

**IN THE HIGH COURT OF JUSTICE**

**Claim No. 2007 Folio 1418**

**QUEEN'S BENCH DIVISION**

**COMMERCIAL COURT**

**B E T W E E N : -**

**EQUITAS LIMITED**

**Claimant**

**-and-**

**R&Q REINSURANCE COMPANY (UK) LIMITED**

**Defendant**

**AND**

**IN THE HIGH COURT OF JUSTICE**

**Claim No. 2007 Folio 1420**

**QUEEN'S BENCH DIVISION**

**COMMERCIAL COURT**

**B E T W E E N : -**

**EQUITAS LIMITED**

**Claimant**

**-and-**

**ACE EUROPEAN GROUP LIMITED**

**Defendant**

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**OPENING SUBMISSIONS OF THE DEFENDANTS**

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## Introduction

1. In these proceedings the Claimant (“Equitas”) claims various sums from the Defendants (“R&Q” and “Ace European” respectively) alleged to be due under various excess of loss reinsurance contracts entered into with various Lloyd’s syndicates.
2. Commencing these proceedings without having done so,<sup>1</sup> Equitas now accepts that many of the claims made require ‘adjustment’ to take account of the Court of Appeal’s decisions in *Scott v. Copenhagen Reinsurance Co (UK) Ltd* [2003] Lloyd’s Rep IR 696 and *King v. Brandywine Reinsurance Co (UK) Ltd* [2005] 1 Lloyd’s Rep 655. Equitas hopes to prove properly aggregated KAC/BA and *Exxon Valdez* losses through the use of actuarial models.<sup>2</sup> Whether it can do so, and has discharged the requisite burden of proof, is the subject of this trial.
3. The Court will recall that these proceedings are a test case; Equitas has also commenced four arbitrations against R&Q or Ace European<sup>3</sup> claiming various other sums allegedly due under various reinsurance contracts, which are presently stayed.<sup>4</sup> In total, Equitas seeks indemnity in respect of over 4,000 claims, a significant number of which include KAC/BA and *Exxon Valdez* losses.<sup>5</sup> A number of the KAC/BA and *Exxon Valdez* claims in the arbitrations are on layers which sit above the contracts at issue in these proceedings. As well as having an impact on the four arbitrations, the resolution of this dispute is likely also to have a wider impact insofar as

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<sup>1</sup> With signed statements of truth.

<sup>2</sup> It is convenient to refer to the losses as having been “wrongly aggregated” in each case, although the respects in which the aggregation was wrong are different. The KAC and BA losses were wrongly aggregated together on the basis of a misapplication of the ‘any one event’ language. So far as concerns *Exxon Valdez*, certain irrecoverable losses were wrongly included with recoverable losses.

<sup>3</sup> One of the arbitrations is against Chevanstell Limited, an associated company.

<sup>4</sup> For identification purposes, each of the arbitrations has been named after an American Civil War battle – Chancellorsville, Galveston, Sharpsburg and Yorktown. Three other arbitrations – Balls’ Bluff, Donelson and Gettysburg – have been settled.

<sup>5</sup> The various sets of proceedings are claims-based rather than contract-based. As a result, in some instances the same contract features in more than one set of proceedings.

wrongly aggregated KAC/BA and *Exxon Valdez* claims remain unpaid in the market. In addition to the general issue as to whether Equitas can establish properly aggregated losses recoverable under the Reinsurance Contracts by the application of the results of its actuarial models, there are also adjustment issues which arise on many of the KAC/BA and *Exxon Valdez* losses (including issues as to whether the relevant syndicates' wrongly aggregated FGU figures, to which the percentage discounts are applied, have been properly calculated in any event, whether underlying specifics have been taken into account, and as to the previously paid position). Such issues – along with claims adjusting issues arising on other non-KAC/BA and *Exxon Valdez* losses as well as all issues in relation to interest and costs in respect of paid or withdrawn claims – have been 'hived-off' to be heard after the Court has determined the points of principle in issue in relation to Equitas's attempt to prove its case by reference to actuarial models.

4. Despite that 'hive-off', Equitas has hinted at some intransigence or unreasonableness on the part of R&Q in relation to Equitas's attempts to prove its claims (see e.g. Equitas's Written Opening at paragraph 16). The fact that Equitas has been obliged to withdraw so many of the claims (including KAC/BA and *Exxon Valdez* claims) because of difficulties in proving them (including, for example, that they have previously been paid), and the difficulties which Mr Gregory has had in reconciling the claimant syndicates' FGU records for a sample of the claims, demonstrate that there is nothing in the insinuation.

5. These written submissions are divided into the following sections:

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**(A) Proof of loss under the Reinsurance Contracts**

*Introduction*

6. The sums claimed by Equitas in these proceedings, which are affected, directly or indirectly,<sup>6</sup> by either KAC/BA or *Exxon Valdez* loss issues arise under 32 reinsurance contracts (“the Reinsurance Contracts”) entered into between R&Q and various Lloyd’s syndicates.<sup>7</sup> Each of the Reinsurance Contracts is a separate bargain between the relevant claimant syndicate and R&Q, and the claims are presented under separate contracts.
7. The meaning of the Reinsurance Contracts cannot be determined by the nature of the losses that are presented. There is no principled mechanism in law for the relaxation of the requirements of each of the contracts, simply because a large section of the London insurance market treated losses as aggregated (or recoverable) when in law they were not to be so aggregated (or were irrecoverable), nor because the claimant syndicates (or Equitas in their place) are not now in a position to satisfy those requirements.
8. The fact that a claim under an insurance contract is characterised as a claim for damages, not a claim in debt, does not water down Equitas’s burden of proof, contrary to the suggestion made at paragraph 52 of its Written Opening. Certainly, there is no analogy between a claim made for a sum said to be due under an excess of loss Reinsurance Contract and a claim for damages for the lost opportunity of participating in a beauty contest, or a claim for non-delivery which requires evidence of market price, where there may be a range of available answers. The burden on Equitas is to show that the sums claimed

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<sup>6</sup> Some of the claims are made under ‘top and drop’ or ‘back-up’ contracts where R&Q contends that Equitas has failed to establish that the conditions to apply the contract have been satisfied by the exhaustion of the underlying or front layer contracts by the payment of valid claims in respect of the KAC and *Exxon Valdez* losses. See paragraph 11 below.

<sup>7</sup> Copies of the Reinsurance Contracts are at [F1/B/1, 2, 3, 4, 5, 6, 7 and 8; F2/9, 10, 11 and 14; F3/17, 18, 21, 22, 23 and 24; F4/26, 27, 30, 31, 32, 33 and 34; F5/38 and 42; F6/46, 48 and 50; F7/61 and 66]. No KAC/BA or *Exxon Valdez* loss issues arise in respect of the claims against Ace European.

are properly due under the Reinsurance Contracts. Implicit in Equitas's suggestion that this is a 'jury question' or to suggest that the trial Court "must do the best it can" is an invitation to ignore the burden of proof. If Equitas is unable to demonstrate to the Court the amount due under the Reinsurance Contracts, its case fails and stands to be dismissed.

9. The relevant legal question is *not* how to disaggregate wrongly aggregated losses, despite Equitas's submissions to this effect. The way in which Equitas puts the question assumes, without proof, that there are valid, as well as invalid, loss settlements within each claimant syndicate's FGU loss (referred to as the claimant syndicate's "UNL" in Equitas's Written Opening; R&Q is happy to use this terminology provided it is understood that this is not the same as the claimant syndicate's ultimate net loss for the purposes of calculating what, if anything, is due under a particular contract where deductions must be made for specific reinsurances etc in arriving at the amount of the net loss<sup>8</sup>). So, for example, Equitas's statement (at paragraph 34 of its Written Opening) that "*the overwhelming majority of the sums paid by the Syndicates were paid in respect of recoverable Exxon losses and not irrecoverable Exxon losses*" is pure assertion, as is the suggestion that the task is to quantify the "*rogue*" element or the amount of the "*taint*". The correct question is whether Equitas can demonstrate to the necessary standard of proof each claimant syndicate's current UNL for (a) correctly aggregated KAC loss settlements and (b) recoverable *Exxon Valdez* loss settlements. One does not start with an assumption that the overwhelming majority or indeed any part of the claimant syndicates' wrongly aggregated UNLs has been properly aggregated or is in respect of recoverable losses only.

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<sup>8</sup> The point may be made by reference to the loss schedule for Contract 1 [E1/3A/78A]. The claimant syndicate's FGU (from the ground up) loss is said to be US\$148,301,594. This is the claimant syndicate's "UNL" as referred to in Equitas's Written Opening: see e.g. para. 23. The percentage discount is then applied to this amount under either Scenario A or Scenario B. Then the recoveries from specific reinsurances are deducted to arrive at the adjusted total, which is in fact what R&Q understands to be Equitas's case as to the UNL for the purpose of making claims under this contract.

10. This is plain from the key indemnity clause in the Reinsurance Contracts, which refers to a limit of indemnity in excess of an attachment point each of which applies on an “*each and every loss basis*”,<sup>9</sup> and the Ultimate Net Loss clause in each contract. The Reinsurance Contracts require Equitas to demonstrate, at the very least, that each claimant syndicate has paid sums in settlement of correctly aggregated KAC losses or recoverable *Exxon Valdez* losses, being those losses they were liable to pay under the policies of reinsurance which were in turn reinsured by the Reinsurance Contracts. The Reinsurance Contracts also require Equitas to demonstrate the *current* amount due; it is not open to Equitas to prove its claims by reference to what are alleged to have been the claimant syndicates’ UNLs at historic dates.
11. This is true as much for those contracts where Equitas relies on the exhaustion of underlying contracts by the payment of KAC or *Exxon Valdez* losses, so as to bring about the dropping down of cover to pay other losses, as where Equitas relies on the payment of those losses to recover amounts in respect of those losses. The suggestion in Equitas’s Written Opening that a lesser standard of proof may be appropriate where Equitas relies on the payment of KAC or *Exxon Valdez* losses as exhausting underlying cover for the purposes of a top and drop contract than is required where Equitas seeks to recover for those losses (see paragraph 62) has no support in principle or in authority.
12. On the contrary, clause 1.3 of the Joint Excess Loss Committee (“JELC”) Excess Loss Clauses wording applies not just to those losses which give rise to the claim for indemnity (i.e. those which exceed the attachment point) but also for those losses which go to exhaust the attachment point. If only properly aggregated KAC losses, within the terms of the inwards contracts, can count to satisfy the attachment point for the purposes of accessing the limit of indemnity available for KAC losses under a Reinsurance Contract, it must follow that only properly aggregated KAC losses, within the terms of the inwards contracts, can be relied on as having exhausted the front-in contracts for the purposes of accessing the dropped-down limit of indemnity available

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<sup>9</sup> “*Loss*” is in turn defined to mean loss, damage, liability or expense arising from “*any*

for other losses. In order to show that the conditions in which the cover in a top and drop reinsurance drops down have been satisfied, the claimant syndicate is obliged to show that the front-in contracts have been exhausted by properly aggregated losses paid by the claimant syndicate in accordance with the terms of its inwards contracts.

13. Whether Equitas can demonstrate each claimant syndicate's current UNL for correctly aggregated loss settlements is not capable of being answered – as Equitas has pleaded<sup>10</sup> although the point is not developed in its Written Opening – by looking at the particular syndicate's books and records as evidently what was presented to, and paid by, the syndicate were wrongly aggregated losses and the syndicates' UNLs as recorded in those books and records are admittedly incorrect. Reference to the syndicates' books and records – which in any event Equitas has not disclosed – is fruitless. Further, Equitas does not seek to prove its loss by way of any reliance on its books or records but instead – by estimation and approximation – through the use of the actuarial models which are applied to discount wrongly aggregated UNLs as at an arbitrary date in the past.
14. The “books and records” point is put in a different way in Equitas's Written Opening: see paragraph 56(2).<sup>11</sup> Equitas relies on the “books and records” clause as suggesting that there is some limitation on the steps which a claimant syndicate is obliged to satisfy in order to meet the ‘dual proviso’ that its loss

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*one event*”: see clause 3.1 of the JELC wording [F1/A/1].

<sup>10</sup> Reply in the R&Q proceedings, para. 14(1)(b) [A1/10/177].

<sup>11</sup> Equitas's previous reliance on *Wurtembergische Feuerversicherung AG v. Home Insurance Company* [1993] 2 Re LR 253 was also misplaced. That case concerned the specific terms of what was in form a 100% quota share reinsurance treaty by which Home Insurance agreed to take over the obligations which Wurtembergische had assumed as a member of the Ruddy pool and the extent to which Home Insurance was entitled to require Wurtembergische to prove that claims it had been debited as a pool member fell within the terms of the treaty. Further, it is plain that the analysis in that case was heavily dependent on the presence of a wide form of follow the settlements clause: see the terms of Article VII at 258 and the consideration by Evans J of *Insurance Company of Africa v. SCOR (UK) Reinsurance Co Ltd* [1985] 1 Lloyd's Rep 312 and *Charman v. Guardian Royal Exchange* [1992] 2 Lloyd's Rep 607, both decisions on wide forms of follow the settlements clauses. An appeal from the decision of Evans J was allowed but the Court of Appeal's decision (unreported, 9 June 1994) does not touch on burden of proof.

settlements must be both within the terms of the Reinsurance Contract in question and within the terms of its inwards contracts. In particular, Equitas suggests that this indicates clearly that the claimant syndicates are not obliged to show that the losses it paid to its reinsureds were within the terms and conditions of its reinsureds' own inwards contracts. The point is not understood. First, the "books and records" clause, as with clause 1.3 of the JELC wording, is a feature of all of the excess of loss contracts in the chain or spiral. The right of inspection therefore exists throughout the spiral. Second, as noted in the preceding paragraph, the difficulties which face Equitas in discharging its burden of proof would not be solved by reference to the books and records of other spiral participants, as those records would not show the properly aggregated losses separately from the wrongly aggregated or irrecoverable losses.

*Proof of loss: the principles*

15. In the absence of a wide form of follow the settlements clause, the principles in relation to proof of loss under a reinsurance contract are well settled and can be summarised as follows:
  - 15.1. A reinsurer can require its reinsured to prove its loss. Payment by a reinsured on an underlying policy does not constitute sufficient proof of loss.
  - 15.2. A reinsurer can refuse to indemnify the reinsured unless the loss falls within the cover of the policy reinsured and within the cover created by the reinsurance.
  - 15.3. A reinsurer can raise all defences that would have been open to the reinsurer against the original insured.
  - 15.4. The reinsured must therefore give to the reinsurer the benefit of any protection which the reinsured is entitled to enjoy or may have obtained under the original policy.

16. These principles were neatly encapsulated by PO Lawrence J in *Re London County Commercial Reinsurance Office Limited* [1922] 2 Ch 67, 80, in a passage approved in a number of subsequent cases,<sup>12</sup> where he stated that:

The fact that the policies are reinsurance policies and that the reassured have paid under the policies which they have issued does not in my judgment operate to enable them to substantiate their claims against the company. It is well settled that (subject to any provision to the contrary in the reinsurance policy) the reassured, in order to recover from their underwriters, must prove the loss in the same manner as the original assured must have proved it against them, and the reinsurers can raise all defences which were open to the reassured against the original assured. This is equally true whether the reassured had or had not paid their assured, inasmuch as it would be inequitable for them to renounce any of their defences so as to prejudice the reinsurers.

17. These observations were reflected by Lord Mustill in *Hill v. Mercantile and General Reinsurance Co. Plc* [1996] 1 WLR 1239,<sup>13</sup> where, as he put it, in relation to proof of loss, there are only “two rules, both obvious”:

First, that the reinsurer cannot be held liable unless the loss falls within the cover of the policy reinsured and within the cover created by the reinsurance. Second, that the parties are free to agree on ways of proving whether these requirements are satisfied.

