



Neutral Citation Number: [2022] EWHC 2828 (Admlty)

Case Nos: AD-2020-000072, 000081 & 000082

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
KING'S BENCH DIVISION
ADMIRALTY COURT

Royal Courts of Justice
Rolls Building, Fetter Lane, London, EC4A 1NL

Date: 11/11/2022

Before :

MR JUSTICE ANDREW BAKER
sitting with Captain Roger Barker and Captain Aseem Hashmi, an Elder Brother and
Elder Brother (designate) of Trinity House, as nautical assessors

Between :

MV PACIFIC PEARL CO. LIMITED
- and -
(1) NYK ORPHEUS CORP
(2) QUICK SHIP HOLDING S.A.

Claimant

Defendants

Timothy Hill KC and Richard Greenberg (instructed by **Ince Gordon Dadds LLP**)
for the *m.v. Panamax Alexander*
James M Turner KC (instructed by **BDM Law LLP**) for the *m.v. NYK Falcon*
Benjamin Parker (instructed by **Penningtons Manches Cooper LLP**)
for the *m.v. NYK Orpheus*

Hearing dates: 20, 21, 22, 23, 27, 28, 29, 30 June 2022

Approved Judgment

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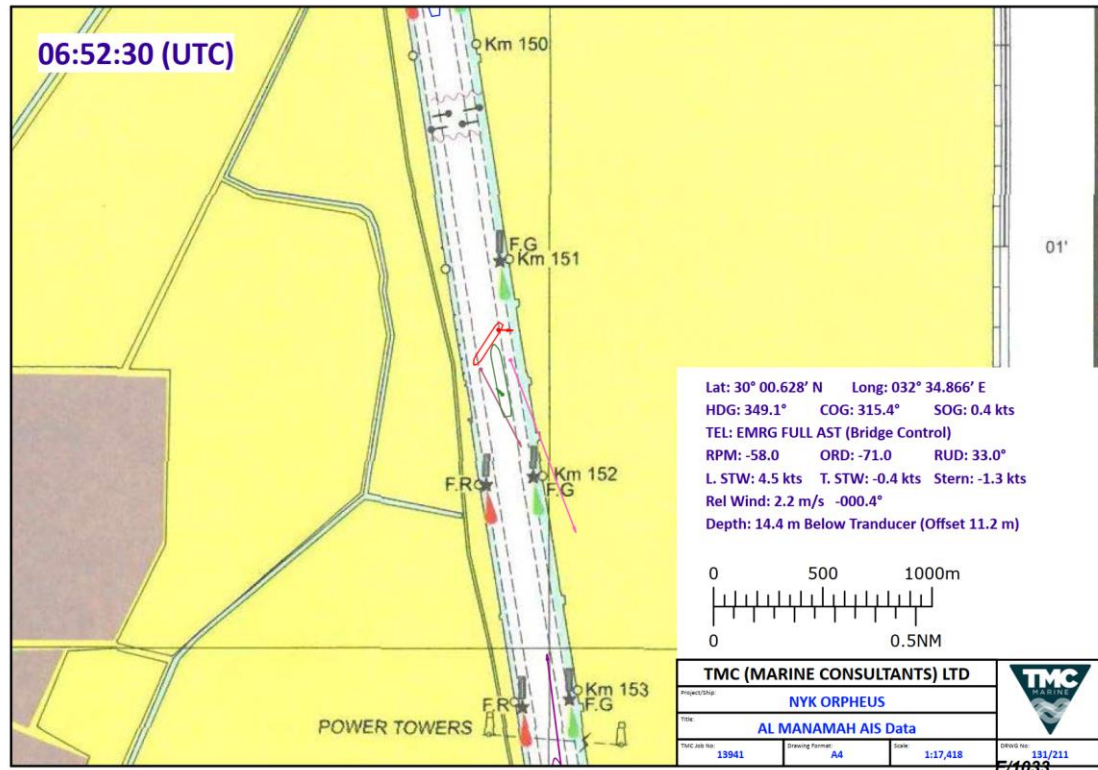
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MR JUSTICE ANDREW BAKER

Mr Justice Andrew Baker:

Introduction

1. On the morning of 16 July 2018, the m.v. *NYK Orpheus* (“*Orpheus*”) ran into the m.v. *Panamax Alexander* (“*Alexander*”) in the Suez Canal. All times I give in this judgment are local time in the Canal (UTC + 2 hrs).
2. *Orpheus* was part of a northbound Suez Canal convoy, following the m.v. *NYK Falcon* (“*Falcon*”). *Orpheus* and *Falcon* are both very large container ships, *Falcon* the larger of the two. *Falcon* in turn was following an Egyptian military ship, the *ENS Sagam Shalateen* (“*Shalateen*”), which was following the m.v. *Al Manamah* (“*Al M*”) at the head of the convoy. *Al M* is also a large container ship, although not as large as *Orpheus*.
3. *Shalateen* was very small in comparison to all the cargo ships I mention in this judgment. She was not transmitting an AIS signal, so her precise movements could not be plotted and she does not appear in the agreed plots that were used at trial. It was common ground that she was at all material times in the convoy, between *Al M* and *Falcon*. The VDR transcripts that were used at trial make some reference to her, giving a little more idea of where exactly she was or what she was doing within the convoy at certain times.
4. *Alexander* was a damaged ship following a collision the previous day: see *Sakizaya Kalon, Owners of the Vessel v Panamax Alexander, Owners of the Vessel* [2020] EWHC 2604 (Admlty). She was moored starboard side to, with six ship’s lines made fast on bollards positioned at intervals on the west bank of the Suez Canal, a little to the south of the 151 km post, in the southern section of the Canal.
5. That is a particularly narrow part of the Suez Canal, it may be the narrowest. It is where the m.v. *Ever Given* ran aground on 23 March 2021, generating headline news. The main navigation channel there, with a maintained depth of 25 m and an actual depth on 16 July 2018 of 26.1 m, is only the central 121 m of the Canal. Either side of that flat bottom, the Canal floor slopes up on a 1 in 3 gradient so that the width of the Canal at the 9 m depth contour (10.1 m of water on 16 July 2018) is 217 m.
6. The plan for *Alexander* was to remove her under tow to the Bitter Lakes to the north. *Sakizaya Kalon* had been cleared away and *Alexander* was waiting her turn to follow.
7. The northbound convoy proceeded into and up the Canal while *Alexander* was still there, requiring it either to pass her, stationed as she was just south of the 151 km post, or to come to a halt in the Canal to wait for her to be towed away. *Al M* passed *Alexander* without incident between 08:13 hrs and 08:18 hrs, taking ‘passing’ to mean from bows alongside to sterns alongside (on a perpendicular across the Canal). *Shalateen* followed without incident some minutes later, but it is not possible to be more precise than that in the absence of AIS data for her.
8. *Falcon* passed *Alexander* between 08:40 hrs and 08:44 hrs. As *Falcon*’s stern cleared *Alexander*’s, the bow of *Orpheus* was c.0.7 nautical miles off the bow of *Alexander*. *Orpheus* was making 6.6 knots over the ground, steaming Half Ahead at a little over 9 knots through the water against a northerly current of c.2.5 knots.

9. After *Falcon* had passed, *Alexander*'s two stern lines parted and she swung out from her moored position by the stern. She was attended by two tugs, *Salam 6* and *Salam 9*, but they did not arrest the swing. By 08:51 hrs *Alexander* was diagonally full across the main navigable channel of the Canal, her stern continuing to swing towards the oncoming *Orpheus*. At c.08:52 hrs the bulbous bow of *Orpheus* ran into the port side of *Alexander*, puncturing her No.5 cargo hold and No.4 double bottom water ballast tank.
10. The collision position is shown in this agreed plot for 08:52:30 hrs:



Orpheus is aligned with the Canal, her starboard side on the edge of the main dredged channel; *Alexander* is diagonally across that channel. The stern of *Falcon* is just visible at the top of the plot, a little north of the 150 km post, and the bow of the m.v. *Maersk Sarnia*, the next ship in the convoy behind *Orpheus*, is just visible at the bottom, a little south of the 153 km post. *Maersk Sarnia*, another container ship, was very similar in size to *Orpheus*.

11. In the immediate run-up to the collision, *Orpheus* had put her main engine to Dead Slow Ahead at 08:50:03 hrs, to Stop at 08:50:25 hrs, then to Slow Astern, Full Astern and Crash Astern at 08:50:33, 08:50:45 and 08:50:50 hrs respectively. The impact and the Crash Astern engine combined to bring *Orpheus* to a halt and then to pull her bow back out of *Alexander* promptly after the collision.
12. This judgment follows a trial of liability and one additional issue in three Admiralty claims, *Alexander v Falcon* (Claim 000082), *Alexander v Orpheus* (Claim 000081) and *Orpheus v Alexander* (Claim 000072). In the proceedings as consolidated, *Alexander* has been treated as claimant, *Falcon* and *Orpheus* as defendants. The court is required to determine whether any, and if so which, of the three ships was at fault

for the collision on 16 July 2018, and if relevant apportion blame, save that the court has not been asked by *Falcon* or *Orpheus* to deal with contribution *inter se*, whether in respect of the damage to *Alexander* or their respective liability (if any) in relation to that damage, or in respect of the damage to *Orpheus*.

13. The substance of the rival contentions as to causative fault is as follows:
 - (i) *Alexander*, it is said, was inadequately moored with only six lines when she could and should have used ten, failed to make prompt or effective use of the tugs, and gave no or insufficient warning to *Orpheus* that she was losing her mooring.
 - (ii) *Falcon* and *Orpheus*, it is said, should each not have attempted to pass *Alexander*, but should either have declined to enter the Canal or halted their passage up the Canal until *Alexander* had been cleared out of the way.
 - (iii) *Falcon*, it is said, passed at an unsafe speed, and turned back towards the centre of the channel and increased main engine speed too soon, before she had completed the pass.
 - (iv) *Orpheus*, it is said, proceeded towards *Alexander* at an unsafe speed and too close to *Falcon*, failed to react promptly to *Alexander*'s swing towards *Orpheus*'s path, and failed at the last to run herself aground rather than hit *Alexander*.
14. The additional issue concerns *quantum* in relation to the damage to *Alexander*. It was actively contested between *Orpheus* and *Alexander*, *Falcon* being aligned with *Orpheus* on the point but leaving it to *Orpheus* to make the running rather than duplicate costs. The additional issue was ordered to be tried together with the question of liability because it was thought that the liability issues would involve expert marine engineering evidence, so it would be convenient to have those experts deal with the additional issue at the same time, and because if *Orpheus* were correct on the additional issue, a substantial proportion of the losses claimed by *Alexander* would be knocked out of account come what may.
15. After the collision with *Orpheus*, there could not be any question of *Alexander* completing her laden voyage to Iran. Given the damage caused on 16 July 2018, her cargo needed to be, and was, transhipped, so she could proceed to dry dock for repairs (in the event, a dry dock at Duqm, Oman). *Alexander* claims that but for the collision on 16 July 2018, she would have completed the voyage to Iran, either following repairs afloat in the Suez Canal area or under tow. *Orpheus* disputes that claim and the additional issue giving rise to the potential 'knock-out blow' was whether repair sufficient for *Alexander* to be physically capable of completing her laden voyage, or the completion of that voyage under tow, was possible.
16. Whether such repair or such a tow, if possible, would have been undertaken is a separate matter that was not for trial at this stage. If it arises, because *Alexander* is correct as to what was possible, that question of what would in fact have been done will have to be judged bearing in mind all the material circumstances, including commercial considerations, the availability of appropriate repair or towage contractors, and whether necessary approvals would have been given (in relation to

which, I envisage it might be necessary to consider whether there would have been a need for approval from, and if so whether approval would have been given by, the Suez Canal Authority ('SCA') and *Alexander's* Classification Society, Flag State Authority, hull insurers and/or P&I Club, it may be among others).

17. In the event, the marine engineering evidence was almost wholly devoted to the additional issue and when that evidence was explored there was little of substance left in dispute on that issue, properly understood. That may mean that taking the additional issue at this stage has not advanced matters as much as it had been thought it would. That can happen. It does not mean the case management decision to order the additional issue was the wrong decision to make on the information then available to the Admiralty Registrar; and I apprehend that the parties will be better informed for the next stage of the proceedings for having explored the marine engineering experts' views with them at this trial even if the only point determined now is the narrow one as to what was technically possible.

Liability Principles

18. There was no dispute about the principles applicable to liability. Each of the ships before the court owed each of the other two a duty to take care not to collide with them or cause them to have a collision. To that end, each is liable, subject to apportionment, for damage suffered by either of the other ships in a collision caused by their having operated and/or navigated otherwise than in accordance with good seamanship.
19. Good seamanship is the exercise of that skill, care and nerve which are ordinarily to be found in competent mariners. Poor or bad seamanship is the opposite, i.e. a decision or step that no ordinarily competent mariner acting with care would have taken or an omission to act as any such mariner would have acted. Whether there has been good or bad seamanship is a question of fact to be decided upon consideration of all the circumstances as they stood at the time. A failure to observe the Collision Regulations is bad seamanship; a failure to comply with local regulations (here, the SCA's Rules) may also be.
20. The Collision Regulations of possible relevance in the present case are:
 - (i) Rule 2, the 'general prudential rule', which imposes an obligation to comply with the Collision Regulations and the practice of good seamanship.
 - (ii) Rule 5, which imposes an obligation to maintain a proper lookout using all available means so as to make a full appraisal of the situation. That involves taking due care to obtain and maintain a proper appreciation of the situation and any risk of collision. In certain conditions, including unusual navigation or navigation in confined waters, maintaining a proper lookout is likely to involve keeping an especially sharp lookout.
 - (iii) Rule 6, which imposes an obligation to proceed at a safe speed in order to take proper and effective action to avoid collision. What amounts to a safe speed depends on the circumstances.

- (iv) Rule 7, which imposes an obligation to use all available means to determine if risk of collisions exists, the rule being that “*If there is any doubt such risk shall be deemed to exist*”. Rule 7 expressly prohibits making assumptions on the basis of “*scanty information*”.
- (v) Rule 8, which imposes an obligation to take appropriate action to avoid collision. That means not only responding appropriately when there is an imminent risk of collision. An important principle of good seamanship underlying all of the Collision Regulations is that so far as is reasonably possible ships should avoid generating close-quarters situations: see *The Sanwa* [1998] 1 Lloyd’s Rep. 283 at 299 (rhc).
- (vi) Rule 18(a), which imposes an obligation on a power-driven vessel underway to keep out of the way of (amongst other things) a vessel restricted in her ability to manoeuvre. I mention Rule 18(a) for completeness since it was mentioned by Mr Hill KC for *Alexander*. But it was not suggested, nor sensibly could it have been, that Rule 18(a) created a duty under the Collision Regulations not to attempt to pass *Alexander* in the Canal on the morning of 16 July 2018 if with careful navigation that passing manoeuvre should not have created danger; and no Collision Regulation Rule was or is needed to see that as they proceeded up the Canal in convoy there was an onus on the ships in the convoy to take reasonable care in navigating past her not to create a risk of collision.

21. The SCA Rules include the following provisions:

- (i) Article 48(4): “*All vessels must stop whenever the passage ahead is not clear*”. Again, it was not suggested, nor could it have been, that Article 48(4) prohibited any attempt to pass *Alexander*, moored as she was to the side of the Canal. Until she swung out ahead of *Orpheus*, she was not blocking the passage ahead. When *Alexander* did swing out into the channel, Article 48(4) adds nothing to the liability of *Orpheus* if she was negligent in her navigation so as to collide with her, and does not impose liability on *Orpheus* if she collided with *Alexander* although there was no negligence in her navigation.
- (ii) Article 48(5): “*Vessels must slow down passing along collapsed or under repairs banks, as well as when passing all vessels in sidings, hoppers, dredgers and other floating units made fast*”. Assuming in *Alexander*’s favour that Article 48(5) applies, which means treating her as an ‘other floating unit made fast’, it likewise adds nothing. *Falcon* did slow down, and *Orpheus* was shaping to slow down and would have done so, to pass *Alexander*. The question in each case is whether she did so sufficiently, an ordinary question of proper navigation in the confined waters of the Canal not dealt with by Article 48(5).
- (iii) Article 59(7): “*Whenever a collision appears probable, vessels must not hesitate to run aground should this be necessary to avoid the collision*”. At points, Mr Hill KC appeared to be contending that this created an absolute duty on *Orpheus* to run herself aground, so that having not done so she was liable for the collision. It may be the submission was not intended to go that far. In any event, I do not consider that Article 59(7) does so. It says what it

says, nothing more. If a collision appears probable, grounding will avoid the collision, and nothing else will, then ships in the Canal are not to hesitate over running themselves aground as a collision-avoidance measure.

22. Where pilots are on the bridge and involved in the navigation, the master remains responsible, and the shipowner is liable for negligent navigation on the part of the pilots. Mr Hill KC argued that Article 59(3) of the SCA Rules overrode that well-known rule as regards decisions about how *Alexander* was secured at the side of the Canal. I deal with that argument, and reject it, below.

23. Turning then to apportionment, s.187 of the Merchant Shipping Act 1995 provides that:

“Where, by the fault of two or more ships, damage or loss is caused to one or more of those ships, to their cargoes or freight, or to any property on board, the liability to make good the damage or loss shall be in proportion to the degree in which each ship was in fault.”

24. It follows that where damage is caused to a ship not at fault by the fault of two or more other ships, the blameless ship is entitled to full damages from each of the ships at fault (so long as there is no double recovery). Apportionment between the ships at fault in respect of their liability to the blameless ship they damaged is a matter for the Civil Liability (Contribution) Act 1978. That will not arise here, as I find below that neither of the damaged ships, *Alexander* and *Orpheus*, was blameless.

