.
- 2.39 Agents should refer to guidance previously issued on validation and this can be accessed via the following link: [Validation Guidance](#). The Guidance will be updated in April 2014; these updates will include additional examples and discussion.
- 2.40 The 2015 LCR requires the 99.8<sup>th</sup> percentile of the balance sheet distribution (form 310) and claims (form 311) on an ultimate basis. The syndicate 99.8<sup>th</sup> percentile will be used for the validation of the Lloyd's Internal Model (LIM). The LIM calculates demands on the Central Fund, which arise from syndicate losses exceeding the 99.5<sup>th</sup> percentile of their respective balance sheet distributions; validation therefore requires data points beyond syndicates' 99.5<sup>th</sup> percentiles. Agents will not be required to do additional validation of the 99.8<sup>th</sup> percentiles, nor will Lloyd's use the 99.8<sup>th</sup> as a test of the LCR.

## Capital setting

- 2.41 Members' capital is set using the new SCR models utilising the "to ultimate" calculations for CIL in November 2014 for the 2015 YOA. The eligible assets available to meet capital requirements for 2015 will be the value of funds at Lloyd's plus / minus the net balance on a Solvency II basis as at 30 June 2014. The Solvency II balance sheet submission on 4 September is in the same format as the December 2013 year-end QMC, and is supported by a limited review opinion provided by the syndicate auditors.
- 2.42 The results for the six months to December 2014 on a Solvency II basis will be taken into account in the June 2015 mid-year CIL exercise. Again, this mirrors the existing recognition of syndicate results on a half yearly basis in arrears.
- 2.43 The existing framework requiring members to remain adequately capitalised continuously remains unchanged. Consequently, managing agents remain responsible for monitoring their SCR and advising Lloyd's of material changes. Agents are also responsible for advising Lloyd's where syndicate loss experience may reasonably be expected to have eroded member capital materially. As a guideline, we would expect agents to advise Lloyd's promptly where the ultimate SCR increases by more than 10% or syndicate loss exceeds 15% of the latest agreed ultimate SCR. The consideration of capital erosion through syndicate loss should look through to a year of account level to ensure that profits on one year do not offset losses on another, where syndicate membership changes year on year are relevant.
- 2.44 Lloyd's will require an economic uplift to be applied to determine a level of member capital that supports the risk appetite of the Society including its target Financial Strength Ratings and to support its licence network. Lloyd's expects that the aggregate uplift will be similar in magnitude to the capital required through the current 35% uplift applied to syndicate ICAs. The formula and amount will be assessed by Franchise Board in Q2 and published shortly thereafter.



## 3 BASIS OF REPORTING

### Going concern

- 3.1 The SCR's should be prepared on a going concern basis. Where the capital requirement would be higher should the syndicate cease at December 2014, this should be noted on form 990.

### Balance sheet at December 2014 (Time 0)

- 3.2 The balance sheet projection at December 2014 (T0) should be prepared on the basis of net nil basic own funds on a Solvency II basis. The LCR reports the projected net technical provisions at T0 and the model should assume that equivalent assets are held.
- 3.3 When preparing the technical provisions projections, the expected claims development and payment pattern should be assumed from the date on which the projection is based up to December 2014. We appreciate that this will be subject to change and would expect agents to update their projections in the September LCR for material deviations in actual versus expected. As a minimum, that should reflect actual technical provisions at June 2014.
- 3.4 When preparing the balance sheet and assessing the assets subject to market risk, any member deficits in respect of uncalled losses should be assumed to be received in full as at 1 January 2015, with no disallowance. Agents should assume that the Society passes the required ICAS capital adequacy test.
- 3.5 We recognise that the actual level of assets held in the syndicate will differ from the required level to equalise a Solvency II balance sheet, for the known multiple differences between held reserves under GAAP and Solvency II. Agents should assume that all surpluses are immediately available for distribution to members and fall outside of the SCR modelling. This also applies to funds in Syndicates (see 3.6. below). The investments held should be pro-rated to calibrate to the level of the Solvency II technical provisions – agents should not model on the basis that the riskiest assets are distributed first.

### Funds at Lloyd's / Funds in Syndicates (FAL / FIS)

- 3.6 The investment income arising on surplus assets at syndicate level and on capital, whether provided as FAL or FIS, is outside the scope of the syndicate level SCR. Equally, the market risk associated with these assets is outside the scope and is considered within the central assets required to meet the Society capital requirement. This risk is effectively mutualised, although Lloyd's has prudential powers to require a capital charge to apply at member level where we consider it inequitable for all members (through central assets) to bear an increased level of risk brought by a member's portfolio.
- 3.7 The syndicate one year SCR and ultimate SCR should, therefore, consider solely the assets needed in the balance sheet at T0 including Solvency II technical provisions and the subsequent cash inflows on new business. This applies both to expected investment returns and the market risk associated with the portfolio.
- 3.8 Technical provisions should be set on a Solvency II basis and be subject to discounting at the risk free rate and after inclusion of the risk margin.

## **Consistency between Capital model and SBF and treatment of different loss ratios**

- 3.9 The premium volume and loss ratio assumptions for new business within the SCR submissions should be consistent with the relevant SBF they accompany (either July or September). If the July SCR is based on a roll forward of the 2014 SBF, this should be clearly stated within on the LCR form 990.
- 3.10 The principle underlying the business plan review is that loss picks are "realistic and achievable". The principle underlying the expected loss ratio selection for capital setting is that of a best estimate (i.e. mean) outcome. These two concepts are similar goals but may not always be the same. For example a syndicate may set challenging but achievable loss ratio targets which may be acceptable for business planning but could be less than a "true best estimate" and therefore not suitable for capital setting. As part of Lloyd's review it is expected that, at times, Lloyd's will:
- not be able to agree that the loss ratios are suitable for business planning or capital purposes; or
  - accept the SBF as realistic and achievable but not agree that the loss ratios are suitable for capital setting
- 3.11 In the second case, it would be normal to expect the syndicate to re-run the capital model with underlying loss ratios that are then acceptable for capital setting. However, Lloyd's also recognises that under Solvency II and in particular to support the "use test", it may be more desirable for the syndicate to continue to run the capital model on their original assumptions. This may also be the case where differences in loss picks are relatively minor and the resultant additional work and governance to re-run the model is disproportionate. In these circumstances, Lloyd's would accept any of the following options:
- The LCR is re-submitted post a full re-run of the model using the revised loss ratios. This will need to be reviewed before it can be accepted.
  - The model is re-run based on the revised loss ratios but the LCR is not re-submitted. The results of the re-run would still be provided to Lloyd's but outside of a formal LCR submission. As the syndicate had not changed the submitted SCR it would then be expected to lead to a capital load based on the results of the re-run, once it had been reviewed and accepted.
  - A bottom line adjustment is made to the SCR based on the difference in whole account net loss ratio multiplied by the net premium volume. No further resubmission of the LCR would be required. This adjustment is expected to be broadly equivalent to the first two options and was generally agreed as a reasonable approach following discussions with Committee of Actuaries in the Lloyd's Market (CALM).
- 3.12 The exact approach adopted by a syndicate should be discussed and agreed with the Lloyd's review team.

## **Foreign exchange**

- 3.13 The LCR should be reported in converted sterling using the published 31 March 2014 rates of exchange for the July submission and the 30 June 2014 rates for the September return. The rates will be set out in a Market Bulletin.
- 3.14 The managing agency may prepare its underlying model in currency and present figures in the methodology document in US dollars where that is the dominant currency of exposure. All figures presented in the LCR, however, must be reported in converted sterling, as above.
- 3.15 Lloyd's does expect models to allow for the risk of unfavourable currency fluctuations following a severe loss unless the syndicate can demonstrate that the FAL strategy would deem this unnecessary. For example, if all catastrophic losses are expected in USD and the dedicated members supporting the syndicate have a defined strategy, with history, of holding USD FAL then this risk can be assumed to be mitigated. Otherwise, this situation should be included in the models.

## **Mean balance sheet projections**

- 3.16 When preparing the mean balance sheet to ultimate (or to one year), we expect that modelled insurance premiums and claims for contracted business (pre risk margin) will run-off at the projected figures included in the T0 balance sheet – i.e. no gain or loss arises. Consequently, there should be no concept of “reserve margins” as the Solvency II technical provisions are assumed to be set at pure best estimate and these should be treated as a surplus asset (see 3.5 above).
- 3.17 Underwriting profits emerging on new business should be consistent with the loss ratio assumptions used to set capital. Note that the 2015 SBF will include both new business and the expected outcome on contracts bound prior to December 2014 that will be recognised within the T0 Solvency II balance sheet.
- 3.18 In respect of investment return, the projection to ultimate in the model may recognise compound income in respect of retained profits. We would expect the model to assume that the profit is deemed to be released as recognised annually (on a Solvency II basis) and require that this is no later in full than 36 months on RITC – this should avoid distortion in the results from inclusion of excess investment income up to the final claims payment date and would not reflect the reality of full distribution of profits at Lloyd's. Otherwise, the presentation could overstate the difference between the expected outcome and the adverse ultimate SCR. Note this only applies to mean balance sheet projections and should have no effect on the 99.5<sup>th</sup> percentile assessment of risk.
- 3.19 Regarding managing agent profit commission, we would recommend that all models exclude the impact of additional accrual of profit commissions in the mean expected balance sheets. This approach would ensure a consistent basis of preparation across all syndicates irrespective of whether profit commission is charged. Where agent models are built so that the accrual is embedded in the calculations, agents should comment on the amount of accrued PC (beyond the amount recognised in the T0 balance sheet) in the supporting methodology documentation.

### **Risk free yield curves**

- 3.20 Lloyd's publishes a schedule of applicable risk free rates shortly after each quarter end on lloyds.com. Agents may utilise the 31 March rates in projecting their technical provisions at December 2014 in the July LCR submission and as at 30 June in their September LCRs. Agents are free to use their own projected risk free rates to produce these figures, with evidence to support their selection.
- 3.21 When preparing the estimated balance sheets at December 2015 (T1) for the regulatory SCR, agents are required to use their own models and assessment of the prevailing risk free rates and the associated interest rate risk. The risk should be included within market risk in the LCR.