18. The loss referred to by Lord Mustill in his expression of the first rule is the original loss that PO Lawrence J spoke about in his formulation of the statement of principle in *Re London County Commercial Reinsurance Office Ltd*; the second rule is a reflection of the fact, referred to parenthetically by PO Lawrence J, that insurers and reinsurers have on occasion agreed to introduce into their contracts of reinsurance special clauses concerning proof of loss.<sup>14</sup> In *Commercial Union Assurance Co. plc v. NRG Victory Reinsurance Ltd* the Court proceeded on the basis that the principles set out by PO Lawrence J

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<sup>12</sup> See Hobhouse LJ in *Toomey v. Eagle Star Insurance Co. Ltd* [1994] 1 Lloyd’s Rep 516, 523 and Potter LJ in *Commercial Union Assurance Co. plc v. NRG Victory Reinsurance Ltd* [1998] 2 Lloyd’s Rep 600, 605-606. See also *CGU International Insurance plc v. AstraZeneca Insurance Co.* [2006] 1 CLC 162, 189 (Cresswell J); *English and American Insurance Co. Ltd v. Axa Re SA* [2007] Lloyd’s Rep IR 359, [26] (Gloster J).

<sup>13</sup> At 1251F.

<sup>14</sup> See *Assicurazioni Generali SpA v. CGU International Insurance plc* [2003] Lloyd’s Rep IR 725, [27]-[29] (the Court of Appeal’s judgment, affirming that of the Judge, is reported at [2004] Lloyd’s Rep IR 457).

apply to the ‘dual proviso’ form of clause:<sup>15</sup> see [1998] 1 Lloyd’s Rep 80, 83, 88 (Clarke J); [1998] 2 Lloyd’s Rep 600, 605 (CA).

19. When considering what Equitas, as assignee of each reinsured syndicate, must prove in order to recover under each of the Reinsurance Contracts, the issue, therefore, is whether there are any contractual provisions disapplying the principles set out above. Upon examination, it is clear that there are none for present purposes. In particular, there is nothing in the Reinsurance Contracts to bind R&Q to a mistaken decision on aggregation or the recoverability of certain types of loss made by the claimant syndicates, their reinsureds, or reinsureds lower down the chain or spiral of reinsurances.

*Proof of loss: the ‘dual proviso’*

20. Each of the Reinsurance Contracts is on the JELC wording (also known as the MAREXEL wording) for 1988, 1989 or 1990 or equivalent.<sup>16</sup> Copies of the JELC wording are at [F1/A/1-12]. Clause 1.3 of the JELC wording provides:

It is a condition precedent to liability under this contract that settlement by the reassured shall be in accordance with the terms and conditions of the original policies or contracts.

It is common ground that each of the Reinsurance Contracts incorporate, in effect, the form of ‘dual proviso’ considered by the House of Lords in *Hill v. M&G*: see [1996] 1 WLR 1239, 1242C.

21. The effect of what Lord Mustill refers to as ‘the first proviso’ (the equivalent to clause 1.3 of the JELC wording) makes it necessary for each claimant syndicate to demonstrate that the loss settlements which make up its UNL were properly recoverable under the terms of the inwards contracts. Under this form of reinsurance, Equitas is not entitled to say, and does not say (at least in terms), that the claimant syndicates settled in good faith wrongly aggregated

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<sup>15</sup> The terms of the reinsurance are set out in the Court of Appeal’s judgment at [1998] 2 Lloyd’s Rep 600, 604.

claims and that these settlements bind R&Q as reinsurers to wrongly aggregated losses. By including the first proviso in their reinsurance bargain, the parties have agreed that the ultimate reinsurer (here R&Q) is not bound by its reinsureds' determinations as to the legal extent of the underlying policies they wrote. As will appear below, Equitas's case fails at this first hurdle. Equitas cannot show that the loss settlements which make up the 'unadjusted' UNL of the claimant syndicates were within the terms of the inwards contracts, because wrongly aggregated or irrecoverable losses were, or may have been, included.

22. As was confirmed by the House of Lords in *Hill v. M&G*, this form of clause entitles R&Q to require each claimant syndicate to demonstrate that each of the loss settlements which make up that claimant syndicate's UNL fell within the terms of the reinsurances it wrote. Accordingly, the claimant syndicates are obliged to show not only that the loss settlements made by the claimant syndicate are properly aggregated under the Reinsurance Contracts ('the second proviso' referred to by Lord Mustill, which is also reflected in the terms of the Reinsurance Contracts), but also that the loss settlements were properly aggregated under, and had therefore become due for payment under, the inwards reinsurances ('the first proviso').

*Proof of loss: current UNLs*

23. Each of the Reinsurance Contracts provides for a limit of indemnity which applies in excess of a specific attachment point by reference to the claimant syndicate's Ultimate Net Loss.
24. It is plain that each claimant syndicate is required to establish its *current* net loss on a properly aggregated basis, i.e. net of deductions for salvage and other forms of recovery, including enuring underlying reinsurance protections. It is not open to a claimant syndicate to establish its loss by reference to its UNL at

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<sup>16</sup> McCoy para. 82 [B1/5/80-81]. Many of the contracts also include a "Settlements clause 1987 (XL on XL) in respect of Aviation Business" (McCoy para. 83) and/or a "Claims Clause" (McCoy para. 84). See also Myers paras 24-28 [B1/8/147-149].

a date in the past. Clauses 2.1 and 2.2 of the JELC wording [F1/A/1] provide that:

“Net loss” under this contract means the sum paid by the reassured in settlement of loss, damage, liability or expense (other than the reassured’s office and salary expenses) after deduction of all salvage and recovery including recovery from all reinsurances other than those specified in section D of the schedule.

Where salvage, recovery or other payment is received or recovered after a settlement under this contract, the indemnity shall be adjusted as if it had been received before settlement was made.

25. Equitas has not sought to establish the claimant syndicates’ *current* UNLs, even though this is what is required by the Reinsurance Contracts. This is apparent from the terms of the (yet further) revised loss schedules produced by Equitas [E1/3A]. Equitas’s claims are calculated by reference to what is alleged to have been the claimant syndicates’ wrongly aggregated whole account or spiral XL UNLs at one of two historic dates (1 June 2002 for KAC losses, and 31 December 2000 for *Exxon Valdez* losses), which are then ‘adjusted’ by the application of the discount percentage suggested by the models.
26. The actuarial models which have been developed by Equitas’s expert, Mr Richard Bulmer, also stop processing losses through the artificial spirals at these dates: 1 June 2002 for KAC, and 31 December 2000 for *Exxon Valdez*. Mr Bulmer explains that this is what he was instructed to do: see paragraphs 3.14 and 6.9 of his Final Report [D2/4/16 and 28]; Mr Bulmer explains that he was instructed to assume<sup>17</sup> that the relevant periods would capture all relevant transactions which would cause a material *increase* to the UNLs of any players resulting from wrongly aggregated claims.
27. This assumption – even if it were true – is misplaced. The Reinsurance Contracts require Equitas to demonstrate – at the very least – that the claimant syndicates’ *current* UNLs exceed the relevant attachment points, or (in the case of top and drop contracts) that the underlying contracts are exhausted by valid and properly aggregated claims. If – which R&Q does not accept – it is

possible in principle to demonstrate the claimant syndicates' properly aggregated UNL by reference to an across the board discount suggested by a modelled approximation or representation of the LMX spiral, any such model would have to model the features of the spiral from the introduction of the losses until the present day. Equitas has made no attempt to do so. By failing to do so, no account is taken of developments in the UNLs between the model end dates and the date when the balance is struck. The exercise is therefore futile.

*Proof of loss: the effect of the 'first proviso'*

28. R&Q submits that the clear effect of the 'first proviso' (i.e. clause 1.3 of the JELC wording) is that in order to establish the current UNL of the claimant syndicates for properly aggregated KAC and *Exxon Valdez* losses, each claimant syndicate is obliged to show that the loss settlements which make up that UNL fall within the terms of the inwards reinsurance contracts. This appears to be common ground. None of the claimant syndicates are in a position to do so or have sought to do so.
29. None of the claimant syndicates has produced its inwards contracts. As these are retrocessional LMX contracts, it is to be assumed (as it was assumed in *Hill v. M&G*<sup>17</sup>) that the inwards contracts also include the JELC clauses or similar. In short, the claimant syndicates' reinsureds are themselves only able to recover losses from the claimant syndicates if those losses have been properly aggregated (or were recoverable in law) under the claimant syndicates' inwards reinsurances. If the claimant syndicates' reinsureds have paid claims for which they were not liable, then those loss settlements were not recoverable from the claimant syndicates. The same is true at each prior stage in the chain of retrocessional LMX contracts.

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<sup>17</sup> Equitas has adduced no evidence to support the assumption, and certain of the databases consulted by Mr Bulmer in producing his models suggest otherwise.

<sup>18</sup> See [1996] 1 WLR 1239, 1241H.

30. Accordingly, where there is a chain of retrocessional LMX contracts containing the dual proviso, it is necessary for a claimant syndicate to show the proper aggregation of losses through the chain. Indeed, ignoring what has happened here (where there was a mistaken decision as to aggregation or as to the payment of irrecoverable losses which was not resolved before the claims entered the spiral), this is what would be “ordinary practice”. Ordinarily, one would start at the beginning of the chain of reinsurances. A properly aggregated direct loss would be processed through the chain of reinsurances to see what (if any) part of the properly aggregated loss would reach the claimant syndicate’s reinsureds, and what (if anything) each of the claimant syndicate’s reinsureds would be entitled to recover under each of the reinsurances written by the claimant syndicate. Accordingly, to recover in this case Equitas would need to re-present correctly aggregated losses through the spiral. If that were done, there would be a succession of loss settlements for correctly aggregated losses.
31. In the present case, Equitas wishes to work backwards from a wrongly aggregated loss, made up of loss settlements which Equitas acknowledges it cannot show relate only to properly aggregated losses or include only recoverable losses, applying a discount to the claimant syndicates’ wrongly aggregated UNLs as at 1 June 2002 (for KAC/BA) and 31 December 2000 (for *Exxon Valdez*).
32. Quite apart from the issue as to dates, R&Q does not accept that it is open to Equitas to do so. A claimant syndicate’s UNL for a particular loss is of necessity the result of a number of loss settlements, which in this case Equitas cannot show relate only to correctly aggregated or recoverable losses. Equitas cannot identify any loss settlements for the properly aggregated or recoverable loss for the purpose of making recoveries from the claimant syndicates’ reinsurers.
33. Even if it is open to a claimant syndicate to re-calculate its UNL by seeking to disaggregate the wrongly aggregated loss settlements it has paid, a claimant syndicate can only show the amount paid out for a properly aggregated loss by

following the properly aggregated loss through the chain of reinsurances. The claimant syndicate must therefore establish, on the balance of probabilities, the effect of the removal of the wrongly aggregated losses at each level of the reinsurance chain. The claimant syndicate cannot calculate how much it has paid out for the wrongly aggregated loss without knowing how much its reinsureds have paid out for the wrongly aggregated loss. It cannot know how much its reinsureds have paid out for the wrongly aggregated loss unless those reinsureds calculate how much they have paid out to their own reinsureds for the wrongly aggregated loss.

34. In short, a claimant syndicate cannot calculate the proportion of its UNL paid out for a properly aggregated loss, and the proportion of its UNL paid out for a wrongly aggregated loss, in the absence of the properly aggregated loss being passed through the chain of reinsurances.
35. There is a further issue. In following the properly aggregated loss through the chain of reinsurances, are the claimant syndicates obliged to show the passage of that loss through the chain of reinsurances as they existed on or before 31 December 2000 (*Exxon Valdez*) or 1 June 2002 (KAC/BA), or are the claimant syndicates obliged to show the passage of that loss through the chain of reinsurances as presently constituted, which (as a result of commutations and insolvencies) may produce a different result? R&Q's submission is that because the claimant syndicates are obliged to establish their current UNL for a properly aggregated loss, it is not adequate to do so on an historic date. This debate is perhaps academic, as Equitas acknowledges that it is not in a position to show the passage of the properly aggregated loss through the spiral, whether as it existed prior to 2002 or otherwise.
36. As noted above, the models purport to consider as at 1 June 2002 (for KAC/BA) and as at 31 December 2000 (for *Exxon Valdez*) the proportion/ratio of the recoverable to the irrecoverable losses. Accordingly, even on Equitas's case, the models should generate a representation of the LMX spiral as it existed between the dates when the losses enter the spiral and the cut off dates. This is not what Mr Bulmer has done. Other than through a (notional)

allowance for leakage, Mr Bulmer does not attempt to model important features of the LMX spiral, either as at 31 December 2000/1 June 2002 or at all.<sup>19</sup>

*Proof of loss: the magnification effect of the spiral*

37. A reduction in the size of the original loss entering the spiral (by reason of the elimination of the wrongly aggregated elements) will inevitably affect the size of UNLs of each participant at each twist in the spiral. As can be seen from Equitas's loss schedules showing the (discounted) losses sought to be recovered under the Reinsurance Contracts [E1/3A], a small reduction in a participant's UNL can mean that there is no recovery by that participant under one or more of its reinsurance protections. By way of example, Contracts 4, 8, 22, 26 and 34 have no claim once the relevant claimant syndicate's wrongly aggregated UNL is reduced by the percentages suggested by the models; for Contract 9, a small increase in the percentage discount from the 19.4% applied under Scenario B would result in no loss to the US\$5m xs US\$17.6m layer.<sup>20</sup> Equitas's expert actuary, Mr Richard Bulmer, acknowledges in his Supplemental Final Report that "*a small reduction in the amount of loss entering the spiral can reduce the claims on an individual layer or series of related layers to zero*".<sup>21</sup> Mr Bulmer also acknowledges that "*it is possible in principle for the removal of an irrecoverable loss to reduce the UNL of a spiral participant to zero*" (although he considers this is unlikely in practice).<sup>22</sup>
38. Processing the properly aggregated loss through the spiral is therefore essential if proper effect is to be given to the nature of the business written by

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<sup>19</sup> Certain of the assumptions on which the models are based are derived from later data. So, for example, the control sheets, used by Mr Bulmer in conjunction with the COSS database, are said to comprise details of the actual UNLs, based on paid claims and incurred claims, in respect of KAC and BA losses as at 31 December 1996 and 31 December 2007 (31 December 1995 and 31 December 1997 for *Exxon Valdez*), together with details of the extent of remaining outwards reinsurance protections for over 50 Lloyd's syndicates (40 for *Exxon Valdez*): see Appendix H to the Bulmer Final Report, paras 2 and 14 [D2/4H/145 and 146].

<sup>20</sup> See [E1/3A/78L].

<sup>21</sup> Bulmer Supplemental Final Report para. 2.61 [D5/15/17].

<sup>22</sup> Bulmer Supplemental Final Report para. 2.64 [D5/15/17].

particular spiral participants. Mr Bulmer has accepted the observation of Mr David Sanders, R&Q's expert actuary, that the UNL of a spiral participant who wrote inwards reinsurance business weighted towards the later impacted layers of the spiral is likely to be more severely inflated by the inclusion of an irrecoverable loss than a spiral participant who wrote inwards reinsurance business weighted towards the "*earlier impacted*" layers.<sup>23</sup> Unless the properly aggregated loss is processed through the spiral, the relative positions, within the spiral, of spiral participants will be ignored.

39. R&Q therefore submits that Equitas cannot calculate the proportion of any claimant syndicate's UNL paid out for a properly aggregated loss without at least establishing the amount of the properly aggregated loss which was recoverable by each of the claimant syndicates' reinsureds under the numerous reinsurance contracts written by the claimant syndicate and by then applying the terms of those reinsurance contracts to its reinsureds' UNLs. For example, the properly aggregated KAC UNL for syndicate 745 cannot be calculated without knowing the properly aggregated KAC UNLs of syndicate 745's reinsureds and without then applying the terms (in particular, the attachment points and limits) of each of the reinsurance contracts written by syndicate 745. Equitas has made no attempt to do so, and the proposed application of the model is no surrogate for this exercise.
  