25. The apportionment rule of s.187 is not confined to collisions between ships, let alone collisions between ships all of which are at fault. *Falcon* is therefore a relevant ship at fault, although she did not collide with anything and nothing collided with her, if she was at fault and at least one of *Alexander* and *Orpheus* was also at fault. I find below that *Falcon* was at fault, so it will be necessary to apportion the liability for the damage to *Alexander* and *Orpheus* across all three ships.

26. Applying s.187 involves an assessment of the degree of blameworthiness and the causative potency of each ship’s fault. Teare J summarised the approach as follows in *The Nordlake* [2015] EWHC 3605 (Admlty), at [149]:

“(i) The number of faults on one side or the other is not decisive. It is the nature and quality of a ship's faults, rather than their number, that matter.

(ii) Breaches of the obligations imposed on ships in certain defined situations by the Collision Regulations will usually be regarded as seriously culpable. One such rule is the narrow channel rule.

(iii) Causative potency has two aspects. The first is the extent to which the fault contributed to the fact that the collision occurred. The second is the extent to which the fault contributed to the damage resulting from the casualty.

(iv) In most cases though not all it will be right to treat the fault of a ship that creates a situation of difficulty or danger as greater than that of the ship that fails to react properly to such situation after it has been created.

(v) *The fact that a fault consists of a deliberate act or omission may in certain circumstances justify the court in treating it as more culpable than a fault which consists of omission only.*”

27. As the Court of Appeal said in *The Alexandra 1 and Ever Smart* [2017] EWCA Civ 2173 (reversed in the Supreme Court without affecting this point, [2021] UKSC 6), the aim is to derive “*a broad, commonsensical and qualitative assessment of the culpability and causative potency of both vessels*” (*ibid* at [124]).
28. Where three ships are at fault, the court should make a comparison of the fault of each with the fault of each of the others separately and should not in the case of any of the ships treat the others as “*one unit*”. As Lord Morris explained in *The Miraflores and the Abadesa* [1967] 1 A.C. 826, at 842:

“*The process necessarily involved comparisons and it required an assessment of the inter-relation of the respective faults of the three vessels as contributing causes of the damage or loss. If the faults of two vessels out of three are being grouped together there may be risk of making it difficult to make separate comparisons and assessments as between the three.*”
29. By a proviso in s.187(2), if the evidence is such that responsibility cannot be apportioned with any certainty, then as a default rule of last resort the liability should be apportioned equally. I shall not need to apply that default rule in the present case.

The Evidence

30. I received extensive agreed evidence or forensic presentations of evidence from the electronic data retrieved from the three ships. That included an extremely helpful MADAS reconstruction of their movements commissioned from Avenca Ltd, static plots presented in the .pdf format trial bundles in such a way that it was easy to scroll through them forwards or backwards to create, in effect, a stop motion animation, and agreed transcripts of the VDR voice recordings on the bridges of the three ships. *Alexander*, *Falcon* and *Orpheus* all had their ECDIS displays set to overlay the positions of ships in the vicinity derived from their AIS transmissions.
31. One important qualification upon the agreed evidence is that *Alexander* was transmitting an AIS position only once every 3 minutes. She swung out by the stern, into and ultimately full across the main central channel, over a period of 6 minutes or so during which there are therefore only two AIS fixes for her position. The MADAS reconstruction included interpolated positions to show a swing path, but that was indicative only. I could not treat that swing path as accurate with any particular degree of precision. My finding on the swing path appears in paragraph 102 below.
32. There were also photographs and video footage taken from *Falcon*. The photographs were taken by *Falcon*’s chief officer, from the monkey bridge of *Falcon* as she passed *Alexander*. The video came from static forward and aft CCTV-type cameras fitted on *Falcon*. In addition, there was mobile phone video footage from *Alexander* of the *Orpheus* approaching and colliding.

33. As regards the agreed VDR transcripts, there was no VDR voice recording from *Alexander* for the period after her six-line mooring operation on the west side of the Canal was completed shortly after 04:40 hrs on 16 July 2018. Her master, Captain Albert Secusana, noted as the last entry in a collision report to his shore managers in respect of the collision the previous evening, sent at 05:01 hrs and reporting on the ship's position and condition, and recent events, as at 04:45 hrs:

"16JULY2018 0235UTC VDR CARD STOP SWITCH OFF AND CARD EJECTED"

34. The immediately preceding entry in the collision report noted *"INSTRUCTION FROM THE CANAL AUTHORITIES, AFTER MV SAKISAYA KALON TOWING TO OUTSIDE ANCHORAGE, NEXT WILL BE PXALEXANDER TO BE TOW TO OUTSIDE ANCHORAGE"*. Shortly after, by email at 05:22 hrs to his Suez agents, copied to the shore managers, Capt Secusana again reported that *"after the MV SAKIZAYA KALON shifted to outer anchorage, Panamax Alexander will be the next to be shifted in outer anchorage, No specific time."*
35. At c.04:32 hrs, Capt Secusana was on the telephone, to whom I cannot judge, saying *"Hello sir. Good morning again. Captain speaking. Sir, we are already made fast in the bank. Er. I stop now the VDR? Yes OK I will save, I will save it ... OK sir."* A minute or two later, in what appears to be a continuation of the same conversation, he said, *"... OK. Copy. Copy sir. Stop now the VDR. Copy. OK sir OK. Yes sir. Thank you sir. Yes, sir thank you sir. OK thank you sir. Yes sir, I understand, OK sir thank you now stop the VDR."* The VDR stops a few minutes later again, at 04:37 hrs, during a conversation between Capt Secusana and his Suez Canal pilot about what they would do with *Alexander's* anchor for the tow to the Bitter Lakes.
36. It was not possible to explore why the VDR was switched off with Capt Secusana because he provided no evidence for this trial. He was obviously an important witness, even though (indeed, especially because) *Alexander's* case was that he was in his cabin from c.07:00 hrs until a few minutes before *Orpheus* collided with his ship, and there is reason to consider that in fact he was off the bridge from more like 05:30 hrs, after sending the email to which I referred in paragraph 34 above. Mr Hill KC asserted in his skeleton argument for trial that Capt Secusana was not giving evidence because *"he was in his cabin at the material time ..., taking a rest, having been almost continually on the bridge since the incident the previous day"*. But there was no evidence for that, i.e. there was no evidence that Capt Secusana was not called as a witness because he was in his cabin for whatever precise period he was. On no reasonable view of the case could it have been thought that the only period of time that would be material fell wholly within the time when he was in his cabin, or that even if, somehow, that were the case, it made Capt Secusana an immaterial witness.
37. The mariners who did give evidence were:
- (i) from *Alexander*, C/O Norilito A Celocia, C/E Marcelo R Tribulano, 3/O Reyán M Ronquillo, and A/S Erwin S Villaluz;
 - (ii) from *Falcon*, the master, Captain Viswa Kiran Dusi;
 - (iii) from *Orpheus*, the master, Captain Alok Kumar, and 3/O Prince Sugue;

each of whom gave evidence remotely, via MS Teams, from the Philippines or India.

38. I also had evidence from Mr Athanasios Ravanoglou, a marine manager from *Alexander's* technical managers, about the maintenance regime for *Alexander*, in particular as regards mooring winches and ropes, and about the damage suffered on 15 July 2018 and how *Alexander's* management would have sought to deal with it had it not been for the collision the following morning. That evidence came in the form of Mr Ravanoglou's trial witness statement only, the defendants having indicated that they had no cross-examination for Mr Ravanoglou for this trial.
39. There was expert evidence from naval architects, modelling and explaining the impact of the hydrodynamic forces upon *Alexander* and her mooring system induced by the passing of *Falcon*, in the events as they were and under certain counter-factual assumptions; and from marine engineers, considering and explaining the options available (if any) for repairing the 15 July damage to *Alexander* without cargo removal and dry docking, including a consideration of how much, if any, of the damage to *Alexander's* propulsion and steering systems was caused on 16 July rather than the previous evening.
40. The naval architect expert witnesses were Mr Jeremy Colman of Burness Corlett Three Quays, called by *Alexander*, and Mr Brocque Preece of Aqualis Braemar LOC, called by *Falcon*. The marine engineer expert witnesses were Mr Martin Twomey of Brookes Bell USA, called by *Alexander*, and Mr Gary Rawlings of TMC (Marine Consultants) Ltd, called by *Orpheus*. All were due to give their evidence in person, but Mr Twomey tested positive for Covid-19 the day before his evidence was due, after he had travelled to London to be called. He therefore gave his evidence remotely, via MS Teams, from his hotel room. It was evident that he was suffering some discomfort with Covid symptoms, albeit, thankfully, only mild symptoms so far as I could tell. I am grateful to him for his willingness to give evidence as scheduled rather than delay the trial, and I am pleased to record having been told upon enquiry of the solicitors that he made a full recovery within a matter of days.
41. At trial, I sat with nautical assessors, in the normal way for a collision action, on this occasion Captain Roger Barker, an experienced merchant vessel master with extensive Kiel Canal experience, who until recently was the Director of Navigational Requirements at Trinity House, and Captain Aseem Hashmi, an experienced master mariner who is one of the current captains of Cunard's *Queen Mary 2*, which has similar principal dimensions to the *Falcon*, and who has substantial experience of Suez Canal transits.
42. Capt Barker is an Elder Brother of Trinity House; Capt Hashmi is a Younger Brother and Elder Brother (designate). In what follows, I shall refer to them simply as 'the Elder Brethren'.
43. The usual proper practice set out by Gross J (as he was then) in *The Global Mariner and the Atlantic Crusader* [2005] EWHC 380 (Admlty) at [12]-[17], especially at [14], was adopted. Counsel in both their skeleton arguments and opening observations, and again in their closing submissions, canvassed topics on which advice might be sought from the Elder Brethren. I put questions to the Elder Brethren, taking counsel's submissions into account but informed also by the findings I would

be making on matters of primary fact on which no advice on seamanship was required, so as to focus the advice sought.

44. The advice received was shared with counsel, providing an opportunity for them to make submissions as to whether it should be followed and/or whether further or different questions should be put. My questions were put to the Elder Brethren on 12 July 2022 and their advice was received on 4 August 2022. Under directions I gave after receiving correspondence about counsel's availability, written observations were provided on behalf of *Falcon* and on behalf of *Orpheus* on 9 September 2022, followed by written observations on behalf of *Alexander* on 23 September 2022 and brief replies on behalf of *Falcon* and on behalf of *Orpheus* on 30 September 2022.
45. There was no request for any further oral hearing, however I was variously invited by the parties' observations to reject or seek clarification of some of the Elder Brethren's advice and/or to seek additional advice. I judged that on some points it would be helpful to obtain clarification, and so I put further questions to the Elder Brethren on 10 October 2022, to which they responded on 17 October 2022. By their response, they confirmed and clarified those parts of their original advice on which I had sought further assistance.
46. On reviewing the Elder Brethren's supplementary advice, and seeing that they had provided substantial further explanation of and support for some of their original views, I decided that, exceptionally, the parties should have a further, and final, opportunity to comment (if so advised, and without obligation to do so). I therefore directed on 17 October 2022 that in considering my judgment, I would take account of any additional observations received (nil returns not required) by 28 October 2022. Additional observations were submitted by *Alexander* and *Falcon*, but not by *Orpheus*. *Alexander* also responded by a short solicitors' letter to one point raised in *Falcon*'s reply observations of 30 September 2022. Again, no application was made for any further oral hearing.
47. *Alexander*'s solicitors noted, correctly, in their further letter that it was not within the scope of my direction allowing additional observations on the Elder Brethren's supplementary advice. No explanation was given for not providing that rejoinder, or any notice that it might be forthcoming, until after the first set of observations had been considered and additional questions had been put to and answered by the Elder Brethren. *Alexander*'s solicitors cannot have been waiting for notice of all of that before writing. Their expectation should have been that, unless notified otherwise by the court, after *Falcon*'s and *Orpheus*'s reply observations on the Elder Brethren's initial advice, the next step would be the circulation of my judgment in draft.
48. It was therefore by way of substantial indulgence that I read and took account of this belated rejoinder. I did so because of the narrowness of the point and, having read it, the evident force of *Alexander*'s criticism of it. In short, *Falcon*'s reply observations had suggested, speculatively and implausibly, that *Alexander*'s mooring boat might not have been retrieved after the six-line mooring had been completed, or might have been retrieved but not "*fully stowed*", whatever that might mean in relation to a mooring boat. I reject the suggestion.
49. I have taken careful account of all of the parties' observations on the Elder Brethren's advice, including their criticism of it where criticisms were made. I am confident that

I have been well advised. I do not find there to be reason not to accept their advice on any of the matters on which I asked for their opinion, where it was in the nature of expert evidence, and I have relied on that advice throughout as appropriate. I identify and deal with criticisms of their advice, to the extent I consider it necessary to do so individually, in the course of explaining my findings concerning causative fault.

Factual Narrative

50. The parties agreed for trial a factual narrative of the main events. This section of my judgment sets out that agreed narrative, together with findings I make on the evidence, or explanations of the agreed facts, to supplement it.
51. *Alexander* is a dry bulk carrier with length overall of 225.0 m, maximum beam of 32.2 m and gross tonnage of 38,928 m.t. She was laden with around 63,000 m.t. of feed barley in bulk with salt water drafts of about 12.4 m forward and 13 m aft.
52. *Falcon* is a containership with length overall of 364.15 m, maximum beam of 50.66 m and gross tonnage of 144,277 m.t. She was laden with 11,734 TEU of containerised general cargo. Her draughts on entering the Suez Canal were 13.5 m forward, 13.8 m aft and 13.6 m amidships.
53. *Orpheus* is a containership with length overall of 336.0 m, maximum beam of 45.8 m and gross tonnage of 99,543 m.t. She was carrying 3,597 containers on a draft of 11.2 m even keel.
54. In the incident on 15 July 2018, *Alexander* was involved in collisions with the m.v. *Osios David* and the m.v. *Sakizaya Kalon*, in the Suez Canal just a few miles from the southern exit of the Canal. That incident caused damage to *Alexander*'s propeller and rudder assembly, including:
 - (i) Propeller Damage. Three of the four blades were bent aft by about 45-60 degrees and the fourth by about 90 degrees (although, I add, there may be a question whether the incident with which I am concerned was the cause or a partial cause of the additional extent of damage to the fourth blade). This damage occurred while *Alexander* was moving in the ahead direction with the propeller turning during the first incident.
 - (ii) Bent rudder stock and deformed or damaged carrier pedestal. The rudder stock was found to be bent and twisted by about 14.4 degrees. There was also damage sustained to the upper and lower rudder pintle bristles, carrier bush, and misalignment in the face of the carrier bearing.
55. No underwater inspection was carried out between the first incident and the second incident on 16 July 2018, i.e. the collision the subject of this judgment.
56. In the early hours of the morning of 16 July 2018, up to and including the time of the collision, in the Canal there was generally good visibility and a tidal current flowing south of about 2.5 knots.
57. At the material times set out below (up to and including the collision between *Alexander* and *Orpheus*), the following Suez Canal pilots were on board:

- (i) Captain Ramzy was on board *Alexander*. Capt Ramzy replaced Captain Waheeb El Segany (Chief Pilot) and Captain Al Sadek by around 07:10 hrs.
 - (ii) Captain Magdy and Captain Al Sabban were on board *Falcon*.
 - (iii) Captain Samy Awadallah and another were on board *Orpheus*.
58. Prior to the collision:
- (i) *Alexander* was moored alongside the west bank of the Suez Canal heading south in a position approximately six miles north of the Suez Port, just south of the 151 km mark. She had a six-line mooring arrangement in place: two headlines and one spring line forward and two sternlines and one spring line aft. I add that the use of the term ‘spring line’ for the aftmost forward line and the forwardmost aft line is loose. As will be evident from the diagram I reproduce under paragraph 163 below, the location did not allow for properly effective spring lines.
 - (ii) Two tugs, *Salam 6* and *Salam 9*, were attending *Alexander* portside forward and portside aft respectively.
 - (iii) *Alexander*’s starboard anchor was deployed but making no material contribution to holding *Alexander* alongside.
 - (iv) The maximum water depth at the part of the Canal where *Alexander* was moored is about 25 m, with the depth becoming shallower as the channel slopes upwards towards each bank. The chart shows 9 m, 11 m and 25 m contour lines.
59. At 04:28:52 hrs, *Alexander*'s pilot informed her master, Capt Secusana: “*This ship...Coming tug boat, a strong tug boat...to take it again to the er...*”. The master interjected, “*Outside, anchorage*”; and the pilot informed him, “*No. no no. Going to Bitter Lake.*” At 04:31:24 hrs, *Alexander*’s master said to the senior pilot on board (Capt Waheeb El Segany): “*What I am thinking now, the ropes is enough. Two headlines, two stern lines. Is enough.*”; and the pilot replied, “*yeah. Yes.*”
60. I find that the mooring lines on *Alexander* were in good condition, and that there is no reason to suppose they were not properly tensioned and tight. After the mooring operation was completed, there was a roving patrol on deck to check tensions and adjust if required to ensure that all the mooring lines stayed tight. The only basis for a theory advanced by the NYK ships that there was a problem with *Alexander*’s lines was the notion that if the stern lines that parted were massively deficient in strength, that might explain why they parted. The loads on those lines will not have reached more than a fraction of their rated breaking strength.
61. I add further that *Alexander* thus put out the six-line mooring, with mooring operations completed at c.04:40 hrs, to hold station until a tow arrived to clear her away to the Bitter Lakes. The understanding on board was that she would be cleared away before that day’s first convoy. It was not a mooring arrangement selected or intended to secure *Alexander* to the side of the Canal while a convoy came past her position.

