



**Report on the transfer of business from
The United Kingdom Mutual Steam Ship
Assurance Association (Bermuda) Ltd to
The United Kingdom Mutual Steam Ship
Assurance Association (Europe) Ltd**

Independent Expert Scheme Report

11 July 2012

Ernst & Young LLP

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1. Introduction

- 1.1 Section 109 of the Financial Services and Markets Act 2000 ('FSMA') requires that a scheme report must accompany an application to the High Court of England and Wales ('the Court') to approve an insurance business transfer scheme. This scheme report should be produced by a suitably qualified independent person (the 'Independent Expert') who has been nominated or approved by the Financial Services Authority ('FSA'). The scheme report should address the question of whether any policyholders impacted by the insurance business transfer are adversely affected to a material extent.
- 1.2 The United Kingdom Mutual Steam Ship Assurance Association (Bermuda) Limited ('UKB') has nominated Michael Barkham of Ernst & Young LLP ('I', 'me') to act as the Independent Expert for the proposed insurance business transfer scheme (the 'Transfer') of the insurance business of UKB (excluding its Japan, Hong Kong and Singapore branch business) to the United Kingdom Mutual Steam Ship Assurance Association (Europe) Limited ('UKE'). The Transfer is intended to be effected on 20 February 2013 ('the Transfer Date').
- 1.3 This nomination has been approved by the FSA.
- 1.4 UKB is the parent company to UKE and is the sole member of UKE. UKB and UKE act on a unified basis and as one association, trading under the name of the UK P&I Club ('the Club'). The Club is a mutual marine insurance business providing cover for marine protection and indemnity risks on behalf of its members (who are in the main, individual ship owners).
- 1.5 The Club is managed on a day-to-day basis by companies within the Thomas Miller Group ('Thomas Miller'), a professional services group.
- 1.6 The terms of my engagement are set out in a letter dated 11 November 2011. An extract of this letter setting out the scope of my work is included in Appendix C.
- 1.7 UKB will be bearing the costs of producing this report.

Layout of this report

- 1.8 My report is structured as follows:
- ▶ The first five sections describe my conclusion, the detail of the Transfer, the scope of my report, background to the entities involved, and a summary of the methodology I have used to reach my conclusion.
 - ▶ Section 6 describes the work that I have carried out to assess the claims reserves of the Club.
 - ▶ Section 7 describes the work that I have carried out to assess the capital modelling of the Club.
 - ▶ Section 8 discusses the implications of the forthcoming Solvency II regime, which will impact on the future regulatory requirements of the Club.
 - ▶ Section 9 includes balance sheets of UKE and UKB and my assessment of the policyholder security considerations.

Professional experience

- 1.9 I am a Fellow of the Institute of Actuaries and a Fellow of the Society of Actuaries in Ireland, and am certified to act as a Signing Actuary for Lloyd's of London regulatory opinions, as well as to sign Irish, Bermudan and Singaporean regulatory opinions.

- 1.10 I am a Partner in the European Actuarial Services practice of Ernst & Young LLP, and have more than 20 years' experience in general insurance. Prior to joining Ernst & Young LLP in 1994 I was employed by a large London Market insurance entity.
- 1.11 I have skills in all areas of general insurance actuarial work (including reserving, capital, pricing, transactions, etc), and have previously acted as Independent Expert for two other insurance business transfer schemes.
- 1.12 Full details of my experience can be found in Appendix D.

Independence

- 1.13 I can confirm that I have no direct or indirect connections with UKB, UKE or Thomas Miller that I believe would affect my ability to act as the Independent Expert for the Transfer. In particular, I have never worked on any project involving UKB or UKE.
- 1.14 The firm of Ernst & Young LLP has carried out a number of different projects for Thomas Miller. This includes:
- ▶ An ongoing project to support the Internal Audit functions of Thomas Miller with model validation work for UKB and UKE. The team working on this project is led by a different partner of Ernst & Young LLP. Furthermore, as the project involves supporting the Internal Audit function with the validation and not direct involvement with any sort of calculations, I do not believe that this affects my independence.
 - ▶ The remaining projects relate to work other than claims reserving or capital modelling work. Therefore, I do not believe that any other engagements of Ernst & Young LLP with Thomas Miller affect my independence for the role of Independent Expert for the Transfer.
- 1.15 My assessment of the Transfer is not in any way affected by the work described above, and so I do not believe that any of those engagements affects my independence for this project.
- 1.16 The FSA were aware of the services that Ernst & Young have performed for the parties involved in the Transfer when approving my appointment as Independent Expert.
- 1.17 I have no shareholding, investment or any other financial connection with any of the parties to the Transfer.

Use of this report

- 1.18 The purpose of this report is, as stated in the FSA Handbook, to inform the Court of the likely effect of the Transfer upon policyholders. This report is not necessarily suitable for any other purpose.
- 1.19 A copy of this report will be made available to the FSA, the Court, and any other person entitled to receive a copy under the FSMA. A copy will also be made available to policyholders.
- 1.20 I assume no responsibility whatsoever in respect of, arising out of, or in connection with the contents of this report to parties other than those mentioned above. If other parties choose to rely in any way on the contents of this report then they do so entirely at their own risk.
- 1.21 This report has been prepared solely for the purposes of the FSMA requirements for insurance business transfer schemes and solely in respect of the Transfer. It should not be relied upon for any other purpose by any party.
- 1.22 Draft versions of this report and any other interim working papers must not be relied on by any person for any purpose.

- 1.23 Judgements about the conclusions drawn in this report should be made only after considering the report in its entirety as any part or parts read in isolation may be misleading.
- 1.24 The responsibilities of Ernst & Young LLP (including its partners and staff) shall also be limited as stated above.

Professional guidance

- 1.25 This report complies with the applicable rules on expert evidence and with the guidance for Scheme Reports set out by the FSA in Chapter 18 of the FSA Supervision Manual, which forms a part of the FSA Handbook.
- 1.26 This report complies with Technical Actuarial Standard R: Reporting Actuarial Information ('TAS R') as issued by the Board for Actuarial Standards ('BAS'). BAS is a subsection of the Financial Reporting Council and is responsible for setting technical actuarial standards in the UK.
- 1.27 The work underpinning this report also complies with the following standards as issued by BAS:
- ▶ Technical Actuarial Standard D: Data ('TAS D')
 - ▶ Technical Actuarial Standard M: Modelling ('TAS M')
 - ▶ Insurance Technical Actuarial Standard ('Insurance TAS')
 - ▶ Transformations Technical Actuarial Standard ('Transformations TAS').
- 1.28 I believe that this compliance has been achieved with no major deviations from the guidelines. I have not discussed the timing of future cash flows as I do not believe this is of relevance to my report, or of value to the readers of my report given the purpose of this exercise.

2. Executive Summary

Purpose of this report

- 2.1 My report considers the effect of the Transfer upon policyholders of UKB and UKE. It contains a description of the Transfer and the methodology used during the course of my work to assess the security provided to policyholders before and after the Transfer for the transferring policyholders (i.e., the policyholders of UKB's UK branch), the receiving policyholders (i.e., the policyholders of UKE) and any other policyholders that might be affected by the Transfer. I also provide my conclusion on the Transfer together with reasons why I have reached this conclusion.

Background to the entities involved

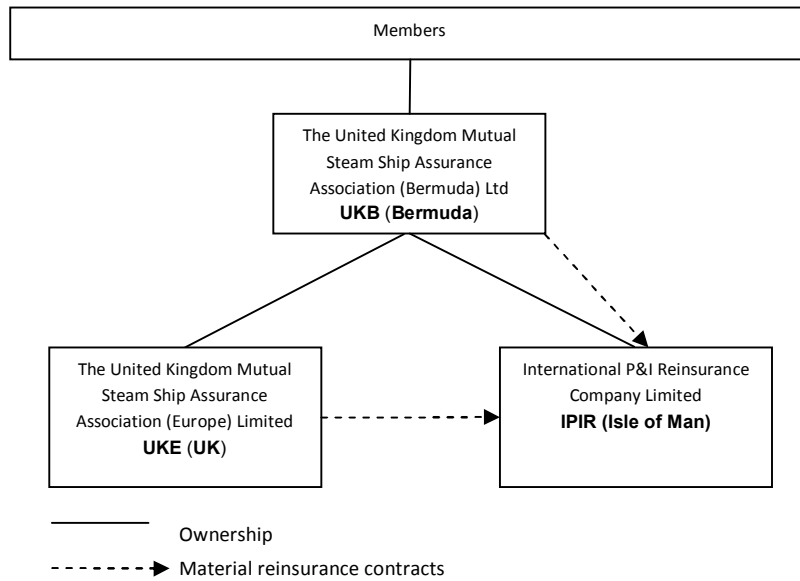
The Club

- 2.2 The Club is a mutual marine insurance business providing cover for marine protection and indemnity ('P&I') risks to its members and other policyholders.
- 2.3 The United Kingdom Mutual Steam Ship Assurance Association Limited ('UK London') was the entity carrying on the business of the Club prior to February 1969. The liabilities of UK London are 100% reinsured by UKB. UKB carried on the business of the Club between February 1969 and February 2007. Since February 2007 the business of the Club has been carried on jointly by UKB and UKE on a unified basis and as one association, trading under the name of 'The UK P&I Club'.
- 2.4 Until February 1990, UKE carried on a mutual marine insurance business known as the Sunderland Steamship Protecting and Indemnity Association ('the Sunderland Club'). The liabilities of the Sunderland Club are 100% reinsured by UKB.
- 2.5 UKB operates through its branches in the United Kingdom, Hong Kong, Japan and Singapore (each of which is regulated by respective local regulators). UKE is regulated by the FSA in the UK. I note that UKB has no 'direct' policyholders in Bermuda (i.e., all policies are underwritten through one of the four branches).
- 2.6 UKB is the parent company of the Club. As a mutual company, UKB does not have shareholders. UKB is owned by and exists for the benefit of its members who are, with the exception of UKB's individual directors, ship owners and other entities that have ships insured with either UKB or UKE. The terms of insurance cover offered by UKB and UKE are identical and policyholders whose policies are issued by UKE on a mutual basis are members of UKB.

International P&I Reinsurance Company Limited

- 2.7 International P&I Reinsurance Company Limited ('IPIR') is incorporated in the Isle of Man and is a wholly-owned subsidiary of UKB. IPIR reinsures on a quota share basis 90% of the insurance and reinsurance liabilities of the Club net of all other reinsurances (including the International Group). This means that IPIR has agreed to reimburse UKB and UKE 90% of all claim payments that UKB and UKE make to their policyholders. IPIR would receive 90% of the premium collected by UKB and UKE. The reinsurance of UKB and UKE is the only business carried on by IPIR.

Diagram 2a: Current structure of the Club (showing main entities only)



Thomas Miller

2.8 Each of UKB (with the exception of its branch in Japan, which is managed by one of UKB’s employees), UKE and IPIR delegate the day-to-day operation of the Club (including its investment activities) to Thomas Miller. The UK Club Private Trust Company Limited is a subsidiary of UKB incorporated in Bermuda which currently holds a 15% interest in Thomas Miller.

The International Group

2.9 The International Group is a group of 13 ‘clubs’ that collectively provide 90% of P&I cover to the global shipping industry. The Club is a member of the International Group.

2.10 The members of the International Group have an agreement to share losses in a "pooling" arrangement for claims against owners of ships. If a claim incurred by a particular club is above the club retention for a given year, then the agreement would mean that the excess over this retention would be shared amongst the members of the International Group (including the club against which the original claim was made). The International Group also purchases reinsurance from the external reinsurance market to provide protection to its 13 members.

Reorganisation of the Club

2.11 The Transfer is part of a wider range of measures currently in the process of being undertaken by the Club. In this report I refer to the combination of these measures as the 'Reorganisation'. For the avoidance of doubt, I am referring to the Transfer as the proposed transfer of the policyholders of the UK branch of UKB to UKE (i.e., the insurance business transfer scheme that is being considered by the Court). The Reorganisation is the combination of measures described below (of which the Transfer is a part).

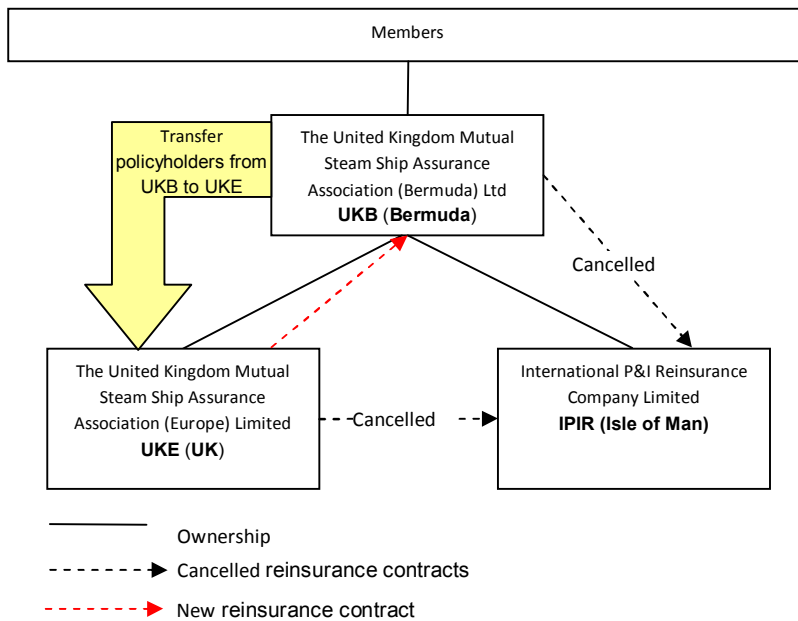
2.12 The Reorganisation consists of the following:

1. The Transfer.
2. The transfer of the branch offices of UKB in Japan, Hong Kong and Singapore into UKE (the 'Japanese Transfer', the 'Hong Kong Transfer', and the 'Singapore Transfer' respectively). These transfers are separate from the Transfer. UKE will establish a new branch office in each of Japan, Hong Kong and Singapore. Through a combination of the Transfer, the Japanese Transfer, the Hong Kong Transfer, and the Singapore

Transfer all of the insurance and reinsurance business of UKB will have transferred to UKE.

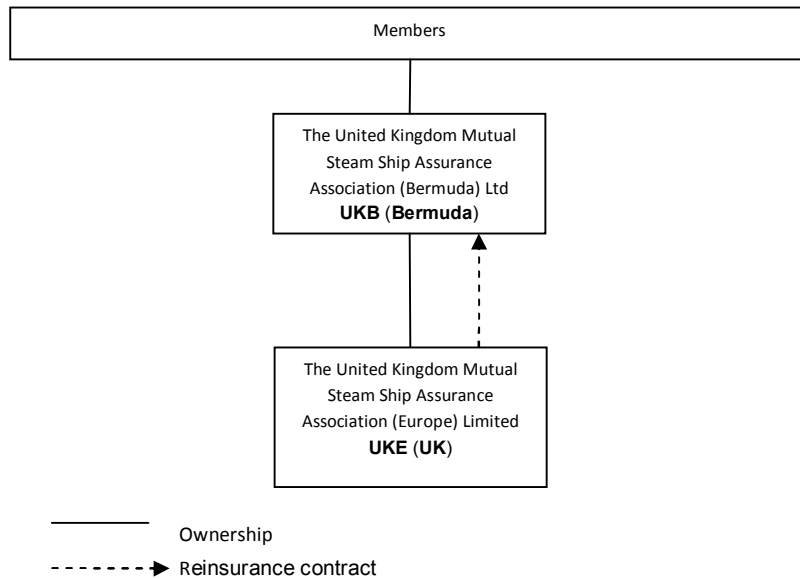
3. A Scheme of Arrangement in Bermuda (the 'Bermudan Scheme') that transfers the policyholder creditors of UKB to UKE. I understand that the Transfer, the Japanese Transfer, the Hong Kong Transfer, and the Singapore Transfer will be sufficient to transfer the policyholder creditors of UKB to UKE. However, there may be some ambiguity about whether the individual transfers would be recognised by Bermuda courts. To avoid this risk, the Club is carrying out the Bermudan Scheme to ensure that all of these transfers are recognised by the Bermuda courts.
4. The quota share arrangement with IPIR and UKB's reinsurance of UKE's Sunderland Club liabilities will be discontinued. A new arrangement will be set up. Under the new arrangement 90% of all insurance liabilities of UKE will be reinsured on a quota share basis by UKB. The assets of IPIR will be transferred to its parent, UKB, or to UKE pursuant to the terms relating to the termination of the IPIR reinsurance contracts with UKB and UKE, subject to any capital requirements on IPIR (which will be retained as a dormant company, but which will surrender its insurance license). Any surplus assets thereafter will be transferred by way of dividend to its parent, UKB.
5. The novation of the reinsurance contract between UKB and UK London (covering business of the Club prior to the creation of UKB in 1969) from UKB to UKE.
6. Calibration of the solvency position of UKE, pursuant to the terms of the guarantee between UKB and UKE (which is discussed in paragraph 2.32). In accordance with the terms of the guarantee, UKB will inject capital into UKE if necessary to ensure that UKE has sufficient regulatory capital.