40. R&Q also submits that it is not permissible to look only at the position as between syndicate 745 and its reinsureds. The properly aggregated KAC UNLs of syndicate 745's reinsureds, for the purposes of calculating what sums (if at all) may be recovered under the reinsurances written by syndicate 745, cannot be calculated without knowing in turn what are the properly aggregated KAC UNLs of the next set of reinsureds down the chain of retrocessional LMX contracts, and so on. Equitas has made no attempt to do so and the application of the model is again no surrogate for that exercise.

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<sup>23</sup> Bulmer Supplemental Final Report para. 2.65 [D5/15/18].

*Proof of loss: Equitas's case is inconsistent with Hill v. M&G*

41. That it is necessary to process a properly aggregated loss through the spiral was assumed to be the case in the House of Lords in *Hill v. M&G* (in the context of a dispute as to whether all KAC losses could be aggregated together). Lord Mustill considered three responses or objections to his conclusion as to the legal effect of the dual proviso, which left it open to the reinsurer defendants to challenge the basis of aggregation and the date of loss: see [1996] 1 WLR 1239, 1253E. The third objection of the claimant reinsureds was that to allow reinsurers to challenge the basis upon which a loss had been treated further down the chain or spiral of reinsurances would cause chaos in the market.
  
42. Lord Mustill recognised that his conclusion (refusing summary judgment binding the reinsurers inter alia to the – provisional – opinion that the KAC losses arose out of one event by the Lloyd's Claims Office) would leave in suspense the validity and size of the claims and their incidence on other claims in the spiral. It was implicitly accepted by Lord Mustill that if reinsurers were to prevail on their aggregation case, the losses would have to be re-processed throughout the spiral – and not just re-presented at the level of the contracts between the claimants and the defendants. As Lord Mustill also observed:<sup>24</sup> *“Repercussions of this nature must, however, be inherent in the clause itself, unless the provisos are to be totally ignored and the clause read as delivering the reinsurers into the hands of those down the chain, to modify the terms of the clause as they honestly but mistakenly decide”*.
  
43. This demonstrates that the proposition in paragraph 58(2) of Equitas's Written Opening is incorrect. Under this form of reinsurance contract, R&Q is not bound by a mistaken decision as to aggregation nor as to the inclusion of irrecoverable losses made at any stage in the chain of reinsurances.

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<sup>24</sup> At 1253F-G.

*Proof of loss: alleged market practice*

44. Equitas’s pleaded case is that on “*the proper construction of the Reinsurance Contracts in their factual matrix and/or as [a] matter of market practice ... [at] the retrocessional XL level, and particularly at the high retrocessional level, cedants such as those in the position of the Syndicates are not required, when claiming against reinsurers such as R&Q, to prove the relevant loss at every level of the underlying chain of reinsurances and/or retrocessions but only the loss which has been sustained by the Syndicate claiming on R&Q*”.<sup>25</sup>
45. These contentions clearly run contrary to the principles identified above, as well as the express terms of the Reinsurance Contracts and the decision of the House of Lords in *Hill v. M&G*. The Reinsurance Contracts, and the Reinsurance Contracts alone, dictate what it is that must be proved by each claimant syndicate. It is unclear which legal doctrine is here being prayed in aid by Equitas:
- 45.1. *Factual matrix*. The meaning and effect of the key contractual terms is clear, and has been authoritatively determined by the House of Lords in *Hill v. M&G* in the precise context of the LMX spiral. There was no suggestion, in any of the judgments in the *Hill v. M&G* litigation, that either party alleged any market practice which would mitigate or vary or influence the express requirements of the ‘dual proviso’ clause, even though there was evidence (in the form of Mr Ian Fisher’s evidence, discussed below) about the settlement system for the excess of loss reinsurance claims within Lloyd’s. Furthermore, it was not suggested in *Scott v. Copenhagen Re* or *King v. Brandywine* that market practice in any way inhibited the defendant reinsurers from advancing their case on wrongful aggregation and irrecoverable loss. In any event, it is clear that if market custom is to form the basis for implying a term into the contract or used as an aid to the construction of such contract, the market custom concerned must be certain, notorious and reasonable.

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<sup>25</sup> Footnotes omitted. Reply in the R&Q proceedings, para. 14(1)(a) [A1/10/176-177].

The practice in question must be clear, invariable and so well-known that those who practice in the market must be taken to know that it is implicit in the contracts they make. It is not sufficient to show that as a matter of practice those concerned have often or habitually acted in that way; it must be consistently observed and prevalent.<sup>26</sup> Any divergence between the experts as to this aspect of the case is fatal to Equitas's plea.

45.2. *Implied term.* None is pleaded by Equitas, and the test for implication could not be satisfied, particularly as the implication would involve a contradiction of the express terms.<sup>27</sup>

46. There is no market practice to the effect that the claimant syndicates are not bound to prove the relevant loss, or the satisfaction of any preconditions to the attachment of cover, in accordance with the terms of the Reinsurance Contracts if such is required by R&Q as reinsurer. Indeed, it is telling that Equitas's evidence – including that of its experts – does not support the existence of such a market practice. In truth, the JELC clauses incorporated into the Reinsurance Contracts represented the market consensus at the time as to what was required of reinsureds.

47. At the CMC on 18 July 2008, Equitas's counsel stated that it was a matter of record, in at least one reported case, that at the retrocessional XL level, cedants such as those in the position of the syndicates are not required to prove the relevant loss at every level of the underlying chain of reinsurances and/or retrocessions but only the loss which was sustained by the syndicate claiming on R&Q.<sup>28</sup> In subsequent correspondence Equitas identified the case being referred to as the Court of Appeal's decision in *Hill v. M&G* [1995] LRLR

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<sup>26</sup> See *Goshawk Dedicated Ltd v. Tyser & Co Ltd* [2005] Lloyd's Rep IR 379, 390. (The decision of Christopher Clarke J was successfully appealed but not on this point: see [2006] 1 Lloyd's Rep 566, 570.)

<sup>27</sup> See e.g. *London Export Corporation Ltd v. Jubilee Coffee Roasting Co Ltd* [1958] 1 WLR 661, 675 (CA).

<sup>28</sup> See page 23 of the transcript.

160, 176 et seq.<sup>29</sup> But, on analysis, that decision – which was successfully appealed to the House of Lords, as set out above – provides no support for the position advanced by Equitas on its pleadings nor for the submission made at the CMC. Not surprisingly, the decision of the Court of Appeal does not appear to be relied on by Equitas in its Written Opening.

48. As is recorded in the Court of Appeal’s judgment, one of the principal witnesses in *Hill v. M&G* was Mr Ian Fisher, who joined the Lloyd’s Underwriting Claims Recovery Office (LUCRO) in 1964, and who became manager and adjuster, syndicate excess of loss group on the establishment of the Lloyd’s Claims Office (LCO) in late 1992. As can be seen from the affidavit sworn by him in those proceedings (not all of which is cited in the Court of Appeal’s judgment) [D4/11/274A-274M], Mr Fisher’s evidence does not support the existence of such a market practice. To the contrary, he makes clear that the reinsurer has every right to look behind the reinsured’s claim:

16. What we would not do (unless exceptional circumstances existed), however, was to check to see whether or not the Claimant had properly settled his claim when it was presented to him. If the Claimant was a Lloyd’s underwriter this would have been dealt with by a contemporary of mine in the Hull Department. I do not consider it my role to call for that file in order to check that he has properly done his job. Similarly if the Claimant were M&G I would not call for their file to establish that they had properly completed their job of adjustment of the loss that they were now claiming on their reinsurance in respect of. My right to do so would, of course, always be reserved but I would only do so if I believed there were any particular circumstances which required extra investigation in order to verify the reinsurance claim.

...

21. Even though we would not usually call for further information on large losses there was a general reservation of rights that we were able to call for these papers should we consider it appropriate. (emphasis added)

49. Equitas’s own evidence in these proceedings – and Mr Fisher’s evidence in *Hill v. M&G* – recognises that the ordinary practice in settling claims in the LMX market does not mean that reinsurers are not entitled to insist, where appropriate, that the contract terms be complied with. This is confirmed by the joint memorandum of the claims handling experts in this case.<sup>30</sup>

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See Slaughter and May’s letter to Barlow Lyde & Gilbert dated 30 July 2008.

50. Equitas is unable to point to any “ordinary practice” which applies where wrongly aggregated losses have been processed through the LMX spiral. There have been no precedents and there is no practice to refer to, ordinary or otherwise. To use Mr Fisher’s language, these are exceptional circumstances, as Equitas accepts.<sup>31</sup> Indeed, the claims handling experts agree that “*circumstances such as those arising in relation to the decisions by the Courts, many years after claims had been paid and/or aggregated, with regard to the irrecoverable Exxon Valdez losses and the inability to aggregate KAC and BA claims as one event, had not previously been encountered by the Market*”.<sup>32</sup>
51. Equitas’s “market practice” case as developed in its Written Opening appears to amount to a speculation as to how “the market” would have reacted to the present situation at some earlier point in history than the present day: see in particular paragraph 55(3). But the fact, if it be the case, that the market might have reached a consensual solution at the time is of no assistance to Equitas now. The only relevant issue – as Equitas appears to accept<sup>33</sup> – is what the Reinsurance Contracts require.
52. Significant parts of Mr Tony Berry’s evidence for Equitas, particularly in his second statement,<sup>34</sup> are also inadmissible and irrelevant as Mr Berry is in substance providing the Court with his opinion as to how an unprecedented situation would have been resolved or should be resolved. Cf the observations of Moore-Bick J in *Kingscroft Insurance Company Ltd v. Nissan Fire & Marine Insurance Company Ltd (No 2)* [1999] Lloyd’s Rep IR 603, 622:

Much of Mr Outhwaite’s report in relation to the issue of retention was taken up with expressing his opinion on what a reasonable underwriter would or would not understand the wording of these particular treaties to mean. I did not find that particularly helpful. Parties and expert witnesses alike should bear in mind that questions of construction, especially those which concern the construction of the

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<sup>30</sup> [D4/13].

<sup>31</sup> Written Opening, para. 55(3): “*This is not an ordinary situation. Indeed, in its scale, it is probably unprecedented*”.

<sup>32</sup> Para. 7 of their joint memorandum [D4/13/280].

<sup>33</sup> Written Opening, para. 36: “*The starting point must be the terms of the relevant reinsurance contracts*”.

<sup>34</sup> His first report is at [D3/5], his supplemental report at [D7/16].

contract of which the claim is based, are for the court. Expert evidence is often of great assistance in relation to such issues, but it is neither helpful nor appropriate for an expert witness simply to give his own opinion on what the words mean or how a reasonable market man would understand them.

53. The expert evidence of the underwriting experts as to the proper treatment of the compensation paid by the United Nations Compensation Commission (“the UNCC refunds”) is also consistent only with R&Q’s case as to how the wrongly aggregated losses are to be processed. The underwriting experts are agreed that the “*correct process for the treatment of refunds is for those refunds to be applied firstly as between the direct insurers and their excess of loss reinsurers. Following that process, the concomitant refunds should then be applied to the current UNL of each reinsurer, in turn, in the entire excess of loss market. By those means, the refunds will be disseminated correctly throughout that market*”.<sup>35</sup> As R&Q’s claims expert, Mr Philip Cornick, has observed, the current situation is akin to the need to process a refund, in that the “rogue elements” of a wrongly aggregated loss have to be refunded through the spiral.<sup>36</sup> The present situation, which is unprecedented, is plainly a situation in which there can be no restriction, as a matter of market practice, on R&Q’s right to rely on the terms of its contractual bargains. Even if such a market practice existed, it would be incapable of overriding or otherwise contradicting the express terms of the Reinsurance Contracts, with which R&Q is entitled to insist on full compliance. The extent to which R&Q can insist on compliance with the terms of the Reinsurance Contracts cannot depend on the uniqueness or otherwise of the situation or “*the market practicalities*”, contrary to Equitas’s position at paragraph 55(3) of its Written Opening.
54. There is a final point on market practice. Equitas pleads<sup>37</sup> that as a matter of market practice, it is entitled to prove the claimant syndicates’ losses by the use of models of the LMX spiral. This case is not supported by any of Equitas’s expert evidence, which is unsurprising as the present situation is unprecedented. None of the experts suggest that there has been some prior

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<sup>35</sup> Para. 2.6 of their joint memorandum [D4/12/276].

<sup>36</sup> Cornick Report paras 120-126 [D4/11/229-230].

occasion in the LMX market on which an actuarial model was used to prove a loss. In fairness, the point is not addressed in Equitas's Written Opening and has presumably been abandoned.

*Proof of loss: impossibility and impracticability*

55. It is difficult to read Equitas's Written Opening without sensing a plea ad misericordiam inviting the Court to help Equitas out of a difficult situation not entirely of its own making. But the fact that it may now be difficult or cumbersome – or even impossible – to do now that which is required by the Reinsurance Contracts is (a) legally irrelevant, and (b) not the fault of R&Q. Furthermore, lest there be any doubt about it, defeat for Equitas will have no impact on Lloyd's names, as opposed to the Berkshire Hathaway company which now stands behind it.
56. Impracticality or impossibility is legally irrelevant, because R&Q is entitled – indeed obliged (insofar as it is itself a reinsured who might wish to recover in turn from its reinsurers) – to insist that the terms of the Reinsurance Contracts are honoured. Furthermore, the “chaos” argument was made to, and was soundly rejected by, the House of Lords in *Hill v. M&G*.
57. In any event, any impracticability or impossibility appears to be the result of the effect of delay for which R&Q is not (and is not alleged to be) responsible. Certainly at the time *Hill v. M&G* was argued, it was the position of the claimant syndicates in that action (when arguing that the payments made based on the opinion of Mr Fisher were “loss settlements” or “compromise settlements”) that if Mr Fisher's opinion was shown to be wrong, “*the computations could be re-worked throughout, and reimbursements made of any payments incorrectly demanded*”.<sup>38</sup>
58. R&Q is not in any way at fault or to blame (and Equitas does not suggest otherwise):

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<sup>37</sup> Reply in the R&Q proceedings, para. 14(3) [A1/10/177].

- 58.1. for the wrongful aggregation of the losses;
  - 58.2. for the collection of claims on the wrongly aggregated basis;
  - 58.3. for the existence of the LMX spiral;
  - 58.4. for the fact that the claimant syndicates participated in the LMX spiral;
  - 58.5. for the fact that Equitas delayed in making claims on (what it contends is) a properly aggregated basis, thereby impairing its ability to reconstruct properly the LMX spiral (through the models or otherwise); or
  - 58.6. for the fact, if it be the case, that Equitas cannot now do that which is required by the Reinsurance Contracts which the claimant syndicates freely entered into.
59. R&Q is itself significantly disadvantaged by the inability to disaggregate the impermissible losses. R&Q has paid significant sums to Equitas and other reinsureds for wrongly aggregated losses: see McCoy paragraphs 13 (KAC/BA losses paid to Lloyd's syndicates totalling £63,885,749.20) and 19 (*Exxon Valdez* losses paid to Lloyd's syndicates totalling £56,273,528.71) [B1/5/58 and 60]. R&Q stopped paying KAC/BA losses in about April 1996 and *Exxon Valdez* losses in about 1998. R&Q is not itself in a position to show how much is due back to it by way of a refund of the inadmissible element. It is important to note that Equitas has not offered to refund any part of the wrongly aggregated losses already paid to Lloyd's syndicates or Equitas by R&Q (or indeed it would seem by any other reinsurer). Equitas has not sought to use its models to calculate the refunds due to R&Q, still less paid any such refunds to R&Q, preferring instead to try to recover further sums said to be due from R&Q. Nor has Equitas given any undertaking to apply the

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See 1254E-F.

models so as to calculate refunds due to R&Q or any other reinsurers. The inconsistency in Equitas's position is telling. Furthermore, although Equitas has acknowledged that some of its claims have fallen away by reason of the application of the models (see Written Opening, paragraph 35(3), footnote 14), Equitas does not appear to have investigated whether any refunds are due to R&Q on the reinsurance contracts which underlie the contracts in respect of which the withdrawn claims were made. The extent to which R&Q has paid in the past significant KAC/BA and *Exxon Valdez* losses to Lloyd's syndicates is also important because it can indicate that the claims which are now being pursued for such losses are likely to be on "later impacted" layers of the spiral: see paragraph 38 above.