62. Shortly before 06:20 hrs, however, it was learned on board *Alexander* that she was to stay put until after that morning's two scheduled convoys (so that would be the northbound convoy in which I am directly interested, followed by a southbound convoy). That is nearly 2 hours before in due course *Al M* at the head of the northbound convoy would reach *Alexander*'s position. That information came when at 06:17:50 hrs, Capt Waheeb, the senior pilot on board *Alexander*, was hailed by the tug *Salam 6*, calling for a line so she could attach to *Alexander*. The tug explained the request as follows: "*Good morning Captain Waheeb. We need a line from the bow, Captain Waheeb, so that we will stay here until the two convoys pass.*"
63. As a result, by the time the convoy did arrive, the tugs, *Salam 6* and *Salam 9*, were attached, albeit they were playing no active part in securing *Alexander* in position. The tugs were attached to *Alexander*'s port side, each by a single line, one forward and one aft.
64. There was no evidence that Capt Waheeb shared the news that convoys were to be sent past with *Alexander*'s officers or crew. Plainly, he ought to have done so. Whether he did or did not do so, there was no credible evidence that anyone on board *Alexander* gave any thought at all to the question whether the temporary mooring put out to hold the ship against the current until the tow arrived was what was wanted for the very different circumstance that two convoys were to pass before any tow. I find that indeed no thought was given to that question.
65. C/O Celocia, in his evidence, appeared to suggest that he had given thought to the adequacy of the mooring later, when just before 08:00 hrs and to his surprise he learned that the convoy was to come past, by which time *Al M* was at the 153 km mark, approaching *Alexander*'s position at the head of the convoy. I do not accept that evidence. In my judgment, C/O Celocia was saying what he felt he needed to say to defend the six-line mooring. He was not giving evidence of honest recollection. (I also conclude, below, that if due consideration had been given then to strengthening the mooring, it was not too late to do so.)
66. Returning to the parties' agreed narrative, on 15 and 16 July 2018, *Falcon*'s Master had email correspondence with *Falcon*'s local agents concerning *inter alia* the northbound convoy, as well as the vessels that had been involved in the first incident.
67. No changes were made on 16 July 2018 (or before the Canal transit) to *Falcon*'s or *Orpheus*'s passage plans. I add some context for that basic agreed fact. The information given to the NYK ships about the situation in the Canal, it was agreed, will not have differed as between *Falcon* and *Orpheus*, albeit the significant disclosure in that regard came only from *Falcon*. It was as follows:
 - (i) At 00:18 hrs, *Falcon* was told of her scheduled position in the convoy, that the convoy would commence at 05:00 hrs, and that the floating of *Sakizaya Kalon* and *Alexander* following the collision the previous evening was still under way. There was a similar message an hour later.
 - (ii) At 02:36 hrs, *Falcon* was informed that the convoy had been delayed to 07:00 hrs, that *Alexander* had been afloat since 01:40 hrs, but "*until the moment SCA tries to put her into the right pass to avoid her ground again*". That message

was repeated at 03:37 hrs and 05:31 hrs, save that in the latter message the convoy time was put back further, to 07:30 hrs.

- (iii) That 05:31 hrs message also added, in reporting on the position of *Sakizaya Kalon*, that she was heading back to the Bitter Lakes (i.e. northbound – she and *Alexander* had been southbound the previous evening),
“*Because of the commencement of N/B transit at 0730 Hrs LT on 16th Jul And SCA needs the Suez Canal clear for the N/B Convoy, then she should join next S/B Convoy on 16th Jul*”.

68. Thus, prior to joining the convoy, the NYK ships were aware of the collision the previous evening, and the names of the ships involved, and understood that *Alexander* was still in the Canal and that the SCA was still trying to put her into a good position to avoid her going to ground again. An easy check using their ECDIS displays (with the AIS feed overlaid) could have shown the NYK ships where exactly *Alexander* was in the Canal.
69. The possibility of not joining the convoy if *Alexander* was not cleared away ahead of it was not considered on board either of the NYK ships. Nor was there any planning or discussion on either bridge as to how precisely they should navigate themselves so as to manoeuvre safely past *Alexander* when they reached her position in due course.
70. Returning to the parties’ agreed narrative, the northbound convoy included the following vessels (in the following order): (i) *Al M*; (ii) *Shalateen*; (iii) *Falcon*; and (iv) *Orpheus*. In turn, I add, *Orpheus* was followed by: (v) *Maersk Sarnia*, to which I have referred already; then (vi) *MSC Ravenna*, another very large container ship, larger even than *Falcon*.
71. At 07:23 hrs, Capt Ramzy on *Alexander* called Port Control to ask when the first ship in the convoy would be entering, when the last was expected and how many ships were in the convoy. Port Control informed him the first ship was due to enter at 07:30 hrs, the last at 11:20 hrs, and there were 19 ships in the convoy.
72. *Al M*, leading the convoy, was approaching the SCA signal tower at Port Taufiq by 07:25 hrs. She passed the moored *Alexander* without incident between around 08:12 hrs and 08:19 hrs. She did so, I add, at a speed over the ground of c.3.5 knots, indicating (allowing for the current) a speed through the water of no more than 6.0 knots. The plot from *Al M*’s AIS data indicates that she began to take way off, for the approach run towards *Alexander*, from south of the 155 km mark, about 2 n.m. from *Alexander* (bow to bow). By the time she was approaching the 153 km mark, about 1 n.m. from *Alexander*, *Al M* was making less than 5.0 knots over the ground, still on a marked deceleration. That came down to below 4.0 knots over the ground still a ship’s length or so short of the 152 km mark, about 0.5 n.m off *Alexander*, reducing further to 3.6 knots over the ground as she was clearing that mark, the steady speed at which she then arrived at and made her way past *Alexander*’s position.
73. At 08:14 hrs, Capt Al Seginy (*Al M*’s pilot) called *Salam 6*, stating: “*Good morning Salam 6 you are like that pushing perpendicularly all the time or what? What is the situation there? Because the distance, there are large vessels coming 150,000 and 158,000 and you are I mean perpendicular on the vessel so occupying a large part of*

the channel.” I add that the reference to large vessels of “150,000 and 158,000” will have been to *Falcon* and *MSC Ravenna*, respectively.

74. *Salam 6* replied: “OK Captain God willing, we will try to be in line [parallel] with the vessels. Yes sir we are almost finished, God willing, thank you.”; and Capt Al Seginy replied to that with: “OK OK, because I’m coming, no. 3 Captain Sabban and Captain Magdy Khattab 150,000 and no. 6 it is I guess Captain Ahmed Masoud & Captain xxx 157,000, the channel will be very narrow for them.”
75. I interject in the narrative to explain that that exchange was in evidence thanks to the VDR data from *Falcon* and *Orpheus*, and the agreed transcripts created from that data, meaning it was a conversation over VHF audible on the bridges of the ships in the convoy. It would therefore have been audible from the bridge of *Alexander* also, albeit her VDR system had been turned off by then, as noted above. Like all the communications between pilots, or between pilots and tugs, captured in the VDR data, the exchange was in Arabic. Therefore, although audible on the bridges of *Falcon*, *Orpheus* and *Alexander*, it would have been understood (if heard) only by their respective pilots, since none of their respective officers understood Arabic. What I was shown by way of agreed transcripts also constituted, in relation to the many exchanges in Arabic, agreed translations.
76. *Falcon*’s pilots then had the following exchange (in Arabic) at 08:15 hrs:
- (i) Capt Magdy, “*see how the situation looks like!!*”
 - (ii) Capt Al Sabban, “*yes, yes. I don’t know how! Till more disasters happen!!! All of this to be on side till the convoy pass.*”
 - (iii) Capt Magdy, “*I don’t know! Such a weird way of doing job Captain! Neither the office nor the department nor transit control [xxxx]*” (in which, “[xxxx]” indicates something that is not clear enough on the audio record to allow transcription).
 - (iv) Capt Magdy (continuing), “*... and then eventually it’s the pilot, they tell him. It’s you who ... you should have ... the vessel took shear force from you!*”
 - (v) Capt Al Sabban, “*yes of course.*”
77. Also at c.08:15 hrs, *Falcon*’s pilots had this exchange (in English) with her master:
- (i) Capt Dusi, “*The first one the container ship has slowed to 3 knots.*”
 - (ii) Capt Magdy, “*because they pass the ... vessel is aground from yesterday and the tugs put her out of grounding. But when we will be here ... I will tell them to be completely outside ... everything will be nice captain. No problem we will be watching everything – no problem.*”
 - (iii) Capt Dusi, “*That is the aground ship? This one?*”
 - (iv) Capt Al Sabban, “*Yeah.*”

(I accept Mr Hill KC's submission that this suggests Capt Dusi was pointing at *Alexander* on his ECDIS display, and that despite having not been told that she had been cleared out of the way, Capt Dusi had until this point made no effort to identify her exact position or understand her situation.)

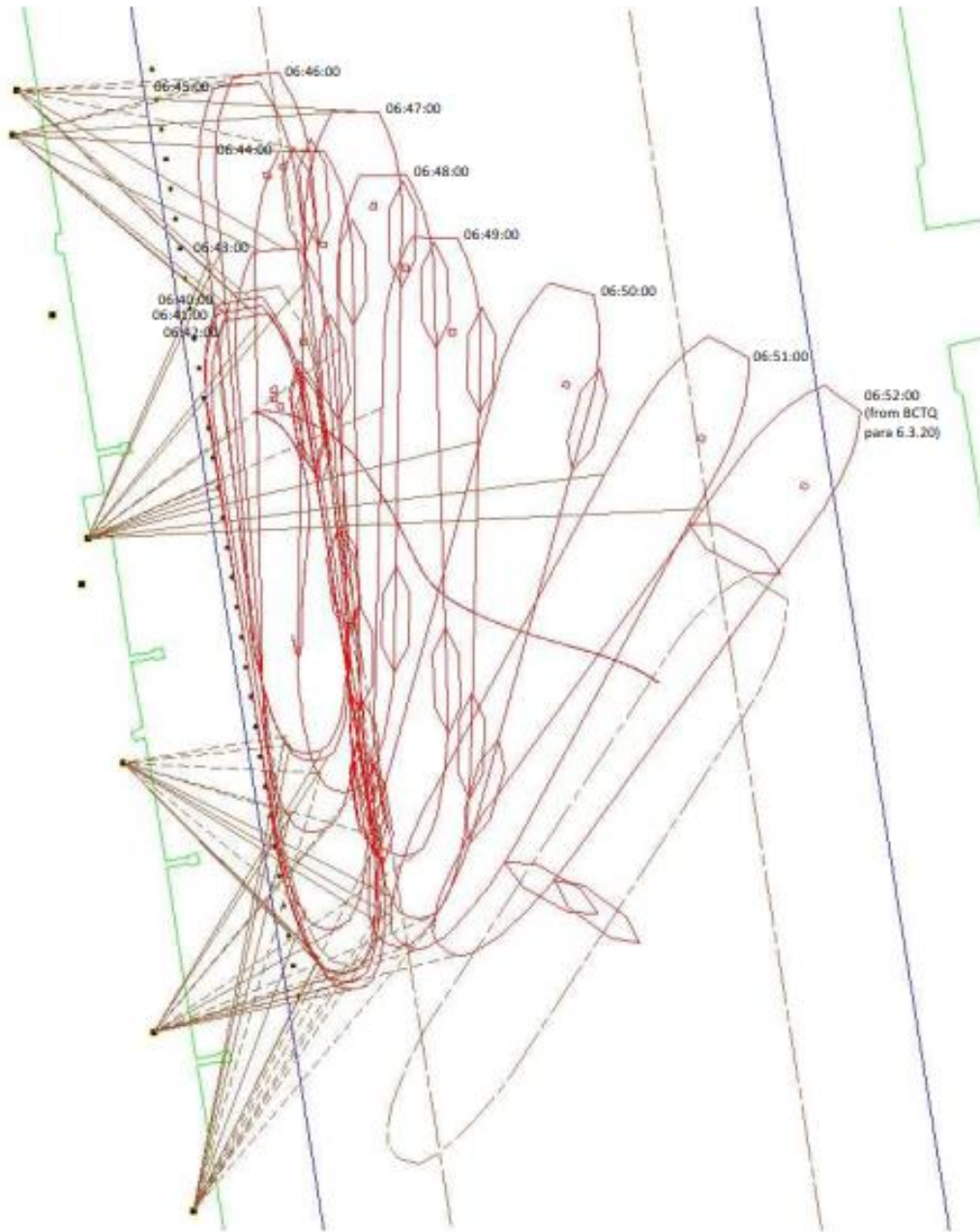
78. At 08:16 hrs (in Arabic again), Capt Magdy then said: "*I can't believe we have reached this chaos stage, that you give anyone anything!*"
79. At 08:17 hrs, Capt Al Seginy on *Al M* called Capt Magdy on *Falcon*, saying: "*[Salam] he is going to try to be alongside [or similar], when you approach you can see what's the situation Mahmoud as the canal will be very narrow [or may be too tight] for you*". Capt Magdy replied at 08:17 hrs: "*Thanks Captain well said once we get close we'll tell him [Salam 6] to give us some space [to pass safely] as the vessel is large and in order not to cause any problems and God be with us.*" Capt Al Seginy responded: "*Arrive safely. And I have informed the Traffic as well.*" In fact (I add), as appears from the next few agreed facts, the request for *Salam 6* to position herself to maximise *Falcon*'s passing room was made immediately after that exchange, not only when *Falcon* drew near, because at that point, Capt Ramzy on *Alexander* hailed *Falcon* asking if she had any requirements for *Alexander*.
80. At 08:18 hrs Capt Ramzy hailed Capt Al Seginy on *Al M* and Capt Magdy on *Falcon* and stated: "*Sir I'm on board the vessel, supervising the [xxxx], any instructions sir?*" In reply, still at 08:18 hrs, Capt Magdy on *Falcon* instructed Capt Ramzy on *Alexander* as follows: "*Good job, Capt Ramzy, if you please the tug to be alongside the vessel while we are passing, just give us a space because the vessel is wide*". Capt Ramzy updated *Salam 6* accordingly at 08:19 hrs; and *Salam 6* complied by going alongside (parallel to) *Alexander*. I add that *Salam 9* was also lying alongside, not at an angle to *Alexander*, and since there is no record of her being asked to change to that configuration I infer that is how she was already lying. (I should also add that I have altered the first part of this paragraph from the parties' agreed narrative, to reflect more accurately the agreed *Falcon* VDR transcript.)
81. At 08:19 hrs, there was this exchange between the pilots on *Falcon*:
- (i) Capt Magdy, "*at the end of the matter nobody seem to concern themselves about what happened or advise on how to be cautious and avoid this sort of crisis ... [t]his situation becomes [xxxx], and may God protect us really, I became afraid Captain Sabban.*"
 - (ii) Capt Al Sabban, "*of course.*"
82. *Shalateen* passed the moored *Alexander*, without incident, after *Al M*. The precise timings are not known due to the lack of AIS data for the military ship.
83. On exiting the bend at km 155 of the Canal, at around 08:23 hrs, *Falcon* began her approach towards the moored *Alexander*. Her engine telegraph order was Half Ahead and she was making about 8.9 knots through the water (6.8 knots over the ground).
84. The pilots on *Falcon* had this exchange at around this time, 08:23 hrs:

- (i) Capt Magdy, “*the most chaos in the world that the situation to be like this, this is the first time in my life I see something like this*”;
 - (ii) Capt Al Sabban, “*yes of course [xxxx].*”
 - (iii) Capt Magdy, “*No, dangerous, what’s happening is dangerous.*”
 - (iv) Capt Al Sabban, “*Of course.*”
 - (v) Capt Magdy, “*You know, if only everything was done properly! I’m not afraid, it’s not my problem. I’m not the one in charge. But they leave everything aside and it’s only the pilots! The vessel gained shear force from you, you were sailing too fast, you turned early. We have the radar here showing everything. They get afraid, and it’s us who [xxxx].*”
 - (vi) Capt Al Sabban, “*Yes, yes.*”
85. At around 08:25 hrs, *Falcon* accelerated to Full Ahead. This was held until around 08:28 hrs when her engine telegraph order was reduced to Half Ahead. Her speed through the water and over the ground increased during this period, with her speed through the water reaching about 9.5 knots (7.3 knots over the ground).
86. From about 08:30 hrs, *Falcon* moved towards the starboard side of the main dredged channel and reduced her engine telegraph order to Slow Ahead. Her speed through the water at this time was around 9.7 knots (7 knots over the ground).
87. At 08:32 hrs, Capt Al Sabban was concerned that *Falcon* was approaching *Shalateen* too fast; and at 08:33 hrs he hailed the military ship (in Arabic), saying: “*You are still same speed! Open distance a bit, I’m currently very close to you.*”
88. At around 08:34 hrs, Traffic Control asked *Falcon* to slow down. The full exchange, I add so as to supplement the agreed narrative, was all in Arabic, and was as follows:
- (i) Capt Magdy, “*Lovely morning, are you calling us?*”
 - (ii) Traffic Control, “*Captain Magdy, [xxxx] slow down.*”
 - (iii) Capt Al Sabban, “*yes of course, yes of course, this is logic, of course logic lowest speed.*”
 - (iv) Capt Magdy, “*we are already moving with lowest speed and will pass safely.*”
- As I find and explain below, however, *Falcon* was not proceeding at her lowest safe speed as Capt Magdy claimed, although she should have been. By this time, *Falcon* was nearing the 152 km mark in the Canal and so was no more than 0.5 n.m. from *Alexander* (bow to bow).
89. *Falcon* then reduced her engine telegraph order to Dead Slow Ahead. At 0835 LT (0635 UTC) her speed through the water was about 8.6 knots (6.1 knots over the ground). I add, again so as to supplement the agreed narrative, that the engine order was given by Capt Al Sabban at 08:34:37 hrs, immediately after the above exchange with Traffic Control, and that Capt Dusi then asked, “*we have enough depth till the*

channel buoy?” and was told “Yes” by one of the pilots. The order to reduce engine to Dead Slow Ahead was evidently given in response to, and so as to comply with, the request by Traffic Control to slow down.