### **Ring Fenced Funds**

- 3.22 We consider that overseas trust fund deposits do not fall within the definition of Ring Fenced Funds and agents are not required to model these separately. The liquidity risk that arises from material overseas regulatory requirements should be included in the model. Agents should include liquidity risk within market risk when completing forms 309 and 314 in the LCR and include commentary within the SCR methodology document on their assessment of liquidity risk.

### **Contract boundaries**

- 3.23 EIOPA have not issued a definition regarding the contract boundary treatment of premium income arising under binding authorities. Our view is that the authorisation of a binder does not lead to contractual arrangements with policyholders and, therefore, we recommend that one year SCRs capture solely the contracted underlying risks not the ultimate premium under the binder. This is not mandatory and agents should explain in their documentation, where they have taken a different approach.
- 3.24 Agents should be consistent in their treatment of contract boundaries when calculating the SCR and preparing the projected T0 balance sheet and the T1 balance sheets.

### **New syndicates**

- 3.25 New syndicates are required to model hypothecated prior years when considering the SCR to ultimate. This applies to any syndicate with less than three complete years of account, including the prospective 2015 YOA. No hypothecated prior years should be included in the one year SCR calculation. Appendix 2 sets out an example of the approach to be adopted.

## 4 PRINCIPLES

### Lloyd's review

- 4.1 Lloyd's review of each syndicate ultimate SCR is designed to reach a confident conclusion on adequacy for capital setting to maintain policyholder protection.
- 4.2 We also have an obligation to ensure capital requirements at member level are set equitably. Consequently, reliance will be placed on benchmarking including comparison of individual syndicate SCRs against market averages and peers within the market.
- 4.3 We have allocated responsibility for each risk category to the most relevant department to produce a multi-disciplinary team for each syndicate. The capital review will be led by the actuary within Market Reserving & Capital (MRC). Each element of the SCR and the associated qualitative assessment has been assigned to a primary owner (for example Exposure Management have primary responsibility for assessing pre-diversified catastrophe risk) and on a "four eyes" principle an assigned challenge owner.
- 4.4 The capital reviews will also be conducted in co-ordination with the Business Plan review. Accordingly, agents should expect to deal with a number of different staff members in a co-ordinated manner during the review periods with the main capital contact being the allocated MRC actuary.
- 4.5 The review will be a ground up assessment of each risk category, alongside the top down assessment, assisted by benchmarking and peer comparisons. We expect to conduct a "full" review that will inevitably require resource and management time from agents. Over time this should facilitate a more rolling and less intensive review level as business as usual going forwards.
- 4.6 The first stage in the review will subject the LCRs to initial checks and request resubmissions or clarification, where necessary.
- 4.7 Secondly, we will produce MI comparing submissions, including the use of peer groups, to test for outliers. We expect to share this information with agents and request that the underlying reasons for differences are justified or addressed. The peer groups have been established using prospective premium mix for the 2014 YOA.
- 4.8 The third and most intensive stage will be the review of each syndicate submission and methodology. We expect this to be a mixture of desk based review and on-site meetings and / or presentations from agents.
- 4.9 We will take into account the additional information provided in the 2015 SCR Supplementary Questionnaire.
- 4.10 The initial review on the July submission will be more focussed on stages one and two but will still aim to give feedback on potential significant issues by mid-August to enable this to be considered for the September submissions.

## **Uncertainty**

- 4.11 Simulation error is common to all models. Where applicable, we would expect agents to select from the “middle of the range” when compiling their SCRs and advise us through the methodology document of the potential impact of selecting alternative runs / random seeds.
- 4.12 The uncertainty in establishing a 1:200 capital assessment is understood. We would expect agents to select a mean SCR when finalising their figures. The methodology document should identify the key sensitivities affecting the SCR and provide explanations of why the modelling approach is appropriate for quantifying these extreme outcomes.
- 4.13 In view of this uncertainty and the duty of Lloyd’s to set capital equitably, we would expect agents to understand that a different view may well have merit, where it, for example, may sit within the agent’s own range of foreseeable SCRs.
- 4.14 Lloyd’s do expect models to demonstrate stability in results.

## **Credibility**

- 4.15 We will treat all agent submissions on a goodwill and good intent basis. While the review process does bring a duty to assess adequacy and probe assumptions and model outputs, agents are entitled to expect the Lloyd’s teams to adhere to a code of conduct similar to that adopted by auditors. We will aim to demonstrate professional scepticism during the review of the SCR by applying similar principles to those laid down by Auditing Practices Board (APB) for auditors. These principles are documented in the APB’s paper titled “Professional scepticism” dated March 2012. The reviewer will:
- Develop a good understanding of the syndicate and its business
  - Have a questioning mind and be willing to challenge management assertions
  - Seek to understand management motivation for possible misstatement of the SCR
  - Investigate the nature and cause of deviations or misstatement identified and avoid jumping into conclusions without appropriate evidence
  - Be alert for evidence that is inconsistent with other evidence obtained or calls into question the reliability of documents and responses to enquiries
  - Have the confidence to challenge management and the persistence to follow things through to conclusion
- 4.16 Over time, we will place greater reliance on SCRs and internal models for agents where credibility is enhanced; whether through explanations that provide reasoned and persuasive answers to questions raised; best estimate projections that match actual results subject to explained deviations; LCR pro-forma information that fits together reasonably; detail that is declared to be available to support agent assumptions being provided promptly on request and / or simply the first submission from agents being within the foreseeable range of likely outcomes.

- 4.17 Where less credibility is affirmed, we will, for prudential reasons, take a more sceptical approach and, while remaining equitable, will tend towards selecting more pessimistic assumptions and requiring agents to model these to produce alternative ultimate SCR. We will distinguish between simple errors, typos or odd inconsistencies that arise in complicated and lengthy documentation and instances of misstatement. A judgement will be made regarding the significance of errors and agents should note that we take the view that a series of even small individual errors could be evidence of a lack of review, potential lack of management engagement and ownership and ultimately of a less reliable internal model.

### **Transparency and “prudent assumptions”**

- 4.18 The SCR is defined as the 1:200 value at risk. There is no requirement to build in implicit or explicit prudence within the modelling and agents should perform each part of their modelling at the required stress level. During previous ICA reviews, it was common to experience difficulty in assessing aggregate capital adequacy in instances where agents point to one area of prudence offsetting other areas where challenge has highlighted a perhaps weaker area. Consequently, the review approach will be to assess each component for adequacy and agents will receive limited, if any, credit for “offsetting” margins elsewhere in the model.
- 4.19 We recognise that there is a place for selecting prudent assumptions and parameters, where there are model limitations or a simplified approach has been taken. For these areas, however, we would expect that the element of deemed prudence is not material and not quantifiable (if it is quantifiable, this would suggest that the more accurate assessment of risk is available). Again limited credit, if any, will be given in the overall assessment of adequacy.
- 4.20 For stress tests, the most informative results when assessing the ultimate SCR will be derived from scenarios that the agent considers to be approximate to the 1:200 stress point. There is less value in reporting stress tests in the documentation that are either a) passed by the model where the scenario is assessed at a 1:10 or 1:100 probability or b) failed by the model but assessed as being significantly more extreme than the required 1:200 confidence level.

### **Model change and analysis of change**

- 4.21 Lloyd’s will require all agents to submit a report of model changes made in conjunction with the submission of the draft SCR submission on 3 July 2014. Ideally, the submission should record all model changes made since the final approved 2014 SCR to the submission point of the 2015 SCR or as a minimum, changes made from 1 January 2014. This submission should make clear which changes are classified as major and which are minor. Agents should note that no prior Lloyd’s approval for major changes is required in 2014.
- 4.22 Lloyd’s will provide a standard template to be used by all agents for this submission; this is available on lloyds.com together with relevant guidance on completion.
- 4.23 We expect that agents would have completed their annual re-parameterisation of the model and key assumptions ahead of the July 2014 submission, subject to validation. Accordingly, we expect that the movements between July and September are primarily for amendments to planned underwriting or investment exposures and material changes to projected market conditions and / or technical provisions.

- 4.24 Where the submission has changed materially between July and September, agents should include an analysis of change with the September return. This should be organised between model changes, the results of validation and supplementary work and adjustments to model inputs (e.g. planned premium income).

### **Consistency with the SBF**

- 4.25 As set out in section 3.9 to 3.12 above, the LCR submissions should be considered in conjunction with the relevant SBF return provided in July and September. If the July SCR is based on a roll forward of the 2014 SBF, this should be clearly stated within on the LCR form 990.
- 4.26 We strongly recommend that SBFs represent the best estimate of planned underwriting activity and do not include prudence within the plan assumptions. We recognise that some agents have embedded business reasons (prudence or setting stretch objectives for example) for managing their underwriting plan to a level that they consider more appropriate than pure best estimate.
- 4.27 Lloyd's expects consistency of "best estimates" between various returns such as QMB, TPD and the Solvency II balance sheets on the QMC. Our review will consider this and agents should note that the mean projected outcome will be a specific area of challenge in the assessment of capital adequacy.
- 4.28 The SBF represents the requested level of underwriting exposure to be undertaken for 2015. Accordingly, agents should model as a minimum the planned exposure as set out in the SBF and not adjust this downwards for management judgement that these represent "aspirational" plans or "theoretical maximums" (for example the RDSs). This is in addition to the substantive operational risk that planned exposures are exceeded, which should be addressed in the SCR.

### **ICA Guidance**

- 4.29 The guidance to approach and methodology set out in the 2010 ICA Minimum Standards & Guidance remain relevant to the production and presentation of the SCR in the LCR and the supporting methodology document. The ICA Guidance evolved over a number of years and was subject to detailed scrutiny by market practitioners. It includes a number of helpful considerations for agents when submitting their methodology documents. The Guidance has not been repeated here, but we would strongly encourage agents to refresh their knowledge of its contents and include appropriate commentary to address issues raised in the Guidance, where it covers their material risks.