*Proof of loss: R&Q's alternative case*

60. If R&Q's submissions as aforesaid are correct (to the effect that the claimant syndicates can only establish their respective UNLs for properly aggregated losses by showing, on the balance of probabilities, the effect of removal of the irrecoverable element at every level of the reinsurance chain or spiral), the KAC and *Exxon Valdez* claims fall to be dismissed. Equitas accepts that it cannot satisfy this burden, even with the assistance of its models.
61. If, however, Equitas is correct that it is enough for it to prove the claimant syndicates' actual UNL sustained in relation to the KAC and *Exxon Valdez* recoverable losses, the next issue is whether Equitas is able to do so and has discharged its burden of proof.
62. Equitas acknowledges that it must show how much each of the claimant syndicates has paid out in relation to the reinsured losses. R&Q would add the word "properly" (i.e. how much has each of the claimant syndicates properly paid out in relation to the reinsured losses?) to give at least some meaning to the 'first proviso'.

63. The only method by which Equitas seeks to establish what it has referred to as the “*rogue*” element,<sup>39</sup> and to prove the claimant syndicates’ properly aggregated UNLs, is through the use of the models. Again, R&Q would note that referring to the “*rogue*” element implies, without evidence, that there is a “good” element in each claimant syndicate’s UNL.
64. R&Q has a number of submissions in response to the proposed method of proof. In summary:
- 64.1. It is not possible to calculate what each of the claimant syndicates has paid out for a properly aggregated loss in ignorance of the composition of the losses which each claimant syndicate was presented with and paid, the terms (including in particular attachment points and limits) of the reinsurances under which such losses were presented and paid, and the level of the spiral at which that claimant syndicate underwrote.
- 64.2. Equitas’s method of proof involves the use of models which are (at best) a representation or approximation of the LMX spiral based on a number of assumptions. R&Q submits that Equitas cannot as a matter of principle establish on the balance of probabilities a loss in a particular amount and on a particular outwards reinsurance contract by reference to what is acknowledged to be only a representation or approximation of reality, based on a range of assumptions and parameters (however ‘reasonable’ each might be individually as a simplification of reality) applied to incomplete and in some respects questionable data. The models use parameters and randomisation to generate assumptions for actual runs of the model.
- 64.3. The output of the models bears little or no relation to reality. The models fail Equitas’s test of a representation or approximation of the LMX spiral.

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<sup>39</sup> Written Opening, para. 26.

64.4. Equitas’s application of the fruits of the models, by way of an across the board percentage reduction in the claimant syndicates’ wrongly aggregated UNL, is misconceived and insufficient to satisfy the burden of proving each claimant syndicate’s UNL for the properly aggregated losses. Equitas’s method of proof involves applying the same percentage discount to the UNLs of every claimant syndicate, without any assessment of the business written by individual claimant syndicates, the levels at which each claimant syndicate wrote within the spiral, or of the composition of the losses likely to have been paid by those syndicates. As Equitas’s actuarial expert, Mr Bulmer, acknowledges, “*removing an irrecoverable loss would be expected to reduce the UNLs of different spiral participants by different percentages*”.<sup>40</sup>

**(B) Use of actuarial models by Equitas to prove its losses**

*Introduction*

65. R&Q has fundamental objections to the use of Mr Bulmer’s actuarial models to prove Equitas’s alleged losses. R&Q does not, of course, need to show that no model can be developed or produced that will allow Equitas to discharge its burden of establishing that the relevant reinsured has suffered an UNL of at least the amount of the attachment point set out in the relevant Reinsurance Contract and/or the amount recoverable under that contract in respect of that loss. However, given the nature of the task and the requirements of the Reinsurance Contracts, R&Q (and its expert actuary, Mr David Sanders) do not consider that any suitable model is capable of being produced. R&Q does not need to prove that proposition; all R&Q need demonstrate is that the models relied on by Equitas in these proceedings are inadequate for proving its losses in accordance with the terms of the Reinsurance Contracts. This is not a case where the Court needs to choose between two competing actuarial

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<sup>40</sup> Bulmer Supplemental Final Report para. 2.67 [D5/15/18].

models or theories; the issue is simply whether Equitas can and has discharged its burden of proof: see *The “Popi M”* [1985] 1 WLR 948, 955 (HL).

66. Nor is it legitimate to suggest that R&Q, as a defendant, should have cooperated with Equitas to develop the models (cf Equitas’s Written Opening, paragraph 65). R&Q is entirely within its rights to take its stance that no model could achieve that which is required by the terms of the Reinsurance Contracts and is not to be criticised for not engaging wholeheartedly in a modelling exercise which it regards as misconceived.<sup>41</sup>
67. Before turning to look at the actuarial models in greater detail – which Equitas accepts are imperfect<sup>42</sup> – it is worth noting a number of important (and R&Q submits, highly damaging) concessions made by Mr Bulmer:

67.1. He accepts that it is unprecedented to use actuarial models to prove loss in the manner attempted by Equitas.<sup>43</sup>

67.2. He readily concedes that “*perfect data*” does not exist so as to reconstruct properly the LMX spiral through the models.<sup>44</sup> For example:

67.2.1. He does not have data for all market players (in particular, he does not have full data for non-Lloyd’s market players, of which, he accepts, there were a material number in the market).<sup>45</sup> A major criticism of the modelling exercise is therefore the reliance on Lloyd’s data only and the untested assumption that such data can be ‘grossed up’ to take account of the significant non-Lloyd’s market.

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<sup>41</sup> Indeed, at the CMC on 18 July 2008, Tomlinson J expressly acknowledged that “*in principle a defendant is not obliged to assist in the process of proving a claim against him*” (see pages 13 to 14 of the transcript).

<sup>42</sup> Written Opening, para. 83.

<sup>43</sup> Bulmer Supplemental Final Report para. 2.13 [D5/15/8].

<sup>44</sup> Bulmer Final Report paras 3.3 and 6.2 [D2/4/13, 27].

67.2.2. He does not have the details for some proportional reinsurance and bordereau payments.

67.2.3. The Lloyd's data is not complete and internally consistent in all respects. For example, the COSS database is lacking in a number of significant respects: (a) it does not contain details of payments made by non-Lloyd's market players; (b) it only contains details of each payment made by Lloyd's syndicates up to 1999 (and there was a relatively small number of payments made between 1996 and 1999);<sup>46</sup> (c) the element of *Exxon Valdez* or Cat 90V which is included within bordereau payments cannot always be identified;<sup>47</sup> and (d) erroneous entries in relation to KAC/BA totalling US\$0.4 billion have been identified in the database.<sup>48</sup>

67.3. Instead of reconstructing properly the LMX spiral, the models – which Mr Bulmer accepts are complicated<sup>49</sup> – are intended to generate, as at certain (arbitrary) dates,<sup>50</sup> “a representation of [it] on the basis of assumptions”.<sup>51</sup> However, the models do not and cannot properly replicate the LMX spiral. Whilst Mr Bulmer has modelled a hypothetical spiral, he has not modelled the LMX spiral. Mr Bulmer accepts that he does not attempt to “replicate or unbundle the spiral”,<sup>52</sup> instead contending that his actuarial models “are intended to represent the passage of the losses through the spiral”.

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<sup>45</sup> Bulmer Final Report para. 3.3 [D2/4/13].

<sup>46</sup> Appendix B to the Bulmer Final Report, para. 40(C) [D2/4B/66].

<sup>47</sup> Appendix H to the Bulmer Final Report, para. 1 [D2/4H/145].

<sup>48</sup> Appendix B to the Bulmer Final Report, para. 40(D)(I) [D2/4B/67].

<sup>49</sup> Bulmer Supplemental Final Report paras 2.10 and 2.17 [D5/15/6 and 9].

<sup>50</sup> KAC/BA: 1 June 2002 (Bulmer Final Report para. 1.4 [D2/4/4]); *Exxon Valdez*: 31 December 2000 (Bulmer Final Report para. 1.5 [D2/4/5]).

<sup>51</sup> Bulmer Final Report paras 3.7(A) and 6.6(B) [D2/4/14 and 28].

<sup>52</sup> Bulmer Supplemental Final Report para. 2.7 [D5/15/5]. Mr Bulmer accepts that if the models had been seeking to replicate or unbundle the spiral then further assumptions would need to have been included: Bulmer Supplemental Final Report paras 2.39 and 2.165 [D5/15/12 and 39].

67.4. However, it is common ground that “*there are features of the LMX Spiral which have not been reflected in the KAC/BA and Exxon models*”.<sup>53</sup> Indeed, not only does Mr Bulmer accept as much,<sup>54</sup> but he attempts to make a virtue of the fact, stating that he has ensured that the models are “*not so complex*” or based on “*too many individual assumptions*” so that (he says) it does not become “*difficult to interpret*” their output.<sup>55</sup> Only those aspects of the LMX spiral that Mr Bulmer “*suspects*” would have a “*significant impact*” on the degree to which the KAC/BA losses and *Exxon Valdez* losses are aggregated or mixed are said to have been included.<sup>56</sup>

67.5. It is accepted by Mr Bulmer that the data on which his models are based “*is not perfect, complete and internally consistent in all respects*”.<sup>57</sup> Likewise, a number of the assumptions on which the models are based have not been tested.<sup>58</sup>

67.6. The assumed reinsurance structures used in the actuarial models are – and are intended to be – no more than “*a simplified representation of the typical structures which would have applied at the time of the KAC/BA and Exxon losses*” (emphasis added).<sup>59</sup> As a consequence, Mr Bulmer accepts that “*it is not possible to achieve a precise correspondence between an individual player in any run of the KAC/BA or Exxon models and an individual actual KAC/BA or Exxon*

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<sup>53</sup> Bulmer Supplemental Final Report para. 2.15 [D5/15/8].

<sup>54</sup> Bulmer Final Report para. 3.8 [D2/4/15]: “*The [KAC/BA] model is not intended to include every possible feature of the LMX Spiral but instead is intended to include the relevant features required so that each representation of the LMX Spiral generated is a reasonable representation for the purpose of addressing the questions set out in this report*”.

<sup>55</sup> Appendix B to the Bulmer Final Report, paras 3 to 5 [D2/4B/45-46]; Appendix D to the Bulmer Report, paras 3 to 5 [D2/4D/90-91]; Bulmer Supplemental Final Report para. 2.17 [D5/15/9].

<sup>56</sup> Appendix B to the Bulmer Final Report, para. 2 [D2/4B/45]. See also Appendix D para. 2 [D2/4D/90]; Bulmer Supplemental Final Report para. 2.47 [D5/15/13].

<sup>57</sup> Bulmer Supplemental Final Report para. 2.86 [D5/15/21]. See also paras 2.82 and 2.88.

<sup>58</sup> Bulmer Supplemental Final Report para. 2.142 [D5/15/35].

<sup>59</sup> Bulmer Supplemental Final Report paras 2.21 and 2.58(B) [D5/15/9 and 16].

*spiral participant*".<sup>60</sup> R&Q does not accept that "a simplified representation" of "typical structures" could ever be used to establish a loss under a particular contract for a particular syndicate.

### *The LMX spiral*

68. Before looking at the models, and the assumptions on which they based, something should be said about the LMX spiral. The Court will be familiar with the concept and features of the LMX spiral and, perhaps unsurprisingly, there is little in dispute between the parties in this regard.
69. A concise (agreed)<sup>61</sup> description of the LMX spiral, and the particular difficulties to which it gave rise, was set out by Phillips J in *Deeny v. Gooda Walker Ltd* [1994] CLC 1224, 1231D-1232C:

The working of the spiral was complex, and whether by diagrams or in words it is only possible to attempt to describe it in a simplified form. My attempt is as follows.

Many syndicates which wrote XL cover took out XL cover themselves. Those who reinsured them were thus writing XL on XL. They, in their turn, frequently took out their own XL cover. There thus developed among the syndicates and companies which wrote LMX business a smaller group that was largely responsible for creating a complex intertwining network of mutual reinsurance, which has been described as the spiral. When a catastrophe led to claims being made by primary insurers on their excess of loss covers, this started a process whereby syndicates passed on their liabilities, in excess of their own retentions, under their own excess of loss covers from one to the next, rather like a multiple game of pass the parcel. Those left holding the liability parcels were those who first exhausted their layers of excess of loss reinsurance protection.

So far as the individual syndicate was concerned, the effect of the spiral was to magnify many times the impact of a particular loss. That is because claims were repeatedly made in respect of the same loss as it circulated in the spiral. I was told that claims in respect of the Piper Alpha loss exceeded by a multiple of about 10 the net loss that was covered on the London market.

This gearing effect did not, of course, result in an ultimate payment of a greater indemnity than the initial loss. As the loss passed through the spiral, however, it impacted repeatedly on successive layers of reinsurance cover, and ultimately concentrated on those reinsurers who found their cover exhausted.

There were at least two significant ways in which spiral business was written:

XL on XL : This described the grant of excess of loss cover in respect of an excess of loss account.

Whole account : An underwriter who took out, without exclusion, excess of loss cover in respect of his whole account would thereby obtain excess of loss cover in respect of that part of his whole account which itself comprised excess of loss business.

The spiral effect of claims was diminished or extinguished by individual retentions, whether before reinsurance protection commenced or after it had been exhausted, by co-insurance and

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<sup>60</sup> Bulmer Supplemental Final Report para. 2.59 [D5/15/17].

<sup>61</sup> See para. 1 of Equitas's Admission of Facts [A2/23/69-70].

by ‘leakage’ to reinsurers outside the London market, so that the extent to which catastrophe claims spiralled depended to a degree on the size of the loss, or more precisely that part of it which entered the London market. Thus, the higher the level of the layer of excess of loss protection, the lower the risk that it would be impacted. The effect of the spiral was, however, significantly to reduce the comfort that could properly be derived from being exposed only to what appeared to be a very high layer of loss. Another effect was to transfer from the insurers to the brokers a very substantial part of the overall premiums in respect of a risk, for on each excess of loss reinsurance, brokerage fell to be paid at a rate of 10% of the premium.

See also: (i) *Arbuthnott v. Feltrim Underwriting Agencies Ltd* [1995] CLC 437, 443 (Phillips J); (ii) the extract from Sir David Walker’s report into the mechanics of, and problems caused by, the LMX spiral set out by Hirst LJ in *Hill v. M&G* [1995] LRLR 160, 174-176; and (iii) Lord Mustill’s reference to the “*artificial complexity*” of the LMX spiral at [1996] 1 WLR 1239, 1245A. Useful factual background on the LMX spiral is also contained in the witness statement of David Jewell [B1/6], who was the underwriter for Gooda Walker in 1989/1990, being one of the syndicates on whose behalf Equitas advances claims in these proceedings.