Diagram 2b: The Reorganisation



2.13 All policyholders of UKB would transfer from UKB to UKE. The reinsurance contracts with IPIR would be cancelled, and a similar reinsurance from UKE to UKB would be put in place.

Diagram 2c: The Club after the Reorganisation



- 2.14 After the Reorganisation all policyholders of the Club would be insured by UKE. UKB would act as a reinsurer of the Club (although there are other reinsurers external to the Club that are not shown on the diagram).

Purpose of the Reorganisation

- 2.15 I understand that the purpose of the Reorganisation is to reduce from two to one the number of entities in the Club that will be subject to the forthcoming Solvency II regime in the European Union. The Club also anticipates that the simplification of the Club’s structure will lead to cost savings.

Which liabilities are moved from UKB to UKE as part of the Reorganisation?

- 2.16 The Reorganisation will involve moving all of the ‘insurance’ liabilities of UKB from UKB to UKE. The largest part of the insurance liabilities of the Club is the claims reserve. This is the amount of money that it is expected to have to pay to its policyholders in the future, when any of its policyholders makes an insurance claim. The insurance liabilities of UKB also include various other amounts of money payable to creditors of the Club (for example, premium due to be paid to reinsurers). These other amounts are small compared to the claims reserves of UKB.
- 2.17 After the Reorganisation UKE would be responsible for paying, in the first instance, all of the insurance claims of the policyholders of the Club. The ‘chain of security’ for each group of policyholders is described below. This shows the order in which the assets of the Club can be used to make a claim payment to a policyholder of the Club. I believe that the chain of security is essentially unchanged by the Reorganisation.

UKB before the Reorganisation

- 2.18 From the point of view of UKB’s policyholders the current chain of security is as follows:
1. The assets of the branch with which the policyholder is entered (i.e., a branch office in the UK, Japan, Hong Kong or Singapore).
 2. The unencumbered assets of UKB, including distributions from UKE and IPIR.
 3. Various reinsurances available to the Club, including those available under the International Group pooling and Hydra arrangements (see paragraphs 5.19 to 5.30).

4. Within the Club's rules the Board of UKB can, if necessary, levy calls on the mutual members (who include both policyholders of UKB and policyholders of UKE). The members would then be asked to pay an additional premium amount.

UKE before the Reorganisation

2.19 From the point of view of UKE's policyholders the current chain of security is as follows:

1. The assets of UKE.
2. Various reinsurances available to the Club, including those available under the International Group pooling and Hydra arrangements (see paragraphs 5.19 to 5.30).
3. The guarantee from UKB to meet the liabilities of UKE to the extent UKE is unable to pay these.
4. Within the Club's rules the Board of UKB can, if necessary, levy calls on the mutual members (who include both policyholders of UKB and policyholders of UKE). The mutual members of the Club (i.e. the individual ship owners) would then be asked to pay an additional premium amount. .

UKE after the Reorganisation

2.20 After the Reorganisation the chain of security for the policyholders of the Club (who are all now insured by UKE) will be as follows:

1. The assets of the branch with which the policyholder is entered.
2. Various reinsurances available to the Club, including those available under the International Group pooling and Hydra arrangements (see paragraphs 5.19 to 5.30).
3. The guarantee from UKB to meet the liabilities of UKE to the extent UKE is unable to pay these.
4. Within UKE's rules the Board of UKE can, if necessary, levy calls on the mutual members. The mutual policyholders of UKE (i.e., the individual ship owners) would then be asked to pay an additional premium amount.

Which assets are moved from UKB to UKE as part of the Reorganisation?

2.21 Assets equal to the transferring liabilities of UKB will be moved to UKE as part of the Reorganisation. Additional assets may also be transferred from UKB to UKE as part of the Reorganisation if needed in order to enable UKE to meet its capital requirements (in accordance with the terms of the guarantee from UKB to UKE).

2.22 A significant part of the assets to be transferred will be the pre-Transfer investments held by UKB (including the cash holdings of UKB and the assets to be returned by IPIR to UKB upon the termination of its reinsurance contract with IPIR) and amounts due from members/policyholders in relation to calls/premium due and the right to levy calls. In addition, UKE will receive assets from IPIR pursuant to the termination of the reinsurance contract between IPIR and UKE. To the extent that UKE requires additional assets either to satisfy its regulatory capital requirements or to meet other liabilities, these assets will be provided by UKB pursuant to the guarantee it has given to UKE.

2.23 There is a small amount of 'Other Debtors'. These are amounts owed to UKB by other third parties (for example, amounts that are due to be paid to UKB from reinsurers). The debts arise through the course of the insurance operations of UKB. After the Transfer, these debts will be held by UKE.

Methodologies adopted in my review

- 2.24 Although my scope is to review the effect of the Transfer on the policyholders, the wider proposed changes to the Club are of relevance to this question. I have therefore considered the effect of the Reorganisation as a whole on the Club, and have considered the effect of the Transfer if one or more elements of the Reorganisation are not effected. In this way, I have checked that regardless of the status of the other transfers (Hong Kong, Japan and Singapore, and the Bermudan Scheme), the Transfer would not detrimentally affect any group of policyholders.
- 2.25 An important part of the scope of my review is whether the security provided to any group of policyholders is affected detrimentally by the Transfer. A policyholder's security would be affected detrimentally if, following the Transfer, that policyholder's insurer would be materially less likely to be able to pay any future claim that is due to the policyholder.
- 2.26 I have used a number of different approaches to determine the quantitative effect on the security provided to policyholders. The Club have teams of finance specialists and actuaries that periodically carry out various modelling work on the financial statements of the Club. They also commission firms of external consultants to carry out various modelling work. I have performed a review of the modelling work carried out by the Club and their external advisors.
- 2.27 The claims reserve of an insurance company is an estimate of the amount of money that the company will need to pay out to its policyholders as claim payments in the future. It is an unknown amount of money (because future claim amounts are unknown and uncertain) but it can be estimated by the company by using various statistical techniques. An important question when considering the security provided to policyholders of a company is whether the estimation of the claims reserves has been carried out in an appropriate way. This is because there is a risk that the company has underestimated the amount of money that it will need to pay future claim amounts to policyholders, and therefore a risk that it will not be able to pay those claim amounts. Therefore, I have considered the adequacy of significant parts of the claims reserves of the Club.
- 2.28 A second important aspect of the modelling work I have reviewed relates to the uncertainty over the size of the future claim amounts. The amount of capital in an insurance company is the difference between the value of the assets of the company (e.g., investments, cash and amounts due from debtors), and the value of the liabilities of the company (e.g., future claim payments and amounts due to creditors). It is one measure of the financial strength of the company. Insurance regulators require that an insurance company has at least a certain minimum amount of capital (i.e., so that it has a level of buffer to help make future claim payments). The capital requirement is needed because the ultimate amount of the future claim payments is uncertain; the insurance company and the regulator wish to be confident that the company is able to meet all future claim payments, even in an unlikely adverse scenario. However, this does not mean that a company will be able to meet all claim payments in all circumstances; only that there is a high probability of being able to do so. As part of my work I have checked that the probability of the Club being able to meet its future claim payments is not materially affected by the Transfer, and also that the Club's ability to meet the regulatory capital requirements is not materially affected by the Transfer.
- 2.29 For the review of both the models and the claims reserves I have used my wider market knowledge derived from similar projects to benchmark the appropriateness of the methods and assumptions used (by benchmarking I mean that I have reviewed the methods and parameters used by the Club and compared them against the methods and parameters used across the insurance market by companies similar to the Club). A summary of my methodology is provided in Section 6 for the analysis of the claims reserves and Section 7 for the analysis of the Club's capital model.

Accounting basis used for my assessment of the Reorganisation

- 2.30 The assets and liabilities to be transferred will be valued according to IFRS (International Financial Reporting Standards) which is similar to the accounting standard that is used by

UKE (which uses UK GAAP) and by UKB (which uses generally accepted accounting principles in Bermuda and Canada) to value their respective assets and liabilities. For this reason I consider that it is an appropriate basis for considering the Transfer.

Fungibility of assets

- 2.31 An important consideration is the fungibility of the assets available to the Club. The Club is fully fungible if assets in one part of the Club could be used, if required, to meet liabilities in another part of the Club.
- 2.32 I believe that before the Reorganisation the Club is fully fungible for the following reasons:
1. There is a Deed of Guarantee (the 'UKB Guarantee') between UKB and UKE in which UKB has guaranteed to meet the liabilities of UKE to the extent that UKE is unable to do so (this includes UKB providing capital to UKE in order to meet its regulatory capital requirements).
 2. The Articles of Association of UKE mean that surplus within UKE would be distributed back to its parent company UKB if UKB needed additional assets to pay policyholder claims or to meet additional regulatory requirements.
 3. UKB to IPIR. There is scope for further capital contributions if necessary.
 4. IPIR to UKB. Monies may be transferred via distribution of surplus and/or via a contractually agreed commutation of the reinsurance contract, on which the net assets relating to the reinsured business would be returned to UKB.
 5. IPIR to UKE. Monies may be transferred via a contractually agreed commutation of the reinsurance contract, as between IPIR and UKB.
- 2.33 I believe that after the Reorganisation the Club is fully fungible because all policyholders would be insured by UKE, and the UKB Guarantee would remain in place. The entity that is the insurer of all of the policyholders of the Club (i.e., UKE) would therefore have access to all of the assets of the Club.

Overall conclusion

- 2.34 I have considered the Transfer and its likely effects on the policyholders of UKB and UKE. I confirm that I understand my duty to the Court.
- 2.35 I conclude that there would be no material change to the security provided to policyholders and that no group of policyholders would be adversely affected to a material extent by the Transfer, and that therefore there is no reason that the Transfer should not go ahead.

Key reasons

The Reorganisation

- 2.36 I believe that there is full fungibility of assets in the Club before the Reorganisation, and this will not change after the Reorganisation (see paragraph 2.33). After the Reorganisation all of the policyholders would be insured by UKE, and the UKB Guarantee would ensure that UKE had access to any assets in UKB if they were required.
- 2.37 The total amount of assets available to the Club to meet policyholder claims will not change as a result of the Reorganisation.
- 2.38 The 'chain of security' before and after the Reorganisation is substantially the same for all policyholders (see paragraphs 2.17 to 2.20).
- 2.39 There would be no change to the Club's external reinsurance arrangements (since these currently apply to both UKB and UKE for the 2007 and later underwriting years, and are

subject to English law for underwriting years prior to 2007) and there would be no change to the reinsurance or protection achieved through being a part of the International Group.

- 2.40 Within the rules of UKB and UKE, the Boards can, if necessary, levy calls on the mutual policyholders of the Club. The policyholders of the Club (i.e., the individual ship owners) would then be asked to pay an additional premium amount. This provides for additional protection to the individual ship owners. This additional protection, and the potential for requests for additional premium if the Club requires it, is not changed by the Reorganisation.
- 2.41 I have checked that the Club has sufficient capital to meet its FSA capital requirement. The FSA capital requirement is already calculated on the basis of the whole Club combined, and there will be no change to this basis after the Reorganisation. The FSA requirement is calibrated at the 99.5% level (i.e., a 1 in 200 probability of not meeting claim payments as they fall due). This means that if a company meets this requirement then the probability of meeting claim payments as they fall due is in excess of the 1 in 200 level. The Club currently meets the FSA capital requirement by a large margin, and each entity within the Club has enough capital to provide a substantial margin over its capital resource requirement (the minimum capital requirement under existing rules). This suggests that the security provided to the policyholders of each entity, as well as for the Club as a whole, is good.
- 2.42 I have carried out a review of the claims reserves for the Club. The amount of this claims reserve is reasonable in my opinion. This is based on the review I have carried out of the claims reserving work done by the Club and their external advisors.
- 2.43 For the above reasons I conclude that the Reorganisation would not have a material adverse impact on the policyholders of the Club.

The Transfer

- 2.44 The Transfer is one of a number of transactions that form the Reorganisation. There are four other key elements, apart from the Transfer. These are: the Hong Kong Transfer, the Japanese Transfer, the Singapore Transfer and the Bermudan Scheme. They are all planned to be effected on or prior to the Transfer Date, although there is some risk that one or more of those elements is not effected at the time of the Transfer.
- 2.45 The Transfer and the Bermudan Scheme will each be conditional upon the other being approved (i.e., if the Transfer did not proceed then the Bermudan Scheme would not proceed, and vice versa).
- 2.46 In the event that one or more of the Hong Kong Transfer, the Japanese Transfer or the Singapore Transfer are not effected by the Transfer Date, I do not consider that there would be any material impact on either pre-Transfer policyholders of UKE or the policyholders of the UK branch of UKB, as the Hong Kong, Japanese and Singapore branches are small compared to the size of the UK branch of UKB. A comparison of the relative size of the different branches is shown in paragraph 5.16.
- 2.47 This would, however, create another class of policyholders (i.e., policyholders remaining in UKB). I do not consider that these policyholders would be materially disadvantaged by the Transfer, as:
- ▶ The financial position of UKB in terms of the ability of its assets to cover its liabilities (measured by the ratio of the two figures) remains strong following the Transfer, after the inclusion of the assets and liabilities of IPIR. Although not as strong as the position of UKB prior to the Transfer, I do not consider the position to be weakened to the extent that it constitutes a material detriment to these policyholders, particularly given the fungibility of assets.
 - ▶ The capital position of UKB on a post-Transfer basis remains strong after the Transfer, both on a Solvency I basis and on a Solvency II basis, as discussed later in this report in Section 9.

- ▶ There will be no fundamental change to the management of the group, and policyholders remaining in UKB will continue to be treated in the same way as the other policyholders.

2.48 For the above reasons I conclude that the failure of any other part of the Reorganisation to proceed would not have any material adverse impact on the policyholders of the Club.

Legal opinions

2.49 I have not needed to take any third party legal opinion on any aspect of the Transfer.

2.50 I have discussed with the management of UKB and UKE and their legal advisors the possible impact on policyholders outside of the European Union or European Economic Area. If the Transfer were not seen to be effective in those non-EU jurisdictions I do not believe there would be a negative impact on policyholders. This is because:

- ▶ The business of UKE and the UK branch of UKB is subject to English law, and under English law the liability will have been transferred.
- ▶ The Club is carrying out a Scheme of Arrangement in Bermuda that will transfer the policyholder creditors of UKB to UKE under Bermudan law.
- ▶ Even if a foreign jurisdiction were not to recognise the Transfer, UKB retains sole membership (and hence ownership and control) of UKE, so could if necessary seek to release funds from UKE.

Effect of a global economic downturn

2.51 In recent years there has been a downturn in global economic activity and resultant turmoil in the financial markets. There is a risk that this could continue or worsen over the coming years. I have considered the effect of a global economic downturn on the companies involved, and in particular, whether the Reorganisation would mean that any policyholder would be disadvantaged.

2.52 A global economic downturn could have some effect on the Club, not least because the amount of global shipping would be likely to reduce. This could have an effect on premium volumes and claim frequency and severity. However, the Club would be exposed to these changes regardless of the state of the Reorganisation. Therefore I do not believe that the effect of a global economic downturn is relevant to my consideration of the Reorganisation.