## 5 LLOYD'S CAPITAL RETURN (LCR) - FORM BY FORM

### Form 309 - LCR Summary

#### Headline contents

- 5.1 Section 1 reports the headline aggregate one year SCR and ultimate SCR as at 1 January 2015. See Appendix 1 for a detailed definition of the ultimate SCR. Section 2 provides analysis of the SCRs by risk categories both pre and post diversification. For run-off syndicates a flag is required where premium risk is not zero; details are to be reported on form 990.

#### Insurance risk

- 5.2 Premium risk should capture the risk in respect of all underwriting exposures from 1 January 2015 for all years of account. We appreciate that some models are prepared on an underwriting year basis, however, for consistency we require line 2 to reflect all future underwriting risk and that reserve risk on line 3 is the risk that reserves on earned business deteriorate. Premium risk should include catastrophe risk (see form 313) for all events occurring after 1 January 2015.
- 5.3 The total insurance risk on line 1 should represent the diversified aggregate of premium risk and reserve risk. For columns A and E (Pre-diversification) this should be captured prior to correlation / diversification with other risk categories.
- 5.4 All anticipated future underwriting profits should be included within the assessment of premium risk. There should not be a profit offset included within line 10 (diversification between risk categories).
- 5.5 The discount benefit at the risk free rate credited at T0 on insurance liabilities will partly unwind on a one year basis and fully unwind on an ultimate basis; the unwinding of the discount should not be included within insurance risk but should be offset against the returns earned on the supporting assets at the risk free rate. The 1:200 outcomes on premium and reserve risk should be consistent with the stress on an undiscounted basis. The risk of changes to the net value of assets and liabilities arising from changes in the risk free rate should be included within market risk.
- 5.6 For reserve risk, as the assets eligible for discounting represent solely the existing assets at T0 plus future premiums and excludes cash injections to meet capital shortfalls, we would expect this benefit to be restricted to a maximum of the discounting credit within the T0 balance sheet. Agents are advised to read the [Supplementary Guidance on Discounting](#) for further clarification.
- 5.7 The risk free discounting credit in the SCR should reflect that existing assets may be depleted more quickly in a 1:200 scenario and consequently the risk free return will reduce compared to best estimate projections. More detail is in Appendix 3.
- 5.8 Excess returns over risk free should not be included here as they should be reported within the market risk category (line 7) and in table 2 of form 314.

- 5.9 We expect agents to capture the impact of the market cycle on insurance business. With respect to applying expected loss ratios and 1:200 loss experience, we would not normally expect material differences to apply over the life of the 2015 YOA. Accordingly, agents may model the one year and ultimate premium risk for the 2015 YOA as a whole, with no requirement to apply judgement to model different outcomes dependent on the timing of individual risk attachments. Where agents consider this is a material area of difference between assumptions for the one year SCR compared to the ultimate SCR, please include a commentary on its impact in the methodology document. This is a separate point to loss emergence recognition, which is expected to be a material driver of difference between the two modelled 1:200 outcomes.
- 5.10 Lloyd's expects claims inflation to be included in insurance risk – this is covered in more detail in Appendix 3.

### **Risk margin**

- 5.11 The risk margin is designed to represent the cost of providing the required regulatory capital that would apply to another undertaking to take on the technical provisions (TPs). The balance sheet at Time 0 has a risk margin added to the TPs for this “cost of capital”. The one year SCR also has a risk margin in at 12 months’ time, based on the technical provisions in the (stressed at 99.5th percentile) balance sheet at that date, and so includes the movement in the risk margin over one year.
- 5.12 The ultimate SCR does, however, include a gain from the risk margin running off to zero. This is because at the ultimate time horizon, all claims have been paid, no technical provisions exist and so there is no associated cost of capital. This means that as the calculation of the SCR is the difference between ultimate 1:200 losses (no risk margin) and the Time 0 balance sheet (including risk margin), a credit is effectively produced. This credit must also be applied to the stand alone component risks of the ultimate SCR, and should be set off against reserve risk in line 3. Alternatively, agents may consider it appropriate to apply some of the credit to premium risk as well. Lloyd's will require agents to state in the supporting SCR methodology document which approach has been used and how much has been allocated to reserve and/or premium risk. This will allow Lloyd's to adjust appropriately when assessing the aggregation of premium and reserve risk.

### **Binary events and other expenses**

- 5.13 The balance sheet at T0 includes allowances for certain administrative and investment expenses and binary events that increase TPs. These may be more extreme than 1:200 so that the ultimate SCR effectively credits them back when considering the aggregate cash flows at the required stress point. Any such reduction should be set off against reserve risk in line 3. The size of the reduction must be stated in the supporting SCR methodology.
- 5.14 The presentation of the T1 balance sheet on an expected outcome basis, and for stressed distribution points including the 1:200, should include the required allowance for binary events, as they are within the balance sheet at T1 on a Solvency II basis.
- 5.15 The balance sheet at T1 should also include the allowance for binary events on the unexpired proportion of exposure – the “unemerged risk” at December 2015.
- 5.16 Additional binary event risk at the 1:200 confidence level arising on new business should be included within premium risk on line 2.

## **Lapse risk**

- 5.17 Lapse risk should be included within premium risk in respect of new business bound from 1 January 2015 on line 2 and within reserve risk on line 3 where it relates to incepted business. We would normally expect this risk to be immaterial, but where it is considered material, please include commentary within the SCR methodology document. This applies to both life and non-life business.

## **Credit risk**

- 5.18 The aggregate credit risk on line 4 should represent the diversified aggregate of reinsurance credit risk and other credit risk (but not on financial assets – see 5.21). For columns A and E (Pre-diversification) this should be captured prior to correlation / diversification with other risk categories.
- 5.19 Reinsurance credit risk should be reported under this risk category in full on line 5. This should exclude dispute risk or reinsurance exhaustion, which should be modelled and reported within insurance risk on lines 1-3.
- 5.20 Reinsurance bad debt provisions within technical provisions at T0 are set out on form 312. Projected mean modelled insurance losses should assume this provision runs out at no profit or loss, as under Solvency II this is the underlying pure best estimate. For additional mean provisions modelled to emerge on new business, this can be included implicitly within the insurance risk assessment or included within the reinsurance credit risk category – the amounts and treatment should be set out in the document. The stress level of reinsurance credit risk on line 5 should take account of the amount already being held at best estimate and should, therefore, be the excess deviation from currently held provisions to the 1:200 confidence level.
- 5.21 Credit risk excludes the default risk applying to financial investments, which should be reported within market risk (see 5.23 below).

## **Market risk**

- 5.22 Market risk should represent the net 1:200 deterioration from the opening balance sheet at T0. It should include the risk to the value of the assets and liabilities arising from volatility in the level or market prices of the following (Article 105 of the Directive):
- interest rates
  - equities
  - property
  - credit spreads over risk free interest rates
  - currency exchange rates
- 5.23 The risk from limited diversification in the asset portfolio or from default of a single issuer or group of issuers of securities should also be included within market risk.
- 5.24 The expected return in market risk is the total expected returns from the syndicate's assets, allowing for net nil balance sheet at T0 plus the new premium income, reduced by the total risk free discounting already allowed for in the booked insurance liabilities. The discounting credit at T0 is expected to unwind to ultimate but any associated loss due to unwinding will not be included in insurance risk (see 5.5). Market risk should also include the risk that there are changes to the risk free rate in the valuation of T1 technical provisions in the one year SCR.

- 5.25 If not modelling on both a one year and ultimate basis, agents should state clearly the time horizon adopted for market risk when assessing the ultimate SCR and ensure this is consistently applied for expected returns and associated asset risk. If modelling on an ultimate basis, agents should provide evidence that the time horizon is consistent with the length of the claims payment pattern. Both expected returns and asset risk should exclude capital and surplus syndicate assets.
- 5.26 Foreign currency risk should be included here.
- 5.27 A more detailed description of market risk is provided in Appendix 3.

### **Liquidity risk**

- 5.28 Liquidity risk should be included within market risk on line 7.

### **Operational risk**

- 5.29 Operational risk should be analysed between “stand-alone” risks e.g. business interruption through loss of the building or technology and risks associated more closely with other risk categories e.g. mis-reporting of case reserves or rogue underwriter. Agents should make clear in their methodology document the delineation between operational risk and inclusion of the capital impacts in other risk categories to ensure no duplication or omission. In particular, agents should be explicit in the allowances made in assessing operational risk for historical data considered to capture implicitly such risks e.g. binding authorities exceeding limits or contracting business outside its terms of reference.

### **Group risk**

- 5.30 Group risk should be included within operational risk on line 8.

### **Diversification**

- 5.31 The total of individual risk categories post diversification (line 9 of columns C and G) should equal the diversified total on line 11 of columns A and E.
- 5.32 Lloyd’s will issue draft guidance on a standardised approach for calculating the post diversification amounts in early March 2014. We expect that this guidance will be finalised in April 2014, subsequent to consultation with the market,
- 5.33 Agents may consider using an average of the outputs in simulations around the 1:200 VaR to produce a reasonable representation of the post diversification risk by category.

## Form 310 – Key Capital Assumptions

### Headline contents

- 5.34 The form reports the projected change in balance sheet in one year's time (i.e. at December 2015) as the mean in line 1, column A. This is the difference from the balance sheet at time 0 (31 December 2014), which is set to net nil where assets equal liabilities. Agents should assume that all declared losses up to that point are called in full and made available at T0, with no solvency disallowance, and any surplus assets or profits (on a Solvency II basis) are distributed.
- 5.35 This fits with Lloyd's 100% distribution policy and the assumption that reported losses are funded in full.
- 5.36 The projected balance sheet to ultimate is reported in row 2 on a mean expected outcome basis and at the 1:200 confidence level.
- 5.37 Columns B to F also report the balance sheet at various distribution points on a one year and ultimate basis. Column H reports the 99.8<sup>th</sup> percentile on an ultimate basis.
- 5.38 The 99.5<sup>th</sup> percentile losses in Column G equals the SCR and ultimate SCR as shown on form 309, and are pre-populated from that form.