#### *The models: what they do*

70. By its own admission, as stated above, Equitas’s models do not seek to replicate the LMX spiral at any stage in time. Equitas has asserted instead that the models are a representation and approximation of the LMX spiral. It is unclear what this means; certainly, R&Q’s actuarial expert is of the view that the LMX spiral is too complex to model. Equitas also states that the models are an “*evidential tool*”.<sup>62</sup> Again, it is not clear what Equitas means by saying that the models are no more than an “*evidential tool*”.
71. What is clear is the use to which Equitas puts the results of the models (which – surprisingly – is not something on which the architect of the models offers any comment). As explained in greater detail below, Equitas uses the average 10<sup>th</sup> percentile proportion, or ratio, produced by 75 runs of the model under either Scenario A or B, to arrive at a single discount factor (in percentage terms) which is then applied across the board to reduce each claimant syndicate’s wrongly aggregated UNL. (Equitas does not use the 50 runs of

what was supposed to have been the “final models” described in Mr Bulmer’s Final Report; these have been superseded by the revised models described in Mr Bulmer’s Supplemental Final Report.) In short, Equitas seeks to prove every claimant syndicate’s correctly aggregated UNL, for the purpose of making claims under the terms of the outwards reinsurances, by applying the same percentage discount – KAC/BA: 9.8% or 13.1%; *Exxon Valdez*: 18.8% or 19.4% (depending on whether one prefers Scenario A or Scenario B)<sup>63</sup> – to the claimant syndicate’s wrongly aggregated UNL (assuming, for present purposes, that the wrongly aggregated UNL can be satisfactorily established, which is not an issue for this trial). Equitas seeks to do so without any regard to the spiral business which was in fact written by any particular claimant syndicate and without any regard to what makes up that syndicate’s UNL.

72. In truth, the representation or approximation of the LMX spiral is actually being used in an attempt to prove each syndicate’s claim without regard to the terms of the Reinsurance Contracts nor the composition of that syndicate’s UNL.
73. As set out above, the requirements of the Reinsurance Contracts are clear. Each claimant syndicate must demonstrate its UNL on a correctly aggregated basis. Its UNL will consist of payments made to its reinsureds. As already stated, the dual proviso requires that the claimant syndicate show that the payments made to its reinsureds which make up that UNL fall within the terms of those inwards reinsurances. That requires the claimant syndicate to show that it has only paid correctly aggregated losses to its reinsureds. Even if one stops at that stage, it is apparent that Equitas has not even sought to do so. There has been no attempt to identify the contracts written by the claimant syndicate nor to examine the losses it has paid.
74. R&Q submits that the models are nothing more than a theoretical exercise:

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<sup>62</sup> Written Opening, para. 82.

<sup>63</sup> See Bulmer Supplemental Final Report paras 7.2, 7.4, 10.2 and 10.4 [D5/15/50, 52, 61 and 63]. The original discounts in Mr Bulmer’s Final Report were KAC/BA: 10% (Scenario A) and 15% (Scenario B); *Exxon Valdez*: 18% (Scenarios A and B).

- 74.1. The models are based on unproven (and, in some cases, unsupported) assumptions and parameters. Even if some or all of these are shown to be “reasonable” in the sense of being generally true or approximately correct, the notion that the quantum of a particular syndicate’s claim on a particular reinsurance can be established by a model which is premised upon multiple assumptions is incorrect.
- 74.2. The models are constructed using admittedly incomplete and often unreliable data. The models produce a notional spiral of reinsurances which has no obvious relationship to the actual spiral. The models then use annual average payment delays – changed in Mr Bulmer’s supplemental report – and randomisation to produce an artificial spiral of losses through the notional reinsurances. The resulting pattern of UNLs bears no obvious relationship to the limited available data as to actual UNLs.
75. The first step in each run of the KAC/BA model<sup>64</sup> involves the creation by means of a programme, in Excel, of an artificial reinsurance spiral between 389 notional market participants or “*players*”. The number of participants is derived from an estimate of the number of syndicates based on the original COSS database who were affected by KAC/BA claims, omitting those whose (wrongly aggregated) KAC/BA UNL is less than US\$100,000, and then grossing up the figure in an attempt to capture non-Lloyd’s participants whom he thus concludes make up 184 of the players in the spiral.
76. No individual “*player*” is intended to be a surrogate for any particular syndicate or company who actually participated in the LMX spiral. Neither the inwards book of business, nor the reinsurance programme, of any real syndicate or company is used in the model. As Mr Bulmer puts it, “*it would be true to state that it is not possible to achieve a precise correspondence*

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<sup>64</sup> Similar steps arise in relation to the *Exxon Valdez* model.

*between an individual player in any run of the KAC/BA or Exxon models and an individual actual KAC/BA or Exxon spiral participant*.<sup>65</sup>

77. 20 of the 409 players are assumed to provide direct coverage only, i.e. they are assumed only to have written direct coverage. The remaining 389 players are assumed to have written non-direct coverage; in the case of 151 of these players, it is assumed that they wrote only non-direct coverage and for the balance (238) it is assumed that they wrote both direct and non-direct cover.
78. The direct KAC and BA losses are allocated between the 258 players assumed to provide direct cover.
79. The reinsurance programmes having been generated, the 389 non-direct players are allocated to one of four player types: one Aviation Player type (15% of the total) and three Marine Player types (85%, split evenly between the three types). Player type is supposed to determine the nature of the notional spiral reinsurances written by the player. For example, a player who is an Aviation Player is assumed only to write aviation excess of loss reinsurance and not War, XL on XL or Whole Account reinsurance. On the other hand, reinsurances written by players allocated to Marine Player Type 1 are supposed to be an average of 34.5% War, 44% XL on XL, 20% Whole Account and 1.5% Aviation. The prototype of the model assumed six, not four player types.<sup>66</sup> Inevitably, reducing the number of player types, whilst simplifying the model, contributes further to the gap between reality and the model. Mr Bulmer does not state that using four player types is more logical or coherent; he only chooses to do so in order not to over-complicate the model.<sup>67</sup>

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<sup>65</sup> Bulmer Supplemental Final Report para. 2.59 [D5/15/17].

<sup>66</sup> See para. 12 of the assumptions enclosed with Slaughter and May's letter of 30 May 2008.

<sup>67</sup> Appendix B to the Bulmer Final Report, para. 24 [D2/4B/51].

80. To produce the artificial reinsurance spiral between the 389 notional participants, certain further assumptions are made. These assumptions include the following:

80.1. *Diversity between players.* In Mr Bulmer's final report, an assumption was made as to the ratio between total inwards exposure accepted by a player and his outwards reinsurance protection (for a randomly selected 25% of the players, the model assumed a minimum ratio of at least 35%; for another 25%, the model assumed a minimum 45%, 55% and 65% ratio respectively). In his supplemental final report, this assumption was abandoned and, instead, the model has been revised so that (simplifying) it is assumed that larger players write larger shares of individual reinsurance layers. Each player has been allocated into one of five groups, with different groups of players being assumed to write different fixed shares of each reinsurance layer. There is no empirical evidence to support such an allocation of shares in this way. Likewise, there is no evidence to support the assumption that a player can underwrite more than one share of an individual reinsurance layer, but only for layers for which the number of shares is in excess of 50. One consequence of this approach is that many of the players in his revised models have an even more unrealistically low ratio of inwards exposure to outwards protection, i.e. are significantly over-exposed.

80.2. *Total coverage.* The model makes assumptions as to the ceiling value of the highest layers of cover for the four types of reinsurance making up the artificial spiral. For example, the model is built so as to ensure that the average total Whole Account coverage for players is US\$40 million,<sup>68</sup> although the US\$ limit of any particular player's Whole Account cover is randomly allocated within a gamma distribution.<sup>69</sup> This gamma distribution is a curve plotted (it would seem) by eye to

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<sup>68</sup> As can be seen from the loss schedules [E1/3A], a number of the contracts attach at significantly higher points than US\$40 million.

match so far as possible a table produced from data extracted from a Lloyd's database (the MAX database) which lists 22,937 reinsurance contracts purchased by Lloyd's syndicates and said to be in force at the time of the KAC losses. Someone (not, it would seem, Mr Bulmer or his team) has extracted from those 22,937 contracts some 3,797 contracts which are thought to have been exposed to KAC losses. In addition to the obvious fact that the model is here proceeding on the basis of assumptions and not real data, R&Q has concerns as to (a) the accuracy of the database and the selection of contracts from that database, (b) the fact that the MAX database records only reinsurances of Lloyd's syndicates so that Mr Bulmer is obliged to assume that the Lloyd's position, and the non-Lloyd's position, is the same, (c) the fit of the curve, and (d) the use of random allocations when in truth there is unlikely to have been anything random in a syndicate's or company's determination of the maximum level of cover purchased.

80.3. *The number of layers in a programme.* Again, the model makes assumptions as to the layering of the four types of reinsurance making up the artificial spiral. For example, it is intended that an average of 5% of all reinsurances are XL on XL reinsurances up to US\$15 million, although the layers for any particular player's XL on XL programme will be randomly allocated within a gamma distribution. Again, this gamma distribution is a curve plotted by eye to match so far as possible a table produced from data extracted from the MAX database. Similar concerns about this step apply.

80.4. *The minimum attachment points.* The model makes assumptions as to the attachment points for the contracts making up the artificial spiral again based on a gamma distribution. Again, this gamma distribution is a curve plotted by eye to match so far as possible a table produced from data extracted from the MAX database. Similar concerns about

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<sup>69</sup> There appears to be a terminological, but not substantive, difference between Mr Bulmer and Mr Sanders here. Mr Bulmer prefers to say that he has simulated values on a random basis from the assumed distribution.

this step also apply. The layering of a reinsurance programme is not a random act but will usually involve careful planning by the underwriters. Furthermore, when one looks at the notional reinsurance contracts produced by the model, the gap between the model and reality is obvious: the layering is inherently unlikely.

80.5. *The number of players participating in each layer and the line written.*

The model makes assumptions both as to the number of players participating on a layer, and the size of the line written:

80.5.1. The model is built to ensure that only 0.5% of all notional contracts are written 100% by a single player. This appears to be based on Mr Tony Berry's expert evidence that this is a reasonable figure (R&Q's expert, Mr John Emney, thinks that 0.5% is too much).

80.5.2. For the remaining 99.5% of notional contracts, the number of subscribing players is randomly allocated within a negative binomial distribution, and the size of each player's line is randomly allocated within a gamma distribution.

80.5.3. The negative binomial distribution (for number of participants above 1) is produced by fitting a curve by eye to a table produced to show the number of participants on each of the selected 3,797 contracts extracted from the MAX database. Again, R&Q has concerns about the usefulness and appropriateness of this stage in the model and the random allocation of the number of players.

80.5.4. The gamma distribution (for line size) is produced by fitting a curve by eye to a table produced to show, for the 3,797 contracts taken from the MAX database, the extent to which subscribing reinsurers wrote more or less than their "*fair share*" (a "*fair share*" being, in a case where a reinsurance is written

by five reinsurers, 20%). R&Q's concerns at this step remain as above. There is something absurd about the suggestion that the number of participants, and the size of the share written, on any particular notional reinsurance is random within a negative binomial or gamma distribution. It is also obvious that the model does not reflect the fact that there is structure and reason in a reinsurer's decision as to which layers to write and what line size to write. An examination of the notional reinsurances produced in the model shows bizarre layering and line sizes and no rational pattern.

80.5.5. The use of only four player types plainly simplifies the modelling exercise but means that the true diversity as to the business written, and the reinsurance programmes purchased, by the syndicates and companies who were involved in the LMX spiral is not reflected in the model. Indeed, Equitas admits that in 1989 and 1990 there was no uniform approach by individual underwriters in the Lloyd's or companies market (participating in the LMX spiral) towards inwards and outwards business.<sup>70</sup>

80.6. *Closed model.* The model is a closed model, in that each player's reinsurance programme is written by one or more of the other "players" in the model. This means that the sum of the outward exposures must equal the sum of the inwards exposures. There is no 'leakage' to reinsurers outside the group, whereas one of the features of the LMX spiral was leakage both vertically and horizontally as reinsurance programmes were exhausted. Although the model has been revised (since the Provisional Final Report) ostensibly to allow for some leakage, it does not do so by introducing additional reinsurers outside the group of 389 players or by modelling the impact of commutations and schemes of arrangements. Instead, the model now

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<sup>70</sup> See para. 2 of Equitas's Admission of Facts [A2/23/70-71].

assumes that a random 5% of all notional reinsurance contracts are only 90% placed, so that some players retain more of the loss than they otherwise would. Moreover, one further consequence of the model being closed is that some players are assumed to have purchased significantly less reinsurance protection than their total inwards exposures, with other players being assumed to have purchased significantly more protection than their total inwards exposure, a position that is even more stark in Mr Bulmer's revised model; this is, of course, wholly artificial and divorced from reality.

80.7. *Random reinsurance programmes.* The reinsurance programmes are written randomly. There is no attempt to ensure that the risks written by a particular player form a coherent book of business.

81. The second step in each model is the processing of the direct losses (which are changed in Mr Bulmer's revised model) through the artificial spiral over a defined period of time. A key feature in this exercise is the introduction of further assumptions as to the delay between an inwards claim being made on, and agreed by, a player, and that player making a reinsurance collection on his notional reinsurance programme (it being assumed that each player makes reinsurance collections on a given contract in the same proportions in which it receives such losses<sup>71</sup>). The way in which this is achieved in the model is by deriving, from imperfect data, average annual 'delays' between reinsurance collections, and the standard deviations of such delays for each year, and then randomly allocating collection delays within the distribution thus created for a particular run of the model. The exercise also involves considerable 'calibration', i.e. adjustment of the 'delays' to produce a better fit. Because of the absurdity of some of the results generated, in his revised model Mr Bulmer has discarded delays if they exceeded 1,000 days.<sup>72</sup>

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<sup>71</sup> An assumption that Mr Bulmer was instructed to make by Slaughter and May: Bulmer Supplemental Report para. 2.118 [D5/15/28].

<sup>72</sup> 1,500 days in the *Exxon Valdez* model.

82. It is important to note at this stage two further features of the LMX spiral which are not modelled. First, no attempt is made to accommodate the fact that the contracts making up the LMX spiral covered different periods of reinsurance, with no uniformity as to date of attachment. Second, no attempt is made to accommodate the fact that the KAC/BA losses, and the *Exxon Valdez* losses, were not the only spiral losses at the relevant time. Reinsurance programmes were affected by other spiral losses.
83. The way in which the models process reinsurance collections in the period up to the end date for the models is plainly flawed:
- 83.1. The basic data is derived from the COSS database, which only applies to Lloyd's syndicates and which is incomplete and in many respects unreliable (as acknowledged by Equitas's witness, Mr James Gregory<sup>73</sup>). The COSS database only contains details of individual payments for direct and spiral losses for individual Lloyd's syndicates up to the end of 1999 (with limited payments between 1996 and 1999). An attempt was made (it is unclear by whom) to extract from the COSS database each individual reinsurance collection recorded for the KAC losses. As set out above, Mr Bulmer accepts that the COSS database is not perfect and has a number of deficiencies.<sup>74</sup>
- 83.2. Information in relation to a number of matters was discarded. In particular, Sterling and Canadian dollar collections were discarded given, in part, errors that appeared surrounding the conversion of such currency reinsurance collections into US dollars. Likewise, negative reinsurance collections were discarded on the basis that they "could" represent the reversal of a previous incorrect positive collections. A number of records were also discarded due to "*invalid date information*". If there was only one reinsurance collection on an individual layer, such record was also removed. In total, of 21,058 US dollar marked reinsurance collections, 5,008 were removed.

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[B1/2].

- 83.3. On Mr Bulmer's own case, the aggregate UNLs of market participants derived from the COSS database increases more quickly than the aggregate modelled UNLs of all the players from the model during the period from 1990 to 1993. This is said to reflect a number of erroneous entries amounting to US\$0.4 billion in the COSS database in relation to KAC/BA.
- 83.4. The exercise is so approximate as to be essentially pointless. The COSS database can only be used to show delays between reinsurance collections, i.e. to show the time between successive claims in respect of the same reinsurance contract. The COSS database does not show the delay between agreeing an inwards claim and the making of an outwards claim. Accordingly, if a layer is exhausted by a single claim, so that there are no successive collections, no delay is captured.
- 83.5. The COSS database only concerns Lloyd's syndicates. The information derived from the COSS database is crudely 'grossed up' in an attempt to reflect the position of the non-Lloyd's market as well.
- 83.6. The models are then subject to 'calibration', by which R&Q understands that Mr Bulmer has produced a distribution which does not fit well with the histograms showing the results derived from the COSS database but which produces a better 'fit' between the total modelled UNL over time and the actual UNL over time suggested by the Lloyd's data. Even then, the fit is poor.
- 83.7. Having been thus 'calibrated', the models allocate random delays within the distribution, irrespective of the quantum of the reinsurance collection due, with a limit of 1,000 or 1,500 days (depending on the model). However, it is highly unlikely that delays in making

reinsurance collections were random or unrelated to the size of the collection due.