2.53 The investment portfolio held by the Club is a mix of cash, bonds (mainly government bonds) and equity shares, and so the downturn may lead to increased volatility of returns. I would draw attention to the fact that the policyholders are already exposed to these risks as part of the current arrangements. In my opinion, those risks are not made any greater or lesser by effecting the Reorganisation. Therefore I do not believe that the global economic downturn has any bearing on the Reorganisation or the Transfer.

2.54 There is currently a particular uncertainty due to the financial problems in European countries (the 'Eurozone'). I have considered the Club's exposure to Euro-based economies. The Club aims to match the currencies of their assets and their liabilities, and have reduced their investment exposure to Euro-denominated assets to the minimum level that maintains matching of Euro-denominated liabilities.

2.55 Given this matching approach, I do not believe that any risks pertaining to the Eurozone uncertainty will be made any greater or lesser by effecting the Reorganisation. I therefore do not believe that the uncertainty in the Eurozone has any bearing on either the Reorganisation or the Transfer.

3. Scope

- 3.1 The scope of my work is detailed in the extract from my terms of reference provided in Appendix C. There are no areas where the actual work performed differs from this agreed scope.
- 3.2 My report considers the effect of the Transfer and Reorganisation upon the policyholders of the Club. It contains a description of the Transfer, the methodology I have used to analyse the Transfer, the opinions I have formed and reasons why I have formed these opinions.
- 3.3 The use of 'I' and 'my' in this report generally refers to the work done by myself and the team operating under my direct supervision during the course of this review. However when it is used in reference to an opinion, it is mine and mine alone.

Alternative arrangements

- 3.4 I am not aware of any alternative arrangements to the Transfer proposed by any party, so I have not considered it necessary to discuss alternative proposals within this report.

Use of data and reports

- 3.5 My view on the insurance liabilities of the companies involved is based upon my review of the actuarial reports produced by the Club and their advisors, and discussions with representatives from the actuarial and finance departments of the Club, including a review of some of their documentation.

Future changes of ownership

- 3.6 I have not considered any future changes of ownership of any of the companies involved in the Transfer. I am not aware of any proposals to change ownership at the time of writing this report.

Reliance on data

- 3.7 I have not audited nor have I independently verified the data and information supplied to me. However, I have reviewed it for reasonableness and for internal consistency. I have also received specific statements of data accuracy from the management of UKB and UKE.
- 3.8 A summary of the data provided to me can be found in Appendix B.
- 3.9 I have also placed reliance upon the data insofar as when assessing claims I have not considered potential future claims arising from causes not substantially recognised in the historical data except to the extent that such claims (and their impact) are included incidentally in the data. I consider this approach to be reasonable and in line with accepted actuarial practice.

Exchange rates

- 3.10 The figures used throughout this report have been converted at the following exchange rates, (these are the rates used by the Club to prepare their financial statements as at 20 February 2011):
- 1 USD = 0.6170 GBP = 1.2743 SGD = 7.7837 HKD = 83.3450 JPY = 0.7333 EUR

Peer review process

- 3.11 In accordance with the internal control processes of Ernst & Young, the work documented in this report has been peer reviewed by a suitably qualified person (an Actuary within my own firm who has acted as the Independent Expert in other insurance business transfer

schemes). The peer review process has included review of the methodology used and discussion of the key elements of the analysis.

4. Methodology

4.1 In this section I describe my approach to assessing the Transfer.

4.2 Although my scope is to review the effect of the Transfer on the policyholders, the wider proposed changes to the Club are of relevance to this question. I have therefore considered the effect of the Reorganisation as a whole on the Club, and have considered the effect of the Transfer if one or more elements of the Reorganisation are not effected. In this way, I have checked that regardless of the status of the other transfers (Hong Kong, Japan and Singapore, and the Bermudan Scheme), the Transfer would not affect detrimentally any group of policyholders.

4.3 My approach to assessing the Transfer has been to perform the following activities.

Understand the nature and structure of the Reorganisation and identify the groups of policyholders that would be affected

4.4 I have discussed the nature and structure of the Reorganisation with the Club, and reviewed their documentation.

Assess the financial positions of UKB and UKE

4.5 The level of security provided to policyholders of an insurance company depends on the available capital of the company, and in particular on the probability that this level of capital is sufficient to make claim payments as they fall due.

4.6 Insurers are also subject to capital requirements imposed by regulators (the FSA in the case of UKE and the Bermudan Monetary Authority ('BMA') in the case of UKB). If the actual level of capital of the insurer comes close to or falls below the level of required capital then the regulator may intervene in or impose restrictions on the day-to-day running of the company. The level of actual available capital compared to regulatory required capital is another measure of the security provided to policyholders.

4.7 I have considered the balance sheets of UKB and UKE as part of my assessment of their relative financial positions, including the net assets of the companies and the level of capital.

4.8 I have compared the balance sheets of UKB, UKE and IPIR based on data as at 20 February 2011, being the most recent date at which audited financial accounts were available.

Assess the claims reserves of UKB and UKE

4.9 An important part of the security provided to policyholders is the strength of the claims reserves (i.e., the estimate of the amount of money the insurer will have to pay out in the future in respect of policies already sold). The claims reserves generally form the largest part of the liabilities of an insurer.

4.10 I have therefore considered the claims reserves included on the balance sheet for each of UKB and UKE. This is discussed in Section 6.

Assess the capital modelling undertaken and the capital positions of UKB and UKE

4.11 UKE is regulated by the FSA and must consider two approaches to calculate its capital requirement: Solvency I (the European Union's Insurer Solvency Regime) and the FSA's Individual Capital Adequacy Standards ('ICAS') Framework. The FSA requires insurers to hold capital to meet the greater of the Solvency I capital requirement and the ICAS capital requirement:

- ▶ Solvency I was introduced across Europe in the 1970s. Insurers are required to hold an amount of capital at least as high as their Capital Resource Requirement ('CRR'), which is determined based on a formula related to premium written and claims reported.

- ▶ ICAS was introduced in the UK in 2004. It requires insurance companies to perform various capital modelling and risk management exercises. The result is an insurer-specific Individual Capital Assessment ('ICA'), which provides the insurer's own estimate of their regulatory capital amount. This is intended to represent the capital required to provide a 99.5% probability of adequacy over one year (that is, if a very large number of identical insurers were set up with that level of capital, then after one year it would be expected that 199 out of 200 of them would still be solvent). After reviewing an insurer's ICA the FSA will set its Individual Capital Guidance ('ICG'), which establishes the actual regulatory capital requirement for the insurer. The ICG is intended to be confidential between the FSA and the insurer, and is not to be publicly disclosed.
- ▶ A further measure used for comparison purposes in the UK is the Enhanced Capital Requirement ('ECR'). This is an estimate of capital requirement based on a calculation using the data in the FSA regulatory return of the insurer. Whilst it is mandatory for non-life insurers to calculate the ECR, there is no requirement for non-life firms in the UK to satisfy the ECR.

4.12 As a Bermuda-based company, UKB is subject to capital requirements imposed by the BMA. UKB is regarded as a 'Class 2' insurer, which means its capital requirements are based on the greater of a percentage of premium written, a percentage of net reserves and a statutory minimum level.

4.13 In addition, the UK branch of UKB is also expected to consider Solvency I and ICAS, on a similar basis to UKE. The FSA have agreed with the Club that UKE and the UK branch of UKB may carry out their ICAS assessments on the whole Club combined.

4.14 Following the Transfer and associated Reorganisation, all current policyholders of UKB and of UKE will be policyholders of UKE, so will be policyholders of an insurer (i.e., UKE) that is subject to the FSA regulatory regime.

Consider the impact of the forthcoming introduction of Solvency II, a new European regulatory regime for insurers

4.15 The European Commission is currently in the process of developing new regulatory requirements for all insurance and reinsurance undertakings within the European Union (this new regime is known as 'Solvency II'). This will replace the current Insurer Solvency Regime and, in the UK, will also replace the FSA's ICAS requirements. The current target date for implementation of Solvency II requirements for insurers is 1 January 2014.

4.16 Under Solvency II the regulatory capital of a (re)insurer will be based on either a Standard Formula, an Internal Model or a Partial Internal Model:

- ▶ The Standard Formula approach entails a prescribed basis for calculation and a prescribed set of parameters to use in working out the capital requirement.
- ▶ The Internal Model approach involves the (re)insurer using their own capital model to calculate their regulatory capital requirement. In this respect it is similar to the ICAS framework currently operating in the UK, however there are some important differences in the prescribed basis for calculation. Both the approach to calculating available capital (via the Solvency II balance sheet) and the approach to calculating the capital required are different.
- ▶ The Partial Internal Model approach is a mixture of the Standard Formula approach and the Internal Model approach. An Internal Model is used to calculate parts of the regulatory capital, and the Standard Formula to calculate the remainder.

4.17 The choice of which of these three approaches to use is made by the (re)insurer themselves, however the form and structure of Internal Models and Partial Internal Models are subject to approval by the relevant regulator (generally the regulator in the home country of the

(re)insurer). In cases where the regulator does not approve an Internal Model or Partial Internal Model, there is a possibility that the Standard Formula will be applied by default.

- 4.18 In addition to the capital requirements, there are other requirements arising as a result of Solvency II, including in relation to the reporting that (re)insurers undertake and for most (re)insurers, their governance structures.
- 4.19 Following the Transfer, all policyholders will be policyholders of UKE, which will be subject to the Solvency II requirements. I note that should the Transfer not proceed for any reason, policyholders of the UK branch of UKB will also be subject to Solvency II (as branches within the European Union are also subject to these requirements), and hence it is appropriate to consider UKB's Solvency II preparations.
- 4.20 I have discussed the preparations of UKB and UKE for Solvency II and have considered the potential impact of Solvency II on the capital requirements and available capital. I note that the regulations in relation to Solvency II have not yet been finalised, and so my consideration of Solvency II is based on my understanding of the requirements as they currently stand. This is discussed in Section 8.

Consider the potential impact of the Transfer on levels of customer service

- 4.21 I have considered how the level of customer service provided to policyholders could change following the Transfer. This is discussed in paragraph 9.16.

Consider the implications of the Transfer for the level of security being offered to each group of policyholders

- 4.22 I have considered each group of policyholders both before and after the Transfer and the relative level of security available to them.

Consider other factors that might affect policyholders (such as ongoing expense levels)

- 4.23 I have considered other factors that might affect policyholders, such as ongoing expense levels, tax implications, etc. through discussions with the Club and their advisors. These are described in Section 9.

5. Background to the Club

History of the Club

- 5.1 The Club is a mutual marine insurance business first established in 1869. UK P&I Club is the trading name for the Club. The policies it sells provide protection and indemnity insurance to owners, operators and charterers of ships in respect of liability to third parties arising out of ship operations.
- 5.2 As a mutual association, the Club operates on a non-profit basis whereby the premium paid by members in any one year is set so that the total premium should cover all claims, reinsurance expenses and administrative expenses, without including an explicit profit margin.
- 5.3 Premium is charged on one of two bases: (i) on a mutual basis, whereby the policyholder can potentially share in the Club's claims experience, or (ii) on a fixed premium basis, where the policyholder's premium is set and will not change. The fixed premium component of the Club's business has historically been small, but has been growing over time. Those policyholders who choose the 'fixed premium' basis do so primarily to simplify the insurance process, as charterers of ships (for instance) may only require insurance for single voyages of (say) a few months at a time, and may not therefore want to share in wider claims experience.
- 5.4 The Club may levy 'calls' upon its mutual (i.e. non fixed premium) policyholders who have paid mutual premiums in respect of owned ships for additional premium if needed, should claims experience be worse than expected. Under the structure of the Club, such 'calls' may be levied for a period of up to three years after the underwriting year in which the policy is issued, barring certain exceptional circumstances. After this period, any inadequacies in an underwriting year's claims reserves must be made up from premium and/or calls relating to later underwriting years. Conversely, should claims experience be better than expected, the Club may grant its mutual policyholders a discount in the premium charged.
- 5.5 The Club has appointed Thomas Miller to provide management services (including investment management) for UKB and UKE. The parent company of Thomas Miller is Thomas Miller Holdings Limited, in which the Club holds a 15% ownership stake.

UKB

- 5.6 UKB is the parent company of the Club and was established in 1969, from which time it has carried on the business of the Club. UKB is a mutual company, and as such is owned by and exists for the benefit of its members.
- 5.7 Excluding the directors of UKB, UKB's members are ship owners and other entities that have ships insured with either UKB or its subsidiary UKE.
- 5.8 UKB operates through branches in the UK, Hong Kong, Japan and Singapore, each of which is regulated by the respective regulator in that country.
- 5.9 UKB also provides cover for the insurance business sold through the Club prior to 1969 via a reinsurance contract with UK London, which was the entity carrying on the business of the Club prior to 1969.
- 5.10 The branch office of UKB in Japan is staffed by four UKB employees (in accordance with local requirements). All other management of UKB is provided by Thomas Miller and UKB has no other employees.

UKE

- 5.11 UKE was originally established on 18 February 1882 as the Sunderland Club, which carried on business until February 1990 and was put into run-off and deregistered in 2001.
- 5.12 On 30 January 2007 the company's name changed to UKE and in February 2007, with UKB as its sole member and Thomas Miller as its managers (UKE has no employees) UKE recommenced writing business as part of the Club. UKE operates in the UK and is regulated by the FSA.
- 5.13 The business previously written by the Sunderland Club is now 100% reinsured by UKB.
- 5.14 UKE was established by UKB in order to be able to provide insurance cover for ships registered in certain countries (e.g., Spain, Italy), where local insurance regulations require the insurer to possess a European Economic Area regulatory 'passport'.
- 5.15 Since the inclusion of UKE as part of the Club, UKE and UKB have been run and managed as a single association. The terms of insurance offered by UKE and UKB are identical, and all parties insured on a mutual basis by UKE are members of UKB. In addition, all reinsurance contracts providing cover to UKB have also included UKE as a named party.

Summary of companies and branches

- 5.16 The size of the portfolios involved are shown below:

Table 1: Size of portfolios in each of UKB and UKE

	Premium net of returns (\$m)			Policyholder Groups		
	Owned	Chartered	Total	Owned	Chartered	Total
UKB						
UK Branch	226.2	28.2	254.4	348	125	473
Hong Kong Branch	3.3	0.0	3.3	8	0	8
Japan Branch	3.0	0.0	3.0	9	0	9
Singapore Branch	3.4	2.5	5.9	2	1	3
UKB Total	235.9	30.7	266.6	367	126	493
UKE	53.1	9.2	62.4	65	27	92
Total	289.1	39.9	329.0	432	153	585

1 The premium figures are 'net of returns'. This is because when a ship is 'laid up' in port rather than sailing, it reduces the risk of P&I claims, and so in such circumstances the Club will return part of the premium charged to the policyholder.

2 The term 'Policyholder groups' refers to the number of distinct fleets of ships represented by policyholders. For example, a shipping company owning 30 ships would represent 30 members (as each ship was a distinct member) but these would be treated as one policyholder group.

- 5.17 As at 20 February 2011 the Club had 1,924 direct mutual members, 405 direct fixed premium policyholders and 1 reinsured member.
- 5.18 The financial year-end of UKB and UKE is 20 February each year.

The International Group

- 5.19 The International Group is a group of 13 "clubs" that collectively provide 90% of P&I cover to the global shipping industry. The members of the International Group operate within the framework of the International Group Agreement. The Club is a member of the International Group.
- 5.20 The International Group has established a risk pooling mechanism whereby the 'International Group Pool' provides a claims-sharing arrangement for claims by owners of ships under which each club bears a retention (excess of the ship-owner member's deductible) for each eligible claim, and the excess of any eligible claim over this retention is shared between all the 13 clubs in the International Group, according to a formula and rules set out in the International Group Pooling Agreement. For extremely large individual claims, the

reinsurance arrangements for the International Group mean that a proportion of any eligible claim over the specified threshold is transferred to external commercial reinsurance markets.