### Mean balance sheet projections

- 5.39 The mean balance sheet projections should be completed in accordance with the Basis of Reporting set out in 3.16 to 3.19 above.
- 5.40 The mean at one year is the expected result on a Solvency II basis in 2015, covering underwriting profit and investment income. To ultimate, the mean profit is expected to be higher for many agents, although we would expect the biggest difference to relate to investment income in excess of the risk free rate (as that is already booked as a discount in the technical provisions) and the running down to nil of the risk margin. We do not expect the form to report materially higher underwriting profits to ultimate than at one year, since the expected result (to expiry of the risk) on contracted business should be booked in the balance sheet at T1.
- 5.41 We would broadly expect the mean to be comparable to the expected profit in the 2015 SBF, certainly directionally on an ultimate basis. Agents should explain material differences in the methodology document after allowing for the inclusion of expected profits in the T0 Solvency II balance sheet for un-incepted obligations. Where recognition patterns affect emergence of profits at the expected outcome, supporting analysis should be provided.

### Balance sheet distributions – other percentiles

- 5.42 Reporting the various distribution points provides evidence that may be subject to validation, which should cover the full probability distribution. The internal model needs to produce modelled surpluses / deficits on an expected basis (mean) and other points as well as simply considering the 99.5<sup>th</sup> percentile downside. The LIM is calibrating to both the 1:200 and the mean and this enables us to compare our model curve with multiple data points rather than one or two, which improves the parameterisation.
- 5.43 The 99.8<sup>th</sup> percentile will also be collected on the 2015 LCR. The 99.8<sup>th</sup> percentile will be used in the validation of the LIM (refer to 2.40).

- 5.44 As with insurance operations in general, the various outcomes of next year's trading is expected to be skewed – the downside is much worse than the upside compared to planned outcomes. Agents should provide commentary in the document in terms of the break-even return period and where historical experience is relevant and would sit compared to the projected model outputs.

### **Volatility**

- 5.45 The difference between the mean and the 99.5th SCR point is a measure of the volatility of the plan and the reserves. We expect agents to compare this to the volatility in the data provided for the Lloyd's Catastrophe Model and the total modelled insurance losses, reported on form 311. As form 310 captures all risks, we would expect the deviation from the mean here to exceed the deviation in insurance risk (modelled insurance losses) on 311. Where it does not, even allowing for discounting and future investment income that are booked here on form 310 but excluded from form 311, agents should address the explanation for this in the supporting document.

## Form 311 – Non-life Statistics

### Headline contents

- 5.46 Section 1 reports the total insurance gross and net claims and claims expenses falling within the model from 1 January 2015. The amounts should all be stated on an undiscounted basis.
- 5.47 On a one year basis, the total represents claims and claims expenses technical provisions projected to be brought forward from 31 December 2014 plus claims that will emerge on business contracted for in the next 12 months. In other words, total claims payments from 1 January 2015 on all business written and bound prior to 31 December 2015. For the ultimate basis, the total represents claims technical provisions at December 2014 plus claims arising on all new business bound to the 2015 year of account in full.
- 5.48 Columns B to H report the claims and claims expenses at various distribution points on a one year basis.
- 5.49 Section 2 analyses the expected net claims and claims expenses (mean) by underlying pure year of account. The brought forward claims provisions are pre-populated from form 312 in column I of this section. Column J records adjustments, if required, for differences between the forecast technical provisions and the equivalent capital model outputs. The column should be reserved for differences in respect of opening claims provisions only. Column K reports expected claims arising on business contracted in the next 12 months post 31 December 2014.

### Basis of reporting

- 5.50 Premiums and premium expenses should be excluded.
- 5.51 Claims expenses represent allocated loss adjustment expenses (ALAE). Unallocated loss adjustment expenses (ULAE) should be excluded.
- 5.52 All figures should be on a Solvency II basis, except that they should be undiscounted and exclude the risk margin.
- 5.53 We do not expect material adjustments to be made in column J, as agents should prepare consistent claims and claims expense projections for inclusion on form 312 and as part of the internal model. Agents should include a commentary in the supporting SCR documentation, where these adjustments are significant.
- 5.54 The final year of account in the section 2 table is 2016, since at T1 (i.e. at 31 December 2015) risks will have been bound but not yet incepted for the 2016 year of account. These figures are pre-populated from form 312 in column K (new business).
- 5.55 The mean expected claims arising on business bound in the twelve months from 1 January 2015 to 31 December 2015 should be reported in Column K. A warning message alert is included in the software for claims reported against underlying years of account 1993 to 2012 inclusive. We consider that it is unlikely that the model will include additional business attaching to these mature years of account and agents should include a commentary in the supporting SCR documentation, where these amounts are significant.
- 5.56 The sum of mean expected net claims and claims expenses within the model in section 2 should equal the total reported in Section 1 column A line 1, which is a validation built into the software.

- 5.57 All entries should exclude reinsurance bad debt provisions, but include allowance for reinsurance dispute and exhaustion. Accordingly, the net insurance claims pre-populated from form 312 are taken from the entries prior to the projected bad debt provision (separately reported on form 312 in column N). The expected bad debt provisions and risk of additional defaults fall within reinsurance credit risk.
- 5.58 We would expect agents to compare the net claims for the 2015 pure YOA against the total net claims in the 2015 SBF and provide a commentary on their consistency.
- 5.59 The final row in Section 2 reports claims arising on un-incepted legal obligations (ULO) as at 31 December 2015 for the 2016 YOA. We are content for agents to prepare models assuming these equal the anticipated claims arising on un-incepted legal obligations at December 2014 for the 2015 YOA. Agents should enter adjustments in Column J where this is not the case (perhaps for new syndicates with planned increases year on year), and include appropriate commentary in the supporting documentation.
- 5.60 We do not expect agents to model changes to prospective market conditions applying to ULO for the purpose of adjusting entries for the 2016 YOA on this form.

### **Volatility**

- 5.61 The difference between the mean and the 99.5th SCR point is a measure of the volatility of the plan and the reserves. We expect agents to compare this to the volatility in the data provided for the Lloyd's Catastrophe Model and the total insurance risk and overall SCR on forms 309 and 310. As form 311 captures net claims only, we would expect the deviation from the mean here to be lower than the total risk modelled on form 310.
- 5.62 Where there is a significant relationship between adverse claims experience and movements in modelled premiums, agents should address the explanation for this in the supporting document. This should include analysis of reinstatement premium income that is driven by the adverse claims experience and other movements. Other movements should be described in some detail – for example, foreign exchange risk post loss which is reported within market risk on form 309 and should be excluded from this measure of stand-alone claims volatility.
- 5.63 As noted in 2.40, the 99.8<sup>th</sup> percentile on an ultimate basis will be collected in the 2015 LCR. It will be used to assist with validation of the LIM.

## Form 312 – Technical Provisions

### Headline contents

- 5.64 The form breaks down the forecast technical provisions as at T0 (December 2014) between gross and net premiums and claims and shows them by pure year of account (1993 - 2014, Section 1).
- 5.65 There are premium and claims entries for the 2015 YOA due to the inclusion of un-incepted legal obligations (section 2).
- 5.66 The entries for insurance losses are split between claims, expenses and the discount applying to them (at risk free rates). The separate entries for expenses (columns B and I) are in respect of ULAE and administrative expenses.
- 5.67 For premiums, the form shows the amounts gross of acquisition costs, acquisition costs and discounting effect. The net best estimate liabilities (claims less premiums) are then subject to a risk margin being applied, also shown by YOA, to derive total technical provisions.

### Basis of reporting

- 5.68 All amounts should be on a Solvency II basis and represent the pure best estimate of all possible outcomes as at December 2014. The projection should be on a similar basis and preferably as adapted for the preparation of the June 2014 QMC, or Solvency II Balance Sheet.
- 5.69 The projected provision for bad debts in respect of anticipated reinsurance recoveries within technical provisions should be reported separately in column N.
- 5.70 Acquisition costs relate to amounts that fall to be deducted from gross premium income for stamp monitoring purposes and for calculation of Central Fund contributions. They should, therefore, exclude internal costs re-allocated to acquisition costs for accounting purposes – these should be included in expenses.
- 5.71 The claims reserves form part of total future claims payments and should be included within modelled insurance losses, at the mean, on form 311. Form 311 covers modelled claims and excludes premiums.
- 5.72 We would expect the ULO for the 2015 year of account at T0 to be comparable with the ULO in one year's time (for the 2016 YOA).
- 5.73 We would expect agents to compare the ULO for the 2015 YOA against total net premium income forecast in the SBF to determine whether the proportion reported as a ULO as at December 2014 is reasonable. Agents should also comment on the expected net profit (or loss) expected on the ULO and its consistency with the overall loss ratio and combined ratio expectations in the 2015 SBF.
- 5.74 Agents should prepare a reconciliation of the Solvency II projected technical provisions from the actuals at the date of preparation and include this in the supporting documentation.
- 5.75 Where agents model the risk margin at whole account level, this may be pro-rated to year of account based on net insurance losses.



## Form 313 – Financial Information

### Headline contents

- 5.76 Section 1 reports the latest planned gross and net premium income for the proposed (2015) YOA and the current (2014) YOA.
- 5.77 Section 2 reports the average claims duration of expected net claims – in calendar years to one decimal place – and confirms the exchange rate applied to US dollars. This should be the March rate of exchanges for the July submission and June rates of exchange for the September return.
- 5.78 Section 3 reports the analysis of net insurance losses between catastrophe claims and all other business. This is required for the expected claims and the 1:200 adverse experience both for the one year SCR and for the ultimate SCR. The total modelled losses (line 8) after diversification should equal the total on form 311 Section 1, lines 1 and 3.
- 5.79 The LCR shows the split between catastrophe claims reported on the LCM and all non-LCM catastrophe losses.
- 5.80 The form includes a check box to prompt agents to consider whether there is any material difference in the treatment of all reinsurance applicable to catastrophe claims in the LCM data feed compared to the full internal model.