84. A further flaw in this part of the models is that no account is taken, in processing the losses through the artificial reinsurance programmes over 10 or more years, of commutations, insolvencies and other like features of the LMX spiral which will have occurred between the dates of the original losses and the end dates of the models. As noted above, the only way in which the models seek to accommodate such matters is through the ‘leakage’ assumption that a random 5% of all contracts are only 90% placed.

*The models: what they do not do*

85. Not only are a number of the assumptions on which the models are based incorrect or unrealistic, but many critical features of the “*complex intertwining network of mutual reinsurance*”<sup>75</sup> that constituted the LMX spiral are not included within the models. Furthermore, no attempt has been made to test the sensitivities of these unmodelled assumptions (see below). As to this, the following points should be noted:

- 85.1. Appendix A to Mr Bulmer’s Final Report sets out the assumptions in relation to the KAC/BA model, including in relation to the number and type of “*players*”, their share of the direct loss, the reinsurance structures, the structure and type of excess of loss outwards reinsurance programmes, and the average delay between reinsurance collections; and Appendix C sets out similar assumptions in relation to the *Exxon Valdez* model. As stated above, in his Supplemental Final Report Mr Bulmer makes revised assumptions as to the average delay between reinsurance collections, and changes the process for allocating shares of reinsurance layers. It is notable that the selection of the assumptions is said by Mr Bulmer to have been “*iterative*”, such that a number of them were adjusted until “*taken as a whole*” they were

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<sup>75</sup> *Deeny v. Gooda Walker Ltd* [1994] CLC 1224, 1231F *per* Phillips J.

“reasonable”.<sup>76</sup> Hence, it would appear that a number of the assumptions have been ‘reverse engineered’ so as to accord with Mr Bulmer’s subjective view as to what, in the round, is reasonable.

85.2. Indeed, as the underwriting experts put it, “*reasonableness is in the eye of the beholder*”,<sup>77</sup> which only serves to highlight the difficulties in the approach adopted by Equitas. The fact that Mr Bulmer considers it reasonable to include a particular assumption, or to exclude a particular feature of the LMX spiral, is not the point. Even if the assumptions he includes are generally true or approximately correct, it says nothing about whether those particular assumptions are accurate so far as the particular syndicate making the claim is concerned.

85.3. As stated above, Mr Bulmer accepts that there are a number of features of the LMX spiral that have not been reflected in the KAC/BA and *Exxon Valdez* models. More particularly, the effect of multiple different losses on spiral participants’ reinsurance programmes, the effect of facultative reinsurance and proportional treaty facilities and ‘back-up’, ‘top and drop’ and ‘cascade’ covers, multiple losses, the application of the UNCC refunds, aggregate retentions and aggregate covers, differing approaches to collection of losses in different parts of the London market, insolvencies, commutations and all elements of leakage from the LMX spiral are not included within the models. Even if Equitas is right in cutting off the operation of the models as at 31 December 2000 (*Exxon Valdez*) and 1 June 2002 (KAC/BA), most of these features of the LMX spiral operated prior to those dates.

85.4. This is all the more surprising given that there is little dispute about the structure and features of the LMX spiral at the relevant times. For example, amongst other things, Equitas admits that:<sup>78</sup>

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<sup>76</sup> Appendix B to the Bulmer Final Report, para. 50 [D2/4B/76]. See also Appendix D para. 48 [D2/4D/121].

<sup>77</sup> Para. 2.7 of their joint memorandum [D4/12/276].

<sup>78</sup> See Equitas’s Admission of Facts [A2/23].

85.4.1. In 1989 and 1990 there was no uniform approach by individual underwriters in the Lloyd's or companies market (participating in the LMX spiral) towards inwards and outwards business.

85.4.2. The LMX spiral included: (a) excess of loss contracts in almost all cases with multiple (but differing numbers of) reinstatement; (b) top and drop, cascade, and front-in and back-up contracts; (c) facultative and proportional treaty reinsurances; (d) contracts with aggregate retentions; (e) aggregate covers; (f) contracts on a risks attaching basis and on a losses occurring during basis; (g) reinstatement premium protection contracts; (h) contracts protecting more than one syndicate; and (i) contracts providing for claims payments in different currencies, at different exchange rates.

85.4.3. There was co-reinsurance on all or part of some spiral participants' reinsurance programmes, and not all programmes were fully placed.

85.4.4. There was other leakage in the spiral.

85.4.5. Not all spiral participants had reinsurance programmes or structures of the sort assumed by Mr Bulmer, which are accepted to be "*simplified*".<sup>79</sup>

85.4.6. There was no uniform relationship between the amount of the direct KAC/BA or *Exxon Valdez* loss that a spiral participant paid and the amount of protection they purchased, or between the share of any potential loss for which they were liable and the extent of the reinsurance protection they purchased, or

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See paras 3 and 6 to 10 of Equitas's Admission of Facts [A2/23/71-73].

between the amount of coverage they purchased as between the various elements of their reinsurance protections.

85.4.7. The ordering and number of losses occurring – and there is no dispute that an unprecedented number of major losses hit the London market in 1989 and 1990 – are matters that fall to be considered in determining whether coverage is provided for any given loss.

85.4.8. Some spiral participants: (a) entered into commutation agreements in respect of contracts under which KAC/BA or *Exxon Valdez* losses were paid or recovered; (b) became insolvent or entered into schemes of arrangements after 1989; (c) paid an amount in respect of KAC/BA or *Exxon Valdez* losses in excess of the maximum vertical or horizontal limit of their reinsurance programme.

86. Notwithstanding the above agreed facts:

86.1. The models adopt a uniform approach assuming that spiral underwriters all acted in the same, strictly proportional manner. The reality is that different syndicates and companies (even within particular sectors) had very different reinsurance programmes, according to the size and kinds of account which they wrote. As Equitas's underwriting expert, Mr Berry, puts it, "*in practice each underwriter would purchase different amounts of cover and create his own individual programme*".<sup>80</sup> Such differences are among the reasons why individual Lloyd's syndicates and companies in the LMX spiral achieved very different results. In short, Mr Bulmer's model is not sufficiently sophisticated to reflect the true realities of writing LMX business.

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<sup>80</sup> Berry Supplemental Report para. 4.2 [D7/16/123].

86.2. The models fail to reflect the critical features of the LMX spiral and the collection of loss experiences set out above; Equitas’s own underwriting expert says that only “*the basic features of a typical reinsurance programme*” have been modelled.<sup>81</sup> Mr Bulmer’s explanations for not modelling other features is weak and unconvincing. First, he does not wish to make the models too complex. However, given that the LMX spiral was, and has been recognised to have been, indisputably complicated, if the models were truly intent on representing the spiral then such complexity cannot be avoided. Secondly, he says that he has only modelled those aspects of the LMX spiral that he considered likely to have “*a significant impact*” on the degree to which the KAC/BA and *Exxon Valdez* recoverable/irrecoverable losses are aggregated or mixed.<sup>82</sup> But in large part this is no more than supposition; it is only having modelled such issues that Mr Bulmer would have been in a position to opine on their impact, significant or otherwise.

#### *The sensitivity analysis*

87. It is important in this context to note the limited and flawed sensitivity analysis Mr Bulmer has carried out in relation to the assumptions used in his models, and to appreciate the extent to which Mr Bulmer has not conducted any form of sensitivity analysis in relation to unmodelled features of the LMX spiral.
88. The sensitivity analysis which Mr Bulmer has carried out on the revised models is described in Appendices E and I of his Supplemental Final Report [D5/15E and D6/15I]. In short, what Mr Bulmer has done is to identify a number of assumptions he has made and then to change the assumption to see what if any difference in model output results.

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<sup>81</sup> Berry Report para. 2.10 [D3/5/4].

<sup>82</sup> Appendix B to the Bulmer Final Report, para. 2 [D2/4B/45]. See also Appendix D para. 2 [D2/4D/90]; Bulmer Supplemental Final Report para. 2.47 [D5/15/13].

89. Four important features of this limited sensitivity analysis are to be noted:
- 89.1. First, the sensitivity analysis only involves a single run of the model with the changed assumption. Mr Bulmer has not performed multiple runs as part of his sensitivity analysis. This significantly reduces the usefulness of the analysis.
  - 89.2. Second, the sensitivity analysis is limited to examining the extent to which the model's output differs when *one* of the assumptions is amended. Mr Bulmer has made no attempt to examine the effect of changing two or more of the assumptions. This also significantly reduces the usefulness of the sensitivity analysis.
  - 89.3. Third, the sensitivity analysis is not applied to all of the modelled assumptions. Notable omissions include the following:<sup>83</sup>
    - 89.3.1. In relation to Scenario A, the assumption that each player makes reinsurance collections for a wrongly aggregated loss in the same proportions in which it receives a wrongly aggregated loss, an assumption that Mr Bulmer was instructed to make by Slaughter and May.
    - 89.3.2. The assumption that the same assumptions apply to both Lloyd's and non-Lloyds players in the models, even though Mr Bulmer accepts that this is "*an important assumption*".<sup>84</sup>
    - 89.3.3. There are also some matters which the models cannot test for because they do not replicate many features of reality. For example, as Mr Sanders explains, the models tend to produce too many medium sized players and not enough players with sufficiently large (or small) UNLs. In other words, the models produce the wrong distribution of UNLs when compared to the

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<sup>83</sup> Bulmer Supplemental Final Report para. 2.142 [D5/15/35].

COSS UNL profiles. Because this is a structural deficiency in the models, Mr Bulmer does not, and is unable to, test its impact on the models' results.

89.4. Fourth, Mr Bulmer's conclusion (based on the single runs) is that the *"distributions of the proportions and ratios for individual players ... are relatively insensitive to alternative values of the key assumptions for most of the sensitivities"*.<sup>85</sup> Mr Bulmer does not draw any more general conclusion, nor does he consider whether the relative insensitivity to alternative values suggests a defect in the models.

90. The most important feature of the sensitivity analysis, however, is that no attempt has been made by Mr Bulmer to analyse the effect of including currently unmodelled features of the LMX spiral. As the models do not incorporate many features of the LMX spiral (as set out above), Mr Bulmer is not in a position to use his models to assess how they might affect their outputs.

**(C) The results of the models**

91. R&Q has already submitted that it is not open to Equitas to prove a loss under a Reinsurance Contract by reference to what is acknowledged by Equitas to be, at best, a representation or approximation of the LMX spiral.

92. In truth, as set out above, the models are a poor representation or approximation of the LMX spiral, which is unsurprising given (a) the complexities of the LMX spiral in reality, (b) the numerous assumptions made in constructing the models, and (c) the extent to which the modelling reduces variety among the participants in the spiral and the typical reinsurance programmes they write. Accordingly, the models are not even a reasonable representation or approximation of the LMX spiral.

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Bulmer Supplemental Final Report para. 2.95 [D5/15/23].

93. The easiest way to demonstrate this is by considering Mr Bulmer’s review for reasonableness of the revised model outputs in Appendices C (KAC) and G (*Exxon Valdez*) of his Supplemental Final Report [D5/15C and 15G]. It is important to note that this review for reasonableness is of the revised models, i.e. after consideration of Mr Sanders’s Final Report, after changing certain of the assumptions, and after further ‘calibration’ as explained in part in Mr Bulmer’s Supplemental Final Report.
94. In these appendices, Mr Bulmer seeks to compare the output of the various runs of the revised models with actual UNL data taken from the COSS database.
95. His first test for reasonableness (test (A)) is to compare the development over time of the aggregate modelled UNLs of artificial spiral participants against the development over time of the actual aggregate UNL of market participants (taken from the COSS database for Lloyd’s syndicates, grossed up by reference to an estimated proportion of Lloyd’s to company market). The graphs (KAC at [D5/15C/78]; *Exxon Valdez* at [D5/15G/200]) plotting the output from the 75 runs of the revised model against the development of actual aggregate UNL show a considerable divergence. The shape of the modelled development is significantly different from reality.
96. His second test for reasonableness (test (B)) is to compare the profile of modelled UNLs for artificial players at the end of the model period against the corresponding profile of UNLs for individual market participants derived from the COSS database of Lloyd’s syndicates. The graphs (KAC at [D5/15C/78]; *Exxon Valdez* at [D5/15G/200]) plot the profile of modelled UNLs against actual UNLs. Again, the shape of the modelled UNL profiles is significantly different from reality and shows that the models are producing the wrong distribution of UNLs. In particular, the models are (still) producing too many medium sized players, and fewer small and large players, compared to reality,

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[D2/4J/212, D2/4L/297, D5/15E/172 and D6/15I/8].

despite the work done by Mr Bulmer to revise the models since production of Mr Sanders's Final Report.

97. Mr Bulmer's third test for reasonableness (test (C)) is to compare the profile of ratios of aggregate UNLs to total outwards reinsurance coverage available for the 52 largest artificial spiral participants in the models (red line) and for all artificial spiral participants (green line) with the profile of ratios of aggregate UNLs to total outwards reinsurance coverage available for 52 of the largest Lloyd's syndicates (for KAC; 39 for *Exxon Valdez*) taken from the Control Sheet (blue line). The KAC graph is at [D5/15C/79]; the *Exxon Valdez* graph is at [D5/15G/201]. Again, the shape of the modelled profiles, whether for the 52 (or 39) largest participants or for all participants, bears no obvious relation to reality.
98. Equitas's Written Opening puts forward a fourth test of reasonableness: the "*sense of perspective*" suggested at paragraph 20, otherwise known as the "*reality check*" in paragraph 27. The "*sense of perspective*" or "*reality check*" test is illogical. As Mr Bulmer has accepted, the effect of the spiral was to magnify losses; the inclusion of a modest wrongly aggregated loss can have a significant effect in particular on later impacted layers of the spiral. It is simply wrong to suggest that the ratio of the recoverable to the irrecoverable direct losses is an approximate guide as to the amount of any claimant syndicate's recoverable UNL.

#### *Application of the models*

99. Equitas seeks to apply certain results of the models to prove each claimant syndicate's loss. The models are used to produce, for each of KAC and *Exxon Valdez*, a percentage discount, under either Scenario A or Scenario B, to be applied across the board to the wrongly aggregated UNLs of the claimant syndicates.
100. The use to which the results of the models are put by Equitas is not something on which Mr Bulmer offers any comment. He regards this as a matter of

submission: see e.g. paragraph 2.133 of his Supplemental Final Report [D5/15/32]. This will have to be explored in evidence. As an expert, Mr Bulmer should be in a position to express an opinion as to the appropriateness of the use to which his models are put.

101. The percentage discounts which have been produced in the Provisional Final Report, the Final Report, and the Supplemental Final Report, are as follows:

	Pleaded case (before model)	Provisional Final Report (10 <sup>th</sup> percentile)	Final Report (10 <sup>th</sup> percentile)	Supplemental Final Report (10 <sup>th</sup> percentile)
KAC Scenario A		10%	10%	9.8% (para. 7.2)
KAC Scenario B	“no more than 10 to 15%” (Reply para. 16)	16%	15%	13.1% (para. 7.4)
<i>Exxon Valdez</i> Scenario A		18%	18%	18.8% (para. 10.2)
<i>Exxon Valdez</i> Scenario B	?	19%	18%	19.4% (para. 10.4)

*Different models, different results*

102. In considering Equitas’s application of the outputs of the models, and whether Equitas can satisfy its burden of proof, it is worth reflecting on the fact that for the two separate Scenarios (A and B) for each of the two losses, Equitas has now put forward at least three separate sets of percentage discounts. Each set of discounts has been produced using the output of three versions of the models, each of which was said by Mr Bulmer to have been in his opinion a reasonable representation of the spiral (at least for the specific purposes set out in paragraph 1.3 of his Final Report).