- 5.21 The International Group is effectively providing co-insurance amongst its members, with all members sharing in losses from \$8 million up to approximately \$6.9 billion per claim. There are also quotation procedures, which set out a framework by which clubs in the International Group may quote prices to members of other clubs, together with any restrictions on the extent of pooling that would apply should this framework not be followed.
- 5.22 The International Group has established, on behalf of all pool members, a segregated cell captive company called Hydra. Each Hydra cell is owned by a separate member of the International Group and reinsures that member in respect of some of its obligations. Hydra, on behalf of all the cells, purchases external reinsurance in respect of all the Hydra captive cells. The arrangements with respect to Hydra are not expected to change following the Reorganisation. A detailed description of Hydra and its operations is included in the Glossary in Appendix A.
- 5.23 UKB and UKE are both named as parties to the International Group Pooling Agreement, but are treated as one entity for pooling purposes. UKB is currently designated as the principal member and UKB and UKE are jointly and severally liable for the Club's financial commitments to the International Group Pool.
- 5.24 The Club has one vote only under the International Group Pooling Agreement, exercisable by UKB.
- 5.25 Following the Transfer, it is intended that UKE will become the principal member of the International Group for pooling purposes and will have the Club's vote, and UKB will become the 'paired club'. As a result the Club will continue to benefit from the same International Group arrangements as at present.

Reinsurance

- 5.26 All reinsurance contracts entered into by UKE and UKB are subject to English law and do not contain termination or other provisions which would be triggered by the Reorganisation.

Reinsurance available through the membership of the International Group

- 5.27 The Club has a significant level of reinsurance cover through the Club's membership of the International Group. The reinsurance with the International Group applies to both UKE and UKB. The reinsurance available through the International Group for the year ended 20 February 2012 can be summarised as follows:
- ▶ The Club retains the first \$8 million of any eligible claim.
 - ▶ The next \$22 million of any eligible claim is 'pooled' amongst all members of the International Group using a formula based on claims experience, premium volume and tonnage insured. The Club would only pay a part of this amount (though the Club would also have to pay for their share of other clubs' eligible claims in this layer).
 - ▶ The next \$30 million of each eligible claim is again pooled amongst all members of the International Group, and each club's share is reinsured through a protected cell with Hydra as part of the International Group reinsurance programme.
 - ▶ Reinsurance then provides protection against the next \$2 billion of any eligible claim other than for oil pollution, and the next \$1 billion for eligible oil pollution claims. This cover is split into several layers (of \$500 million, \$500 million and \$1 billion), the first of which (covering the cost of an eligible claim between \$60 million and \$560 million) is 25% reinsured by Hydra (as for the previous layer, the costs are pooled and each club's share is then covered by the Hydra reinsurance). The remainder of this layer and all cover for the next two layers is reinsured by external reinsurers. This external

reinsurance has unlimited reinstatements (i.e., any number of eligible claims could potentially trigger recoveries if required).

- ▶ For claims other than oil pollution, there is a further \$1 billion of cover for the liability of clubs to contribute to eligible claims (i.e., for claims that exceed \$2.06 billion, the liability of clubs to contribute to that portion of the cost that is above \$2.06 billion). There has never been a single claim event that triggered this layer (the Club have advised that the largest ever claim is estimated to be \$1.5 billion in today's money when adjusted for inflation).
- ▶ Should the cost of an eligible claim exceed \$3.06 billion, there are further pooling arrangements in place to divide the cost amongst the members of the International Group, up to a total cost of approximately \$6.9 billion (the precise amount is defined to be 2.5% of property limitation funds as defined under the 1976 Limitation Convention).

5.28 The majority of the International Group's external reinsurance is purchased from large London Market reinsurers, the majority of which have received at least an 'A-' credit rating.

5.29 The recoveries through the International Group pooling arrangements are from the other members of the International Group, whose credit ratings vary from an 'A' rating through to some members that are unrated. Liability within the pool is several but not joint (i.e., were one member to fail to pay, the other members would not be required to make additional contributions to cover the shortfall), and so failure of any member would lead to the Club having to contribute to a higher proportion of its own pooled claims.

5.30 The past reinsurance arrangements with the International Group have been very similar in structure to those described above. The main change has been that the limits of particular layers have changed over time (e.g., the retention for individual clubs has risen from \$5 million in 2004 to the current level of \$8 million).

Additional reinsurance purchased by the Club

5.31 In addition to the reinsurance available through the International Group, the Club has at times purchased its own additional reinsurance. These contracts all apply to both UKB and UKE, and the most noteworthy of these are:

- ▶ In February 2000 the Club purchased reinsurance from Swiss Re to provide 'balance sheet protection'. This was a ten year contract to protect against decreases in the solvency ratio of the Club (measured as the total funds of the Club compared to the outstanding claims) over a financial year, whatever the reason for the fall. Although this contract was initially purchased to cover UKB (as UKE did not exist at that time), UKE was later also added as a beneficiary of the reinsurance. This policy provides up to \$110 million of protection over the years 2000 to 2010, and the Club currently expects to receive the full \$110 million in reinsurance recoveries.
- ▶ For the year ended 20 February 2012 the Club purchased an excess of loss policy covering losses on any individual claim between \$5 million and \$8 million.
- ▶ There is a 90% quota share to IPIR (this will be replaced after the Reorganisation with a quota share from UKE to UKB). The quota share applies after the application of all other reinsurance.

5.32 The Club also holds several other reinsurance contracts for underwriting years up to and since 2007. All of the reinsurance contracts since February 2007 protect both UKE and UKB as named policyholders, and so are not impacted by the Transfer. All of the earlier reinsurance contracts will transfer to UKE pursuant to the Transfer.

Specific reinsurance for UKE

5.33 Until February 1990, UKE wrote marine insurance cover under the name of the Sunderland Club. UKE is responsible for the historic liabilities of the Sunderland Club, and these are

currently 100% reinsured to UKB. I understand that the Club intends to discontinue this arrangement as part of the Reorganisation and include the Sunderland Club liabilities under the 90% quota share arrangement to be put in place from UKE to UKB.

- 5.34 This will not be affected by the Transfer, and so I consider that the Transfer has no specific impact on the Sunderland Club policyholders.

Policyholders of the Club

- 5.35 The policyholders of UKB and UKE are currently all 'direct' policyholders (i.e., policyholders that are not other insurance or reinsurance companies), with the exception of one reinsurance policy issued by UKB. I have been advised by the Club that this policy is in fact a 'fronting' arrangement, whereby the Club cedes part of the risk in respect of certain fleets to another insurer, and then reinsures that risk (less a deductible amount). The reasons for this are historical, and so this policy can be viewed as a business legacy issue. Both the insurer and the underlying shipowner are mutual members of the Club. The other policyholders are all either owners, operators or charterers of ships.

Priority of policyholders

- 5.36 All of the Club's policyholders rank equal in terms of priority in the event of insolvency of the Club as there is only one class of policyholders; all policyholders are subject to the same policy terms and conditions as set out in the rules of the Club.
- 5.37 I note that whilst strictly speaking the 'fronted' policy described in paragraph 5.35 can be considered to represent an exception to this rule, I consider this to be a technicality rather than a material issue. In practical terms, I understand that the Club treats this policyholder identically to other policyholders. I do not consider there to be any reason why the Transfer would lead to this policyholder being treated differently to other policyholders. Throughout this report, therefore, I refer to policyholders as a single class.

Governing law

- 5.38 The governing law of the rules of the Club is English law, although the rules of the Japanese branch office of UKB stipulate that where English law conflicts with Japanese law, Japanese law prevails.

Segregated funds and guarantees

- 5.39 UKB maintains a number of segregated funds in various jurisdictions around the world, including the United States of America, Hong Kong, Japan, Singapore and Switzerland. These segregated funds are assets that would only be made available for the specific policyholders in the jurisdiction. These assets could only be used to pay the claims of other UKB policyholders once the liabilities of the policyholders in the specific jurisdiction have been met.
- 5.40 These segregated funds are intended to be transferred to UKE as part of the Reorganisation. Given that there will be no change to the application of these segregated funds, the existence of the segregated funds does not affect my conclusion on the Transfer.
- 5.41 There are also letters of credit and guarantees made to the International Group in respect of the Club's responsibilities to the International Group. These are not intended to be changed after the Reorganisation, and so they do not affect my conclusion on the Transfer.

6. Claims reserves

- 6.1 The following table shows a breakdown of the claims reserves of the Club by nature of risk covered as at 20 February 2011. The figures are net of the Club's external reinsurance and pooling arrangements with the International Group, but do not include reinsurance recoveries from the 90% quota share with IPIR or reinsurance recoveries from the Club's segregated cell within Hydra (i.e., figures are on a consolidated basis for the Club as a whole).

Table 2: Claims reserves of the Club as at 20 February 2011 (figures in USD millions)

	UKB ex UKE	UKE	Total
Occupational Disease	59.0	0.0	59.0
Other claims prior to latest ten underwriting years	48.0	0.0	48.0
Latest ten underwriting years			
International Group pool	133.2	0.0	133.2
Charterers	47.7	0.3	48.0
Owners	495.1	65.5	560.5
Additional margin	36.0	4.0	40.0
Latest ten underwriting years - total	712.0	69.7	781.7
Total	819.0	69.7	888.7

1 Figures presented in the above table do not include provision for claims handling expenses, and do not include recoveries from the Swiss Re balance sheet protection reinsurance. Figures are also prior to the IPIR quota share and include the net claims reserves in the Club's segregated cell within Hydra).

Reserving analysis carried out by the Club's external advisors

- 6.2 The Club periodically commissions claims reserve reviews from a firm of external advisors for claims arising from the most recent ten underwriting years. The latest ten years are reviewed because this forms the largest part of the claims reserves. The Club have commissioned these reviews on a half yearly basis for the past three years.
- 6.3 I have reviewed reports from those external advisors based on a review that they performed on data as at 20 February 2011.
- 6.4 The external advisors carried out a claims reserve review using data net of reinsurance. They split the exposures of the Club into the following components for the purpose of their projection:
1. International Group Pool claims (i.e., the Club's share of the International Group Pool claims arising from all members of the International Group, including the Club itself)
 2. Claims arising from Chartered vessels
 3. Claims arising from Owned vessels (capped at the retention level that applied for International Group Pool business, as any costs above this level were considered as part of the International Group Pool claims above). For the purposes of the reserve estimate, these were further split into sub-components:
 - a. Cargo.
 - b. Personal injury.
 - c. Illness.
 - d. Cruise curtailment.
 - e. FCOO (fixed & floating objects, collision, oil pollution and other claim types).

- 6.5 I note that the external advisors do not consider claims older than the most recent ten underwriting years, nor do they consider occupational disease claims.
- 6.6 The external advisors use various actuarial methods to estimate the claims reserve. These methods are widely used throughout the insurance industry for estimating claims reserves for these types of liability. The approaches use both paid and incurred claims data. There are three main methods which are considered:
1. The **Chain Ladder Method**. This is applied to paid claims and incurred claims triangles on a quarterly basis. This approach uses the historical pattern of past payments or reported claims to estimate a 'development profile' for future claim development. For example, if the historical data suggested that 95% of the costs were paid within the first six years after the end of the underwriting year, then it would be assumed that the level of payments for the 2005 underwriting year represents 95% of the total payments necessary (this is because at February 2011, six years have passed since the end of the 2005 underwriting year). The remaining 5% would represent a claim reserve amount (i.e., estimated amounts to be paid in future). The method requires judgement from the actuary carrying out the exercise to select an appropriate development profile from the historical data; this should be a fair reflection of the expected pattern for the future claim amounts.
 2. The **Expected Loss Ratio Method**. This bases the projection of the claim amount on an exposure measure (for the Club, this is gross tonnage) and an assumed claims rate per unit of exposure for the written business. The assumed claims rate is usually based on either an average of the historical claims rates or on pricing studies carried out when the business was first written (these studies would have been carried out to determine the level of the premium to charge to policyholders).
 3. The **Bornhuetter-Ferguson ('BF') Method**. This makes a blend of the Chain Ladder Method and the Expected Loss Ratio Method. The weighting given to each is dependent on how 'developed' the claims are for a particular underwriting year. So for a new underwriting year (i.e., the year of the study, in this case the year ending 20 February 2011) more weight would be given to the Expected Loss Ratio Method. Conversely, for an older underwriting year (e.g., the year ending 20 February 2006) more weight would be given to the Chain Ladder Method.
- 6.7 The claims reserves estimated by the external advisors are intended to be a 'best estimate'. This means that there is no intended margin for prudence or optimism in the projected reserve amount.

Reserving analysis carried out by the Club

Claims from the latest ten underwriting years

- 6.8 The actuarial team of the Club carry out a review of the work carried out by their external advisors and the Club generally book the claims reserved as advised, but with the following amendments:
- ▶ There may be some small adjustments for certain new claims or reinsurance recoveries that were not supplied in the data to the external advisors.
 - ▶ The Club holds an additional margin of \$40 million over and above the best estimate provided by the external actuarial advisors when setting the booked reserve. This represents over 5% of the reserve excluding the margin and over 17% of the IBNR.
 - ▶ The Club carry out their own review of the claims reserves for occupational diseases, including in particular asbestos exposures (see below).
 - ▶ The Club book their own estimate for the claims from underwriting years prior to 2001. This is based on a judgemental approach, but the size of the exposure from those older

underwriting years (excluding claims from occupational diseases) is low compared to more recent years.

Occupational disease claims

- 6.9 The Club uses a model for estimating the liability relating to future occupational disease claims, and in particular asbestos related claims. The estimation of liabilities relating to asbestos exposures is particularly uncertain, as the final settlement cost will depend on, amongst other things, the outcome of legal judgements and as yet unknown future inflation levels. The greatest uncertainty will relate to mesothelioma claims, as mesothelioma is a disease that has a very long latency period (estimated to be up to 50 years or even longer), and the cost of individual mesothelioma claims can be in excess of \$150,000.
- 6.10 The modelling methodology adopted by the Club's actuaries is based on an approach developed by a UK insurance industry working party in 2004 and updated in 2009, with the parameters adjusted to reflect the differences between the Club's own asbestos exposures and experience compared with the insurance industry as a whole.
- 6.11 I note that the asbestos exposures of the Club include worldwide exposures, including US asbestos exposures. The traits of US asbestos claims differ somewhat to those from elsewhere in the world, particularly given the legal and judicial environment and history in the US. The Club separately models US and non-US occupational disease claims for this reason.

Underwriting years prior to 2001

- 6.12 For non-occupational disease claims from underwriting years prior to 2001 (i.e., prior to the latest ten underwriting years), estimates are prepared by the Club's finance department. The claims reserve for these underwriting years is based on an IBNR of \$5 million. This figure is reviewed by the reserving committee at each meeting, and generally adjusted up or down based on the perceived need to modify allowances for specific claims.

Key uncertainties

- 6.13 In considering the adequacy of the reserve amounts it must be borne in mind that the actual final cost of settling claims outstanding is uncertain. There is a range of possible outcomes, and the eventual outcome will almost certainly differ from any particular estimate made.
- 6.14 I believe that the key areas of uncertainty in the claims reserves for the Club relate to:
- ▶ Exposure to asbestos related claims – there is a significant element of asbestos exposure in the historical liabilities. The estimation of liabilities relating to asbestos exposures is particularly uncertain, as the final settlement cost will depend on, amongst other things, the outcome of legal judgments and as yet unknown future inflation levels. I have considered the IBNR reserves estimated by the Club's actuaries and do not consider these unreasonable.
 - ▶ Some of the business written by the Club includes certain long-tail exposures, which is evidenced by the continued presence of outstanding amounts from over ten years ago. These exposures can remain potentially uncertain for a number of years, and there is potential for the actual claims experience to differ substantially, either upwards or downwards. Mitigating this for the Club is the presence of a significant level of outwards reinsurance cover in place.

My review of technical provisions

Claims from the latest ten underwriting years

- 6.15 I have reviewed the claim reserving models produced by the Club's external advisors and discussed the key assumptions and uncertainties with the actuarial team of the Club.