### Basis of reporting

- 5.81 Section 1 is included as a confirmation to us that the internal model is consistent with the latest submitted SBF for the 2015 YOA and the latest approved SBF for the 2014 YOA. The SBFs also form key data feeds to the LIM and the syndicate SCR benchmark.
- 5.82 The average claims tail is the estimated duration of payment of net claims at the mean from 1 January 2015. Agents are expected to model that estimated net claims up to the value of the mean are expected to settle more rapidly in a 1:200 adverse scenario in view of the increased quantum of total claims. Where the duration diverges materially at the 1:200 point, agents should include appropriate commentary in the supporting documentation. See Appendix 3 regarding asset/liability mismatch.
- 5.83 The catastrophe net claims included in Section 3 should cover the five peak perils included in the LCM (line 2) plus all other claims deemed to be catastrophe in the internal model (line 3). Total catastrophe claims reported in line 1 should exceed those reported in line 2 or line 3. Agents should include commentary on the different bases for inclusion of modelled losses in the one year and ultimate SCR estimates analysed between risk emergence and period of exposure captured in the respective calculations.
- 5.84 Claims are reported on a net loss basis (claims less reinsurance recoveries). Any associated reinstatement premiums (inwards or outwards) should be reflected in the insurance risk and overall SCR calculations. In other words, the entries on form 313 should be on the basis of “Net Loss” not “Final Net Loss” per the definitions used for reporting catastrophe losses.
- 5.85 Agents should include a commentary on the treatment of whole account reinsurances in allocation of net insurance losses between catastrophe and other. Where this is different to the LCM data inputs, agents should also address this in their analysis.

5.86 The total all other insurance losses covers both non cat premium risk and reserve risk modelled losses pre diversification between these elements – the diversification on line 3 is the total diversification applied for insurance risk, not the diversification between cat and non-cat premium risk. The supporting commentary should set out how these estimates fall within the totals for premium risk, reserve risk and diversified insurance risk on form 309.

## Form 314 – Additional Quantitative Analysis

### Headline contents

- 5.87 The purpose of form 314 is to capture additional quantitative information that will assist Lloyd's in evaluating and comparing syndicate SCRs.
- 5.88 Further quantitative information will be obtained in the 2015 SCR Supplementary Questionnaire. A draft form of the updated questionnaire will be issued in April 2014.
- 5.89 The additional information on insurance risk captured in Section 1 are the means (and stresses) of the premium, reserve and total insurance risk distributions. The means and stresses will assist Lloyd's in evaluating whether the deteriorations at the 1:200 confidence level are appropriate, given the syndicate's mix of business, years of history, diversification by region/class, and so on. They will also allow for a more accurate assessment of the diversification within insurance risk. The mean for premium risk will normally be negative (a profit); for reserve risk, the mean should be equal to the negative of the sum of the risk margin at T0 plus any credit from binary events at the mean (also a profit), with a small allowance for simulation error. The premium risk mean should also be consistent with what is provided on the SBF, after allowing for the impact of discounting.
- 5.90 Section 1 also captures the mean and 1:200 on investment returns. Lloyd's will compare agents' own view of the riskiness of their portfolio with an estimate obtained using the disposition of a syndicate's assets and Lloyd's view of the riskiness of those assets.
- 5.91 Section 2 provides a breakdown of the components of market risk. For a description of the components of market risk, see Appendix 3.
- 5.92 Section 3 reconciles the one-year and ultimate distributions of basic own funds. The components of the difference between the distributions are shown at the mean, stress and 1:200. The main purpose of section 3 is to provide insight into the contributions of differences in a) loss emergence and b) contract boundary definitions of exposure to the aggregate difference between the one year and ultimate SCRs.

### Basis of reporting

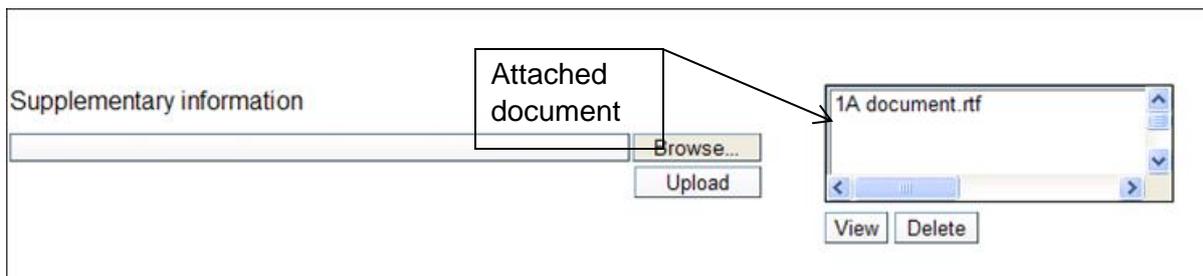
- 5.93 The means reported for premium and reserving risk in Section 1 should be from the same distributions used to obtain the 1:200 reported on form 309.
- 5.94 The interest rate risk and foreign exchange risk shown in Section 2 must include risk to both liabilities and assets.
- 5.95 The first item (line 2) in Section 3 is an adjustment for 2016 bound but not incepted contracts. The balance sheet at T1 includes all cash flows associated with these unaccepted contracts; the expected results must, therefore, be included in the one year distribution of basic own funds. They are excluded from the ultimate, which includes 2015 and prior years of account risks only. (They will be included in the 2016 YOA ultimate SCR.) This adjustment will therefore increase the ultimate SCR relative to the one year (where these contracts are expected to be profitable).

- 5.96 The entry for line 3 will depend on contract definitions. It covers policies from binder business incepting in 2016 but attaching to the 2015 and prior years of account and not recognised as written as at year end 2015. Where these contracts are not recognised as written at year end 2015, they will be excluded from the one year SCR calculation. Conversely, the ultimate basis includes the risk on all contracts attaching to 2015 and prior, so their volatility must be modelled (unlike the unaccepted contracts in line 2, which are included at the best estimate of the associated cash flows). It is expected that these contracts will show a loss at the 1:200, and that they will therefore increase the ultimate SCR relative to the one year.
- 5.97 The presumption on the one year basis is that the claims will be transferred to a buyer at T1 for a price equal to the technical provisions (best estimate liabilities plus risk margin). The one year SCR must be sufficient to cover an increase in both claims liabilities and the risk margin at T1 in a stressed scenario. Conversely, on an ultimate basis, the SCR must offset the deterioration in the claims portion of technical provisions only; the risk margin does not represent a liability. Therefore assets necessary to cover the risk margin at T0 (line 5) on a one year basis are available either to pay claims (in a stressed scenario) or returns to capital providers (in a profitable scenario) on an ultimate basis. Similarly, the portion of the one year SCR that is required to cover an increase in the risk margin in the stressed scenario (line 4) is not required on an ultimate basis. The entry for line 5 should be the same as the risk margin shown on form 312 in the balance sheet at T0. The impact of lines 4 and 5 is to reduce the ultimate SCR relative to the one year SCR.
- 5.98 On a one year basis, risks that have not expired by the end of 2015 would be shown on the T1 balance sheet at their mean value. For example, for a risk written 1 October 2015, the one year SCR would include downside risk only for experience through to 31 December; results for the unexpired period from 1 January through to 30 September 2016 would be included at the mean. Conversely, on an ultimate basis, the unexpired risk is included at the 1:200. Line 6 reports this difference in volatility. There is no impact at the mean, which should be the same on both bases.
- 5.99 Ultimate volatilities will normally be higher than one year volatilities for all risks. Enter the total excess of ultimate over one year volatilities in line 7, column I.
- 5.100 In general, the diversification credit will be larger for more skewed or volatile distributions. Since ultimate volatilities will in general be larger than those for one year (prior to any adjustments such as netting off the risk margin from reserve risk), the ultimate diversification credit should reduce the ultimate SCR relative to the one year. In order to ensure consistency, the diversification credit should be calculated using the same distributions used to compare the volatilities in line 7. For example, if individual class distributions are used to compare volatilities in line 7, these should also be used when comparing diversification credits in line 9.
- 5.101 The diversified total in line 10 should equal the ultimate SCR as shown on Form 309. If the difference is significant, agents should provide possible explanations in the SCR methodology document for the reasons. The step-by-step approach of Section 3 will assist in validation of the one year SCR calibration and overall distribution. This objective will be not be served by agents forcing the reconciliation.

## Form 990

### Headline contents

- 5.102 This form reports additional comments and should include file attachments for supporting documentation.
- 5.103 Select the **[Browse...]** button to find the document on your local computer system then select **[Upload]**. There is no file size limit, but larger files may take longer to insert and save. Lloyd's preference for the format of the documents is: word, pdf or excel and the naming convention should contain the syndicate number and agent name.
- 5.104 Uploaded documents can be viewed or deleted using the buttons under the document panel:



- 5.105 To add general comments to a return, select **[Add New Item]** under the *Add any section comments* on form 990. Enter a Subject and enter the appropriate free format text.



## 6 QUANTITATIVE INFORMATION WITHIN SCR METHODOLOGY DOCUMENT

### Sensitivity tests and drivers of the 1:200 stress

- 6.1 Sensitivity tests reporting the impact of changes to key assumptions should be accompanied by numerical tables.
- 6.2 Agents should consider the incremental capital required for each change in key assumptions and provide commentary on the results. We would also expect agents to comment on the incremental impact of adding risk categories to the dominant risk. For example, include an analysis of the impact of adding new business (premium risk and associated credit and operational risk etc.) to the capital required solely to run-off the contracted for business at 1 January 2015.
- 6.3 The key drivers of the SCR should be set out in the document including reverse stress tests that analyse the threats that would cause a (near) insolvency of the business. Again, we require this to be supported by numerical examples that demonstrate the capital for each driver - e.g. material reserve deterioration in a key class - and the capital requirement when that occurs alongside a neutral position for other risk categories and when combining with other adverse developments.
- 6.4 As stated in 2.35 above, the earlier this information is available, the more effective and efficient the review process should be. We recognise, however, that agents may not be in a position to conclude this work by July. Accordingly, the requirements are that stress and sensitivity tests are included with the Validation Report in September at the latest.