103. The very fact that three versions of the models have led to three separate sets of discounts suggests that the method of proof chosen by Equitas is incapable of discharging its burden.

*Scenario A vs. Scenario B*

104. These require further explanation as follows:

104.1. The Scenario A percentage represents 100 minus the average 10<sup>th</sup> percentile *proportion* of the recoverable to the irrecoverable losses in the 75 runs of the revised model.

104.2. The Scenario B percentage represents 100 minus the average 10<sup>th</sup> percentile *ratio* of the recoverable to the irrecoverable losses in the 75 runs of the revised model.

To understand this further, it is necessary to say something about Scenario A and Scenario B.

105. It is R&Q's submission that Scenario A – which is Equitas's primary case (see Written Opening, paragraph 77) – is logically incapable of measuring the extent of the irrecoverable loss. As explained in Mr Bulmer's Final Report, Scenario A purports to consider the proportion of each artificial player's modelled UNL made up of properly aggregated, and wrongly aggregated, losses. A key assumption, which Mr Bulmer has taken on instructions from Equitas's solicitors and the sensitivity of which Mr Bulmer has not tested, is that each player makes reinsurance collections in respect of the properly aggregated, and wrongly aggregated, losses in the same proportions in which it receives such losses.

106. However, as Mr Sanders convincingly demonstrates at paragraphs 5.15 to 5.18 of his Final Report [D4/9/19-20], the problem with Scenario A is that it overlooks the fact (admitted by Mr Bulmer) that introducing a lower, properly aggregated loss into the spiral will eliminate, or reduce, claims on individual layers or series of layers which would be impacted or fully impacted by a higher, wrongly aggregated loss. To treat losses as proceeding through the spiral in the same proportions as they were received is plainly unrealistic. Scenario A does not, therefore, establish what the claimant syndicates will

have actually paid in relation to the recoverable elements of the loss. Scenario A cannot be used as a means of estimating the effect of removing a wrongly aggregated loss from the spiral, having regard in particular to the magnification effect of the spiral. Equitas's primary case therefore fails at the outset.

107. Scenario B is more plausible, at least at face value. Scenario B considers the ratio of the UNL of the wrongly aggregated loss to the UNL of the properly aggregated loss as at 1 June 2002 (KAC) and 31 December 2000 (*Exxon Valdez*), calculated by running the model twice: once with the wrongly aggregated loss entering, and once with the properly aggregated loss entering.
108. This scenario is more plausible, because it comes closer to answering the question: what would the modelled UNL have been at those two dates if the wrongly included element of the loss had not been introduced? R&Q submits that this is still the wrong question, because the relevant question is what are the current UNLs of the claimant syndicates for the properly aggregated loss? All prior payments should be reversed out, and the correct loss figures applied through the spiral as it now exists, commutations and all.
109. There are, of course, a number of further problems with the way in which Scenario B is modelled, including the fact that the model applies the same payment delays to each of the two parallel runs. In reality, the payment delays for the greater, wrongly aggregated loss are likely to have been shorter than the (assumed) payment delays for the smaller, properly aggregated loss, particularly in the case of the *Exxon Valdez* loss. This suggests that Mr Bulmer should have assumed longer payment delays when modelling only the recoverable losses over the period after the irrecoverable losses entered the market.
110. It is worth recording that when Equitas first approached the task of modelling, its intention was to model what is now Scenario B only: see paragraph 22 of

Equitas's skeleton for the CMC on 2 May 2008;<sup>86</sup> see also the prototype of the models produced on 30 June 2008 [D1/1/10], where Scenario B (as now is) was the primary basis. What is now Equitas's primary case did not form part of its case in May 2008 and was only its alternative case in June 2008.

*Averages and the 10<sup>th</sup> percentile*

111. The revised models are run 75 times to produce a table of average proportions (Scenario A) and ratios (Scenario B) for the artificial spiral participants. In addition to showing the average proportion and ratio per run, Mr Bulmer shows the 10<sup>th</sup> percentile (i.e. the figure for the proportion, or ratio as the case may be below which only 10% of modelled participants would fall). Mr Bulmer then calculates the average across all 75 of the runs of the 10<sup>th</sup> percentile.
112. It is this figure which is then subtracted from 100 to give the percentage discounts which Equitas seeks to apply across the board to all claimant syndicate UNLs.
113. R&Q submits that the application of an across the board discount is objectionable in principle as a means of calculating any claimant syndicate's properly aggregated UNL for any particular excess of loss Reinsurance Contract.

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<sup>86</sup> Which stated: "As regards the application of the models to the claims made in these proceedings, it is intended that they should operate as follows. (1) The relevant KAC/BA or Exxon Valdez direct losses are to be introduced into the models and the ultimate net loss of each participant monitored at a number of relevant dates. The models are to be run a number of times on this basis in order to assess the consistency of the results. (2) The models are then to be run again, on a different basis, this time excluding the BA loss and the irrecoverable element of the Exxon Valdez loss (respectively), in order to demonstrate what impact this would have upon the participants' ultimate net losses. The models are to be run a number of times on this basis in order to assess the consistency of the results. (3) The average ratio of KAC : BA losses (for example) in the ultimate net losses produced by the KAC/BA model for all of the (modelled) participants in the spiral would then be used to estimate the realistic maximum contribution of the BA losses to the ultimate net losses CAT 90V elements of the claims made in these proceedings. (4) The sensitivity of the models will be tested, by adjusting the key assumptions made, in order to ensure the general reliability of their results".

114. At an earlier hearing, Equitas explained that it has taken the 10<sup>th</sup> percentile, rather than the average, in an attempt to be “*ultra conservative*”:<sup>87</sup> see also Bulmer Supplemental Final Report at 2.128 and 2.130 [D5/15/32]. This message of conservativeness is emphasised again in Equitas’s Written Opening, see e.g. paragraph 28 (“*very conservative*”). The way in which Scenario A and Scenario B, at the 10<sup>th</sup> percentile, are applied is apparent from a consideration of the loss schedules served by Equitas [E1/3A].
115. Plainly, use of a statistical average is entirely inappropriate to establish any particular claimant syndicate’s UNL. The fact that 51% of artificial spiral participants in the runs of the KAC model had a proportion, or ratio, of wrongly aggregated loss to correctly aggregated loss of at least 90.6%, could not even arguably justify applying a discount of (100-90.6)% to every one of the claimant syndicates’ wrongly aggregated UNLs, particularly in light of Mr Bulmer’s acknowledgement that the results of the models show that different percentage discounts are likely to apply to different players in the models (see paragraph 2.132 of his Supplemental Final Report [D5/15/32]). Just because Company A runs 51 blue buses and Company B 49 blue buses in a town with only 100 buses does not mean that Company A is liable if someone is run over in town by a blue bus and cannot identify which company’s bus was involved.<sup>88</sup>
116. Equitas suggests that using the 10<sup>th</sup> percentile (rather than the average) is “*very conservative*” and (by implication) less objectionable than using the average. It is worth noting that the 10<sup>th</sup> percentile was not used in an early prototype of the model [D1/1/14-15 and 20-21]; its introduction presumably

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<sup>87</sup> See pages 5 to 6 of the transcript of CMC on 16 January 2009.

<sup>88</sup> See, in a similar vein, *Bunge SA v. ADM do Brasil LTDA* [2009] EWHC 845 (Comm), [36]-[43], where a claim by the time charterers of a vessel against 9 shippers failed as, whilst it was found that a number of rats (14 to 20) were introduced during cargo loading of the vessel, the time charterers were unable to demonstrate whether the rats were present in every shipper’s cargo, or only some of them, and if so which. Cf also the “gatecrasher paradox” discussed in the literature on the use of statistics in evidence, in which organisers of a rodeo sue a random

follows a recognition that using the average is unacceptable. It is also important to note how close the average 10<sup>th</sup> percentile is to the average. For example, the average 10<sup>th</sup> percentile on the KAC model runs under Scenario A is 90.2% and the weighted average is 90.6% [D5/15D/85] which illustrates just how unconservative use of the 10<sup>th</sup> percentile is. For Scenario B of the KAC model runs, the average 10<sup>th</sup> percentile is 86.9% against a weighted average of 91.5%; again, the difference is modest. The average standard deviation across all runs (a measure of dispersion from the average) is only 0.4 (Scenario A) and 3.4 (Scenario B). For *Exxon Valdez*, the average 10<sup>th</sup> percentile is 81.2% (Scenario A) and 80.6% (Scenario B), the weighted average is 85.5% (Scenario A) and 86.1% (Scenario B), and the average standard deviation is 3.3 (Scenario A) and 4.1 (Scenario B). The difference between what is supposedly “*very conservative*” (i.e. the 10<sup>th</sup> percentile) and the average is in truth minimal and the alleged conservativeness is more apparent than real.

117. The closeness of the 10<sup>th</sup> percentile to the average, and the low average standard deviation across all runs, demonstrates that the models are producing for the majority of artificial spiral participants a very narrow range of discounts, no doubt as a result of the lack of diversity in the type of players and reinsurance programmes used in the models. The narrowness of the range of simulated results from a model suggests that something is wrong with the model.
118. It is important also to remember that the 10<sup>th</sup> percentile is still a form of average. The various runs of the models (particularly under Scenario B) produce a wide range of reductions – depending on the model and the loss, the range might be between 2% and 52% (see the graph in paragraph 7.3 of Mr Bulmer’s Final Supplemental Report for KAC [D5/15/51], and in paragraph 10.1 for *Exxon Valdez* [D5/15/61]). As Mr Bulmer has himself acknowledged, different percentage discounts are likely to apply to different players in the KAC and *Exxon Valdez* models: see paragraph 2.132 of his Supplemental

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spectator based on evidence that only 499 out of 1,000 spectators paid their admission

Final Report [D5/15/32]. See also paragraph 2.63 [D5/15/17]: “*removing an irrecoverable loss would be expected to reduce the UNLs of different spiral participants by different percentages*”. If that is correct for the models, then it is a fortiori correct for real life. In principle, the ‘true’ discounts to real spiral participants’ UNLs produced by removing irrecoverable losses could lie anywhere between 0% and 100%. The models cannot show the effect of removal of irrecoverable losses on any actual spiral participant, even if the 10<sup>th</sup> percentile figures are used.

119. Presumably because there is no comparison possible between individual artificial spiral participants and actual spiral participants, Equitas seeks to do that which Mr Bulmer acknowledges is wrong for the modelled spiral, which is to apply the same percentage discount to all claimant syndicates. Equitas does so by applying the 10<sup>th</sup> percentile discount across the board to the 14 claimant syndicates for the KAC loss (and 13 for *Exxon Valdez*).
120. The first point to note is that the 10<sup>th</sup> percentile recognises that for an average 1 in 10 model spiral participants, a discount of more than the percentage required at the 10<sup>th</sup> percentile would have to be applied. Mr Bulmer has calculated the chances of *each* of 14 artificial players having a UNL below the 10<sup>th</sup> percentile figure and concludes that this is remote (although not impossible). But this is beside the point, and does not support a case that it is right or appropriate to apply the same percentage discount to claimant syndicates’ wrongly aggregated UNLs:

- 120.1. Even on Equitas’s best case, the models suggest that on average at least one if not more of 14 artificial spiral participants will have an UNL which is less than the 10<sup>th</sup> percentile and therefore that a discount at the 10<sup>th</sup> percentile would be plainly insufficient for that artificial spiral participant.

120.2. Equitas would presumably have to accept that (on its own, flawed, logic by which the results of the model are applied to reality) on average at least one, if not two, of the claimant syndicates should be the subject of a greater discount.

120.3. Equitas has not sought to show, and cannot show, which of the claimant syndicates should be the subject of a greater discount nor indeed what that discount should be.

120.4. Indeed, Equitas cannot show that any of the 14 claimant syndicates with KAC claims (or 13 claimant syndicates with *Exxon Valdez* claims) should be treated as falling on the ‘right’ side of the 10<sup>th</sup> percentile even if the 10<sup>th</sup> percentile was the appropriate level. Without any examination of the particular circumstances of individual syndicates, there is simply no basis for assuming that any particular syndicate’s wrongly aggregated UNL can be corrected by applying the percentage discount appropriate at the 10<sup>th</sup> percentile or indeed at the 1<sup>st</sup> percentile. There is no evidential basis for making any assumptions about the properly aggregated UNL of any of the claimant syndicates nor where they ‘fit’ in the pattern of artificial spiral participants.

121. R&Q’s objection to the models in summary is that they use hypothetical model players with artificial reinsurance programmes generated randomly and based on a simplistic set of assumptions. The use of simplifications tends to eliminate the differences in reality between the reinsurance programmes written and bought and the place(s) in the spiral in which particular participants participated. As Mr Bulmer acknowledges, it is not possible to achieve a precise (R&Q would say “any”) correspondence between an individual player in any run of the models and an individual actual spiral participant. In Mr Sanders’s more forthright terms, the “*chances of the model generating a model player that is remotely similar to a real spiral participant is extremely remote*”.<sup>89</sup>

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<sup>89</sup> Para. 7.4 [D4/9/29].

122. A further objection to Equitas's application of an average, even at the 10<sup>th</sup> percentile, is this. If all spiral participants' wrongly aggregated UNLs should be reduced by (say) 19.4% (the percentage derived from the *Exxon Valdez* revised model, Scenario B, and applied to the claimant syndicates' UNLs by Equitas), then it should follow, consistent with Equitas's case, that Equitas should first reduce the UNLs of each of the claimant syndicates' reinsureds by 19.4% and then calculate what, if anything, is recoverable by them from the claimant syndicates under the reinsurances in fact written. As is obvious from those claims in Equitas's loss schedules [E1/3A] which have now been withdrawn because the application of the percentage reduction takes the UNL below the attachment point of the relevant Reinsurance Contract, a relatively small reduction in the UNL may mean *no* claim on the Reinsurance Contracts. Of course, Equitas is not in a position to perform this exercise, having taken no steps to investigate the contracts written by the claimant syndicates nor to correct the wrongly aggregated UNLs of the claimant syndicates' reinsureds. Accordingly, even if Equitas is right that it need look no further than at the loss settlements paid by the claimant syndicates' reinsureds, the fact is that there has been no attempt made to investigate what, if any, losses would have been recoverable from the claimant syndicates on their inwards contracts if their reinsureds' UNLs were reduced by the suggested percentages.
123. Even if (by chance) an artificial spiral participant could be identified as having a broadly similar structure of outwards reinsurance programme as a claimant syndicate, it would also be equally important to compare the inwards business generated by the model for that artificial spiral participant and compare that with the inwards business in fact written by the relevant claimant syndicate. It would also be important to consider whether the inwards business was weighted towards the later impacted layers of the spiral, where the inclusion of a wrongly aggregated loss is likely to have had a greater effect because of the magnification or exaggeration of loss achieved by the spiral, or towards the

earlier impacted layers of the spiral where the magnification effect is likely to be lower.<sup>90</sup>

124. Applying an across the board discount to each claimant syndicate's UNL for a wrongly aggregated loss in an attempt to arrive at the amount of the claimant syndicate's UNL for the properly aggregated loss is doomed to failure because each claimant syndicate's UNL for the properly aggregated loss will depend on the interaction between the properly aggregated UNLs of that claimant syndicate's reinsureds and the reinsurance contracts between those reinsureds and the claimant syndicate.