90. By 08:36 hrs the starboard bilge of *Falcon* had reached the starboard limit of the 25 m contour line and she was running parallel to the east bank of the Canal.
91. *Falcon* started to pass the moored *Alexander* at around 08:39 hrs at a speed through the water of 7.5 knots (4.8 knots over the ground).
92. At 08:40:28 hrs, Capt Magdy said (in Arabic): “*We are passing the vessel now, the place is narrow, it’s not wide, I see that the vessel coming behind is 160,000 and 54-ft, I guess, I guess from my own point of view that her passing would be difficult in this condition from the view, the place isn’t wide, it’s narrow and the vessel is stopped there and to her port side... alongside are two tugs even making it narrower, so this isn’t safe for the large vessel.*” (I add that the reference to a 160,000 DWT ship coming behind in the convoy will have been to the *MSC Ravenna*.)
93. At around 08:41 hrs, Capt Magdy continued (still in Arabic): “*No he didn’t enter the channel but he’s not alongside the bank I mean he’s a bit off the bank additionally two tugs and the place is narrow I mean the place where I say the vessel is, is narrow, I mean this is the narrowest place in the canal and we’ve barely passed, barely passed, if you have a radar look at us and you will note we’ve barely passed so I guess this will be difficult for the 54 [foot/feet], I’m just giving an honest opinion and of course you can have a final decision.*”
94. I add at this point in the chronology that at 08:42, the Chief Officer of *Falcon* appears to have observed that one of *Alexander*’s mooring lines was slack in the water. He may have reported the observation in terms suggesting he thought the line had parted. The VDR transcript on that aspect is ambiguous multiple hearsay, and there is no other evidence suggesting, or basis for supposing, that any of *Alexander*’s lines might already have parted at that point. I find that none had, and the apparent reference to an observation of a parted line must be erroneous, either in the Chief Officer’s interpretation of what he saw or in the communication of his report on the bridge.
95. While *Falcon* was passing *Alexander*, the pilot of *Falcon* altered her heading back towards the centre of the channel. At 08:43 hrs, still before she had completely passed *Alexander*, *Falcon*’s engine setting was changed from Dead Slow Ahead to Slow Ahead. At this point her speed through the water was about 6.1 knots (3.7 knots over the ground).
96. At 08:44 hrs, Capt Magdy said (in Arabic): “*No one must give instructions to vessels to pass like this, dangerous. If there is a little wind ...*”
97. *Falcon*’s stern was clear of that of the moored *Alexander* by around 08:45 hrs. Shortly before this point her engine order had increased to Half Ahead; and her speed through the water at that time was about 6.4 knots (3.9 knots over the ground).
98. I add that as *Falcon* passed *Alexander*, her mooring ropes slackened and tightened under the influence of the passing vessel forces *Falcon* generated. While this was happening, *Alexander*’s crew attempted to keep the lines tight.

99. Shortly after *Falcon* had passed *Alexander*, Capt Al Sabban commented to Capt Magdy, "... I forgot what I wanted to tell you ... see my brain is completely [xxxx]"; and Capt Magdy replied, "Yes of course, that's why I said it's dangerous."
100. There was no collision between *Falcon* and *Alexander*. Having completed her pass, *Falcon*'s speed continued to increase as she proceeded north.
101. At 08:45 hrs, *Orpheus* was making about 9.14 knots through the water (6.6 knots over the ground). Her engine telegraph order was Half Ahead. Her distance astern from *Falcon* is reflected in the MADAS simulation / reconstruction. I add that this means *Orpheus* was just over 1.3 km (7 cables) from *Alexander*, bow to bow, as *Falcon* completed her pass. For *Orpheus*, that is just under 4 ship's lengths.
102. After that, *Alexander* broke free of her mooring and her stern swung towards the middle of the Canal. I add, by way of finding upon the basis of the modelling work of the naval architects, the video footage from *Falcon*'s aft camera, and the factual witness evidence, taken as a whole, that the following diagram gives a materially accurate representation of the development and timing of *Alexander*'s swing out into and across the main channel. The diagram is from Mr Preece's supplemental expert's report. To create it, Mr Preece added the timings shown for *Alexander* to one of Mr Colman's diagrams. In the version presented here, at my request, outlines of *Falcon* have been removed that were in the original to show her path as she passed *Alexander*. (I should note that, by way of exception for the contents of this judgment, the times shown are UTC, not local time.)



103. Adjusting to local time, that diagram covers the period from 08:40 to 08:52 hrs. For the first 4 minutes or so of that period (until just after 08:44 hrs), *Falcon* was passing, hence the inclusion of outlines to indicate her position in the original version of the

diagram. It was in dispute whether the *Falcon*'s passing drew *Alexander* aft as far as is indicated by the positions shown for her at 08:45 and 08:46 hrs. I return to that when considering why *Alexander*'s stern lines parted at 08:46:11 hrs. My finding is that she *did* move far enough astern for her stern lines to foul the starboard side vertical edge of her transom, causing them both to part.

104. I add by way of comment and further finding that until 08:46 hrs, *Alexander*'s heading barely altered and her port side remained substantially on the western edge of the main channel; that between 08:46 and 08:47 hrs, she swung out until her stern was well into the main channel and much of the full length of her port side had encroached into it; that between 08:47 and 08:49 hrs, the swing steadily progressed until her port transom corner was about half way across the main channel; and that after 08:49 hrs, the swing accelerated until *Orpheus* ran into her port side, at which point *Alexander* was diagonally full across the main channel, with her bow and stern extending just beyond the 9 m contour that was 48 m from the edge of the main channel.
105. I add further that when the stern of *Alexander* started to swing away from the side of the Canal, the crew attempted to heave in the aft spring line in an effort to arrest the swing, but this was not successful. As she kept swinging further into the Canal, the crew moved away for safety reasons.
106. At about 08:48 hrs *Orpheus*'s speed through the water was around 8.75 knots (6.6 knots over the ground). At 08:48:17 her engine telegraph was changed from Half Ahead to Slow Ahead. I add that *Orpheus*'s bow was by then only 3½ cables (just under 2 ship's lengths) off *Alexander*'s. From the MADAS reconstruction, the bow-to-bow distance was 4 cables at 08:47:51 (with *Orpheus* making 6.6 knots over the ground) and 3 cables at 08:48:55 (with *Orpheus* making 6.5 knots over the ground).
107. At 08:48:51 hrs Capt Ramzy on *Alexander* hailed *Salam 9*, saying: "*The tugboat IWO vessel's aft who is pushing the vessel. The vessel started swinging sideways across the channel. Salam 9, Salam 9, Ramzy*". I add that at 08:48:59 hrs, *Salam 9* responded, saying: "*OK Captain we will adjust with vessel and push her, just one second.*" I add further that this exchange indicates, and I find, that *Salam 9* was already pushing; the request and response concerned how to try to make pushing more effective, indicating that what the tug was doing was not preventing the swing into the channel, as indeed it was not.
108. At 08:49:16 hrs, Capt Ramzy instructed: "*Go more to the stern Salam 9 more to the stern quickly*". I add that *Salam 9* responded immediately (08:49:20 hrs), "*OK to the stern Captain just one second just to adjust the tugboat.*"
109. At 08:49 hrs *Orpheus*'s speed through the water was around 8.68 knots (6.4 knots over the ground). I add that at 08:49:52, when *Orpheus* was only just over a ship's length off *Alexander* (bow to bow), one of *Orpheus*'s pilots called (in Arabic), "*Increase the tugboat, increase as much as you can we are approaching you*"; and in response, at 08:50:03, Capt Ramzy ordered *Salam 6* to "*come to the stern with Salam 9 come to the stern with Salam 9*".
110. At 08:50:03 hrs, *Orpheus*'s engine telegraph was changed to Dead Slow Ahead. That was changed to Stop at 08:50:25 hrs, then successively to Slow Astern at 08:50:33

hrs, Full Astern at 08:50:45 hrs, and Crash Astern at 08:50:50 hrs. At 08:51 hrs, *Orpheus*'s speed through the water was 8.49 knots (5.4 knots over the ground).

111. Between 08:51 and 08:52 hrs *Salam 9* moved away.
112. By 08:52:00 hrs, *Orpheus* had slowed to about 6.19 knots through the water (about 3.3 knots over the ground).
113. I find that *Orpheus* collided with *Alexander*, between km 151 and km 152, at (to the nearest 10 seconds) 08:52:30 hrs, after which *Orpheus* reversed out of contact and clear. I note that therefore *Orpheus* continued to steam at Slow Ahead until C-2.5 and went to Crash Astern only at C-1.5. During those final few minutes:
 - (i) at 08:50:06 hrs, Dead Slow Ahead having just been ordered, *Orpheus*'s pilot hailed *Salam 6* and *Salam 9* again, asking them to “*Increase tug power as much as you can. We are approaching now*”;
 - (ii) at 08:50:18 hrs, *Orpheus*'s bosun was ordered to go forward, I infer to man the fo’c’sle anchor station (or to be in its vicinity), nobody having been stationed there or in readiness to be there on demand until then; and
 - (iii) at 08:50:22 hrs, *Orpheus*'s pilot asked for the first time whether the bow thruster would be available.
114. In the collision, the bulbous bow of *Orpheus* struck the port side of *Alexander* in way of cargo hold No. 5 and No. 4 DBT ballast water tank. *Orpheus*'s bow penetrated *Alexander*'s side shell. Water ingress ensued.
115. In the minute after the collision, at 08:53:06 hrs, Capt Magdy on *Falcon* observed: “*This decision they gave us is wrong ... if she did this with us, we would have grounded, no distance at all, this decision is wrong*”, to which Capt Al Sabban replied, “*of course ...*”.
116. Their exchange continued, at 08:54:17 hrs, and included the following:
 - (i) Capt Magdy, “*The vessel, the vessel ran aground on the other side, have you seen the situation, the vessel went aground on the other side.*”
 - (ii) Capt Al Sabban, “*Yes.*”
 - (iii) Capt Magdy, “*He’s now aground, show me how you will get her out, this is not good work at all!*”
117. Capt Magdy immediately continued, but in English: “*Thanks God we passed away, thanks God. Thanks God we passed*”, to which Capt Dusi replied “*yes, yes*”; and from which, I add, their discussion continued as follows:
 - (i) Capt Magdy, “*you see very dangerous, very dangerous*”;
 - (ii) Capt Dusi, “[*xxxx*]”;
 - (iii) Capt Magdy, “*they have 2 tugs but I think the power is not so strong ...*”;

- (iv) Capt Al Sabban, “*current, current*”
 - (v) Capt Magdy, “*current is very strong ... these 2 ships [xxxx]*”
 - (vi) Capt Dusi, “*- response not clear*”.
118. During the 16 July incident, the stern area of *Alexander* came into contact with the east bank of the Suez Canal.
119. The 16 July incident caused damage to *Alexander*, including port side hull damage in way of No.5 cargo hold and No.4 DBT ballast water tank due to contact with the bulbous bow of the *Orpheus* causing hull damage between frames 105 and 113.
120. At 08:57 hrs, *Falcon*’s pilots reflected on what had happened in the following terms:
- (i) Capt Al Sabban, “*Dear God, so you made the [xxxx] bigger, made people enter, and now it’s [xxxx] problem.*”
 - (ii) Capt Magdy, “*Of course, of course, the decision from the beginning, I told you from the moment we entered. They can’t do [xxxx], they are doing re-floating trials and the convoy is passing. Are you kidding!*”
 - (iii) Capt Al Sabban, “*Yes, of course ... Your reputation will go bad in the whole world.*”
 - (iv) Capt Magdy, “*Of course.*”
121. At 09:00 hrs, the conversation went on:
- (i) Capt Magdy, “*see what we got into! All what you predicted may happen, did happen.*”
 - (ii) Capt Al Sabban, “*yes ... everything you said*”
 - (iii) Capt Magdy, “*Exactly, on VHF. And I told him early, this is dangerous, the place is narrow, vessels won’t be able to pass.*”
 - (iv) Capt Al Sabban, “*This is the first time in my life I see something like this.*”
 - (v) Capt Magdy, “*No, no, never happened, really never did.*”
 - (vi) Capt Al Sabban, “*If I were [xxxx], all this team should be released.*”
122. I find on the basis of the contemporaneous exchanges between the pilots on board *Falcon* that they were concerned throughout about the wisdom of sending the convoy past without having cleared *Alexander* away first. I do not think all of their chit-chat related to this navigation. They seem to have been interweaving a reminiscence of at least one other occasion into their exchanges. But it is evident nonetheless, even if not every individual comment related to this occasion, that they considered sending the convoy past *Alexander*, where she was, a dangerous thing that SCA Traffic Control should not have ordered. They did not, however, share any of their concerns with Capt Dusi, under whose command they were sailing on board *Falcon*.

123. Returning to the time just before the collision, I add that at 08:51:03 hrs, one of the pilots on *Orpheus* hailed *Maersk Sarnia* (piloted by a Captain Wageh), saying “*Take care, Captain Wageh. I [have] already given full astern*”; and at 08:51:34 hrs, *Orpheus* (again, by one of her pilots) notified SCA Traffic Control that Full Astern had been ordered and “*the other vessel is strongly transverse*”. SCA Traffic Control issued a general call to all pilots in the convoy instructing “*mooring, mooring, all mooring till we see what will happen, all mooring*”, although that was only at 08:54 hrs, after the collision had occurred and been reported to them. As regards *Maersk Sarnia*’s position in particular:
- (i) following *Orpheus* in the convoy, she reached km 154 just before 08:50 hrs, making 9.1 knots over the ground, down slightly from 9.3 knots over the ground at 08:49 hrs;
 - (ii) her speed dropped thereafter to 8.7 knots at 08:51 hrs, 8.1 knots at 08:52 hrs, 7.3 knots at 08:53 hrs and 6.4 knots at 08:54 hrs, at which point she was just making the 153 km mark and *Orpheus* was making way astern towards her at 2.8 knots over the ground;
 - (iii) by 08:59 hrs, she had reduced her speed to 2.1 knots over the ground and the stern of *Orpheus* was only about a cable ahead;
 - (iv) during the next minute, between 08:59 and 09:00 hrs, within which she came to a halt (over the ground), *Maersk Sarnia* came within about half a cable of *Orpheus* before the separation increased again as she began to make way astern (over the ground) and *Orpheus* began to arrest her movement astern. On board *Orpheus*, this appears to have been thanks to an intervention by Capt Kumar ordering Dead Slow Ahead (the pilot had *Orpheus* on Stop) to give a little ahead momentum to avoid hitting *Maersk Sarnia*.
124. After the 16 July incident, *Alexander* was towed north by tugs to the Great Bitter Lake anchorage. An underwater inspection was carried out by an SCA appointed diving company on 18 July 2018 where damage to the propeller, rudder assembly and hull was confirmed.
125. *Alexander* later underwent repair in drydock in Oman.

The Mooring Failure

126. I now consider why *Alexander*’s stern lines parted.
127. Mooring lines held on a ship’s mooring winches should not snap under heavy loads, even if the loading exceeds the breaking strength of the lines. Winch brakes are designed to slip (winch rendering) at loads well below the breaking strength of the lines they are holding. That way, the line pays out rather than breaking itself or the winch. If excessive loading eases such that the line is again held by the winch brake, all things being equal the crew will look to operate the winch to wind back in some or all of the length paid out, to restore the original mooring configuration or as close to it as they can achieve. If the excess load does not ease off, then by design the line should simply pay out its full length. In that case, the line is likely to be lost

overboard and the question will be whether, when and how it can be retrieved from the water.

128. Depending on the circumstances, a line might be tied off on the ship, not held on a winch. In that case, obviously, what I have just said about slipping on the brake and paying out does not apply. In the present case, there was factual evidence from *Alexander* that lines paid out and computer modelling showing that the forces acting on the lines were likely to have been sufficient to cause that, but nothing like sufficient on their own to cause a line to break. That is to say, they would have been nowhere approaching the breaking strength of the lines. The rated breaking strength of all of the relevant lines was 100 tonnes; none of the modelling calculated operative forces acting on them greater than 20 tonnes.
129. However, the modelling by reference to which Mr Colman gave his expert evidence had *Alexander* surging far enough aft for the stern lines to foul on the starboard (inboard) vertical edge of her transom. Taut lines catching part way along their length on, in effect, a cutting edge might readily cause line failures by parting.
130. The modelling, and the expert evidence relying on it, spoke with one voice that unless both stern lines parted, although there would still have been winch rendering, *Alexander* would have been held about parallel to the bank of the Canal, so that the collision could not have occurred, in response to *Falcon's* pass as actually conducted. *Alexander* would not have swung across the Canal so as to obstruct *Orpheus* at all. On his written evidence, Mr Preece appeared perhaps to be suggesting that with only one stern line parting the collision may still have occurred; but it transpired that while his relevant analysis indeed showed *Alexander* still losing her stern mooring and swinging out, there were errors in the inputs he had used, after correcting for which *Alexander* would have taken such a long time to swing out (30-40 minutes) that she would not have become any obstacle for *Orpheus*.
131. Mr Preece had no basis for his conclusion that the mooring lines were “*in poor condition or of poor quality, or had been damaged in some way*” except that he could not otherwise explain why they might have broken if his modelling was accurate in not having *Alexander* surge aft far enough for the stern lines to foul the transom. But the mooring lines were 72mm diameter, 8-ply synthetic ropes, constructed by intertwining 4 x 2-ply strands. At a simple level, more than 6 of the 8 strands would have had to be ineffective for the strength to be reduced to less than 20% of the ropes’ rated minimum breaking strength. I regard it as fanciful to suppose that any, let alone two, of the lines were so severely damaged or defective as to fail in response to loads of no more than 20 tonnes, in the absence of some other external factor such as a cutting edge.
132. C/O Celocia gave some evidence of unusual rope storage and cleaning practice on board that I doubt was reliable. But even if that evidence were all accurate, it would not provide any basis for supposing that any of the mooring ropes was materially defective or damaged, let alone to the extent necessary to have failed as a result. There was more generally an impressive and persuasive body of evidence concerning the ordering, supplying and testing of mooring lines for and on board *Alexander*. I find on the evidence as a whole that all the mooring ropes were in good condition, and the failure of the stern lines cannot be explained by the condition of the lines.