### Information for benchmarking

- 6.5 Lloyd's has developed a suite of benchmarking tests to enable comparison between syndicates to assist us discharge our duty to set capital equitably. Much of this will be drawn from the LCR, but there is additional data that should be included in the documentation to facilitate further analysis:
  - 6.5.1 Total net and gross premium (net of brokerage & commission) on risk from 1 January 2015 to ultimate and the proportion of premium that is on risk in calendar year 2015 compared to ultimate.
  - 6.5.2 Total reinsurance recoveries relied on within modelled losses prior to assessment of bad debt provisions, at the 1:200 stress points. These should be analysed by rating band with identification of the major individual counterparties (all those in excess of 10% and any non A rated reinsurers with more than 5% of total). Agents should consider the most appropriate method for presenting these results and include a comment on the approach taken.
  - 6.5.3 Gross and net 1:200 ULR and derived reinsurer ULR at whole account level on business on risk from 1 January 2015 and for major classes (premium in excess of 10% of total).

- 6.5.4 The catastrophe modelled losses shown in form 314 should include an approximate gross and net catastrophe ULR at the 1:200 (all cat not just the LCM perils). Agents should base the ULR on a whole account basis, although we would consider it useful to include and comment on the indicative ULR on catastrophe exposed business. Where significant catastrophe risk runs into 2016, an analysis of the diversification assumed for exposures in the two calendar years – i.e. some analysis that demonstrates the approach with numerical tables for the treatment that derives from having premium exposed in different periods for the same peril - is required.

### **Material reinsurance contracts**

- 6.6 Where the SCR takes credit for material reinsurance arrangements, for example a whole account stop loss or quota share treaty, Lloyd's requires that the document clearly sets out the SCR pre and post the reinsurance. This should show the premium and anticipated recoveries at the underwriting (or reserve) risk level, diversified insurance risk, the incremental reinsurance credit risk and at aggregate level after all diversification between risk categories. The SCR should naturally account for the reinsurance premium in 100% of simulations and the diversified appropriate recovery (net of any premium adjustment) at the stress point after including all modelled losses that fall outside the cover.
- 6.7 This will provide insight into the reliance being placed on the cover and ensure that, after the economic uplift is applied, the credit against member capital is, in aggregate, no greater than the maximum recovery.
- 6.8 Where the treaty is very material, consideration will be given to Lloyd's risk appetite for retention of risk and to the concentration risk arising. Accordingly, we would expect the capital charge to increase in step with the materiality of the contract and be significantly higher than perhaps the stand-alone Financial Strength Rating, albeit appropriately stressed, would indicate.
- 6.9 Where treaties are placed intra-group, Lloyd's requires agents to treat them on a par with external reinsurers with comparable financial ratings or strength. Lloyd's will give limited credit, if any, to arguments that the agent has insight to the sister company that leads to management having greater comfort in the counterparty risk than is publicly apparent. By a similar argument, credit risk on recoveries owing from a special purpose syndicate should also be accounted for in the SCR.

### **Reinsurance risk**

- 6.10 Reinsurance credit risk should be reported under this risk category in full. This should exclude dispute risk or reinsurance exhaustion, which should be modelled and reported within insurance risk.
- 6.11 Reinsurance bad debt provisions within technical provisions at T0 are set out on form 312. Projected mean modelled insurance losses should assume this provision runs out at no profit or loss, as under Solvency II this is the underlying pure best estimate. Where additional mean provisions are modelled to emerge on new business, this can be included implicitly within the insurance risk assessment or included within the reinsurance credit risk category – the amounts and treatment should be set out in the document. The stress level of credit risk should take account of the amount already being held at best estimate and should, therefore, be the excess deviation from currently held provisions to the 1:200 confidence level.

## APPENDIX 1 - DEFINITION OF THE ULTIMATE SCR

The undiscounted stress in the 1:200 net cost to ultimate for all years of account combined, including the 2015 prospective year of account's underwriting LESS the sum of projected net liabilities on the Solvency II balance sheet at T0 (December 2014) and premiums received for the 2015 and prior years of account underwriting that are not already included in the T0 balance sheet projected net liabilities.

'Ultimate' is defined as the final realised position – not the most prudent time step path to ultimate. For liquidity risk, the costs associated with trust funding requirements or peak losses in the interim must be considered if material and included within market risk.

We require managing agents to capture Insurance and Reinsurance Credit risk to ultimate. Other risk categories may be modelled over a shorter time horizon (subject to a one year minimum). The modelling time horizon should be clearly set out in the methodology document.

This means agents may model market risk over a one year period. This involves consideration of the risk and return on assets held over one year. Agents may also consider a time horizon between one year and ultimate, however, agents should note that the time horizon for modelled market risk and the credit for excess returns above the risk-free rate should be consistent.

The risk margin at T0 should be assumed to run down to zero in the ultimate SCR calculation and effectively forms a profit offset. This should be booked under reserve risk in the LCR.

The ultimate SCR considers all risks attaching to the 2015 year of account and excludes exposures relating to underwriting years beyond the proposed YOA. This differs from the one year SCR where un-incepted legal obligations on the T1 balance sheet will relate to underwriting years beyond the proposed YOA.

The ultimate SCR will differ from the ICA due to the asset and liability valuations being based on a Solvency II basis. For example, an ICA includes credit for the recognition of profits on the UPR at T0 whereas this profit flows through into the starting balance sheet for the SCR. The SCR also excludes credit for expected profits on un-incepted legal obligations at T0 whereas the ICA includes credit for profits.

For new syndicates (in first three years of trading), the ultimate SCR should include a minimum of two prior years' hypothecated reserves based on the prospective underwriting year's business plan. This is different to the one year SCR, which should be based on actual exposures.

Net liabilities, rather than assets, should be adopted as the starting position and should exclude surplus assets which are used to meet member solvency requirements. Please note the market risk on member capital requirements are mutualised at Lloyd's, subject to equity between members.



## APPENDIX 2 - ULTIMATE SCR FOR NEW SYNDICATES

A new syndicate is defined as a syndicate with less than three complete years of account by the end of 2015.

Where a syndicate starts underwriting at Lloyd's part-way through 2014, the SBF premiums should be annualised and then hypothecated to back-years. (Where the period to year end is too short to reliably annualise, the second year plan should be taken as proxy for annualised first year.) The main reason for hypothecation is the avoidance of large yearly increases in the FAL requirement which would otherwise occur as a result of syndicate growth during the first few years of underwriting.

For a new syndicate that commenced trading on 1 January 2014, agents should include two prior years of reserve risk. The level of such reserves should be hypothecated assuming the same classes of business and premium volumes as per the initial agreed SBF were written in the previous two years.

Where a syndicate enters its second year, the first year's annualised exposures should be modelled as the most mature year. The "year two" annualised exposures should be used for the proposed year and also hypothecated as the second year.

Where a syndicate enters its third year, the first year's annualised exposures should be modelled as the most mature year. The syndicate can treat the two most recent years of account naturally.

An example of how this process should work:-

- Syndicate A starts writing business at Lloyd's on 1 July 2014.
- The SBF proposed premium is £40m for 2014.
- The syndicate incepts most of its business on 1 January, therefore, the 2014 annualised premium is £100m
- The syndicate proposes to write £150m in 2015
- The syndicate proposes to write £200m in 2016
- The payment pattern for the syndicate is 20%, 30%, 30% and 20% for the first four underwriting development years respectively.
- All business is written to an 80% ULR

### Mean claims exposure

The syndicate should model the following *expected* claims exposures in their SCR:

<b>2014 SCR</b>	2014 YOA: £80m (£100m premium)	2013 YOA: £64m (£100m premium)	2012 YOA: £40m (£100m premium)
<b>2015 SCR</b>	2015 YOA: £120m (£150m premium)	2014 YOA: £96m (£150m premium)	2013 YOA: £40m (£100m premium)
<b>2016 SCR</b>	2016 YOA: £160m (£200m premium)	2015 YOA: £96m (£150m premium)	2014 YOA: £40m (£100m premium)

As can be seen from the example, the hypothecated back-year methodology will still result in capital increases for new syndicates over time where the syndicate has an aggressive growth strategy.

Hypothecated back-years are not required for the one year SCR calculation.

### **SCR calculation**

Continuing with the example above, assume that the 1:200 ULR is 150%. The principles behind the calculation of insurance risk and the SCR can be illustrated as follows.

Lloyd's applies a "new syndicate load" to the capital requirements in respect of new syndicates and this is currently 20%. The load is not shown in the calculation, but would be applied to the final SCR of £150.9m.

Payment pattern		Yr 1	Yr 2	Yr 3	Yr 4
		20%	30%	30%	20%

	2015 YOA	2014 YOA	2013 YOA
Mean ULR	80%	80%	80%
1:200 ULR	150%	150%	150%

	2015 YOA	2014 YOA	2013 YOA
Premium	£150.0m	£150.0m	£100.0m
Risk Margin less Proposed YOA expenses and profit on ULOs	-£12.0m	£5.0m	£2.0m
Mean Insurance Losses	£150m x 80% =£120m	£150m x 80% x (1 - 20%) =£96m	£100m x 80% x (1 - 20% - 30%) =£40m
1 in 200 Insurance Losses	£150m x 150% =£225m	£150m x 150% x (1 - 20%) =£180m	£100 x 150% x (1 - 20% - 30%) =£75m
Starting Premium (Proposed YOA) or Mean losses (Prior years) net of RM, Proposed YOA expenses and ULOs	£138.0m	£101.0m	£42.0m
Underwriting Risk or Reserve Risk by YOA before New Syndicate Load	-£87.0m	-£79.0m	-£33.0m

Risk Capital	
Reserve Risk if YOA are fully dependent	£112.0m
Diversification % between YOAs within Reserve Risk	21%
Reserve Risk after YOA diversification	£88.4m
UW Risk	£87.0m
Insurance Risk if UW and Reserve Risk are fully dependent	£175.4m
Diversification % between UW Risk and Reserve Risk	19%
Insurance Risk after diversification between UW and Reserve Risk	£142.5m
1 in 200 total of Credit, Market and Operational Risks if fully dependent	£35.0m
Diversification % between Insurance and other Risks	15%
Final SCR	£150.9m



## APPENDIX 3 – MORE DETAIL ON MARKET RISK

This appendix gives further guidance and detail on market risk.