*Equitas's "margin of error"*

125. Implicit in Equitas's submissions is a submission that even if the Court is not satisfied that the 10<sup>th</sup> percentile discounts put forward by Equitas sufficiently discharges its burden of proof in relation to all claims, the Court should nevertheless be satisfied that a more generous (but as yet unspecified) percentage discount will produce sufficiently corrected UNLs for the purposes of some or all of the claims in these proceedings, particularly where the attachment point and limits for a particular Reinsurance Contract is significantly lower than the wrongly aggregated UNL set out in its loss schedules [E1/3A]. See, for example, paragraph 29 of the Written Opening (KAC); Equitas admits that the "margin of error" argument is less persuasive in the case of *Exxon Valdez*: see paragraph 35(3). See also paragraph 84 of Equitas's Written Opening, which appears to invite the Court to pick an alternative percentage discount if it is not satisfied with Equitas's primary (Scenario A) and alternative (Scenario B) case.

126. There are a number of objections to any such approach:

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<sup>90</sup> Mr Bulmer agrees with Mr Sanders's comment in para. 7.17 of his Final Report [D4/9/33]: see Bulmer Supplemental Final Report at para. 2.65 [D5/15/18]. Mr Bulmer also agrees with Mr Sanders's observation that "*the pattern of development over time of a spiral participant's UNL will, at least crudely, depend on the level of the spiral at which it wrote*": see Bulmer Supplemental Final Report at para. 2.66 [D5/15/18].

- 126.1. The Reinsurance Contracts require the establishment of the correctly aggregated UNL. It is not enough for Equitas to show that the UNL is “at least” a particular amount.
- 126.2. But even if it is enough to establish that a claimant syndicate’s UNL is at least a particular amount, Equitas is unable to do so. If (as R&Q submits) the models do not produce the correctly aggregated UNL, to find that the correctly aggregated UNL of any particular claimant syndicate must be “at least” any particular figure involves pure guesswork on the part of the Court. Sums due under a contract cannot be established in this way. This proposition is as true for proof of exhaustion of the front-in layers on top and drop contracts as it is where the KAC or *Exxon Valdez* losses are sought to be recovered under the Reinsurance Contracts.
- 126.3. Equitas has made no attempt to investigate the composition of any of the claimant syndicates’ UNLs nor to establish where in the spiral such syndicates appeared. The Court is simply unable to establish what alternative, more generous, percentage discounts should be applied when in truth the materials before the Court indicate that the percentage discount could be at any point on a scale between 0% and 100% for any particular claimant syndicate and contract.
- 126.4. It is likely that the models understate the effect of removing the wrongly aggregated loss on players with high UNLs (e.g. above US\$50m). As noted above, the models do not generate sufficient numbers of players with high UNLs to suggest that there can be any confidence in applying the models’ results to real syndicates with high UNLs.
- 126.5. Where a claimant syndicate has a large wrongly aggregated spiral UNL (e.g. US\$50 or 100 million), there are grounds for suspecting that (other things being equal) that syndicate has been *more* affected by the

spiral effect of including a wrongly aggregated loss than a syndicate with a lower wrongly aggregated spiral UNL. A much greater discount may be required for syndicates with a large wrongly aggregated spiral UNL than may be suggested for syndicates with a lower UNL.<sup>91</sup>

126.6. It is not the function of the Court, when asked to enter judgment for particular sums, to engage in the task of guessing or estimating the amounts due, whether applying a generous “margin of error” or otherwise.

127. Furthermore, Equitas has also not explained how its “margin of error” submissions fit in with the fact that in a number of cases there are reinsurance contracts written by R&Q which sit above the contracts the subject of these proceedings and in respect of which there are claims made by Equitas in the arbitrations. Whilst it may not matter to Equitas for some of the claims *in these proceedings* if the quantum of a particular claimant syndicate’s UNL is reduced by 15% or less, 30% or 50%, the extent of the reduction will mean on Equitas’s own figures that claims on overlying layers will fall away or will be reduced significantly. It is therefore not open to Equitas to attempt to wash its hands of the problem of quantifying the discount by submitting that whatever the discount, some of the contracts the subject of these proceedings will still be total losses on the balance of probabilities. Similarly, whilst some of Equitas’s claims in these proceedings have been withdrawn following the application of the models, Equitas does not attempt to consider the consequences for underlying paid claims.

#### *Dates*

128. The model prepared for the KAC losses stops the processing of losses at 1 June 2002. The model prepared for the *Exxon Valdez* losses stops the processing of losses at 31 December 2000. These are the arbitrary end dates

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<sup>91</sup> See paras 47 to 52 of Mr Sanders’s second supplemental report [D7/21/183-187].

which Mr Bulmer was instructed to use by Equitas, based on an assumption that the wrongly aggregated claims were no longer processed after these dates.

129. The result is that the artificial spiral is stopped part way through and a snapshot taken at these two dates. No real attempt is made to evaluate how the modelled UNLs of artificial spiral participants change after these dates as the spiral continues and then comes to an end. No attempt is made by Mr Bulmer to investigate whether the stage which the artificial spirals reached at the cut off dates is similar to, or different from, the stage which the real spirals had reached by those cut off dates.
130. Equitas's calculations of the claims which appear in the loss schedules [E1/3A] also proceed by way of discount from what are alleged to be<sup>92</sup> the wrongly aggregated UNL figures as at 31 December 2000 or 1 June 2002. As noted above, R&Q is only liable for the claimant syndicates' current UNL, whatever that may be. A historical UNL figure does not of itself establish the current UNL.
131. R&Q remains puzzled, notwithstanding Equitas's Written Opening, as to how Equitas applies the results of the models. For example, Equitas has not explained whether the discount to the UNL as at 31 December 2000 or 1 June 2002 is once and for all. What happens to any increases in the UNL since those dates? Equitas has not explained what will happen in the event that R&Q (and other reinsurers in respect of whom Equitas has KAC/BA and *Exxon Valdez* claims which remain unpaid) are obliged to pay sums calculated by reference to the discounts suggested by the models, and if R&Q and other reinsurers seek to recover those losses from their reinsurers at the next level of the spiral (which are likely to include Lloyd's syndicates). Will those syndicates' UNLs be increased again? If so, by how much?

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<sup>92</sup> There are queries about some or all of the wrongly aggregated UNL figures used, which will have to be resolved, if necessary, in the second phase of the trial as part of the 'adjusting queries' which have been postponed from the first phase.

*UNCC refunds*

132. By June 2006, Equitas, on behalf of those syndicates at Lloyd's who had subscribed to certain direct (i.e. non-spiral) insurance of the KAC risk, had received approximately US\$139 million by way of compensation from the United Nations Compensation Commission – the so-called UNCC refunds. Equitas gave an undertaking to the UNCC to the effect that, insofar as the syndicates had made claims for indemnity and recovered from their reinsurers all or part of the payments they had made in respect of the KAC loss, they would adjust the said claims to take into account the relevant share of UNCC compensation.<sup>93</sup>
133. Presumably because the KAC model stops at 1 June 2002, the model (whether in its provisional, final or revised form) does not take any account of this recovery, even though it represents a significant proportion of the KAC losses processed through the model. The explanation given by Mr Bulmer in his Final Report at paragraph 3.14 [D2/4/16], that “*the amount in respect of UNCC Refunds received by each syndicate is known and so can simply be deducted ... from each syndicate's UNL once it has been adjusted to take account of the results of the model*”, is plainly incorrect and is inconsistent with paragraph 2.6 of the joint memorandum of the underwriting experts [D4/12/276], which reflects the correct principle in law. The proper way to process the refund is by reduction of the UNL of the direct loss insurers and by processing the reduced UNL through the chain of reinsurances. The latter step has not taken place.
134. Unless the claimant syndicate was itself a direct insurer of the KAC risk (in which case R&Q understands that the proportion of the refund received as such has been deducted from the direct insurance UNL; the amount stated for the whole account or spiral UNL remains unaffected), the statement of the claimant syndicates' UNLs in the loss schedules takes no account of the UNCC refunds nor their effect as they progress through the spiral.

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<sup>93</sup> Reply in the R&Q proceedings, paras 12(2)-(4) [A1/10/175].

135. Logically, just as the removal of an irrecoverable loss would reduce the UNLs of spiral participants by different percentages and conceivably to zero, so too the processing of a refund will reduce the UNLs of spiral participants, by different percentages, and conceivably to zero. As with an irrecoverable loss, the processing of a refund is likely to have a greater effect towards the later impacted layers of the spiral because of the magnification or exaggeration achieved by the spiral. Given that the amount of the refund (US\$139 million) represents such a significant part of the KAC losses, the effect of processing the refund is likely to be extremely significant at the later impacted layers of the spiral.
136. Equitas has made no attempt to model the refunds in order to assess the impact of the refunds (and their effect on the direct insurers' UNL) on spiral participants' UNLs for the properly aggregated loss. Instead, Equitas has chosen to ignore the effect of the UNCC refund in calculating the XL spiral or whole account UNLs in its loss schedules [E1/3A].
137. There are two possible explanations for this, neither of which is satisfactory. The first explanation is that Equitas acknowledges that it is not possible to model the effect of processing the refund through the spiral. If that is acknowledged, then it is tantamount to an acknowledgement that its models are incapable of showing the claimant syndicates' properly aggregated UNLs.
138. The alternative is that Equitas has chosen not to model the impact of the refunds. But it is not fair or appropriate for Equitas to attempt to establish a claimant syndicate's UNL using models which seek to show how a correctly aggregated loss would have passed through the spiral without also seeking to model the passage through the spiral of subsequently received refunds known to have been received which significantly reduce the amount of the original loss. As set out above, the terms of the Reinsurance Contracts make it plain that the claimant syndicates' UNLs are to be net of salvage and recovery. If (contrary to R&Q's primary case) it is appropriate to use a model to calculate (or estimate) the likely maximum contribution to a particular claimant

syndicate's UNL of a wrongly aggregated loss, consistency, fairness and the terms of the Reinsurance Contracts require proper consideration of the effect of the significant refunds which would reduce or eliminate the loss. The KAC model does not do so and therefore Equitas's attempt to demonstrate the claimant syndicates' UNLs fails.

**(D) Factual witness evidence**

139. In the light of issues arising out of the claims reconciliation exercise, including all adjusting (as opposed to model) issues which arise in relation to the KAC/BA and *Exxon Valdez* losses, as well as claims for interest and costs in relation to paid or withdrawn claims,<sup>94</sup> being 'hived off', much of the factual witness evidence served by the parties is not relevant to this trial. Following correspondence between the parties,<sup>95</sup> the position can be summarised as follows.
140. *Equitas*. *Equitas* does *not* rely on the evidence of Mr Paul Brockman [B1/3], Mr Robert Godwin [B1/4 and 14], Mr Christopher Llewellyn [B1/10] and Mr Christopher Piller [B1/9] at this trial. In relation to Mr James Gregory, *Equitas* relies only on paragraphs 11 to 33, 37 and 38 of his first statement [B1/2] and paragraphs 22 to 43 of his second statement [B1/11]. R&Q is currently considering whether it is necessary for Mr Gregory to be called for cross-examination. *Equitas* has also reserved the right to call Mr Stephen Targett in relation to paragraphs 8 to 11 of his witness statement [B1/1], parts of which are not accepted by R&Q.
141. *R&Q*. R&Q relies on paragraphs 9, 12 to 14, 16 to 19, 39, 48 to 50 and 73 to 85 of Mr Robin McCoy's witness statement [B1/5], paragraphs 24 to 28, 58, 68, 107 to 121 and 190 to 205 of Mr Edward Myers's witness statement [B1/8], as well as the two witness statements of Mr David Jewell [B1/6 and

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<sup>94</sup> Many, if not most, of the claims which have been paid by the Defendants have only been paid as a result of the re-presentation and recalculation of the claims.

<sup>95</sup> See Barlow Lyde & Gilbert's letter dated 1 June 2009 and Slaughter and May's letter dated 3 June 2009.

12], which remain relevant to the matters for immediate determination. R&Q does not propose to call Mr Allan Whiffin [B1/7 and 13] at this trial as his evidence relates only to the claims reconciliation exercise.

142. Equitas has indicated that it does not require R&Q to call Mr McCoy or Mr Myers. The admissibility of Mr Jewell's evidence is challenged by Equitas on the basis that it is expert evidence on the structure of the LMX market.<sup>96</sup> But this is misconceived:

142.1. Mr Jewell's evidence is limited to matters of fact. It falls within the first category set out by Hobhouse J in *The "Torenia"* [1983] 2 Lloyd's Rep 210, 233 – i.e. direct factual evidence, which bears directly on the facts of the case. It is of a completely different character to the evidence of Captain Johns, considered in *The "Torenia"*, who had never even seen the vessel in question. Indeed, Equitas appears to have overlooked the fact that Mr Jewell was the underwriter for Gooda Walker in 1989/1990, being one of the syndicates on whose behalf Equitas advances claims in these proceedings.

142.2. One of the factual issues which arises for decision is whether the artificial reinsurance programmes generated by the models reflect the reinsurance programmes purchased by the claimant syndicates and other syndicates at Lloyd's. Mr Jewell gives factual evidence in relation to his knowledge of the reinsurance programmes purchased by the syndicates with which he was involved.

142.3. Inevitably, in doing so he also addresses the LMX market and its features and his direct experience of market conditions in the 1980s and early 1990s. This is still admissible factual evidence.

142.4. He also addresses, in his supplemental witness statement, his involvement in attempting to replicate the PA spiral (an issue raised

parenthetically in the joint memorandum of the expert underwriters<sup>97</sup> and in respect of which there is otherwise no factual evidence). That evidence is also purely factual.

142.5. On any view, the matters addressed by Mr Jewell are matters of fact, not opinion, which bear directly on the relevant facts in this case.

142.6. It is telling that the admissibility of Mr Jewell's evidence was challenged for the first time by Equitas at the adjourned Pre-Trial Review on 22 May 2009, notwithstanding that it was served on 5 March 2009, and has been addressed in Equitas's expert evidence.<sup>98</sup>

### **(E) Conclusions**

143. R&Q contends that Equitas's claims should be dismissed. Equitas is unable and has failed to demonstrate that each claimant syndicate has paid sums in settlement of correctly aggregated KAC or *Exxon Valdez* losses. In accordance with the express terms of the Reinsurance Contracts, Equitas (for each claimant syndicate) is unable to demonstrate – even with the assistance of its actuarial models – that the loss settlements which made up each syndicate's UNL were properly recoverable under the terms of their inwards contracts. Equitas's attempt to prove its loss through the use of models – which is unprecedented – is fundamentally flawed. On Equitas's own case, such models amount to no more than a representation or approximation of the LMX spiral – a very poor one at that – based on a number of assumptions applied to incomplete and in some respects questionable data. The output of the models bears little or no relation to the wrongly aggregated UNLs of actual spiral participants, and Equitas's uniform application of the models is crude and divorced from reality, as well as the contractual obligation that it must meet.

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<sup>96</sup> Equitas has not made clear whether it would wish to cross-examine Mr Jewell if it fails to obtain a ruling that his evidence is inadmissible.

<sup>97</sup> See para. 2.6 of the joint memorandum [D4/12/276].

<sup>98</sup> See paras 1.2(a) and 4.2 of Mr Berry's supplemental report [D7/16/120 and 123].

**(F) Suggested pre-reading**

144. R&Q agrees with the suggested reading list at paragraph 93 of Equitas's Written Opening. In addition, R&Q suggests that the relevant paragraphs of the R&Q factual statements referred to in paragraph 141 above be read (with David Jewell's statements being read de bene esse). R&Q also suggests that the Notice to Admit [A2/22], and Admissions [A2/23], concerning the features of the LMX spiral be read in advance, along with the speech of Lord Mustill in *Hill v. M&G*. A bundle of authorities will be lodged.

**JOHN LOCKEY Q.C.**

Essex Court Chambers

**PATRICK GOODALL**

Fountain Court Chambers

9 June 2009