133. For completeness, I should mention a suggestion put for the first time in cross-examination of Mr Colman that new lines could have degraded due to exposure to ultraviolet light. I accept Mr Colman's view that it is not credible to propose that any such process might have been material to the line failures in this case.
134. Mr Preece's own simulations had *Alexander* surging up to 35m aft, putting the stern lines near to where the modelling used by Mr Colman took them, and close to fouling the transom. Using the forces used by Mr Colman, Mr Preece's simulation produced a 65m aft excursion with both stern lines crossing the transom, a very good match for the 70m aft excursion obtained by and relied on by Mr Colman. The different modelling outcomes considered by the experts derived, it seems, from different input force assumptions.
135. Mr Preece was critical of the inputs used by Mr Colman; but adjusting for those criticisms Mr Preece's model still showed an aft surge of up to 53.5m, before accounting (which Mr Preece's modelling had failed to do) for all of the relative movements of the two ships. Adjusting for that would take the maximum excursion distance indicated by Mr Preece's model up to 56m. At either 53.5m or 56m, one of the stern lines would have fouled the transom.
136. I was not satisfied that Mr Preece's criticisms of the input forces used by Mr Colman were well founded. In any event, I accept Mr Colman's opinion that none of these modelled simulations was likely to be accurate to closer than 10-15 metres in relation to the precise positions obtained by *Alexander*. With that margin for error, Mr Preece's 'corrected' version of Mr Colman's modelling had *Alexander* moving far enough aft that both stern lines might well have fouled the transom.
137. It is not an answer to say that the movement of *Alexander* astern is not shown in her or her tugs' AIS data. All the simulations had *Alexander* moving aft a substantial distance not shown in that AIS data; and there are reasons for thinking that the AIS data of *Alexander* and the tugs are poor.
138. The upshot is that the stern lines fouling the transom is an inherently plausible cause of the lines parting that explains well the evidence of when they parted, including the video evidence in which the line failure is seen, and on the modelling and expert evidence as a whole, the *Alexander* may have moved far enough to have caused such fouling. Bearing in mind also the lack of any other credible candidate for a cause, my conclusion is that, more probably than not, *Alexander* indeed surged far enough aft for the lines to foul the transom, they did so, and that is why they parted.

Allegations of Fault

139. I summarised the allegations of fault in paragraph 13 above. Before turning to set out and explain my findings as to fault, I consider it appropriate to say something about the pleading of allegations of fault in collision cases.
140. On 4 November 2022, I presented to the Civil Procedure Rules Committee, on behalf of the Admiralty Court Users Committee ('ACUC') a proposal for reform of the applicable procedural rules. The proposal was formulated from work and consultation undertaken by the Admiralty Solicitors Group ('ASG') and the Admiralty Bar Group ('ABG'), as requested by the ACUC. There were two particular areas of interest:

firstly, the generic and formulaic, and therefore largely unhelpful, nature of the particulars of causative fault too often provided by parties in Part 2 of their ADM3 Form collision statements of case; secondly, the absence of any general requirement to plead a defence to those allegations whereby to narrow and define the real issues in the case. Thanks to the work of the ASG and ABG, I hope that what follows will rapidly become only an historical concern.

141. The allegations in the collision statements of case here were of the unhelpfully generic and formulaic variety. There were some more focused (case-specific) allegations, but they were not properly particularised. By way of illustration:
- (i) *Alexander* alleged against each of *Falcon* and *Orpheus* that prior to entering the Suez Canal and joining the northbound convoy, “*they knew of the position of [Alexander] but proceeded when unsafe to do so instead of aborting their passage until [Alexander] have [sic.] been moved clear*”. That was a case-specific, not a generic, allegation, but it included against each defendant ship an unparticularised allegation of knowledge. When, how and by whom was it alleged that she became aware of *Alexander*’s position, and what precisely (so far as material) was it alleged she learned in that regard? The allegation that it was “*unsafe*” to proceed rather than wait until *Alexander* was first cleared away was likewise unparticularised. Since in context a claim that the proposed passage was unsafe is a claim that it exposed a ship, without there being any abnormal occurrence, to danger that could not be avoided by good navigation and seamanship, which ship or ships was it alleged was or were exposed to such danger, what danger was that, and upon what basis was it said that it could not be avoided by good navigation and seamanship?
 - (ii) *Alexander* accused each of *Falcon* and *Orpheus*, in generic, boilerplate terms of failing to maintain any or any proper lookout by all available means, without particularising what available means it was said were not used, or not used properly (and if the latter, how it was said their use fell short of proper use), and with no particulars of causation.
 - (iii) *Orpheus* alleged without particulars that *Alexander* “*failed to take any proper action to avoid collision, whether in due time and/or at all*”.
 - (iv) *Falcon* alleged in seemingly boilerplate form, in successive particulars (5) and (6), that *Alexander* failed “(5) ... *to man her bridge properly or at all during the passage of the north-bound convoy*”, or “(6) ... *to keep any or any proper lookout*”.
142. I dwell on the last of those examples, because it generated a significant issue of primary fact on which I should identify my finding. Read literally (“(5) ... *or at all*”), *Falcon*’s pleading included as what would be a primary case (in the sense that it would be the most serious allegation) a claim that there was no one at all on the bridge of *Alexander* at any time during the passing of the convoy, prior to the moment of the collision. I cannot see that *Falcon* ever had any basis for making that allegation; and I suspect it was a careless use of an old pleading favourite, ‘properly or at all’, without pause to consider how far ‘or at all’ would go in this instance.

143. At trial, Mr Turner KC's opening skeleton included the gnomic comment that manning, lookout and assessing the risk of collision would be "*the subject of cross-examination*". The case put to C/O Celocia in cross-examination was that (a) it was bad seamanship not to rouse the master to take command when he (the C/O) learned just before 08:00 hrs that a convoy was coming past, and (b) from about 05:30 hrs until that moment, the bridge of *Alexander* had been manned only by her Suez Canal pilots (Capt El Segany and Capt Al Sadek until c.07:00 hrs, then Capt Ramzy who relieved them).
144. In closing, Mr Turner KC argued that, led by her master, *Alexander*'s officers had adopted the attitude that the SCA was in charge and they could 'check out'. I was asked to find that once the six-line mooring had been put out and secured, the master sent all his officers to bed, before taking himself off to bed after his last email sent at 05:22 hrs, leaving only the pilots on the bridge. This was said to be comprehensible in the particular circumstances of this case, i.e. inherently plausible, and the only realistic explanation for certain significant evidence, but "*of course also a gross dereliction of duty and negligent*". That significant evidence was that:
- (i) The record of hours worked, compiled by C/O Celocia, recorded that the only deck officer or crew to stay on duty for the full 04:00 to 08:00 hrs watch on 16 July 2018 was A/B Villaluz; none of the deck officers was on duty after 05:30 hrs on 16 July 2018, nor was the bosun, the other A/B or any of the deck cadets.
 - (ii) The deck log does not record the arrival of *Salam 6*, or her and *Salam 9*'s attachment to *Alexander*; and is inexplicably inaccurate as to when Capt Ramzy came on board to take over as pilot.
 - (iii) There is no trace in evidence of any activity or communication on the bridge of *Alexander* involving anyone other than her pilots between c.05:30 and c.08:00 hrs.
 - (iv) C/O Celocia knew nothing of the convoy until Capt Ramzy told him about it, on the bridge, just before 08:00 hrs.
145. It might be said that the nature of the key complaints of causative fault against *Alexander* is not changed by what might be alleged at that next level of detail. The basic complaints are that *Alexander* was improperly moored – no prudent mariner in command, it is said, would have stayed with the six-line mooring and passive / standby use of the tugs, in the face of the convoy – and that she gave no or inadequate warning to *Orpheus* that the passing of *Falcon* was causing her difficulty. I find both complaints to be well founded, below.
146. It is not necessary to investigate why exactly *Alexander* failed to reinforce her mooring, in order to decide whether any prudent mariner would have done so, such that *Alexander* is at fault for not doing so. At all events, that is so in the absence of any arguable positive case that a considered decision was taken not to reinforce the mooring, or an attempt was made to do so that failed. There was no such positive case, and I find on the evidence that nobody on board *Alexander* gave the matter any thought at all on the day.

147. However, if *Alexander* is not the only ship at fault (and my finding, below, is that all three ships were at fault), the court must apportion responsibility. *Falcon* should have pleaded, with full particulars, all allegations of causative fault that she wanted the court to consider in that apportionment, if it fell to be undertaken. Degrees of blameworthiness are material in that regard; so an allegation, at a level of detail below the basic complaint that an inadequate mooring was put out or maintained, to the effect that (part of) the reason why *Alexander* was insecurely moored was that there had been a dereliction of duty on board, leaving the bridge unmanned by any of the ship's officers for a period of 2½ hours or so at the end of which the convoy was almost upon her, if well founded, might be significant and should have been pleaded.
148. Significant particulars of negligence should not emerge, as that allegation did, unheralded, in cross-examination. Keeping some forensic powder dry in opening by the technique of noting that a particular topic or topics will need to be explored with factual witnesses has its place; but the allegations of causative fault that may properly be dealt with in that way should be known, because they should be pleaded, and there will rarely be good reason for the bland comment that a certain topic will need to be explored not to be followed by, “*but in outline at this stage, the [claimant or defendant]’s case is that ...*”, or the like.
149. All that said, the points relied on by Mr Turner KC are compelling, they are within the scope of what had been pleaded, and there was ultimately a sufficient opportunity for them to be answered, if there was any answer to them. C/O Celocia provided no credible answer to them; and he was the compiler of the primary records, and the officer put up by *Alexander* as having been the officer of the watch for the 04:00 to 08:00 hrs duty on 16 July 2018. I was persuaded that *Falcon*'s allegation represents, more probably than not, the truth of what happened, to this extent, namely that as his record of hours worked indicates, but contrary to his evidence, C/O Celocia was off duty between 05:30 and 08:30 hrs. I accept 3/O Ronquillo's evidence to the effect that C/O Celocia was on the bridge at or just before 08:00 hrs, giving 3/O Ronquillo the impression he had been on duty. As Mr Turner submitted, that is consistent with the gravamen of his case that, pilots aside, *Alexander*'s bridge was essentially unmanned after 05:30 hrs until the convoy was upon her.

A General Concern

150. Finally, before turning to consider each ship's faults in this case, my conclusion being that all three ships were at fault in ways that materially contributed to the collision, I wish to mention a troubling aspect of the case overall. It was said against *Alexander* by both *Falcon* and *Orpheus* that her officers were passive and insufficiently in command, trusting the Suez Canal pilots more or less blindly to take charge and do a good job. The same was said against both *Falcon* and *Orpheus* by *Alexander*.
151. I consider that the complaint was well made against all three ships. The evidence indicated to me that there was:
- (i) no significant involvement on the part of the ship's senior officers in any of the decisions that mattered;

- (ii) poor communication between the pilots and the ship's officers, caused in part, and aggravated in impact, by the fact that the pilots had rather poor English and the ship's officers no Arabic;
 - (iii) in consequence, significant discussions and exchanges of information relevant to any attempt to comply safely with the instruction by the SCA that the convoy was to proceed past *Alexander* as a dead ship tied up to the canal side, either did not occur at all, or were confined to the pilots involved and not shared with the ships' commands.
152. The circumstances were unusual. However, if what I saw in the evidence is typical of how Suez Canal pilots interact with the officers of the ships they are piloting through the Canal, and how at least on some ships those officers may be induced into passivity as a result, there is some cause for concern that there are other accidents waiting to happen in the Canal if unusual circumstances arise, which from time to time of course they will. The fact that with good seamanship and careful navigation all round, there should not have been an incident on this occasion, let alone a collision, does not entirely smooth over that concern.
153. It is convenient at that point to deal with the argument by Mr Hill KC relying on Article 59(3) of the SCA Rules, which is in these terms:
- “When a vessel runs aground, Suez Canal Officials are alone empowered to order and direct all operations required to get the vessel afloat and if needed get the vessel unloaded and towed. Nevertheless, masters remain responsible for all damages or accidents of any kind which may be the direct or indirect consequence of the grounding.”*
154. The argument was that under that provision, at the material time Capt Secusana, as master of *Alexander*, was not in command of his ship, and was not responsible for decisions, actions or omissions of her pilots concerning the adequacy of her mooring or the use of the attending tugs during the convoy's passage past her. The contention was that in her circumstances that morning, *Alexander* was by Article 59(3) under the command of the SCA, so far as material.
155. I do not agree. Subject to the effect of the second sentence, which it will not be necessary to determine, the first sentence of Article 59(3) means only what it says: the re-floating of *Alexander* was in the hands of the SCA, not the master; and it was exclusively for the SCA to direct when, to where and by what tug or tugs she would be towed. However, *Alexander* was not criticised at this trial for being where she was on the morning of 16 July 2018, that being where the SCA-directed re-floating had positioned her; or for not having been cleared away ahead of the convoy, that being the SCA's decision too. Nothing in the first sentence of Article 59(3) removed from *Alexander* responsibility for how she chose to secure herself while waiting to be towed, or in response to learning that the convoy would be coming past.
156. In briefing the Elder Brethren to provide their advice, I explained that that was my conclusion and that therefore I was asking for *“advice as to what good seamanship required each ship to do or not to do, rather than asking about the actions or decisions of particular individuals on board, ... [that is to say] advice as to how the ship should have behaved or responded, assuming properly qualified, competent*

officers, crew and pilot(s) exercising ordinary skill and care as mariners in managing the ship, planning, keeping a lookout, navigating, decision-making and communicating.”

Fault

157. I shall take matters in the following logical sequence, which is also mostly chronological:
- (i) The decisions by *Falcon* and *Orpheus* to join the convoy and proceed into the Canal.
 - (ii) *Alexander*'s mooring arrangement and tug deployment.
 - (iii) The navigation of *Falcon*, approaching and passing *Alexander*.
 - (iv) The navigation of *Orpheus*, approaching *Alexander*.
 - (v) *Alexander*'s response.
 - (vi) *Orpheus*'s response.
158. A theme throughout the case put forward by *Alexander* was to criticise *Falcon* and *Orpheus* for a lack of, or inadequate, risk analysis or passage planning. In my judgment, that theme largely missed its mark. Even with *Alexander* poorly secured, negligently as I find below, the passage up the Canal and past her was safe for *Falcon* and *Orpheus* if navigated properly and carefully. All the more so had *Alexander* been carefully secured. If *Falcon* and *Orpheus* were both navigated properly and carefully, yet the collision occurred, the question whether risk analysis or passage planning was as good as it should have been would not matter. If either NYK ship was not navigated properly and carefully, and that materially contributed to the causing of the collision, that will be the significant finding.
159. That said, how it came about that the NYK ship in question was not navigated properly might contribute to the assessment of degrees of blameworthiness for any apportionment. Bad navigation resulting from a failure to plan properly in advance how the ship was to be navigated might be considered, depending on all the circumstances, more blameworthy than operational negligence in the moment of a particular manoeuvre. There can be no simple equation or general rule about that, however. In what follows, I shall focus principally on how the ships acted, or failed to act, and whether that fell below the standards of ordinary, competent and careful seamanship.