- 6.16 There is generally a reasonable volume of historical data on which to base the chain ladder projection, so that the future claim development pattern derived from the analysis is relatively stable. Where there is not sufficient historical data the external advisors have set assumptions using their judgement and knowledge of the types of insurance involved. The Chain Ladder, Bornhuetter-Ferguson, and Expected Loss Ratio methods are widely used throughout the UK market for claims reserving exercises on these types of liabilities.
- 6.17 There has been no significant change over time to the mix of types of exposures written by the Club. I believe that the data is grouped and projected at a sufficiently granular level so that any changes in the mix of types of exposures do not invalidate the chain ladder method approach. The historical data should therefore provide a good indication of the future claim experience.
- 6.18 I have reviewed the various third party actuarial reports; the total reserve estimate from this analysis is lower than the reserve booked by the Club.
- 6.19 Based on my review of the liabilities I believe that the combination of the approaches adopted by the Club is a reasonable method to apply to these liabilities and is consistent with the usual actuarial approach within the insurance market. Actuarial judgement to decide on the appropriate method is needed; based on my review I believe that their approach and selections appear reasonable.

Occupational disease claims

- 6.20 I have assessed the Club's documentation of their estimation of reserves for occupational disease claims and consider that the approach to modelling is in line with accepted actuarial practice. The Club have set assumptions based on a combination of industry experience, the Club's own experience, and judgement.
- 6.21 A significant proportion of the occupational disease liabilities relate to asbestos exposures. The estimation of these liabilities is particularly uncertain, and the final settlement cost will depend on, amongst other things, the outcome of legal judgments and as yet unknown future inflation levels.
- 6.22 I have benchmarked the level of the booked claims reserve for occupational disease claims by comparing the IBNR amount as a percentage of the current outstanding claims to other benchmarks from my wider market experience. The Club's booked claims reserve implies an overall IBNR to outstanding ratio of approximately 555%, which is consistent with my own market benchmarks for these types of liabilities. I have also considered the proportion of the ultimate costs formed by amounts paid to date. The Club's ratio (approximately 16% on an undiscounted basis) is again consistent with my own market benchmarks.
- 6.23 I note that there is considerable uncertainty relating to any estimation of asbestos-related disease reserves. I consider the benchmarks I have used to be reasonable in the context of the Club's liabilities.
- 6.24 I note that there are differences between the asbestos exposures of the Club and the typical 'average' exposure of an insurer. In particular, the Club's liability largely relates to the exposure of seamen and passengers to asbestos. A typical insurer might have a wider spread of types of liability (for example, to include liabilities with other industries or with other insurers and reinsurers). The benchmarks I have available for asbestos exposures cover a wide variety of industries and type of policy. I have considered these differences in making my comparison of the Club's occupational disease reserves to my market benchmarks.
- 6.25 Based on my analysis of the Club's actuarial work relating to occupational disease claims, I believe that the Club's booked occupational disease claims reserves lie within a range of reasonable estimates.

Underwriting years prior to 2001

- 6.26 Whilst no formal actuarial estimation process has been undertaken for these claims, I have considered the level of IBNR being allowed for compared to the outstanding amounts, and have also compared this to my wider experience of other insurers writing similar business. Based on this comparison, I do not consider the allowance made by UKB to be unreasonable.

My own independent projection

- 6.27 To supplement my consideration of the reserving approach and obtain comfort on the reasonableness of the results obtained, I have performed a comparison of the reserves estimated by the Club's external actuarial advisors with an estimate based on my market experience of similar portfolios.
- 6.28 I have performed this comparison on the estimates of liabilities relating to the most recent ten underwriting years only, as this is the largest part of the liabilities of UKB, and is the entirety of the liabilities of UKE.
- 6.29 For this analysis I have used a combination of the Club's own data and various benchmarks derived from my wider market experience. I note that my estimate has been prepared as an overall reasonableness check, and I have not sought to make any adjustment for specific factors such as changes in portfolio composition.
- 6.30 Based on this work I have not identified any reason to believe that the reserves set for the Club lie outside a reasonable range. I consider the methods used to be in line with accepted actuarial practice, and the assumptions set appear to lie within a reasonable range.

Separation of claims reserves into component parts.

- 6.31 The claims reserves for the Club are estimated in aggregate (i.e., as a combination of the branch offices of UKB and UKE). I believe that this is a reasonable approach because there is no intrinsic difference between the policies written in each office of the Club.
- 6.32 In order to estimate the claims reserves for UKE, UKB, and each branch office of UKB, the Club carry out an apportionment exercise. This involves splitting the total IBNR amount for the club for each underwriting year into the various component parts in proportion to either tonnage insured or claims reported.
- 6.33 I have checked various ratios of IBNR to premium and claims, and believe that this apportionment into the various components has been carried out in an appropriate way.

7. Capital requirements

7.1 In considering the solvency position of the Club I have considered several factors:

- ▶ Position in respect of existing Bermudan capital requirements.
- ▶ Position in respect of existing Solvency I solvency requirements in the UK.
- ▶ Position in respect of existing ICAS requirements in the UK.
- ▶ Position in respect of anticipated Solvency II requirements.

Bermudan capital requirements

7.2 As a Class 2 insurer in Bermuda, the capital requirements for UKB are that it holds the greater of:

- ▶ An absolute amount of \$240,000.
- ▶ An amount equal to 20% of net written premium in the previous year (up to \$6 million of net written premium) plus 10% of any net written premium in excess of \$6 million.
- ▶ An amount equal to 10% of claims reserves net of reinsurance.

7.3 UKB holds capital substantially in excess of these levels, and has done so for several years.

Solvency I requirements in the UK

7.4 The branch office of UKB in the UK must satisfy Solvency I requirements, as must UKE.

7.5 Both the UK branch of UKB and UKE held capital substantially in excess of their Capital Resource Requirements as at 20 February 2011. The solvency calculations for UKB and UKE as at 20 February 2011 are presented in paragraph 9.11.

ICAS requirements in the UK

7.6 The Club is required to satisfy the ICAS capital requirements as set out by the FSA. The Club has agreed with the FSA that the ICA should include all of the business of the Club, and not just the business undertaken by UKE and the UK branch office of UKB. The ICA is estimated in aggregate for the whole club.

7.7 The last formal submission of the ICA to the FSA was made in 2007 based on data as at 20 February 2007. Since this time, the Club has prepared updates of the ICA in October 2007, February 2009, February 2010 and February 2011. I have reviewed documents relating to the ICA work performed by the Club for each of these reviews.

7.8 I have provided below a short summary of the ICA modelling work performed by the Club.

Approach to ICA modelling

7.9 As required by UK regulations, the ICA capital is based on one full year of new written business and the risks associated with the run-off of the existing liabilities.

7.10 The ICA modelling considers the main risks to which the Club is exposed in very adverse circumstances. As required by the FSA, these risks are modelled in the following six categories:

- ▶ Insurance Risk. This includes risks relating to the upcoming year of insurance business to be written and the risks relating to unexpired policies at the balance sheet date, and

also the uncertainties relating to the claims reserves at the balance sheet date (i.e., the uncertainty that the cost of settling these liabilities could be higher or lower than the booked reserve amount). In other words, the Club will need to pay some insurance claims to their policyholders over the coming years, but the amount of those payments and the timing of those payments is uncertain. There is a risk that the amount to be paid is more than expected. The ICA must quantify this risk.

- ▶ **Credit Risk.** This covers the risk of any defaults of counterparties. This includes any institution or individual that is a debtor to the Club, and in particular, the reinsurers of the Club.
- ▶ **Market Risk.** This includes the uncertainties relating to investments performance (the investment return achieved and the value of the assets held by the Club could go up or down, and the amount by which they go up or down is uncertain).
- ▶ **Liquidity Risk.** This includes uncertainties relating to any requirement to have to sell assets at depressed prices when there is a short term need for liquidity (e.g., if the Club need to pay a large volume of claims at short notice then they may need to sell assets for less than their real value in order to obtain cash quickly).
- ▶ **Operational Risk.** This includes uncertainties relating to failures in operational procedures. For example, the (remote) risk that all IT systems fail or that there is a large scale fraud from within the organisation.
- ▶ **Group Risk.** This includes uncertainties relating to any reputational risk that arises through being part of a group of insurers.

- 7.11 The Club have, for each of these risks, sought to consider the balance sheet and profit and loss outcomes for the Club of different scenarios.
- 7.12 For the insurance risk component of the ICA, the Club have built a full stochastic model to simulate multiple balance sheet and profit and loss outcomes for the Club. This means that their model produces many simulations of possible outcomes based on the assumptions and parameters inputted into the model; each one of the simulations is an “equally likely” possible outcome for the future profit or loss of the Club. They can then compare these simulations to work out the average profit or loss (which tells them on average what the profit and loss will be over the coming year), as well as to work out what the range of outcomes will be.
- 7.13 An analogy to this modelling process is the way in which the meteorological office predicts daily temperatures for the weather forecast. For example, on a Wednesday morning they might predict that the temperature on Sunday will be 75°F. That is their “best estimate” for the temperature on that day, given the modelling work that they have carried out. However, the actual temperature may not be 75°F because weather forecasting is notoriously difficult. A different way of expressing the modelling results might be to say that the predicted best estimate is 75°F, but that the temperature is likely to fall in the range 70°F to 80°F with a 90% probability (i.e., they estimate that there is a 9 in 10 chance that the actual temperature falls in the range 70°F to 80°F and a 1 in 10 chance that it is either lower than 70°F or higher than 80°F). They could also express the estimate as a wider range with a much greater ‘confidence’. For example, the model might estimate that the temperature is likely to fall in the range 65°F to 85°F with a 99.5% probability (i.e., only a 1 in 200 chance of falling outside the range). This is a very wide range, but based on their modelling, they can be confident (to a 1 in 200 level) that the temperature will fall in this range. However, even with this wide range one might expect that the temperature falls outside the range occasionally.
- 7.14 The output from the Club’s ICA model for insurance risk is similar to the weather forecasting model. It can be used to predict the best estimate profit (or loss) of the Club, and also to estimate a range of possible outcomes. The diagnostic on which the ICA is based is set at the 99.5% probability level (i.e., 1 in 200). This then gives the loss amount to the Club which would be exceeded only once in every 200 simulations. If the Club had free capital in excess of this amount then the probability that they will be able to pay all of the claims that occur

would be considered to be above 99.5%. In other words, the Club would have enough money to pay all claims on a “best estimate” basis, and even if claims experience turned out to be very bad (up the level of a 1 in 200 year extreme scenario) they would still have enough money to pay all claims. This is the test that the FSA sets for insurance companies to ensure that they are sufficiently secure and provide enough protection to their policyholders. Note that this does not mean that a company will be able to pay all claims in all circumstances, only that the ICA indicates that there is a very high probability that they will be able to pay all claims (i.e., greater than 99.5%). I have not been able to compute the exact probability of the Club being able to pay all claims, but by implication, the models estimate that it is in excess of the 99.5% level.

- 7.15 The Club use a third party software tool to carry out this modelling exercise.
- 7.16 The modelling described above estimates the capital required to protect the Club against insurance risk. It does not take into account the possible effects of the other risks (such as market risk, liquidity risk, etc) to which the Club is exposed.
- 7.17 For these other risks, the Club has assessed different scenarios and worked out the balance sheet and profit and loss outcomes for the Club of these scenarios. These outcomes have not, therefore, been based on simulating a large number of possible outcomes, but rather have depended upon the use of judgement to assess reasonable scenarios.
- 7.18 These estimates of the possible impact on the balance sheet and profit and loss for each risk type are then combined to give the overall estimate of possible impact. This involves the aggregation of the risks to allow for possible dependencies. For example, if \$1 million were estimated as necessary to cope with potential losses from market risk, and \$2 million to cope with potential losses from insurance risk, then it is possible that the amount needed to cope with losses from either market risk or insurance risk could be \$2.5 million, as the scenarios requiring the full \$1 million and \$2 million for each risk in isolation would not necessarily happen at the same time.
- 7.19 Of the six categories described above the key risk area identified by the ICA model is insurance risk (both for new business and the settlement of existing liabilities). This is consistent with both my own expectations and my experience of working with the ICA models of my other clients that are similar to the Club.
- 7.20 The main areas of risk identified in the 2011 ICA update were insurance risk (including concentration risk), which represented approximately 57% of the total estimated capital requirement and market risk, which represented approximately 37% of the total estimated capital requirement.
- 7.21 The methodology and results for the full ICA performed in 2007 were reviewed by an external consultancy. This external review included a benchmarking exercise of the Club against the insurance market.

Insurance risk

- 7.22 Insurance risk refers to the uncertainty in the settlement of past and future claims (including the underwriting risk from the coming year's new business). To measure this risk the Club has used a stochastic model to consider different possible insurance claims scenarios, and their potential impact, as described above.
- 7.23 The model used has been built to assess the underwriting risk for Solvency II purposes. This is considered by the Club to be broadly equivalent to insurance risk in an ICAS context. The main difference is that insurance risk under ICAS involves considering the uncertainty in the cost of past and future claims to settlement (i.e., to the point where all costs relating to the claims have been paid, which may be many years into the future), whilst underwriting risk under Solvency II involves considering the uncertainty in the cost of past and future claims over a one-year period.

- 7.24 The Club adopted a different set of parameters when using the model to estimate the ICA compared to the parameters used when using the model for Solvency II purposes, to recognise the distinction between the risk being assessed.
- 7.25 The Club splits Insurance Risk into Reserve Risk (relating to the uncertainty surrounding the reserves for insurance obligations that have expired, i.e., where the claims have already occurred) and Premium Risk (relating to the uncertainty surrounding the reserves for business expected to be written or earned over the following year). The Reserve Risk component is further subdivided for modelling purposes into Latent Claims Risk and the residual Reserve Risk (i.e. Reserve Risk excluding Latent Claims Risk).
- 7.26 The majority of Insurance Risk arises from the Reserve Risk component, which represents approximately 63% of the Insurance Risk allowance.
- 7.27 In order to model these risks, the Club's actuarial team consider claims in three groupings:
- ▶ Claims arising from Charterers business.
 - ▶ Claims arising from Owned business (including the Club's share of the cost of its own claims contributed to the International Group Pool).
 - ▶ The Club's share of Pool claims arising from other members of the International Group.
- 7.28 This modelling partition differs slightly to the groupings used in the reserving process (in that the reserving process models Pool claims including the Club's share of its own Pool claims).

Reserve risk

Latent Claims Risk

- 7.29 The Club separately considers the possibility of claims arising from a cause that has a very long latency period and which may not therefore have been allowed for in the reserving, such as the asbestos and occupational disease claims.
- 7.30 The Club have considered this through testing scenarios on increases in the number, average cost and inflation of occupational disease claims compared to the level already being allowed for in its reserves. Given the limited data available and the nature of such claims, the Club consider the benefit of using statistical methods to estimate the liabilities and assess the uncertainty around them to be limited.
- 7.31 I do not consider this approach to be unreasonable, given the limitations involved.

Residual Reserve Risk

- 7.32 The claims reserves for each of the three groupings are considered separately.
- 7.33 The Club separately models the distributions for the total gross claims cost and the total net claims cost within each grouping using a 'bootstrapping' approach. This is a statistical method that quantifies the volatility in the past claim development, using the observed historical claim data to form an estimate of potential future claim development for the claims reserves. I consider this approach to be in line with modelling approaches used across the market for this type of risk. I note that I have not checked the detailed implementation of this methodology, but have sought to benchmark the results, as discussed in paragraphs 7.61 to 7.63.