Market risk is the risk arising from the level or volatility of market prices of financial instruments which have an impact upon the value of the assets and liabilities of the syndicate.

Booked Solvency II Technical Provisions at Time 0 are discounted at the risk free rate of return by currency. Most syndicates will expect to receive a return in excess of risk free on the assets backing the booked liabilities and this will be through a combination of an active investment strategy and investing in higher risk/return assets. In both cases this exposes the syndicate to market risk and the degree of market risk is normally proportional to the level of expected return in excess of risk free. The degree of market risk is further influenced by the level of mismatch between assets and liabilities, this will include currency and duration mismatches.

Lloyd's expects market risk to ultimately be adequately captured in syndicate's capital models.

Lloyd's would accept market risk on a 1 year balance sheet to balance sheet basis as a proxy for the ultimate risk. The approach, with rationale, must be included in the SCR document.

Lloyd's expects that projected profits are distributed as they are recognised on a Solvency II basis and this is no later than 36 months on RITC (see 3.18). It is also expected that no surplus assets (either in FAL or FIS) are included and investment returns are not rolled up indefinitely. If market risk is being assessed on a longer time frame, then any subsequent projected profits from investments returns beyond 36 months should be assumed to be distributed at the end of the year in which they occur.

Market risk should be valued for each of the underlying assets of collective investment vehicles and other investments packaged as funds (i.e. a look-through approach).

The key individual elements of market risk are described as follows.

### **Interest rate risk**

Interest rate movements will directly impact the value and expected return on fixed interest securities and cash and may impact other asset classes. In general interest rate increases will reduce the value of held securities and increase the return on reinvestment (and vice versa).

The risk free rate to be used on an ultimate basis is fixed at T0; there is no risk associated with changes in the risk free rate on an ultimate basis.

There is not a corresponding amount relating to liabilities expected to net off on an ultimate basis unless there are liabilities specifically linked to interest rates – inflation is covered below.

Interest rate risk should be included in line 1 (Interest rate) of table 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

Interest rate movements will directly impact the modelled revaluation of assets in 12 months' time. The expected risk free rate will also be directly linked to interest rates and hence the revaluation of the liabilities in 12 months will be impacted by movements in interest rates.

The impact on both assets and liabilities should be included in market risk on a one-year basis.

## **Spread risk**

Spread risk is the risk of a change in the credit spread on a corporate bond, which in turn may impact the returns and reinvestment return. Migration risk is the risk that a bond's rating migrates to a different (lower) rating, resulting in a higher credit spread and reduction in value.

There is generally no direct impact on liabilities from spread risk.

Spread risk should be included in line 2 (Credit) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

## **Default (Credit) risk**

Default (or credit risk) is the risk of non-performance/ default of a held security. It will relate to all asset classes not considered risk free and does include cash or cash equivalents.

Default risk may be correlated to general economic conditions which in turn are linked to other risk categories such as inflation (on both assets and liabilities) or interest rates.

There is no direct impact on liabilities from default risk.

Default risk should be included in line 2 (Credit) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

## **Equity risk**

Equity risk relates to the level or volatilities in equity prices. Where pooled investments cannot be reasonably segregated into underlying assets classes then they should be treated as equities or the highest risk class considered in the model.

There is generally no direct impact on liabilities from equity risk.

Equity risk should be included in line 3 (Equity and other) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

## **Property risk**

Property risk relates to the level or volatilities in real estate prices. This does not include mortgage backed securities that should be included in both spread and credit risk.

There is generally no direct impact on liabilities from property risk although there could potentially be a link between property risk and property losses.

Property asset risk is immaterial at a Lloyd's aggregate level.

Property risk should be included in line 3 (Equity and other) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

### **Currency Risk**

Currency risk relates to exchange rate fluctuations that impact the value of the liabilities differently to the assets. The assets may then be worth less than the liabilities in converted sterling. Currency risk is principally derived from currency mismatch between assets and liabilities.

Lloyd's does expect models to allow for the risk of unfavourable currency fluctuations following a severe loss unless the syndicate can demonstrate that the FAL strategy would deem this unnecessary. For example, if all catastrophic losses are expected in USD and the dedicated members supporting the syndicate have a defined strategy, with history, of holding USD FAL then this risk can be assumed to be mitigated. Otherwise, this situation should be included in the models.

There is no direct impact on liabilities (in the underlying currencies) from currency risk.

Currency risk should be included in line 5 (Foreign exchange) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

### **Concentration risk**

Concentration risk arises from a lack of diversification in an asset portfolio or large exposure to default by a single issuer of securities.

This is strongly linked to default risk and will normally be assessed concurrently. Syndicates need to be clear on how they have assessed any additional risk if the portfolio is exposed to a single issuer (or group or related parties). The standard formula includes a methodology for assessing concentration risk.

There is no direct impact on liabilities from concentration risk.

Concentration risk should be included in line 2 (Credit) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

### **Liquidity risk**

Liquidity risk relate to projected cashflows where assets backing a set of liabilities are not available at the time liability payments are due. This can occur through circumstances such as holding illiquid assets or timings that funds become available (for example having to pay gross claims before reinsurance recoveries are received or overseas trust fund arrangements).

The liquidity risk is valued as the associated cost of borrowing required to cover the liquidity strain.

There is no direct impact on the underlying liabilities from liquidity risk.

Liquidity risk should be included in line 4 (Liquidity) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

### **Other (Market) Risks**

Lloyd's are not expecting "other" market risks but this does not mean some unique features of a syndicate portfolio could give rise to an additional risk.

Other high risk, variable reward investments (such as hedge funds) should be included as Equity risk.

Other (market) risk should be included in line 6 (Other) of Section 2 (Market Risk) on form 314 of the LCR.

### ***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

### **Mean Reversion**

Many agents are using vendor supplied economic scenario generators ("ESGs") to generate economic series for their internal models. These ESGs may include assumptions regarding the long term mean reversion of certain economic series, such as interest rates or foreign exchange rates. The assumption of mean reversion can significantly impact the level of market risk. Lloyd's is aware that it will often not be straightforward or advisable to alter the mean reversion assumption.

Given the above, Lloyd's expects agents to undertake the following with regards to mean reversion:

- clearly state within the SCR methodology document for which economic series mean reversion has been assumed
- provide a justification in the SCR methodology document or Validation Report of why the assumption is appropriate for the given series and in the current economic environment
- sensitivity test of the impact of mean reversion assumptions, where the ESG provides the facility to do so
- if modelling on both a one year and ultimate basis, provide a justification of the difference between the one year and ultimate risk, taking into account the duration of the portfolio and differences in assumptions over an ultimate vs. one year horizon

### **Inflation risk**

Inflation risk relates to the risk of inflation being different to anticipated and accounted for when setting the balance sheet at time 0.

Best estimate liabilities will normally include an implicit allowance for inflation. The risk is that inflation is higher than expected, increasing the ultimate settlement cost. The inflation on liabilities can be split into either general inflation being higher than expected or excess "claims inflation" (circumstances beyond general inflation that leads to an increase in claims costs only such as an adverse judicial ruling). Under extreme conditions and almost all 1:200 scenarios, claims inflation will exceed additional income from underlying investments.

There has been variation between syndicates in the categorisation of the risk of increased claims and allocated expense payments resulting from higher than expected inflation. Lloyd's considers that as inflation directly impacts the size of claims and expense payments, it should be captured under insurance risk. Whilst inflation has historically had a strong link with interest rates, it will not necessarily result from volatility in the market prices of financial instruments. Demand surge following a catastrophe, higher government spending, and legislative rulings affecting the cost of claims are examples of sources of inflation not directly linked to financial instruments. Furthermore, inflation is not listed in Article 105 as one of the contributors to market risk.

General inflation (as measured for example by a consumer price index) will often be linked with depreciation of the currency. The net impact of this risk on assets and liabilities of the syndicate should be included within market risk (see currency risk section above).

If any stand-alone asset inflation risk is modelled, this should be included on line 1 (Interest rate) of Section 2 (Market Risk) on form 314 of the LCR.

***Difference on one year basis***

The only difference on a one year basis versus ultimate is the time horizon.

**Asset Liability Mismatch**

It is expected that syndicates assess the impact of accelerated liabilities payments on the rate of depletion of assets following shock/adverse events.

The following (simple) example shows that whilst the simple average term for liabilities is four years and remains four years after a 50% shock, the average term of the held assets matching mean liabilities reduces below three years (2.9 as below) even though originally well matched.

Expected cash flows - pre-shock

	Year							Total	Average Term
	1	2	3	4	5	6	7		
Liabilities outflow	100	100	100	100	100	100	100	700	4
Asset income	100	100	100	100	100	100	100	700	4

Expected cash flows - post 50% liabilities shock

	Year							Total	Average Term
	1	2	3	4	5	6	7		
Liabilities outflow	150	150	150	150	150	150	150	1050	4
Asset income	150	150	150	150	100			700	2.9



## **APPENDIX 4 – SCR DOCUMENTATION: TOPICS TO BE COVERED**

The SCR documentation should be sufficiently detailed to allow “...any independent knowledgeable party ... to understand the design and operational details of the internal model and form a sound judgement as to its compliance with Articles 101, 112, 120 to 124 and 126” (Article 231 TSIM20).

This Appendix provides a detailed listing of topics that agents should comment on in order to enable Lloyd's to form such a judgement.