Joining the Convoy

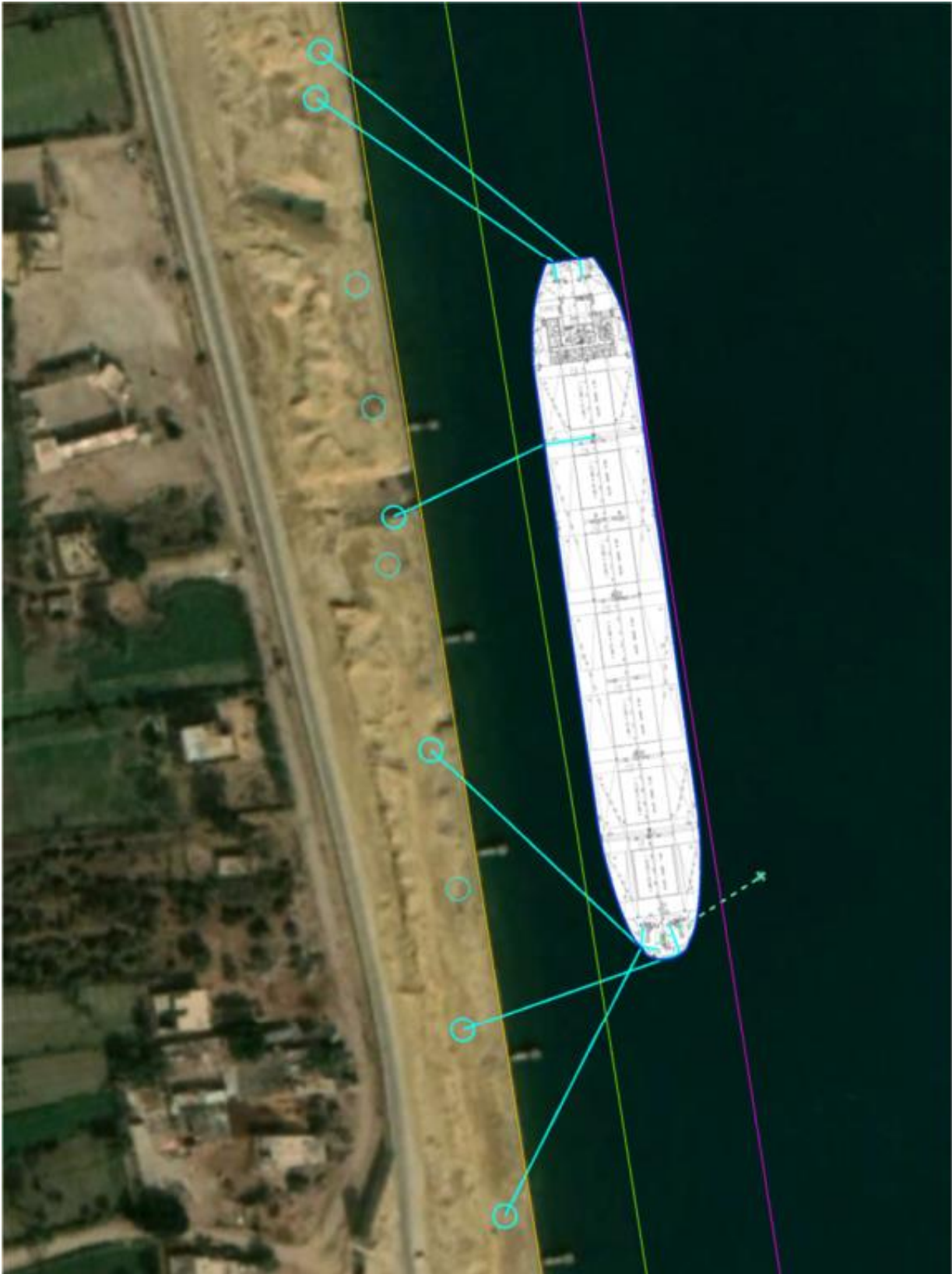
160. I do not accept, as Mr Hill KC submitted, that a proper risk analysis should have led those in command on *Falcon* or *Orpheus* to conclude that it was unsafe for their ship to pass *Alexander* while she was moored where she was in the Canal. It was not unsafe to pass her, moored where she was and as she was, even though in fact she was not as well secured as she should have been, taking proper care. I consider that there is no basis for the suggestion that a well conducted risk analysis, however more or less formal in its style or process, would have concluded otherwise. The Elder

Brethren's advice was to the effect that it would have been reasonable for a competent mariner in command to conclude that it should be safe to proceed and pass. Good seamanship did not require that *Falcon* or *Orpheus* refuse to proceed, or stop, except when it comes to the end of the chronology and the question whether *Orpheus* reacted as promptly as she should have, and properly, to *Alexander* being in difficulty.

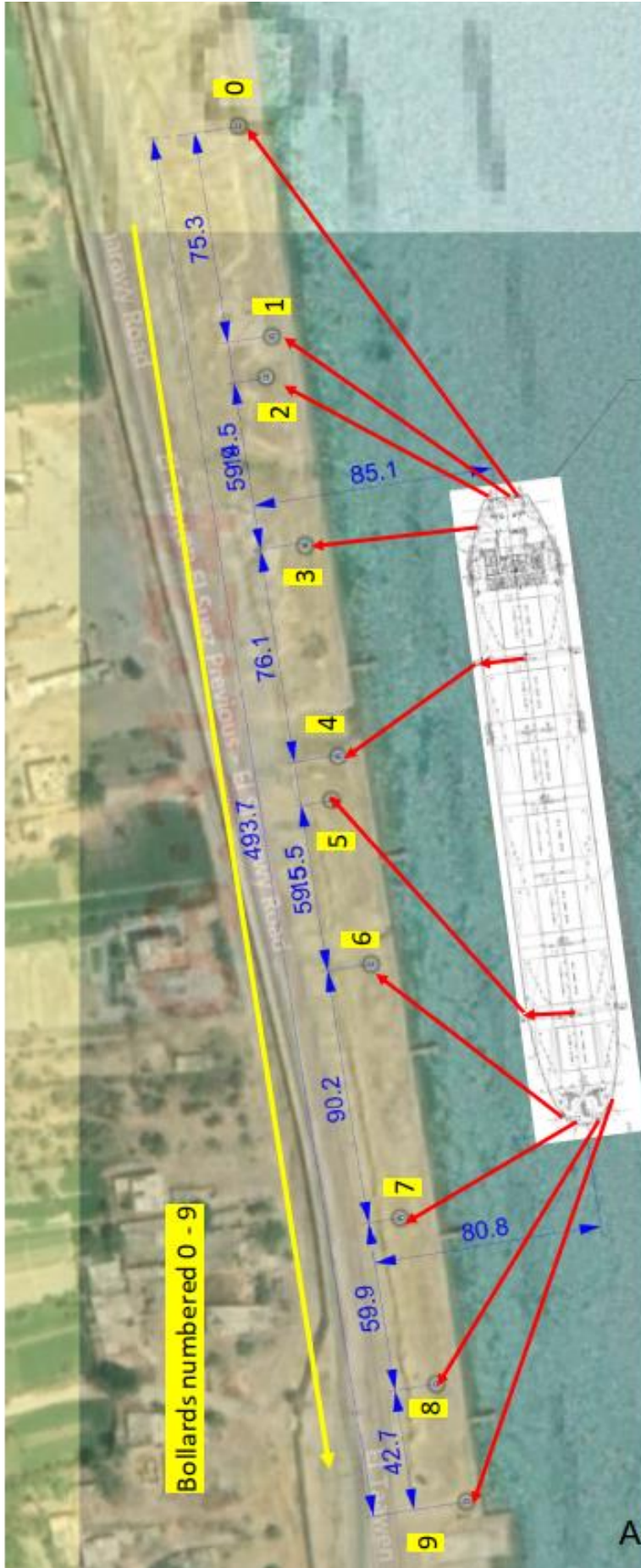
161. The Elder Brethren's advice was also to the effect that *if* a decision were made not to attempt the pass, that could safely and suitably have led to either a refusal to join the convoy (because it would have been safe to remain at the southern Suez Canal anchorage area until *Alexander* had been cleared away), or a decision to abort the passage once navigating up the Canal proper, north of the Port Taufiq Signal Tower (because that "*would have been a section of the canal suitable to slow down or stop to reconsider the passing, but this would need to be done in coordination with ships astern in the convoy*"). It would not have been prudent, however, they advised, to abort or stop in the buoyed approach channel south of the Signal Tower, due to the navigable width in the bend in the channel and the not insignificant hydrodynamic effects of currents in that area. Thus, once initially committed to the convoy by having made that approach channel, it would not have been good seamanship to abort, if the decision was to abort, until (at the earliest) the Signal Tower had been passed.
162. I take it as read (the Elder Brethren did not spell this out) that all of that applies except in the case of an emergency requirement for navigation to come to a halt to avoid a collision. On the facts of this case, of course, no question of a possible need for an emergency stop arose until the final few minutes when *Orpheus* was bearing down on *Alexander* and she was swinging out into the channel.

Securing *Alexander*

163. Any mooring arrangement where *Alexander* was in the Canal was going to be sub-optimal. The six-line mooring in fact deployed was not the most effective arrangement available to the ship, and that was or should have been obvious to all concerned on board *Alexander*. It was put out simply to hold her steady against the current at the side of the Canal until a tow arrived to clear her away before any convoy might be in the vicinity, that being what the master and pilots had been told was to be the arrangement at the time when the mooring needed to be put out. How it left her moored is fairly represented by this diagram, except that the forward lines were the other way round on the ship and so did not cross as suggested by the diagram:



164. *Alexander* had the lines, winches and mooring points, and the Canal side had the mooring bollards, to accommodate the ten-line mooring shown by the following diagram, which *Falcon* and *Orpheus* both said should have been used once *Alexander* was aware that she would *not* be cleared away before the convoy after all:



165. In that diagram, the six lines in fact used are lines 1, 2, 4, 6, 7 and 8, so the ten-line mooring would have involved putting out and securing, in addition, lines 0, 3, 5 and 9.
166. The ten-line mooring would still not have been a normal secure mooring arrangement such as a Panamax carrier would use, for example when mooring to a safe cargo berth. The contention that the ten-line mooring should have been used reflected essentially a simple logic that:
- (i) any mooring arrangement was going to be sub-optimal;
 - (ii) that said, any competent mariner in command would want to be as securely moored as was practicable in the circumstances if a convoy was going to come past;
 - (iii) the six-line mooring plainly was not such a mooring;
 - (iv) the ten-line mooring was, equally plainly, the best that realistically could be put out in that location.
167. On the advice of the Elder Brethren, that is the logic that would have been adopted by a prudent mariner, and it was not proper seamanship to stay with the six-line mooring. It was negligent of *Alexander* not to moor herself as securely as reasonably she could, by putting out the additional four lines required to switch to the ten-line mooring, once she was aware that the convoy was to be sent past. The fact that, with hindsight and the use of sophisticated modelling, it is now known that *Alexander* would not have broken free so as to be an immediate danger to ships in the convoy if *Falcon* had navigated past her more cautiously than she did, is nothing to the point. That could not have been known at the time; and in my judgment it would have been unreasonable and therefore negligent of *Alexander* to think that it was appropriate to stay with the six-line mooring for the very different new situation.
168. I express that conclusion in that way because my finding on the facts was that nobody on board *Alexander* gave the matter conscious thought at the time. The upshot is that *Alexander* was not reasonably carefully secured for the circumstance that Traffic Control was sending two convoys past her before sending a tow to clear her away to the Bitter Lakes.
169. Mr Hill KC objected that to find *Alexander* at fault on that basis would be to find it negligent for failing “to anticipate that someone else will breach its duties and be negligent and guard against that possibility”. I do not accept that submission. As I have already indicated, I have had the benefit that those on board *Alexander* did not have, and could not have had, of computer modelling and expert analysis enabling me to conclude that, as it happens, the six-line mooring would have held if *Falcon* had come past at a slower speed. *Alexander* could not have made any such assessment. In any event, there might be any number of factors, with or without fault, affecting the speed and positioning within the channel of each ship in the convoy as she came past *Alexander*. It would not have been prudent to retain an obviously limited and inadequate mooring on some assessment that if all went perfectly, it ought not to be a problem.

170. C/O Celocia under cross-examination gave evidence to the effect that he was comfortable with the six-line mooring because it was safe as long as the convoy did not come by too fast. I did not consider him a satisfactory witness, however, even allowing for difficulties with taking his evidence remotely that were not his responsibility. In my judgment he was not giving honest evidence of any thought process that went through his mind at the time. My assessment was that he was giving the court what he understood to be the party line for the case on *Alexander's* side, namely that the only problem that morning was the NYK ships' speed and separation distance.
171. I do not accept that C/O Celocia in fact turned his mind at all to the adequacy of the mooring arrangement for the new situation, which came as news to him only 15-20 minutes before *Al M* arrived at *Alexander's* position at the head of the convoy. He suggested in his evidence that he did a "*risk assessment*" that amounted to noting that the six lines in use were tight and there was good visibility, and that there were two tugs alongside and a pilot on the bridge. I envisage that he did notice those things, on returning to the bridge just before 08:00 hrs. I do not accept that he was doing so as part of any process of considering whether the mooring was sufficient or ought to be strengthened since a convoy was being sent past.
172. I do not accept a submission by Mr Hill KC that the case that the six-line mooring should have been reinforced needed to be, but was not, put squarely to C/O Celocia. It did not need to be, because he did not make any relevant decision about it at the time. In my view, Mr Turner KC correctly detected in the cross-examination that the case available to be put to C/O Celocia was not that he made a bad judgment call, but that he was not telling the truth in claiming to have considered the issue and to have made a judgment call at all. I did not believe that evidence, and I do not believe he did any such thing. As for 3/O Ronquillo, the other officer called as a witness by *Alexander*, on his own account he did not give any consideration to how *Alexander* ought to be moored. He left that to the master and the pilot, he said, and his job was only to follow any instruction he might be given about it.
173. The issue is whether no reasonable crew would have been content with the six-line mooring that had been adopted for a very different, much more temporary purpose than holding *Alexander* fast while two convoys came past. I disagree with Mr Hill KC that "*The expert simulations show that they (a reasonable crew) would have been content*". They show no such thing; and instead, the application of ordinary common sense, informed and confirmed by the advice of the Elder Brethren, shows that no reasonable crew would have been content.
174. For completeness, I should mention that Mr Hill KC relied on a provision in the SCA Rules, Article 19, requiring all ships in the Canal to have at least six flexible floating mooring ropes, in good condition, fitted with spliced eyes, ready at suitable points on deck for an emergency, with arrangements in place for their quick handling. That has nothing to say on how *Alexander*, required to make fast alongside the Canal at a very narrow point for a prolonged period while two convoys went past, should have moored herself. No doubt Article 19 was relevant the previous evening when the southbound convoy had to come to a halt as an emergency (but *Alexander* failed to do so) – all the ships should have had at least six lines ready and available for immediate deployment. No doubt it was relevant again as *Maersk Sarnia* and the rest of the convoy behind *Orpheus* had to come to an emergency halt on the morning I am

considering. But Article 19 is not, nor does it imply, an assessment by the SCA that *Alexander* reasonably should have used only a six-line mooring to make herself fast for convoys to come past.

175. In compliance with the SCA Rules, *Alexander* would have been carrying a riding squad of local Suez Canal linesmen ready to be deployed at any time and a suitable boat (hired locally if not already available as part of the ship's ancillary equipment) that could easily be launched to deploy the riding squad whenever required. Bearing that in mind, the Elder Brethren's advice was that it should have been possible, without difficulty even with a 2.5 knot current running, to deploy and make fast the additional four lines to upgrade to the ten-line mooring within 30-45 minutes.
176. *Alexander* criticised that view for failing to make sufficient allowance for the time required to deploy the mooring boat. I think there is some force in that criticism. However, I do not accept the conclusion *Alexander* pressed, namely that it would have taken at least as long to add the four extra lines as it had taken to deploy the six-line mooring. My conclusion is that it ought to have been possible to upgrade the six-line mooring to the ten-line mooring in no more than 60 minutes.
177. Because these alternatives were possible on the factual evidence, I asked the Elder Brethren to advise whether, in their opinion, good seamanship required *Alexander* to change to the ten-line mooring (or, rather, in their view might the six-line mooring reasonably have been regarded as sufficient): (a) if the news that the northbound convoy would be passing her came two hours or so before *Al M* reached *Alexander*'s position; (b) if that news came only 15-20 minutes before *Al M* arrived, when she (*Al M*) was already at or north of the 154 km mark. Their advice was to the effect that good seamanship so required *either way*. Specifically as to the latter, they advised that:

“Even with a small window of 15-20 minutes before AM would reach Alexander, it most likely would have been possible for the Suez Canal mooring crew to be deployed (assuming they were being launched on the offshore port side) and make their way to Alexander’s inboard stbd side (more sheltered from wash interaction) ready to take the additional mooring lines to the shore. If they were being launched from Alexander’s inboard stbd side then they would have been able to take the additional mooring lines even sooner. There was a risk that the passing ships may cause some interaction movement in Alexander which would possibly affect the mooring arrangements/operation, however this could have reasonably been offset by prudent use of the tugs”

178. That makes it less important than it might have been when exactly news of the convoy reached *Alexander*, or should have done so with a proper listening watch. My finding on that, though, was that indeed *Alexander* was aware that she was being asked to sit at the side of the Canal while the subject northbound convoy was sent past, and for that matter also the southbound convoy that would have followed it, by 06:20 hrs, about two hours before *Al M* reached *Alexander*'s position at the head of the convoy. That gave more than ample time to ensure that she was as securely stationed as was reasonably practicable before the convoy arrived. Instead, and negligently, she did nothing, and that significant fault is the root cause of the casualty that followed two and a half hours later.

179. The other criticism levelled at *Alexander's* set-up at the side of the Canal is that no active use was being made of the attending tugs to hold her steady as ships in the convoy came past. I accept the Elder Brethren's advice that good seamanship required a proactive rather than reactive approach to the use of the tugs. Having them lying passively alongside unless and until urgently required risked valuable time being lost getting the communication channel open, tugs' engines powered up from idle, and tugs into the correct position to push, being mindful of wash effect on the passing convoy. Good seamanship dictated that *Salam 6* and *Salam 9* should have been actively pushing *Alexander* with at least 25% rated HP effectively as reinforcement of the mooring arrangement.
180. As a matter of ordinary good seamanship there should have been, but there was not, an agreed plan between the master/pilot and the tugs as to how they would work, each having made the other aware of their condition, requirement and limitations. With at least 25% rated HP in use pushing *Alexander* onto the bank as a preventative measure before *Al M* came past, power could have been increased readily as required. The convoy would need to be alerted to how the tugs were being used as their propeller wash would stream into the mid channel with possible interaction for the passing convoy. To mitigate the effect of that tug wash, they could have been used to push at 45 degrees to *Alexander*. Not only would this have been proper use of the tugs with the ten-line mooring deployed, it would have allowed, and should have been used for, the safe deployment of the necessary additional mooring lines even as the first ships of the convoy were passing if for some reason the mooring arrangement had then not yet been upgraded.
181. It was negligent of *Alexander* to be moored as she was by the six-line mooring and without making proper use of her tugs in readiness for the convoy to pass, and as the convoy then proceeded to pass. On any view by the time *Falcon* arrived on the scene, she should have upgraded her mooring arrangement to the ten-line mooring. Accordingly, she should never have become a danger to any of the ships in the convoy. *Falcon's* passing should not, and would not, have caused her to break free from her mooring, and there would not have been any risk of collision, let alone actual collision, if she had taken basic care over mooring herself as securely as was reasonably practicable in her circumstances.