Premium risk

- 7.34 The Club's modelling of Premium Risk is more granular than that adopted for Reserve Risk. The Club separately models each of the three groupings at the level of further sub-groupings, being attritional claims, large claims and catastrophic claims. In this context:

- ▶ Attritional claims are claims with a relatively low value – there are likely to be a large number of these claims. These claims are aggregated together and the method used to quantify the uncertainty is based on statistical methods applied to the aggregated data (i.e., the attritional claims are not considered individually, but are considered together). The threshold used by the Club to determine if a claim is small enough to be considered ‘attritional’ depends on the level of the outward reinsurance program. The Club considers these claims in aggregate to maintain practical levels of running time for the model. There is no attritional claims component for Pool claims, as these are all considered to be Large claims.
 - ▶ Large claims are individual claims with a relatively high value, which the Club has defined as being at least US\$0.5 million (this threshold was chosen following analysis by the Club, and was deliberately chosen to fall below the level that would trigger any reinsurance recoveries). By definition, the number of large claims is correspondingly low. They are analysed separately so that the impact of reinsurance recoveries is appropriately allowed for, as the reinsurance programme for the Club operates on a ‘per claim’ basis.
 - ▶ Catastrophic claims are claims which contribute to the International Group Pool. These are only separately modelled for the Owned business (as Charterer’s business does not contribute to the Pool, and there is no need to distinguish between Large and Catastrophic claims in the Pool grouping).
- 7.35 For each sub-grouping, the Club models the gross losses and the reinsurance recoveries (i.e., considering the different levels of reinsurance available from the different reinsurance covers in place), with net losses taken to be the difference between the two.
- 7.36 This allows the Club to take into account the interaction between losses arising from Owned business and losses arising from the International Group Pool (i.e., from other members of the International Group) in modelling the reinsurance, as both of these can generate reinsurance recoveries from the International Group arrangements.
- 7.37 Losses are modelled for each sub-grouping on a frequency-severity basis, i.e., the Club separately models the number of claims and the average size of claims (for Attritional claims) or the individual size of each claim (for Large and Catastrophic claims). In carrying out this modelling, the Club has considered different potential statistical distributions for each of the items being modelled. The choice of distribution and parameters is made after examining factors such as goodness of fit to historical data (via a back-testing process) and use of judgement in relation to how well the properties of different distributions would match the expected behaviour of the item being modelled.
- 7.38 I consider this approach to be in line with modelling approaches used across the market for this type of risk. I have also been provided with an example of the documentation supporting the parameterisation of losses (for the Premium Risk relating to losses from Owned claims), illustrating the factors considered by the Club’s actuarial team in modelling the risks. I consider this to be a reasonable approach. As with Reserve Risk, I have not checked the detailed implementation of this methodology, including the choice of distributions, but have sought to benchmark the results, as discussed in paragraphs 7.61 to 7.63.
- 7.39 The Club also separately consider the risk of concentration of claims, based on a scenario of a potential global pandemic. This scenario includes assessing possible costs from passenger death & illness, crew death, illness & repatriation/substitution (for cargo ships) and quarantine-related costs. This scenario was assessed in 2007, and the assumptions made are still considered appropriate, and so the Club assumes the same capital requirement in respect of this risk.

Market risk

- 7.40 The Club considers scenarios of different levels of losses to its investments. These scenarios are based on assumed levels of losses to the different types of assets in which the Club invests (e.g., shares, bonds, cash).
- 7.41 As the mix of assets that the Club invests in over the year can vary (i.e., the proportion of investments invested in any one asset class, such as shares, can change over time), the Club also considers different scenarios for its asset mix at the point in time when these losses occur.
- 7.42 The allowance for market risk is then based on the balance sheet impact that would arise from a loss at the 99.5th percentile in a 'worst case' scenario for the possible mix of asset types (i.e., the scenario that maximised the losses occurring).
- 7.43 The assumptions made about the level of losses for each asset class have changed in recent years to reflect the greater economic uncertainty (and consequent greater short-term fluctuations in asset values) of recent years.
- 7.44 I note that in considering the risk of losses to its investments, the Club also makes allowance for possible 'matching' of assets and liabilities. That is, if the Club invests \$200 million in bonds that provide cash flows which are expected to pay off \$200 million of the claims reserves on the balance sheet, then a shock that reduced the value of the bonds should not, in practical terms, have any effect on the balance sheet outcome (as the bonds would still provide the same cash flows, which should still pay for the same claim amounts). I consider this approach to be reasonable.

Credit risk

- 7.45 The credit risk for the Club arises from the possibility that its debtors will not be able to pay the monies owed to the Club. The main debtors of the Club are its reinsurers (including the other clubs in the International Group) and its policyholders (members).
- 7.46 In assessing the credit risk arising from the Club's reinsurers, the Club uses financial impairment rates which are supplied by a credit ratings agency. These rates allow for the probability of regulatory action being taken against the reinsurer (based on the credit ratings of the reinsurer in question). This is combined with the level of reinsurance recoveries anticipated at the 1 in 200 year level to give an estimate of the expected additional cost at the 1 in 200 year level. This is in line with the approach taken by other insurers in the market.
- 7.47 I note that due to the consolidated basis of the ICA, the Club makes no allowance for credit risk from intra-group reinsurance and in particular from the 90% quota share arrangement with IPIR. Given the fungibility of assets discussed previously in this report between UKB, UKE and IPIR, I do not consider this to be unreasonable.
- 7.48 In assessing the credit risk relating to its policyholders, the Club notes in its ICA that the primary element of managing credit risk relating to members is the process for assessing the financial and operational position of prospective members before they join and on renewal of their policy. Given the controls in place around these assessments, the Club does not consider it necessary to hold a credit risk allowance in respect of its members.
- 7.49 Whilst there have been instances in the past of members failing to pay amounts within their due date, the amounts involved have been a small proportion of amounts due, and so I do not consider that this assumption would materially impact the results of the ICA.

Liquidity risk

- 7.50 The liquidity risk for the Club relates to the possibility that it may not have enough cash on hand to pay out claims at short notice, and should the need arise to do so, then the Club may have to sell assets at depressed prices.

- 7.51 Liquidity risk is assumed to be zero in the ICA modelling, as the Club considers that it holds a high level of short-term assets (which should be easily saleable at their 'fair' value).
- 7.52 Given the liquidity position of the Club as at 20 February 2011, with short-term assets well in excess of double the level of short-term liabilities, and almost sufficient to cover the entirety of the Club's liabilities, I do not consider this approach unreasonable.
- 7.53 I note that the Club has also considered historical examples of where large claim payouts have been required in a short span of time, and when the Club has been able to raise funds at short notice (specifically, during late 2004 and early 2005, when the Club received a large number of small claims and also faced costs from the ATHOS I claim).

Group risk

- 7.54 The primary consideration of group risk for the Club has been in relation to the International Group and the Club's membership of the Group.
- 7.55 It is difficult to assess the potential effects of any breakdown in the International Group arrangements, and the allowance made is highly judgemental. I have considered the discussion of the rationale for the allowance made in the ICA, and it appears reasonable.
- 7.56 I note that the nature of the ICA (considering the Club as a whole) means that the group risk that exists within the relationship between UKB and UKE has not been fully explored. Given the nature of the Club's operations (with both entities run by Thomas Miller) and the historical context to this (with the different entities solely existing to enable provision of cover to members from certain states), I do not consider this to be unreasonable.

Operational risk

- 7.57 The Club have considered the impact of a number of scenarios to model operational risk, ranging from disasters / pandemics to shortages of resources to failures of IT controls or compliance controls. The allowances made under these scenarios have been added together to determine an overall operational risk allowance.
- 7.58 This approach is in line with market practice. More complicated approaches based on considering historical operational risk failures to parameterise a model are thought to be unlikely to be very reliable for insurance companies at present. Given this, I believe that the approach taken by the Club is reasonable and proportional to the size and complexity of the Club's business.

Aggregation of risk

- 7.59 In combining the allowances for each individual risk, the Club has adopted assumptions for the correlations between different risks that is based on assumptions in a risk-based capital formula prepared by the National Association of Insurance Commissioners ('NAIC') in the US. These have been adjusted to reflect greater prudence in the potential correlations between risks (i.e., assuming higher correlations between some risks than is the case in the NAIC matrix, to better reflect the Club's own assumptions).
- 7.60 Whilst I have not specifically checked the correlation assumptions made by the Club, I have compared the level of diversification benefit implied with that implied for other insurers in the market. Based on this, the level of diversification assumed appears reasonable.

Overall view on ICA

- 7.61 I have considered the approach used to perform the ICA for the Club, and consider the approach to be reasonable and proportionate to the scale and complexity of the Club's operations.
- 7.62 I note that whilst I have considered the approach for each element of the ICA, I have not reviewed in detail the assumptions used. I have considered the final results of the ICA, and

have compared this to the level of benchmark capital I would expect to see for a similar portfolio. This benchmarking includes comparing the ICA capital level to the claims reserves, premium level and the CRR.

- 7.63 Based on this benchmarking, I have not identified any reason to believe the ICA materially understates the capital required by the Club.

Solvency II

- 7.64 Potential implications from the forthcoming implementation of the Solvency II regulatory regime are discussed in Section 8.

8. Solvency II implications

- 8.1 As discussed in paragraphs 4.15 to 4.20, insurance and reinsurance entities within the European Union will at some point need to meet the new Solvency II requirements currently being developed. The current expected date for the formal implementation of these rules is 1 January 2014, though this could potentially change.
- 8.2 It is important to note that these requirements have not yet been finalised and so my comments in this section are based on the detail available at the time of writing this report. It is almost certain that the final requirements will vary from the current understanding, and possibly substantially so. This should be borne in mind when reading this section.
- 8.3 UKE will be covered by the Solvency II regulatory regime when it takes effect. If the Transfer is not effected, then UKB will also be subject to Solvency II when it takes effect. One of the reasons for the Transfer (and broader Reorganisation) is that UKB would no longer be subject to Solvency II, simplifying the corporate governance and compliance requirements of the Club.
- 8.4 I note that the BMA is currently seeking Solvency II equivalence and so it is possible that the compliance regime (including capital requirements) for UKB may be devised on a similar basis regardless of whether or not the Transfer proceeds.

Proposed approach under Solvency II

- 8.5 I have considered the Club's plan for Solvency II assuming that the Transfer is effected and the equivalent plan assuming that the Transfer is not effected. I have then considered what risks, if any, there are in each of these scenarios and whether Solvency II considerations have any impact on policyholder security in the context of the Transfer. The two scenarios are:
- ▶ If the Transfer is effected, then:
 - ▶ UKE is planning to use a Partial Internal Model
 - ▶ UKB will not be subject to the Solvency II regime
 - ▶ If the Transfer is not effected, then:
 - ▶ UKE is planning to use a Partial Internal Model
 - ▶ UKB is planning to use a Partial Internal Model

Readiness of the Club for Solvency II

- 8.6 The Club has approached preparations for Solvency II for both UKB and UKE as a single project, and so I consider it appropriate to discuss their readiness on a combined basis.
- 8.7 The Club has an ongoing Solvency II programme to determine the requirements, identify the gaps and determine solutions for the gaps so that each affected entity is able to meet the Solvency II requirements when they are introduced. I have reviewed the implementation plans and these are progressing broadly to plan.
- 8.8 I have discussed the Solvency II programme with the Club's project manager for Solvency II in order to understand the level of readiness to meet the requirements and any potential implications for the Transfer, and have also requested documentation to supplement my discussions.
- 8.9 There are extensive plans in place for the implementation of Solvency II, with up to 40 staff at Thomas Miller who have some degree of involvement in preparations for Solvency II,

including 12 who are part of the implementation team for the Club. The Club have established contingency plans to mitigate 'key person' risk and ensure that there is no dependence on any particular individual.

- 8.10 There is one budget within the Club for meeting the costs of implementing Solvency II. As described above, this budget is for implementing Solvency II across the Club, including both UKB and UKE. If the Transfer is not effected then those costs must still be met. There would be additional costs incurred by having more regulated legal entities. Therefore I do not believe that the costs involved in implementing Solvency II are affected detrimentally by the Transfer, and that there should actually be a cost saving. I consider the implications for the administration and ongoing management of the Club in Section 9. The plans produced by the Club are based on the assumption that the Solvency II regime will be implemented on 1 January 2014 (i.e., they are not assuming that there will be any further delays in implementation). They have not taken any credit for transitional relief (the possibility that there might be some additional capital allowance given to (re)insurers during the transition into Solvency II), i.e., the Club are not assuming any allowance will be given. The Club have based their plans and models on the information provided to the insurance market to date, and have not made any assumptions for changes to rules that might occur between now and the implementation date. I consider the above assumptions to be a sensible approach, and believe that the status of the Transfer does not have any bearing on the validity of those assumptions.
- 8.11 The engagement of an insurer's Board in its Solvency II program is important for determining the success or otherwise of that program. The Boards of UKB and UKE are being provided with extensive training in relation to Solvency II via a number of workshops, to assist them in understanding the changes involved and implications for their duties. In addition, Solvency II preparations are a standing item at both the Audit & Risk Committee and the Strategy Committee, and a specialist member of the Audit & Risk Committee attends meetings of the Club's Solvency II Implementation Team.
- 8.12 The Club is intending to determine its capital requirements under Solvency II using a Partial Internal Model (which is discussed further later in this section).
- 8.13 The Reorganisation represents the extent of the structural changes intended for the Club under Solvency II. The Club is not planning on any acquisitions or disposals in connection with Solvency II.

Capital under Solvency II

- 8.14 Under Solvency II, the approach to estimating capital requirements will change. The key metric to trigger regulatory intervention will be the Solvency Capital Requirement ('SCR'), which is intended to be the amount of capital required to ensure that an insurer is able to meet its obligations over the next 12 months with a probability of adequacy of at least 99.5%. It is intended to represent a normal target level of capital for the insurer, and capital falling below this level would be expected to trigger a response from the insurer's regulator
- 8.15 It is important to note that even if an insurer does not meet the required capital level (whether this be on a (Partial) Internal Model basis or a Standard Formula basis), then this does not necessarily mean that it would not be able to settle all its claims in full. The balance sheet 'strength' of the insurer would be unchanged but the regulatory capital amount considered to represent an appropriate buffer against uncertainty would be higher. In such a circumstance the insurer may still be able to pay its liabilities.

Intended approach of the Club

- 8.16 The Club is intending to use a Partial Internal Model to determine its capital requirements under Solvency II (subject to regulatory approval). I have been advised that the Club has been accepted into the FSA's Internal Model Approval Process, and that the Partial Internal Model will be submitted to the FSA for their approval in September 2012.

- 8.17 Unlike the ICA, however, the Club will be required to calculate separate capital requirements (and hold separate capital amounts) for UKB and UKE, and will also be required to consider risks arising from relationships between different entities in the Club (e.g., UKB and UKE).
- 8.18 If the Club's Partial Internal Model is not approved, the planned fallback option to determine capital requirements under Solvency II is to seek approval for the use of Undertaking Specific Parameters (i.e., to modify the Standard Formula to better reflect the nature of the Club's business).
- 8.19 I understand that the International Group commissioned work on potential Undertaking Specific Parameters to be carried out by a firm of external consultants in 2010, and that this indicated a lower capital requirement would apply for the Club than under the Standard Formula. The Club have advised, however, that they do not consider that the work undertaken to date would meet the current requirements supporting use of Undertaking Specific Parameters, and so significant additional work would be needed if the Club were to pursue this option.
- 8.20 If this use of Undertaking Specific Parameters is also not approved, the Club will be required to use the Standard Formula.
- 8.21 I have considered the capital position of UKB and UKE on both a pre-Transfer and post-Transfer basis under two scenarios – under the Partial Internal Model (i.e., assuming it is approved for use) and under the Standard Formula (i.e., assuming the Partial Internal Model and use of Undertaking Specific Parameters are both not approved). Given the Club's view on the level of additional work that would be required to assess potential Undertaking Specific Parameters, I have not considered this approach.