Agents should apply the principle of proportionality in their documentation. The items below should be discussed in greater detail for more material risks. Methodologies and assumptions applying to more than one risk can be described once, with variations or exceptions discussed where appropriate. Some items will not be relevant to all approaches. The objective should be to provide a start-to-finish “walkthrough” of the steps taken in the analyses and modelling.

	Methodology or Assumption	Example	SCR documentation reference	
<b>1</b>	<b>Insurance risk</b>		<b>Premium risk</b>	<b>Reserve risk</b>
<b>1.1</b>	<b>Data selection and groupings</b>			
	Valuation date of data used			
	Reporting basis: underwriting year, accident year or reporting year			
	Gross or net claims			
	Paid and/or incurred claims			
	Adjustments to data	Historical claims inflation; IBNER on large claims		
	Claims history excluded from the analysis and reasons for excluding	Specific accident or underwriting years; discontinued business		
	Claim size definitions and groupings used in the analysis	All claim sizes modelled together; Attritional/ large/ cats analysed separately		
	Class groupings used in the analysis and reasons if different from classes used in pricing/ best estimate reserving	Reserve risk: aggregating triangles		
	External data or benchmarks	LMA data		
<b>1.2</b>	<b>Distributions and intra-risk dependencies</b>			
	Granularity of reserve risk distributions by reserve type	Total outstanding reserve; Case/ IBNR/ IBNER modelled separately		
	Classes of business in run-off and special modelling considerations	COV of reserves increases with time since discontinued		
	Reserve margins and credit claimed			
	New classes of business and special modelling considerations			

	Modelling of underwriting cycle and/or rate changes			
	Planned exposure increases/decreases	Material changes to policy terms & conditions		
	Distribution assumption(s) and parameterisation method(s)	Reserve risk: Distribution-free for Mack method; Over-dispersed Poisson GLM with bootstrap Premium risk: Pareto distribution fit to historical large claims		
	Method for determining the goodness-of-fit of the distribution	Reserve risk: residual patterns if using triangle based method Premium risk: Chi-square or other test with large claim distribution		
	Allowance for parameter uncertainty	Reserve risk: bootstrap if using bootstrap-based method; Premium risk: allowance for variability in parameters of Pareto large claim distribution		
	Application of user defined options in external software	Reserve risk: bias adjustment and centring of residuals		
	Exposure/ILF curve selection and method for converting to frequency/severity distribution if using exposure-based method for premium risk	Premium risk: SwissRe curve parameter and why chosen; loss ratio and frequency assumptions, etc.		
	Allowance for future trends in claim costs	Claims inflation; judicial ruling		
	Allowance for events not in data (ENIDs)	Latent claims		
	Adjustments to tail of distribution	Capping to reflect policy limits; Fattening the tail for extreme events not captured in the history		
	Method for scaling reserve risk distribution to actuarial best estimate	Multiply COV of ultimate claims by actuarial best estimate ultimate		
	Method for estimating variability in total unpaid claims if using incurred data	Simulate ultimate claims from COV of ultimate claims derived from incurred data; subtract paid claims		
	Treatment of allocated claims expense	Explicitly modelled as percentage of claims or included with claims; Consistency with business plan and TP assumptions		

	Treatment of discounting and investment income	Discussion RE: non-discounting of stressed claims;		
	Allocation of risk between premium and reserve risk on 2014 YOA if modelling on an UWY basis	Proportional allocation based on earnings pattern		
	Application of reinsurance programmes	Explicit calculation of recoveries based on programme terms; variable or fixed net-to-gross ratio		
	Allowance for RI exhaustion and dispute risk			
	Dependencies between accident or underwriting years	Drivers including cats or inflation; Explicit dependencies using copulas or shock factors		
<b>1.3</b>	<b>One year risk horizon and risk margin</b>			
	Method for determining one-year risk	Reserve risk: actuary-in-a-box or risk recognition pattern Premium risk: earnings pattern		
	Risk margin derivation			
	Allocation of risk margin credit between ultimate reserve risk and premium risk			
<b>1.4</b>	<b>Validation summary</b>			
	Summary description of validation tests applied to Insurance risk and their outcome	Refer to <u>Validation Guidance</u> Appendix 1 for examples		
	Summary of material expert judgements and their justifications			
	Method for ensuring consistency between reserve risk and premium risk volatility	Ultimate COVs decrease with age of underwriting/accident year		
	Appropriateness of distributions at 1:200 and other percentiles	Stress tests; comparisons to claims history		
	Consistency between the methods used in the model and the methods used to calculate the technical provisions			

	Consistency with business plan	Loss ratios and premium		
	Consistency between one-year and ultimate risk	One-year risk less than ultimate (prior to reduction for risk margin); One-year emergence relative to ultimate is higher for short-tailed classes		
	Insurance risk exceeds premium risk and reserve risk individually			
<b>2</b>	<b>Credit risk</b>		<b>RI credit risk</b>	<b>Other credit risk</b>
<b>2.1</b>	<b>Data selection and groupings</b>			
	Description of all sources of counterparty risk	RI credit risk: reinsurers, ILWs Other credit risk: brokers, coverholders, third party administrators, banks and investment counterparties		
	Creditor groupings for modelling probability of default	RI credit risk: reinsurers grouped by credit rating or modelled individually Other: brokers or cover-holders grouped by credit rating or modelled individually		
<b>2.2</b>	<b>Distributions and intra-risk dependencies</b>			
	Probability of default assumptions			
	Allowance for credit rating downgrade or transition			
	Credit risk mitigation and how modelled	Funds withheld and letters of credit; percentile of recoverables at which security is held		
	Loss given default/recovery rate assumptions	RI credit risk: S&P credit ratings		
	Dependencies between creditors	RI credit risk: dependency between large natural cat event and multiple reinsurer downgrade and/or default		
	Concentration risk	RI credit risk: exposure at 1:200 by reinsurer		
	Basis risk on RI recoveries indexed to event or market results	ILW basis risk		
	Allowance for RI credit risk on intra-group reinsurance			

	Allowance for RI credit risk on reinsurance purchased from other Lloyd's syndicates			
	Impact of simplifications of net-to-gross calculation on RI credit risk	Understatement of recoverables in tail due to fixed net:gross assumption; non-modelled contracts		
<b>2.3</b>	<b>Validation summary</b>			
	Summary description of validation tests applied to Credit risk	Refer to <u>Validation Guidance</u> Appendix 1 for examples		
	Summary of material expert judgements and their justifications			
	Credit risk exceeds RI credit risk and Other credit risk individually and their outcome			
<b>3</b>	<b>Market risk</b>		<b>Market risk</b>	
<b>3.1</b>	<b>Data selection and groupings</b>			
	Description of primary sources of market risk and their materiality	Foreign exchange rate risk; interest rate risk; investment return risk; liquidity risk; asset-liability mismatch		
	Sources of data used for modelling economic series (if not using an external ESG)			
<b>3.2</b>	<b>Distributions and intra-risk dependencies</b>			
	ESG used (if any) and key assumptions			
	Mean reversion assumption and economic series to which it applies			
	Allowance for risk arising from change in risk-free rate			
	Dependencies between economic series	USD and GBP; real interest rates and inflation		
	One-year risk estimation and explanation of difference with ultimate	Analysis of why one-year risk exceeds ultimate (if true)		
	Justification for time horizon if not one year			
	Method used to allocate sources of market risk on Form 314			
<b>3.3</b>	<b>Validation summary</b>			

	Summary description of validation tests applied to Credit risk and their outcome	Refer to <u>Validation Guidance</u> Appendix 1 for examples	
	Summary of material expert judgements and their justifications		
<b>4</b>	<b>Operational risk</b>		<b>Op risk</b>
<b>4.1</b>	<b>Data selection and groupings</b>		
	Categorisation of operational risks		
	Mapping to the risk register		
	Operational risks arising from insurance risk	Rogue underwriter; mis-reporting of case reserves; business interruption	
	Modelling of operational risks arising from the following specific areas (if relevant to syndicate's business) <ul style="list-style-type: none"> <li>delegated underwriting</li> <li>new syndicates and/or new classes of business</li> <li>growth</li> </ul>		
<b>4.2</b>	<b>Distributions and intra-risk dependencies</b>		
	Trigger for operation risk losses	Stand-alone frequency/severity; conditional on external factor, e.g. premium growth	
	Types of distributions used		
<b>4.3</b>	<b>Validation summary</b>		
	Summary description of validation tests applied to Operational risk and their outcome	Refer to <u>Validation Guidance</u> Appendix 1 for examples	
	Summary of material expert judgements and their justifications		
<b>5</b>	<b>Dependencies (between SCR risk categories)</b>		<b>Dependencies</b>
<b>5.1</b>	<b>Data selection and groupings</b>		
	Description of data used to parameterise or validate dependencies	Historical aggregated class of business loss ratios to backtest modelled aggregated class loss ratios	
	Description of dependency structures/ relationships	Between attritional and large claims for premium risk within a class of business	
<b>5.2</b>	<b>Inter-risk dependencies</b>		
	Key drivers of dependency and their impact in the tail	Cat events and inflation driving dependency between underwriting classes	
	Explicit dependencies and their impact in the tail	Copulas and matrices; common shock factors	

<b>5.3</b>	<b>Validation summary</b>			
	Summary description of validation tests applied to Credit risk and their outcome	Refer to <u>Validation Guidance</u> Appendix 1 for examples		
	Summary of material expert judgements and their justifications			
<b>6</b>	<b>SCRs and risk margin</b>		<b>SCRs and RM</b>	
	Method for determining one-year risk	Reserve risk: actuary-in-a-box or risk recognition pattern Premium risk: earnings pattern		
	Risk margin derivation			
	Allocation of risk margin credit between ultimate reserve risk and premium risk			
	Method used to select 99.5 <sup>th</sup> percentile for SCR and each risk category	Average over 99.4 <sup>th</sup> – 99.6 <sup>th</sup> percentiles of simulations		
	Number of simulations and estimation of simulation error			
	Analysis of change from last year's LCR by risk category and explanation of differences			