Falcon's Navigation

182. *Falcon's* minimum steering speed derived from sea trials and stated on her manoeuvring characteristics and pilot's card was 7.0 knots through the water. Mr Hill KC established through cross-examination of Capt Dusi that in fact she could be manoeuvred safely at significantly slower speeds, certainly down to 5.5 knots through the water, and that Capt Dusi was aware of that and familiar with such manoeuvring. Subject to considering the Elder Brethren's advice, lest anything they said might cast doubt on the proposition, my finding would be that if *Falcon* sought to pass *Alexander* as slowly as safely she could from the point of view of her own manoeuvrability, that would have meant passing at 5.5-6.0 knots STW.
183. While a precise calculation of forces would require sophisticated modelling, it is basic to understand that the relationship between increased force and increased speed is square. Arriving at 7.0 knots STW rather than 5.5-6.0 knots would be expected to increase interaction forces by at least c.36% ($(7.0/6.0)^2 = 1.36$). The more precise

assessment provided by Mr Colman was that the increase in passing vessel forces through *Falcon* commencing her pass at 7.1 knots STW rather than having steadied herself to 5.7 knots STW before arrival was some 43%. Mr Colman gave the result the other way round, in that he reported that if *Falcon* had been settled at 5.7 knots STW, the forces acting upon *Alexander* would have reduced by 30%. Then, $1/0.7 = 1.43$ for the 43% I stated to express the difference as an increase in the forces that would otherwise have been experienced rather than as a reduction from the forces experienced in fact. I should add by way of explanation that the settled speed of 5.7 knots through the water used by Mr Colman was derived by modelling *Falcon*'s speed if she had reduced to Dead Slow Ahead for the approach to *Alexander*'s position upon exiting the bend in the Canal at the 155 km mark (which is how from her AIS-based plot it looks like *Al M* was navigated), rather than only 11-12 minutes later as she neared the 152 km mark.

184. My further conclusion from Capt Dusi's testimony, as tested through cross-examination, was that at the time he did not give independent thought to precisely how *Falcon* should shape to pass and pass *Alexander*. He trusted to the pilots' experience and judgment on that. His evidence when challenged about how *Falcon* was handled was in my view his best attempt after the fact to explain and justify how the pilots navigated her, not evidence of thought processes he went through at the time. One part of that evidence was to say that it was good seamanship to arrive at *Alexander*'s position and begin the pass on a deceleration, rather than at a steady slowest safe speed, as Mr Hill KC was putting should have been the approach. His pilots, by contrast, appear to have intended to be at a slowest safe speed well before reaching *Alexander* (see paragraph 88 above). It is regrettable that there was no proper discussion between Capt Dusi and the pilots on how the pass was to be navigated.
185. The advice received from the Elder Brethren does not provide any reason against the finding indicated, provisionally, in paragraph 182 above. Indeed, it provides strong support for it. My conclusion and finding, therefore, is that if a considered decision had been taken on board *Falcon* that she should pass *Alexander* as slowly as safely she could from the point of view of her own manoeuvrability, that would have been a decision to pass at 5.5-6.0 knots STW. Furthermore, it is clear from the Elder Brethren's advice on this aspect, which I accept, that the prudent decision that should have been taken on board *Falcon* was indeed that she ought to pass *Alexander* as slowly as safely she could.
186. In view of *Falcon*'s criticisms of the Elder Brethren's advice on this topic and a submission that it would be unfair for the court to rely on it, I set out in full the questions I asked and the Elder Brethren's answers:

“F2 Assuming *Falcon* was committed to passing *Alexander* where she was in the Canal, did *Falcon* shape to pass, and pass, *Alexander* properly, or was she improperly navigated? In particular:

- (i) did good seamanship require that *Falcon* approach and pass at no more than 5.5 knots through the water (below 4 knots over the ground);
- (ii) was it poor seamanship to arrive at *Alexander*'s position, and begin to pass her, on a deceleration;
- (iii) was it poor seamanship to increase *Falcon*'s main engine RPM during the pass; and/or

(iv) was it *poor seamanship* to steer *Falcon*'s bow back towards the centre of the main channel as she was passing?

Answer

(i): Considering the environmental conditions (particularly wind) at the time were reasonably favourable and with an adverse current with respect to *Falcon*'s heading and which provides more directional control, good seamanship would suggest that *Falcon* could have passed *Alexander* at her minimum steering speed of not more than 6.0 knots STW which would have been prudent.

(ii): Whilst strictly speaking it is not incorrect to approach a passing on a declaration, good seamanship would suggest that this approach does not give the mariner sufficient time to fully assess the satisfactory outcome of the planned deceleration/speed or allow time to counter/react to any unexpected occurrence such as bank effect which will need additional action/speed adjustment to address.

(iii) & (iv): Ideally when making a close pass in a confined channel, good seamanship would suggest that a passing ship should avoid any increase in speed and/or heading [original emphasis]. This is why it is prudent as per (ii) above to approach a pass at the pre-determined speed in good time and distance beforehand in order to foresee and counter any control issues and negating the need to change speed or heading during the actual pass. Notwithstanding the above, if the change in speed and heading by *Falcon* was for no other reason but to regain track early and maintain convoy schedule/distance, then that would not be conducive to good seamanship.”

187. In closing, Mr Turner KC had relied on the pilot card minimum steering speed of 7.0 knots, and differences he said were relevant between the buoyed Canal approach channel which *Falcon* had transited at a much lower speed and the Canal itself, for a submission that I should reject the allegation that *Falcon* could safely pass, or should have attempted to pass, in the manner proposed by *Alexander*. He relied on the pilot card entry again in his observations on the Elder Brethren's Answer F2(i) above and its reference to a “*minimum steering speed*” of not more than 6.0 knots through the water.
188. The submission was that I should reject the Elder Brethren's advice, the tenor of which was that *Falcon* should have arrived at *Alexander*'s position and commenced her pass at a materially slower speed than she used in fact. I judged that it was right in the circumstances to ask the Elder Brethren to clarify their reference to 6.0 knots STW. The supplementary question and answer in that regard were as follows (original emphasis throughout):
- “**F4** In your Answer F2, ... concerning the navigation of *Falcon*, you took her minimum steering speed to be not more than 6.0 knots STW. Please identify and explain the basis for that assumption.

Answer

F2 (i) did good seamanship require that Falcon approach and pass at no more than 5.5 knots through the water (below 4 knots over the ground);

Our answer was attempting to directly address question F2 where a stated speed value of 5.5 knots was suggested as per [the] excerpt above NYKF's pilot card and manoeuvring characteristics ... respectively do state her minimum steering speed to be/around 7.0 knots. This data is generally derived from sea trials in open sea conditions and is accepted to mean the minimum speed at which the vessel maintains her full capability to achieve desired headings with corresponding Rate of Turns. However it is also normal practice of good seamanship when required to maintain a lower speed, but maintain "restricted" heading control in confined environments to proceed marginally slower such as when entering/leaving port; making a pass or confined navigation such as a narrow channel/canal.

Many ports require similar sized ships to NYKF to proceed at between 5-6 knots (even without tug assistance) so there are many instances when less than the "minimum steering speed" will be required. The Elder Brethren do concede that perhaps a more apt term in our original response should have read "minimum control speed" meaning restricted heading control as opposed to "minimum steering speed" which means full steering/manoeuvring control.

It is from our own professional experience of ship handling similar sized vessels and also quite importantly what many ports require with respect to ship's speeds in confined waters (eg: Southampton Port stipulate maximum STW of 6 knots from Dock Head to Upper Swinging Ground, a distance of almost 2.5nm to avoid or reduce interaction) that a STW less than the "minimum steering speed" is safely achievable. This is where we have advanced the suggestion of a STW not more than 6 knots which is a reasonably accepted norm in confined manoeuvres (environmental conditions permitting). A minimum control speed (less than the minimum steering speed) can be achieved by momentarily stopping engines (rpms) in order for the speed to reduce and then "kick ahead" again to Dead Slow Ahead (or more if required) to initially maintain the lower speed and then slowly increase speed again. NYKF did it seems actually follow this method by maintaining control (steering) at a lesser speed when she transited the buoyed channel at a speed of between 5.2 and 5.9 knots STW for 22 minutes."

189. In his observations for *Falcon* in relation to that supplementary advice, Mr Turner KC submitted that I should reject "*the Elder Brethren's assessment that the minimum steering speed of the NYK FALCON was 6 knots*". A key element of the Elder Brethren's supplementary advice was to explain how the 'minimum steering speed' stated on the pilot's card will have been derived, what it would represent, and why an experienced mariner would expect *Falcon* to be capable of safe navigation for confined manoeuvring at a materially slower speed (environmental conditions permitting), for which they advised that a 'reasonably accepted norm' for a ship of her size would be to keep speed through the water to no more than 6 knots. In my

judgment, Mr Turner KC's submissions did not provide any substantial reason to reject that explanation.

190. The Elder Brethren's use of the term 'minimum control speed' was criticised, and said to be novel, but what matters is the substance of the advice. On the terminology, Mr Turner KC prayed in aid his own experience from practice at the Bar, instructions he said he had received from a master mariner assisting his instructing solicitors, and a ship handling textbook. But those materials, if admissible, merely confirmed the obvious, namely that the Elder Brethren were advising, in substance, that *Falcon*'s minimum steerage way would have been a speed through the water materially slower than the 'minimum steering speed' stated on her pilot card, in terms that support *Alexander*'s case that Capt Dusi, as master of *Falcon*, should have known that. That brings me full circle to my starting point, which was that Mr Hill KC had established with Capt Dusi that *Falcon* could be safely navigated for confined manoeuvring at speeds through the water well below 7.0 knots, and that Capt Dusi knew that and was quite comfortable with such manoeuvring.
191. Mr Turner KC also suggested that it would be unfair for negligence to be found against *Falcon* on that basis, because of how Mr Hill KC had framed his questions in cross-examining Capt Dusi. I do not agree. The case plainly put to Capt Dusi was that, to his knowledge and within his experience as her master, the 'minimum steering speed' of 7.0 knots STW stated on *Falcon*'s pilot card was not her slowest safe speed for confined manoeuvring, and there was no good reason why her slowest safe speed had not been adopted for this manoeuvre. I was confident, and on re-reading the transcript of his evidence remain confident, that Capt Dusi appreciated that, agreed with the basic facts being put, did not accept the criticism put on the basis of them, but in truth had no serious answer to it.
192. Finally, Mr Turner KC sought to suggest that the Elder Brethren's advice went "*beyond the permissible limits of advice on matters of seamanship and into a finding of fact, viz., the minimum speed at which this ship could have accomplished this manoeuvre*". I do not accept that either. The substance of their advice, as provided initially and clarified subsequently, is that *Falcon* ought to have navigated this manoeuvre by settling to a steady slowest speed at which she would be expected to respond satisfactorily to helm, and it would be reasonable to envisage that that speed would be not more than 6.0 knots through the water. That is admissible expert advice the court is entitled to take into account in making any finding of fact, which of course is a matter for the court alone on the entirety of the evidence, as to whether *Falcon* could handle confined manoeuvres safely at the sort of speed through the water that it is alleged she should have adopted on this occasion and, if so, whether Capt Dusi as her master knew or ought to have known that.
193. I regarded the Elder Brethren's initial advice in relation to 'arriving on a deceleration' as unclear, both on its own terms (Answer F2(ii)) and when read with what they said about increasing rpm and/or changing heading during a pass (Answer F2(iii)-(iv)). I asked them to clarify whether they were advising that it was poor seamanship for *Falcon* to have approached the passing of *Alexander* on a deceleration or whether they were saying that a competent mariner might reasonably regard approaching on a deceleration as the correct way to navigate the passing. Their answer was that:

“We can clarify in line with our answer to F2(ii) that good seamanship would have required the NYKF to be at her planned passing speed before the pass (0.5nm is approximately just over 3 ship’s lengths deemed adequate to correct/counter any control issues before that actual pass). Therefore from the above the EB deduce that approaching on a deceleration in these circumstances (unfamiliar/unusual pass) was not conducive to good seamanship (ie: poor seamanship).”

194. Mr Turner KC’s supplementary observations criticised that advice also. He said that the Elder Brethren had failed to take account of the fact that “*if minimum steering speed (let alone some speed lower than that) had been adopted ½ nm from the PA, the NYKF would have been exposed to bank effect for several more minutes, with a correspondingly increased risk of its bow shearing to port, towards PA. That would in turn require a sustained increase in speed to break the bank effect and return the vessel to its original course. The Court will see at once that weighing these considerations is an exercise of judgement, on which different mariners can legitimately differ.*”
195. That supposed criticism in my view serves only to demonstrate the cogency of the Elder Brethren’s initial advice. Firstly, it reinforces the obvious point that passing with minimum steerageway was the prudent course, in *Falcon*’s own interest to keep bank effect to a minimum, quite apart from keeping down as far as reasonably possible the passing vessel forces that would act upon *Alexander*. Secondly, to pass safely *Falcon* would plainly wish to position her starboard side at the starboard edge of the main channel and maintain a steady heading parallel to the line of the channel (and therefore parallel to *Alexander* also). Some bank effect was therefore inevitable. It makes sense to say that how substantial it would be, and how precisely *Falcon* would be affected, is *not* something to test out for the first time only after arriving at *Alexander*’s position, while trying to pass her, and obviously so; and that is the gist of the Elder Brethren’s advice.
196. In the event, *Falcon* kept her heading steady with the use of a small increase in engine rpm and some (albeit substantial) helm actions. There is no reason to suppose that at 5.5-6.0 knots through the water, she would have needed to deploy a sustained increase in speed to break bank effect, or would have encountered any real risk of her bow shearing to port. For completeness only, since therefore it does not arise, were such effects encountered whilst prudently assessing the situation well short of arriving at *Alexander*’s position, that would be reason to abort any attempt to pass, not reason to plough on regardless.
197. The computer modelling demonstrates to my satisfaction that even with *Falcon* arriving as she did at 7.1 knots through the water, decelerating, and even with *Alexander* inadequately moored as she was, if *Falcon* had not increased rpm or altered heading as she did about half way through the pass, *Alexander* would not have broken free, and so the collision would not have occurred. The Elder Brethren’s primary advice (their original Answer F2(iii)-(iv)) was to the effect that all things being equal it was bad seamanship for *Falcon* to increase rpm or alter heading towards *Alexander* as she did during the pass.
198. The real impact of that, however, as the Elder Brethren’s advice made clear and at the risk of repetition, is to explain or confirm why it was so important to shape for and

commence the pass properly. Increasing rpm, possibly also steering towards *Alexander*, was a likely and potentially proper response, for *Falcon*'s safety, if her heading control was challenged by bank effect as she passed. As their supplementary advice confirmed, in response to my request for clarification, that was and is the sense of the Elder Brethren's Answer F2(iii)-(iv). Thus:

- (i) good seamanship while passing in confined waters like this is to avoid increasing rpm or steering towards the ship being passed;
- (ii) that is why proper navigation is "*to approach a pass at a pre-determined speed in good time and distance beforehand in order to foresee and counter any control issues ... negating the need to change speed or heading during the actual pass*" (my emphasis);
- (iii) if (and the Elder Brethren's analysis of the detailed manoeuvring data in their opinion confirmed that this *is* what happened, likewise Capt Dusi's evidence about all that) the increase in rpm and heading change half way through the pass was in response to bank effect acting on *Falcon*, those elements of the navigation of *Falcon* past *Alexander* were not themselves bad seamanship, but they were concrete evidence of why a minimum safe speed at the start was so important.

199. My conclusion and finding, then, is that proper navigation of *Falcon* would have been to be steady at a minimum safe speed for a confined manoeuvre of no more than 6.0 knots through the water by (at the latest) 0.5 n.m. off *Alexander* (bow to bow). Arriving at *Alexander*'s position at over 7.0 knots through the water, still decelerating towards a steady passing speed, was improper navigation, and negligent. In the light of Capt Dusi's evidence, I am satisfied that if a proper navigation of *Falcon* to and past *Alexander* had been attempted, she would in fact have arrived at 5.5-6.0 knots through the water, the speed at which she had proceeded up the buoyed approach channel on her way to the Canal itself earlier that morning. In closing argument for *Falcon*, Mr Turner KC submitted that the careful mariner considering whether to join the convoy and proceed past *Alexander*, "*would have thought reasonably that the prudent course would be to pass as widely and slowly as they sensibly could, consistent with the safe navigation of their own ship*". I agree. The key conclusion, therefore, is that on her master's own account, the credibility of which is confirmed by the Elder Brethren's advice, that is not how *Falcon* was in fact navigated.
200. Having in that way navigated negligently into the passing manoeuvre, thereafter *Falcon* did nothing wrong. *Falcon*'s otherwise undesirable increase in rpm and change in heading towards *Alexander* when midships to midships with her were a response to the impact of the bank effect she generated because she was travelling too fast through the water at the start of the pass. Those elements of *Falcon*'s reaction to the bank effect aggravated the passing vessel forces she caused to act upon *Alexander*, so as to contribute to her breaking away from the side of the Canal, but it was not negligent of *Falcon* in the moment to have reacted to bank effect as she did.
201. The prior fault in arriving for and commencing the pass at a negligent speed through the water was causative, both in that *Falcon* could have increased rpm and changed heading as in fact she did without getting *Alexander* into difficulty if she had not been going too fast initially, and in that the rpm increase and heading change were only

forced upon *Falcon* by the degree of bank effect she experienced and that was necessarily a function of her speed.