Partial Internal Model

- 8.22 The Club's actuarial team have been developing a Partial Internal Model in order to estimate the capital requirements relating to Underwriting Risk and part of the Counterparty Default Risk (being that part which relates to the risk from intra-group reinsurances) under Solvency II. They have integrated these with the estimation of the capital requirements for other risks (which will be done using the Standard Formula approach).
- 8.23 This model has been constructed in the software program ReMetrica, which is a program used widely within the insurance industry. Using the Partial Internal Model, the Club currently anticipates that on a pre-Transfer basis:
- ▶ UKE would hold eligible capital in excess of 120% of its SCR (based on the QIS5 requirements for calculating these figures – QIS5 is described in paragraph 8.27).
 - ▶ UKB would hold eligible capital in excess of 500% of its SCR (based on the QIS5 requirements for calculating these figures).
- 8.24 I note that for both UKB and UKE, the coverage of the SCR is limited by the extent to which calls levied on members are considered 'eligible capital', and thus in practice there is potential for a significantly higher level of capital to become available. I consider this particularly relevant for UKE, given the existence of the UKB Guarantee and its enforceability under Bermudan law.
- 8.25 As part of the approval process for a (Partial) Internal Model, there is a requirement to be able to demonstrate use of the model within the business for decision-making, i.e. to show that the model is more than just an 'engine' to calculate regulatory capital requirements. The Club has identified a number of uses and intended uses for its Partial Internal Model, including:
- ▶ As part of the ICA calculations as at 20 February 2011 – this is a use already being made of the Partial Internal Model, as discussed in Section 7.

- ▶ To assess the impact of potentially changing the Club's retention within the International Group Pool arrangements.
- ▶ To support the reinsurance purchase decision for the 2012 policy year (i.e. the year ending 20 February 2013).
- ▶ To assist with developing the Club's risk appetite.
- ▶ To support the Club's business plan.
- ▶ To assess capital requirements for the Club's legal entities so as to assist with the Club's restructuring plans (in particular, the Reorganisation).

Standard Formula

8.26 If the Club's Partial Internal Model is not approved, it is possible that the basis for ongoing capital requirements of UKB would be based entirely on the Standard Formula. Whilst the Standard Formula approach under Solvency II has not been finalised, a number of Quantitative Impact Studies (QISs) have been performed to provide indicative assessments of solvency and help inform the Standard Formula.

8.27 The most recent such study was QIS5, which was performed in late 2010. I note that some requirements have already changed since this time, and that the ultimate requirements of Solvency II will vary from QIS5, potentially being either more or less conservative. I nevertheless consider QIS5 to be the most appropriate available indication of UKB's and UKE's likely capital position under Solvency II if using the Standard Formula.

8.28 The Club have estimated that on a QIS5 basis:

- ▶ UKE's net assets at 20 February 2011 would not be sufficient on a stand-alone basis (i.e., before considering any fungibility of assets within the Club) to meet its liabilities, and so UKE would have to request additional capital from UKB under the UKB Guarantee to maintain solvency, as well as to meet its SCR.

I note, however that whilst I consider that the UKB Guarantee means UKE would be able to call upon sufficient additional capital from UKB to meet its SCR, the parameters set for QIS5 only allow the existence of the guarantee to contribute a limited amount to the eligible capital for meeting the SCR.

- ▶ UKB is well-capitalised on a pre-Transfer basis, with eligible capital of over 200% of its SCR. UKB also had sufficient surplus assets to be able to recapitalise UKE as required. I note that a substantial part of UKB's capital included net assets arising from its subsidiaries (including IPIR and UKE).
- ▶ UKE and UKB are both able to meet their capital requirements on a post-Transfer basis, with both entities holding eligible capital that covers over 115% of SCR.

Conclusion on impact of the Transfer for Solvency II preparations

8.29 Overall, I consider that the Transfer would not lead to any policyholders being materially disadvantaged as a result of Solvency II implications. My reasons for this conclusion are:

- ▶ The policyholders affected will be covered by an insurer subject to the governance requirements of the Solvency II regime regardless of whether the Transfer proceeds.
- ▶ Under the Partial Internal Model approach, both UKB and UKE meet their Solvency II capital requirements on a pre-Transfer basis. Whilst I have not seen specific figures relating to the capital requirements on a post-Transfer basis under the Partial Internal

Model approach, I have no reason to suppose that either entity would not meet their capital requirements under Solvency II on a post-Transfer basis.

- ▶ Under the Standard Formula approach, the fungibility of capital within the Club means that all policyholders would still have access to the same capital currently available to the Club.

9. Policyholder security and other considerations

- 9.1 In this section I will describe the effect of the Transfer on the different groups of policyholders and explain how I have reached my conclusions regarding the fairness of the Transfer.

Impact of the Reorganisation on the balance sheets of the affected companies

- 9.2 The following table shows a simplified balance sheet for the Club before and after the Reorganisation:

Table 3: Impact of the Reorganisation based on figures as at 20 February 2011 (figures in USD millions)

\$m	Before Reorganisation			After Reorganisation	
	UKB [A]	UKE [B]	IPIR [C]	UKB [D]	UKE [E]
Investments	170.4	24.4	889.2	889.2	194.8
Investments in subsidiaries	56.3	0.0	0.0	185.5	0.0
Recoverable from reinsurers	949.1	78.6	0.0	0.0	1027.6
Cash	28.2	4.1	8.7	8.7	32.3
Amounts due from members	67.8	11.8	0.0	0.0	79.6
Inter-group debtors	0.0	0.0	59.7	59.7	0.0
Other assets	13.6	0.0	-0.4	-0.1	13.6
TOTAL ASSETS	1285.4	118.9	957.2	1143.0	1348.0
Technical provisions	1019.2	85.8	696.3	696.3	1105.0
Inter-group creditors	59.1	0.6	0.0	0.0	59.7
Sundry creditors	20.6	1.5	0.1	0.2	22.1
TOTAL LIABILITIES	1098.8	87.9	696.3	696.5	1186.8
Assets less liabilities	186.5	31.0	260.8	446.5	161.2

- 9.3 The amounts are consistent with the financial statements and FSA returns of UKB and UKE as at 20 February 2011, with adjustments made where necessary to adequately reflect the nature of the business (e.g., the FSA returns show separately various group relationships, such as the quota share arrangement with IPIR).
- 9.4 The actual position of UKB and UKE will be different to that represented above due to the actual experience of the companies involved between 20 February 2011 and the Transfer Date. However, I believe that this gives the best available picture of the companies involved at this time.
- 9.5 I will issue an update letter prior to the final Court hearing after reviewing the most up-to-date information.

Explanation of columns in Table 3

- 9.6 Column [A] shows the balance sheet of UKB (excluding its subsidiaries) as at 20 February 2011. The figures are consistent with the GAAP balance sheet and financial statements of UKB as at 20 February 2011, but have been adjusted to only show UKB (i.e., excluding its subsidiaries).
- 9.7 Column [B] shows the balance sheet of UKE as at 20 February 2011. The figures are consistent with the UK GAAP balance sheet of UKE as at 20 February 2011.
- 9.8 Column [C] shows the balance sheet of IPIR as at 20 February 2011.

- 9.9 Column [D] shows the balance sheet of UKB as at 20 February 2011 on the basis that the Reorganisation was effected on that date. It is very similar to the pre-Reorganisation position of IPIR, so is almost identical to Column [C].
- 9.10 Column [E] shows the balance sheet of UKE as at 20 February 2011 on the basis that the Reorganisation was effected on that date. It is essentially identical to Column [A] plus Column [B].

Impact of the Reorganisation on the solvency positions of the affected companies

- 9.11 The following table shows the solvency positions for the Club before and after the Reorganisation. I note that the ICA is prepared on a consolidated basis for the Club as a whole and that the Solvency II position has previously been discussed in paragraphs 8.14 to 8.29, and so my discussion in this section will focus on the Solvency I position.

Table 4: Solvency I capital requirements for the UK branch of UKB and for UKE as at 20 February 2011 (figures in USD millions)

\$m	Before Reorganisation			After Reorganisation	
	UKB [A]	UKE [B]	IPIR [C]	UKB [D]	UKE [E]
Capital resources	512.1	29.8		446.6	161.2
CRR	101.2	13.8		96.6	55.6
Solvency ratio	506%	216%		462%	290%
ECR	174.8	12.2		157.0	45.4
Solvency ratio	293%	254%		285%	355%

- 9.12 The figures presented above for UKB are figures on a 'look-through' basis, including IPIR. This is the basis on which the Club is currently permitted to file its regulatory returns by the FSA, and therefore best represents the current capital position for the UK branch.
- 9.13 Following the Reorganisation, the solvency position for UKE is anticipated to be stronger than was the case pre-Reorganisation, whilst the solvency position for UKB is anticipated to be slightly weaker (though capital resources will still be several times the capital requirements).

Other considerations

- 9.14 I have considered the additional issues set out below.

Implications on proprietary rights of members of UKB and UKE

- 9.15 The Reorganisation will not have any impact on the proprietary rights of members of either UKB or UKE. Following the Reorganisation, all policyholders will continue to be members of UKB, and UKB will continue to be the sole member of UKE.

Customer service

- 9.16 There will be no changes to the administration of the Club (as Thomas Miller will continue to provide all administrative functions of the Club, which will continue to be treated as a single entity for administrative purposes). I do not, therefore, anticipate any changes to the customer service provided to policyholders after the Reorganisation.

Pension arrangements

- 9.17 The Club outsources almost all operations to Thomas Miller. The only employees of the Club are four employees of UKB in its Japanese office branch.

- 9.18 These employees (and their pensions) are intended to transfer to UKE as part of the Japanese Transfer. The pension rights are very small compared to the size of the Club's other liabilities.
- 9.19 Therefore I do not believe that these pension rights affect my conclusion on the Reorganisation.

Tax implications of the Transfer

- 9.20 HMRC have previously agreed that transactions between UKE and UKB fall within the 'circle of mutuality', and that the transaction is exempt from tax. The 'circle of mutuality' relates to the concept of mutual insurance companies being exempt from tax on their trading income, and therefore only paying tax on investment income.
- 9.21 After the Transfer UKB will no longer operate within the UK and so will no longer have to pay UK corporation tax (on its investment income).
- 9.22 After the transfer, UKE will still be subject to UK corporation tax, on the same basis that UKB was before the Transfer.
- 9.23 I therefore conclude that the existing policyholders are not likely to be adversely affected by the Transfer through any impact in relation to tax.
- 9.24 I understand that the Club intends to meet with HMRC in May to confirm that HMRC continues to accept the concept of the 'circle of mutuality', and also to confirm that there are no VAT implications relating to the Transfer. Should this meeting have any impact on my conclusion above, I will include this in my update letter ahead of the final Court hearing.

Investment Management implications of the Transfer

- 9.25 I understand that there are no planned changes to the investment policy used by the Club.
- 9.26 I therefore conclude that the existing policyholders are not likely to be adversely affected through any impact to the invested assets.

Implications of the Transfer on ongoing expense levels

- 9.27 Other than the initial costs of the Reorganisation, the ongoing expenses of the Club are anticipated to potentially decrease after the Reorganisation, as the Club hopes to realise cost savings from the simplified structure.

Liquidity position

- 9.28 As a result of the Transfer I do not anticipate any material change to the liquidity position of the companies involved in the Reorganisation. I therefore conclude that the existing policyholders are not likely to be adversely affected as a result of the Reorganisation.

Set off

- 9.29 I do not believe that there are any material set-off rights that can be exercised by cedants or reinsurers. I have not identified any set-off issues as part of my work.

Impact on investors in capital securities

- 9.30 In 2008 UKB issued perpetual hybrid capital securities of \$100m which were to provide interest payments to their holders. I do not consider the Transfer (or the Reorganisation) to have any material implications for the security of payments to the capital securities holders, given the fungibility of assets within the entities in the Club.

European Union investigation into marine insurance agreements relating to the International Group

- 9.31 On 26 August 2010 the European Commission announced that it had opened formal proceedings to investigate whether certain provisions of the agreements between the members of the International Group infringe European competition rules.
- 9.32 I do not consider this investigation to have any implications for my consideration of the Transfer (or the Reorganisation) as any action that arises from it will have similar implications for policyholders irrespective of whether the Transfer (or the Reorganisation) proceeds or not.

Uncertainty over events in the Eurozone

- 9.33 There is currently a particular uncertainty due to the financial problems in European countries (the 'Eurozone'). I have considered the Club's exposure to Euro-based economies. The Club aims to match the currencies of their assets and their liabilities, and have reduced their investment exposure to Euro-denominated assets to the minimum level that maintains matching of Euro-denominated liabilities.
- 9.34 Given this matching approach, I do not believe that any risks pertaining to the Eurozone uncertainty will be made any greater or lesser by effecting the Reorganisation. I therefore do not believe that the uncertainty in the Eurozone has any bearing on either the Reorganisation or the Transfer.

Policyholder communication strategy

- 9.35 The Club propose to undertake procedures to notify policyholders of the Transfer. I understand that these will comprise a combination of:
- ▶ Directly writing to policyholders with a current outstanding claim and to policyholders who took out policies from 20 February 2003
 - ▶ Displaying information (including this report) on the Club's website
 - ▶ Advertising in two national newspapers in the United Kingdom and two maritime industry trade publications, which the Club considers would be likely to reach a broader group of its policyholders than would advertising in newspapers within the EU
- 9.36 I am not aware of anything in the proposed communication to policyholders that would lead to a material adverse effect on any group of policyholders, and therefore consider the proposed strategy to be reasonable.

10. Reliance and limitations

Events following the modelling date

- 10.1 The conclusions in this report are based on various modelling work that has been carried out on data as at different points in time (typically 20 February 2011). I have been informed by Thomas Miller that there have been no material changes between the modelling dates and the date of this report. However, future events could occur between the date of this report and the effective date of the Transfer that could change my conclusions.
- 10.2 The balance sheets shown in this report are based on data as at 20 February 2011. I would expect some changes to have taken place between then and the date of this report.

Reliance on other parties

- 10.3 In developing the conclusions in this report I have relied on the data and accompanying explanations supplied to me by and on behalf of the Club. I have received a specific statement of data accuracy from Thomas Miller. I have not specifically reviewed the data for accuracy and completeness.
- 10.4 I have carried out investigations, as detailed in this report, to gain comfort on the appropriateness of the methodology and conclusions for the most significant classes. However this has not amounted to a full re-projection of every class of business, so by definition I have relied upon the reserving work performed by the Club for some components of the claims reserves. I believe that this is reasonable given the experience and professional qualification of the authors of the documents and the stress testing that I have carried out. The reviews that I have carried out on the reserves give no indication of any significant deficiency and I believe that similar methodologies have been adopted throughout.
- 10.5 I have also relied upon discussions that I have had with the management of the Club. Where appropriate, I have sought documentation from them to evidence the assertions made to me in these discussions.

Use of benchmarks


- 10.6 As well as analysing the trends of the historical claims development, I have also relied upon benchmarks from wider market experience. Whilst the Club's own development can be expected to vary from the benchmarks based on individual circumstances, I believe that the benchmarks are an appropriate check. However, benchmarks are revised periodically as new information and trends emerge, and it is likely that individual accounts will differ from the average. Therefore, it is possible that these benchmarks will not be predictive of the future claim reporting of the Club.
- 10.7 I have also used other benchmarks based on my wider market experience to assess the appropriateness of some of the assumptions used within the reserve estimations and capital modelling performed by the Club.

Other

- 10.8 The underlying numbers contained in this report are calculated to many decimal places and so totals and summaries are subject to rounding differences.
- 10.9 In my judgement, the results and conclusions contained in this report are reasonable given the information made available to me. However, the actual cost of settling future claims and those still outstanding as at the valuation date is uncertain as, amongst other things, it depends on events yet to occur such as future court judgments. It could be different from the estimates shown in this report, and possibly materially so. Such differences between the estimated and actual outcome could possibly have a material impact upon the balance sheet strength of the companies involved, and therefore upon the Transfer.

11. Conclusions and Statement of Truth

- 11.1 I have considered the Transfer and its likely effects on the policyholders of UKB and UKE.
- 11.2 In reaching the conclusions set out below, I have applied the following principles as set out in relevant professional guidance, being the Transformations Technical Actuarial Standard. I have sought to:
- ▶ Exercise my judgement in a reasoned and justifiable manner;
 - ▶ Describe the impact on all classes of beneficiaries (for the purposes of this report, being the policyholders of the Club);
 - ▶ Indicate how the Transfer might lead to any changes in the material risks to the benefits of different classes of beneficiaries;
 - ▶ Indicate (in broad terms) the impact on the actuarial information of adopting alternative plausible assumptions;
 - ▶ Assess the impact on all classes of beneficiaries;
 - ▶ Indicate the proposed rationale for the Transfer to proceed;
 - ▶ Include (in summary) the most material information on which my opinion is based; and,
 - ▶ Describe the rationale for my opinion.
- 11.3 I have concluded that there will be very little change to the security provided to policyholders, that no policyholders would be adversely affected to a material extent by the Transfer, and that therefore the risk of any group of policyholders being adversely affected by the Transfer is sufficiently remote that there is no reason why the Transfer should not proceed.
- 11.4 I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed and conclusions I have drawn represent my true and complete professional opinions on the matters to which they refer.
- 11.5 As required by Part 35 of the Civil Procedure Rules, I hereby confirm that I understand my duty to the Court, I have complied with that duty and I will continue to comply with that duty.
- 11.6 I do however consider it necessary that I review the most recent information, up to the date of the Transfer, when this becomes available later in the year, before confirming my opinion and conclusions.



11 July 2012

Michael Barkham
Fellow of the Institute and Faculty of Actuaries
Partner
For and on behalf of Ernst & Young LLP

Appendix A Glossary

The following key terms have been used throughout this report and are gathered here for ease of reference.

Term	Definition
Attritional claims	Claims which are not considered 'large' or 'catastrophic' claims. Generally these are claims with relatively low value
Best estimate	An estimate prepared with no margin for either prudence or optimism included
BAS	Board for Actuarial Standards, the body responsible for setting actuarial standards in the UK
Bermudan Scheme	The proposed Scheme of Arrangement in Bermuda to transfer the policyholder creditors of UKB to UKE
BMA	Bermudan Monetary Authority, the regulator of the financial industry in Bermuda
Bootstrapping	A statistical method that quantifies the volatility in the past claim development, using the observed historical claim data to form an estimate of potential future claim development for the claims reserves
Bornhuetter-Ferguson ('BF') method	Makes a blend of the Chain Ladder Method and the Expected Loss Ratio Method. The weighting given to each is dependent on how 'developed' the claims are for a particular underwriting year
Calls	Mutual premiums levied by the Club. Typically levied in respect of a particular underwriting year and potentially for up to three years after the end of that underwriting year. If the Club's claims experience were worse than expected, it might levy such additional calls (also known as 'supplementary calls')
Catastrophic claims	For the Club, these are defined as claims large enough to contribute to the International Group Pool
Chain Ladder method	An actuarial method for estimating future payments or numbers by using the historical pattern of past payments or numbers to estimate a 'development profile', which can be used to extrapolate future payments or numbers
The Chain of Security	The assets available to make a claim payment to a policyholder expressed in the order that they would be used to make that payment
Circle of mutuality	A concept whereby two mutual entities are effectively treated as a single mutual entity for the purposes of assessing taxation liabilities on transactions
Club	An independent, non-profit making mutual marine insurance association. I note that throughout this report, the term 'club' as defined here is used in lowercase, whilst any reference to the 'Club' (capitalised) refers specifically to the UK P&I Club
The Court	The High Court of England and Wales

CRR	Capital Resource Requirement, a formulaic calculation of the capital requirement as part of the existing European Solvency I regulations for insurers
Direct policyholders	Policyholders that are not insurers or reinsurers
ECR	Enhanced Capital Requirement, a formulaic calculation of capital requirements that insurance entities regulated in the UK must carry out at regular intervals under the existing regulatory regime
Expected Loss Ratio method	An actuarial method for estimating future payments or numbers based on combining an exposure measure and an assumed rate per unit of exposure (the 'initial expected loss ratio') for the written business
Fixed premium basis	A basis for charging policyholders a fixed premium per ship insured. This enables the Club to sell insurance to Charterers, for instance, who may only wish to insure a ship for a specific voyage.
Fronting	In insurance, a practice whereby one insurer provides cover to a policyholder, but then proceeds to reinsure 100% of the risk with another insurer. Historically this was done to overcome scenarios where policyholders were not able to directly purchase insurance from insurers outside of their own country
FSA	Financial Services Authority, the regulator of the financial industry in the UK
FSMA	Financial Services and Markets Act 2000
Fungibility	Transferability or ability to be easily replaced
HMRC	Her Majesty's Revenue and Customs
Hong Kong Transfer	The proposed transfer of the Hong Kong branch of UKB to UKE
Hydra	<p>Hydra Insurance Company Limited. A segregated cell company established by the International Group to provide reinsurance for its members (i.e., a company with a number of cells, each of which acts as an account to reinsure a particular member of the International Group)</p> <p>The Club's cell, for instance, provides reinsurance to the Club, and the funds within that cell cannot be accessed by any of the other members of the International Group, nor can the Club access funds within any other cell.</p> <p>Hydra manages the cells and, on behalf of all of the cells, purchases external reinsurance in respect of all of the cells.</p>
IBNR	Incurred but not reported. Refers to the amounts an insurer will have to pay for claims that are reported in the future but relate to events that have already occurred. Usually used to refer to any amounts insurers must pay over and above existing case reserves (hence also includes the estimated cost of any anticipated future development on known claims)
ICA	Individual Capital Assessment, an insurer's own assessment of the capital that it needs for regulatory purposes in the UK
ICAS	The FSA's Individual Capital Adequacy Standards, introduced in

the UK in 2004

ICG	Individual Capital Guidance, the final agreed figure used by the FSA as an insurer's solvency requirement (this figure may differ from the ICA figure calculated by the insurer). It may be expressed as a percentage of the ECR figure calculated by the insurer
IFRS	International Financial Reporting Standards, accounting standards that are intended to be applicable throughout the world
Independent Expert	The suitably qualified person appointed by the court to produce an independent report on the transfer, in accordance with the FSMA
Insurance Risk	Risks relating to insurance policies sold, i.e., the risk that the cost of claims for which the insurer is responsible proves to be higher than expected
Insurance TAS	The Technical Actuarial Standard on Insurance as issued by the Board for Actuarial Standards
The International Group	A group of 13 marine P&I clubs who have reached a collective agreement for the purposes of pooling certain risks
The International Group Pool / The International Group Pooling Agreement	A claims-sharing arrangement between the members of the International Group. Under this agreement each club bears a retention (excess of the policyholder's deductible) for each eligible claim, and the excess of any eligible claim over this retention is shared between all the 13 clubs
The International Group Agreement	The agreement between the members of the International Group concerning quotation procedures
Large claims	Individual claims with a relatively high value, which are modelled at an individual level for the reserving and the capital modelling
Liquidity risk	The risk that the assets that can be used to settle short-term liabilities (i.e., cash or readily saleable investments) are not sufficient to meet those liabilities, which may in turn require selling longer-term assets at depressed prices
Market risk	Risks relating to investment performance and changes in the value of investments
NAIC	The National Association of Insurance Commissioners, a trade association of the insurance regulators in different US states
Operational risk	Risks relating to failure of operational procedures
P&I	Protection and indemnity risks
QIS5	The fifth Quantitative Impact Study undertaken as part of developing the capital requirements under Solvency II
Reorganisation	The overall proposed restructuring of the UK P&I Club, of which the Transfer is a part
SCR	Solvency Capital Requirement. The amount of money insurers are required to hold as a buffer under Solvency II regulations. If an insurer's capital (i.e., the excess of its assets over its liabilities) falls below the SCR, it will trigger regulatory intervention, which

	would become progressively more intrusive as capital reduced further
Solvency I	The European Union's Insurer Solvency Regime, defining the existing capital requirements that all insurers within the EU must meet
Solvency II	An updated set of regulatory requirements for insurers that operate in the European Union. These requirements are intended to become a part of relevant national legislation by 30 June 2013, and are intended to apply to insurers from 1 January 2014
Standard formula	A prescribed approach under Solvency II to the calculation of capital based on an insurer's financial information (e.g. premium, claims reserves, etc.)
Transfer	The proposed insurance business transfer of the business of UKB to UKE (excluding the insurance business of UKB's Hong Kong, Japan and Singapore branches)
Transfer Date	20 February 2013
TAS D	Technical Actuarial Standard D : Data as issued by the Board for Actuarial Standards
TAS M	Technical Actuarial Standard M : Modelling as issued by the Board for Actuarial Standards
TAS R	Technical Actuarial Standard R : Reporting as issued by the Board for Actuarial Standards
Transformations TAS	Technical Actuarial Standard relating to business transformations, as issued by the Board for Actuarial Standards
UKB Guarantee	The Deed of Capitalisation and Guarantee between UKB and UKE in which UKB guarantees to meet the liabilities of UKE in the event UKE is unable to do so
UK GAAP	Generally Accepted Accounting Principles as defined in the UK
Underwriting year	Year in which policy was written

The following are the abbreviations used to define the companies referred to in this report.

Abbreviation	Company name
UKB	The United Kingdom Mutual Steam Ship Assurance Association (Bermuda) Limited
UKE	The United Kingdom Mutual Steam Ship Assurance Association (Europe) Limited
IPIR	International P&I Reinsurance Company Limited
The Club	The UK P&I Club, the trading name of both UKB and UKE
Thomas Miller	The group of Thomas Miller companies, which are ultimately owned by a holding company called Thomas Miller Holdings Limited
UK London	The United Kingdom Mutual Steam Ship Assurance Association Limited,

the entity carrying on the business of the Club prior to February 1969

The Sunderland
Club

The Sunderland Steamship Protecting and Indemnity Association, the
entity carrying on the business of UKE prior to February 1990.

Appendix B List of data received

The following is a list of the data items I have requested and received in assessing the Transfer.

1. The Club's Rules
2. UKB's Act and Bye Laws and UKE's Memorandum and Articles of Association
3. HMRC confirmation of the circle of mutuality between UKE and UKB
4. Hybrid Capital Prospectus
5. List of Policyholders, with tonnage and premium
6. List of the major external reinsurers for each layer, with their share of those layers
7. Annual FSA Insurance Returns for the years ending 20 February 2009, 20 February 2010 and 20 February 2011 for each of UKB and UKE
8. Consolidated Financial Statements for the years ending 20 February 2009, 20 February 2010 and 20 February 2011 for UKB and UKE
9. A breakdown of the accounts to demonstrate how the consolidated financial statements of UKB could be broken down to exclude subsidiaries (such as IPIR)
10. Financial statements for the Hong Kong branch of UKB, the Singapore branch of UKB, IPIR and (on an unaudited basis) the Club's segregated cell of Hydra as at 20 February 2011
11. Internal and actuarial reserving reports since 20 February 2009 for the most recent ten underwriting years
12. Occupational disease reserving report as at 20 February 2011
13. Documents relating to the Individual Capital Assessments undertaken as at 20 February 2007 and since then
14. Details of the QIS 5 position for each of UKB and UKE on both pre- and post-Reorganisation bases
15. Standard & Poor's Report and rating model on UK P&I Club
16. Capitalisation and Guarantee Deed between UKE and UKB
17. Draft Report from an external consulting firm giving advice on the Transfer
18. Mapping from GAAP to Solvency II
19. A copy of FSA feedback to the Club from a regulatory visit in late 2011
20. A document by the Club summarising the Reorganisation
21. Iterations of the Transfer document
22. A selection of the Club's intra-group reinsurance treaties (UK London to UKB, Sunderland to UKB, UKB to IPIR, UKE to IPIR)

23. A sample of the Club's external reinsurance treaties
24. ECR and CRR calculations for each of UKB and UKE pre- and post-Reorganisation
25. A sample of documents demonstrating the documentation of the Partial Internal Model
26. An appendix to the Club's Directors' Manual, outlining the rationale for the Reorganisation
27. Documentation relating to the Club's Solvency II preparations, including:
 - a. Minutes of Audit & Risk Committee meetings
 - b. Relevant extracts from the Directors' Manual
 - c. Evidence of resource planning and addressing key person risk
 - d. Examples of presentations to inform the Board of progress
 - e. The project initiation document outlining the Club's Solvency II program

Appendix C Terms of reference

The following is an extract from my engagement letter with UKB dated 11 November 2011. In this engagement letter, 'you' refers to UKB and 'we' to myself as the Independent Expert and the Ernst & Young team supporting me in considering the Transfer

Scope of Services

We will perform the role of independent expert for The United Kingdom Mutual Steam Ship Assurance Association (Bermuda) Limited ("UK(B)") to The United Kingdom Mutual Steam Ship Assurance Association (Europe) Limited ("UK(E)") part VII transfer (the "Transfer"). We will base our conclusions on data provided by you and on the Report setting out the Part VII transfer implications.

We will supplement this review with such additional calculations as we believe are required to enable us to form our view on the implications of the Transfer on the policyholders involved.

We will provide a report which explains the conclusions of our work. We will supplement this with an update letter for the final court hearing relating to the Transfer that will identify any issues that have arisen between the date of our report and the final court hearing.

Limitations on scope

As agreed with you, we will limit our advice to the matters outlined above and we will not consider any further implications of our advice. Our report will describe the methodologies that we have used and the reasoning behind our final conclusions but will not discuss in detail every assumption used in our analysis. Our report, advice and all correspondence will be addressed only to you. However, we have no objections to our reports being made available to your regulators in both the UK and other countries around the world, your auditors, Reed Smith, parties entitled to a copy of the report under the FSMA/Regulations but only on the basis that if any of these parties choose to rely on its contents they do so entirely at their own risk. Should the report be requested by parties other than those listed above, a separate release letter for each request will be required, as per our standard terms of business.

The scope of our work will consist primarily of analytical procedures applied to data, using information and explanations provided to us by you. We will not be in a position to verify the accuracy of the data or the information or explanations provided and, consequently, our work will not constitute any form of audit of the information.

The methods we will use will be based on projecting aggregated claim data, and we believe that these methods conform to generally accepted actuarial methodology. It is possible that a more detailed approach, based on individual policy and claim data, would give a different result.

Interim working papers might be based on calculations or data that are not finalised or fully checked, and might require additional information to fully explain their context and implications. Therefore, interim working papers should not be relied on for any purpose unless accompanied by a signed statement from Ernst & Young LLP, stating the purpose for which they may be relied on.

Appendix D Michael Barkham - relevant experience

Partner

European Actuarial Services

Background

- ▶ More than 20 years' general insurance experience.
- ▶ Qualified as a Fellow of the Institute of Actuaries and a Fellow of the Society of Actuaries in Ireland.
- ▶ Joined Ernst & Young in 1994 following five years with Sturge Holdings Plc.

Skills

- ▶ Skills in all areas of general insurance actuarial work (reserving, capital, pricing, M&A, run-offs); with particular experience in the London, US and Bermuda markets.

Experience

- ▶ I am a Partner in Ernst & Young's European Actuarial Services ('EAS') Group. I am the Practice Leader of the property and casualty section of EAS.
- ▶ My experience includes the actuarial analysis of claims reserves, pricing, capital modelling, development of systems to monitor the rating levels and profitability of insurance business, the financial analysis and monitoring of market intelligence for the purpose of assessing reinsurance security, and the assessment of commutation terms of both inwards and outwards reinsurance.
- ▶ I have led a project that provided actuarial support to one of the largest Part VII Transfers to have taken place in the market so far. The project involved performing reviews of the reserves and assessing the uncertainty surrounding them in order to quantify the impact on policyholders.
- ▶ I have been involved in several merger/acquisition situations, including due diligence covering the London Market, Bermuda and the wider UK company market.
- ▶ I was involved in the setting up of Equitas, in particular being involved in the Reinsurance project and the Balance of Account project.
- ▶ I have led a number of projects that have involved the modelling of both UK and US APH exposures.
- ▶ I have been extensively involved in the audit of reserves for a wide range of Ernst & Young audit clients both in the UK retail and London market area.
- ▶ Prior to joining Ernst & Young in 1994 I spent almost five years with Sturge Holdings Plc, which at the time was one of the largest Lloyd's managing agencies, during which period I was a member of various Lloyd's working parties. I joined Sturge Holdings after six years at Canada Life Assurance Company.
- ▶ I have been a member of the Institute of Actuaries panel responsible for disciplinary matters.