Orpheus's Navigation

202. It is likewise my conclusion that proper navigation of *Orpheus* would have been to achieve a minimum safe speed for a confined manoeuvre of no more than 6.0 knots through the water by (at the latest) 0.5 n.m. off *Alexander* (bow to bow). Capt Kumar gave evidence similar to Capt Dusi's confirming that *Orpheus*, to his knowledge and within his experience of her as master, could safely be navigated for confined manoeuvring at speeds through the water below 6.0 knots. Instead, and negligently, *Orpheus* approached the scene far too fast, relatively speaking. She steamed at Half Ahead, making 9.0 knots and more through the water, until just short of the 152 km marker, only 0.34 n.m. off *Alexander*. Although she then began a deceleration by reducing to Slow Ahead, she carried on at that engine setting, still making between 8.5 and 9.0 knots through the water, for a further 1.5 minutes until she was no more than a ship's length off *Alexander* (bow to bow).
203. That all means, in my judgment, that in the minutes leading up to being in close quarters with *Alexander*, *Orpheus* proceeded at excessive speed, and obviously so, even if *Alexander* had not moved at all in response to *Falcon's* pass. In the event, *Alexander* having broken free from her mooring under the influence of the passing vessel forces generated by *Falcon*, *Orpheus* got herself to a ship's length from *Alexander* (bow to bow), still making 8.6 knots through the water (6.1 knots over the ground), with *Alexander* ahead of her, swung out diagonally most of the way across the width of the main navigable channel of the Canal.
204. I turn then to the question of separation, that is the distance that *Orpheus* was keeping behind *Falcon* in the convoy. The Elder Brethren's advice is that under Suez Canal Traffic Control direction, separation between ships within a Suez Canal convoy (bow to stern) is usually, and prudently should be, about 1.0 n.m., always not closer than 0.8 n.m., and that a contention by *Alexander* that *Orpheus* should have kept herself 2.0 n.m. astern of *Falcon* is unrealistic. In that regard, *Alexander* relied *inter alia* on the finding Teare J made against her in relation to the collision the previous evening (*Sakizaya Kalon, supra*, at [189]-[194]). That is a finding of fact made on the advice Teare J received from the nautical assessors in that case for the circumstances facing *Alexander* at 18:30 hrs the previous evening. I do not think it is an admissible or powerful reason to reject the advice I have received for the circumstances facing *Orpheus* the following morning.
205. Given the need for additional navigational care in and about this unusual requirement to pass a substantial cargo ship moored to the side of the narrowest section of the Canal, the Elder Brethren's view is that *Orpheus* should have made sure she stayed at least 1.0 n.m. astern of *Falcon* for that part of her Canal transit. I note as important context that *Orpheus's* systems were designed and tested to bring her to an emergency halt (through the water) in just under 1.2 km (c.²/₃ n.m.) from 11.6 knots through the water. She would have had no difficulty avoiding collision with *Alexander* if, making c.9.0 knots through the water but with a 2.5-knot current running against her, she had been at least 1.0 n.m. astern of *Falcon* as she passed *Alexander*.

206. Mr Hill KC relied on a table setting out *Orpheus*'s separation from *Falcon* at 30 second intervals from 07:25 hrs to 08:53 hrs. It demonstrated how badly *Orpheus* did against a target minimum separation of 2.0 n.m., which was the purpose of the table. However, it showed that *Orpheus* also did not do well against a target minimum separation, in line with the Elder Brethren's advice as to normal prudent navigation in the Canal, of about 1.0 n.m., but always not closer than 0.8 n.m., let alone against their view that for this unusual situation a minimum separation of 1.0 n.m. should have been maintained.
207. *Orpheus* 'bunched up' to *Falcon* from around C-10, prior to which she was always at least 1.0 n.m. back. However, from 08:42:30, the separation reduced steadily, hitting a minimum of 0.74 n.m. between 08:50 and 08:51. It should be borne in mind that 0.06 n.m. is (a fraction over) 111 metres, which is one third of *Orpheus*'s length and one half of *Alexander*'s.
208. The primary fault in the navigation of *Orpheus* was in her speed, rather than in her separation from *Falcon*. The excessive reduction in her separation from *Falcon*, until she was uncomfortably close for the circumstances, was, first and foremost, the consequence of that excessive speed. That reducing separation, however, was sufficient reason to reduce speed, and should have led *Orpheus* to do so, come what may. Her failure to respond in that way was a compounding fault.
209. As I noted in paragraph 203 above, the upshot was that *Orpheus* arrived on the scene, just a ship's length from *Alexander*, at what was an obviously excessive speed, even if *Alexander* had been motionless and parallel to the port side of the Canal; and in fact by then *Alexander* was diagonally most of the way across the channel.
210. If *Orpheus* had decelerated, as she should have, so as to be at a settled slow speed of not more than 6.0 knots through the water by no closer than 0.5 n.m. from *Alexander* (bow to bow), I am confident that there would have been no collision. That would be my finding even if the counter-factual was simply 6.0 knots STW at 08:47:30, the time at which *Orpheus* was in fact 0.5 n.m. from *Alexander*. The counter-factual goes further than that, however. *Orpheus* only reached that distance from *Alexander* at that time by proceeding at excessive speed. I do not think I am in a position to say from the evidence or calculate for myself exactly how much later than 08:47:30 *Orpheus* would have reached 0.5 n.m. from *Alexander* on a properly navigated approach; but it is obvious without such a precise finding that *Orpheus* would not have come close to hitting *Alexander* if she had adopted such an approach.

Alexander's Response

211. If *Orpheus* had taken immediate and decisive action by 08:49, which is C-3.5, then more probably than not there would have been no collision. One of the striking features of the basic chronology is how nearly there was no collision although *Orpheus* took no serious avoiding action until C-2, and the action then taken involved a progressive sequence of engine orders from Stop to Crash Astern over half a minute rather than an immediate Crash Astern order. In my view if the action in fact taken had been taken a minute or more earlier, this would have been a near miss and not a casualty.

212. On my finding as to *Alexander*'s swing path, represented by the diagram under paragraph 102 above, her stern was about halfway across the main channel by 08:49 hrs. The swing to that point had taken just under 3 minutes from when her stern lines parted on the transom. *Alexander*'s case was that *Orpheus* should have taken decisive action by 08:47 hrs; and without doubt, in my view, there would not have been a collision if *Orpheus* had been alerted to an imminent emergency by then, that is within the first minute of that 3-minute period of the initial swing to midway across the channel.
213. Going back to 08:49 hrs, one reason to consider whether the collision would have been avoided if *Orpheus* had taken decisive action then is that at 08:48:51 hrs Capt Ramzy on *Alexander* would have been audible on the bridge of *Orpheus* as he hailed *Salam 9*, saying: "*The tugboat in way of vessel's aft who is pushing the vessel. The vessel started swinging sideways across the channel. Salam 9, Salam 9, Ramzy.*" However, it does not require the expert assistance of the Elder Brethren to identify that that is no kind of emergency or distress signal.
214. The startling reality, particularly in view of *Alexander*'s own case on how much opportunity *Orpheus* had to avoid a collision, is that *Alexander* did and said nothing whatever to alert the convoy (most immediately, that is, *Orpheus* since she was nearest) that she had lost two mooring lines so that her stern was untethered and she was swinging out into the channel. I asked the Elder Brethren what, if any, action, taken when, good seamanship in their opinion required of *Alexander*, to notify or warn *Orpheus*, ships in the convoy generally, or Traffic Control, that she was in difficulty. Their answer was that:
- "Alexander should have alerted the Traffic Control and other ships in the vicinity as to the impending situation with her breaking away from the bank after losing her (aft) moorings. The primary means to alert others could have been by initially making a "Pan Pan" urgency message to "All Ships" on the VHF 16 and the Suez Canal working channel. The Traffic Control most likely would have taken over the VHF alert after Alexander's initial call to warn the other ship/pilots. One of the most effective methods Alexander could have also used was her whistle(s) by the sounding [of] an appropriate signal such as Morse Code Lima (-.-) "You should stop your vessel immediately" and/or Morse Code Uniform (-.-) "You are running into danger". If the Officer of the Watch of Alexander may not have been readily versed in the international morse code signals, Rule 36 (Colregs) "Signals to attract attention" could have been used, even a simple or series of long blasts on the whistles would most likely have immediately alerted the other ships in the convoy of an imminent situation ahead."
215. In short, and which comes as no surprise, *Alexander* had and should have used multiple means by which to raise a clear and urgent alarm, by which *Orpheus* in particular (but in fact the whole convoy) would have had clear and urgent warning of the danger ahead that *Alexander* had become or was about to become. I consider it inexplicable and very poor seamanship, that is to say negligent to a high degree, that *Alexander* failed to raise any alarm. There should and would have been no collision but for that bad fault on her part.
216. Mr Hill KC argued that any such fault on *Alexander*'s part was not causative. That involves proposing that because *Orpheus* (as I find below) did not react as she should

have done based on her own observations of *Alexander*, equally she would not have reacted promptly and decisively to emergency signalling from *Alexander* broadcasting the danger that she was becoming. In my view, that is a *non sequitur*, and I see no reason to suppose that *Orpheus* would not have reacted to a clear call from *Alexander* to do so.

217. Mr Hill KC also submitted that I should not reach the conclusion that there was fault in this respect on the part of *Alexander*, indeed that it was not open to me to do so, because the complaint that it was not good seamanship to fail to raise the alarm was not put to *Alexander*'s factual witnesses. I do not accept that there is any unfairness. Before factual witness evidence was called, I indicated to counsel that it was unlikely to be helpful or productive, and I regarded it as unnecessary, to try to explore with the factual witnesses why something was not done where no thought was given to doing it at the time, especially with witnesses whose English might be less than fluent and whose evidence was being taken remotely, even if when it came to submissions the failure to take that action was going to be said to be important. In addition, the cross-examination of *Alexander*'s factual witnesses had to be curtailed to keep the trial to time. There was fault in that regard on *Alexander*'s part, because the other parties and the court were not given adequate notice that interpreters were to be used for its factual witnesses, so that the trial estimate and trial timetable were settled without allowing for that, and because the arrangements for translation that *Alexander* put in place were unusual and not very efficient. In the case of C/O Celocia, those issues were compounded by what seemed to be some difficulties in comprehension and a reluctance to answer questions straightforwardly.
218. I directed in the circumstances that Mr Turner KC and Mr Parker needed to cut their cloth "*very radically indeed to ask only those questions that are of central importance and will elicit additional further factual material, if there is any, rather than the putting of cases which may be for all sorts of reasons, including the circumstances of this witness [C/O Celocia] in particular, rather unproductive*".
219. If by way of specific question and answer a case were to be put to a factual witness that *Alexander* should have raised the alarm, that would have been a case to be put to C/O Celocia. I am confident that would not have been a worthwhile exercise; and Mr Hill KC did not identify in argument any reason why *Alexander* might reasonably have failed to warn *Orpheus* of her difficulties.

Orpheus's Response

220. Keeping a proper lookout while under way requires the use of all available means to make a full appraisal of the situation of, and ahead of, a navigating ship at any given time. I asked the Elder Brethren to confirm what in their opinion that would involve in the present case, so far as *Orpheus* was concerned in her approach towards *Alexander*'s position. They confirmed that good seamanship required *Orpheus* "*to keep a watchful eye on Alexander as a potential hazard ahead, not only if she broke free, but more generally an assessment of (1) how Falcon negotiated her passage past Alexander and (2) an assessment for a safe passing distance herself*." That should have involved the bridge team on *Orpheus* (including pilots and lookouts) being fully briefed by the master, "*a visual lookout maintained on both ... Falcon and Alexander, radar & AIS tracking of both targets with "trails" on to detect earliest signs of any movement. Bridge door(s) should [have been] open to the outside to be able to hear*

any audible signal. A listening watch on VHF 16 and the Suez Canal working channel with volume turned up in case of any safety/urgency message being transmitted.”

221. In fact, *Orpheus* was not keeping a specific, close watch on *Alexander*, before, during or after *Falcon* passed her, to ensure that it remained safe for *Orpheus* to approach and pass. Capt Kumar wrongly considered that it was not that important to do so:

Q: Do you agree ... that it was very important to keep a close watch on exactly what was happening before and during and after The Falcon passed her?

A: Not really, sir, not really.

Q: Not really?

A: Not really.

222. Capt Kumar’s written records and reports from the hours and days after the collision state, extraordinarily, that he was not even aware of *Alexander*’s position until c.08:45 hrs, after *Falcon* had passed and *Orpheus* was only 7 cables from her position (bow to bow). It is clear from the VDR transcripts that that cannot be right – that is to say *Alexander* and her position had in fact been identified by Capt Kumar on *Orpheus*’s bridge well before that – and it did Capt Kumar no credit that he refused to accept as much in cross-examination. Most pertinently for present purposes, however, it is not credible that Capt Kumar might claim in his near-contemporaneous reporting to have been ignorant of *Alexander*’s position until after *Falcon* had passed her if in fact he had identified that she needed to be kept closely watched, and her response to the passing of *Falcon* carefully observed, and that careful watch had then been kept.
223. That all fell short of the requirement to keep a proper lookout, as explained for circumstances such as these by the Elder Brethren. That a proper lookout was not being kept would probably have been my conclusion in any event simply from the fact that *Orpheus* took no action suggesting any appreciation of possible danger until she was less than a ship’s length from *Alexander*’s bow and *Alexander* was lying diagonally across most of the width of the main channel.
224. I think it is plain on the evidence that *Orpheus* should have identified the danger sooner than that. Here again, I accept the Elder Brethren’s opinion that once *Alexander*’s stern was at least a full beam out from her moored position (in which she had been parallel to the bank), that would have been noticeable and should have been noticed if there had been careful visual monitoring of *Alexander*’s position. Their opinion went further, in fact, to the effect that with continuous radar/AIS tracking in use, as the Elder Brethren said it should have been, then “*realistically this would have been the latest time that Orpheus should have identified that there was a risk of collision developing*” (their emphasis). I also accept Mr Hill KC’s submission that Capt Kumar in all probability *did* notice that *Alexander*’s stern was swinging out into the main channel by 08:47 hrs, but failed to do anything to avoid the risk of collision until at least three minutes later.
225. In his observations on the Elder Brethren’s advice, Mr Parker for *Orpheus* said I should not treat it as reliable concerning the ability of radar or AIS tracking to assist in that way. I am not persuaded that the criticisms show reason why I should doubt

the Elder Brethren's advice; but in any event I would accept their conclusion on the impact of a proper visual lookout and that is sufficient for the finding I make, which is that by 08:47 hrs, *Orpheus* should have identified that there was a significant collision risk ahead. *Alexander* was by then visibly not secure and noticeably starting to swing into the channel. Indeed, as I have concluded, Capt Kumar *did* appreciate by then what was happening to *Alexander*, but he failed to identify the consequent risk of collision as in my judgment any competent master should have done.

226. I further accept the Elder Brethren's advice that at that point, "*as a minimum [Orpheus] should have rung her engines FULL ASTERN immediately to significantly reduce speed and be stopped in the water if necessary ...*". She would also, of course, have needed to alert the rest of the convoy behind, and Traffic Control, as in the event she did when taking decisive action, too late, in the last couple of minutes before the collision.
227. The criticisms of *Orpheus* at trial did not stop there. Mr Hill KC also pressed the case that even when *Orpheus* finally did take action, the action taken was inadequate. He argued that she should have:
- (i) gone immediately, not progressively in stages, to Crash Astern;
 - (ii) dropped her anchors; and/or
 - (iii) grounded herself by the bow to starboard, if all other means were not enabling her to avoid colliding with *Alexander*.
228. Taking the last of those first, Mr Hill KC prayed in aid Article 59(7) of the SCA Rules (see paragraph 21(iii) above). I do not think that adds anything to liability here. The Elder Brethren's advice was that the priority for *Orpheus* was to take all way off if she could. I agree, and I accept their implicit view that it was not poor seamanship, in the agony of that moment, to think wholly in terms of 'emergency braking'. As the Elder Brethren went on to advise, in that case "*“killing two birds ...” ie reducing speed and initiating a turn to stbd would have been quite challenging. Using the bow thrusters if/when available could have assisted with initiating a rate of turn to stbd, but this would only become more effective as the speed of Orpheus reduced to <1.5 – 2 knots STW.*"
229. Mr Hill KC also suggested that elements of the final motions of *Orpheus* before the collision showed that she *did* attempt, albeit unsuccessfully, to run herself aground. I disagree. It is more likely, I think, as did the Elder Brethren, that what appears as the bow of *Orpheus* canting to starboard at the last is just the by-product of her stern moving to port under the 'paddle wheel' effect of her astern propeller.
230. Article 59(7) of the SCA Rules notwithstanding, in my view *Orpheus* is not properly to be criticised for not running herself aground or trying to do so. I could not find that in breach of Article 59(7) *Orpheus* hesitated over running herself aground, or that attempting to run aground would have made any difference.
231. In paragraph 226 above, I noted and accepted the Elder Brethren's advice that if *Orpheus* had identified the danger, as she should have done, 5 minutes or more before, in the event, she collided with *Alexander*, then as a minimum she should have

gone immediately to Full Astern. It follows, in my judgment, that in the actual circumstances, in which the danger was only spotted when *Alexander* was most of the way across the channel and *Orpheus* was within a ship's length of *Alexander* (bow to bow), she should have gone immediately to Crash Astern. Her engine management systems allowed that to be ordered, triggering automated systems to manage the transition.

232. That was also the Elder Brethren's specific advice in response to the question whether *Orpheus*'s actions from C-2.5 fell below the standards of good seamanship. In their view, she should have rung Crash Astern immediately "*as an emergency manoeuvre without hesitation and to take all remaining way off and mitigate any collision impact (if unavoidable)*".
233. Their further advice, as regards the possible use of anchors by *Orpheus*, was that: on modern merchant ships with minimum manning, fo'c'sle anchor stations are usually only manned for 'critical' navigations; this unusual Suez Canal navigation, involving the need to pass *Alexander* in the narrowest part of the Canal, ought to have been identified as a critical navigation; and fo'c'sle anchor stations should have been manned. Even if those anchor stations were not manned, they added in their supplementary advice (which also clarified and further explained their view that this passage should have been treated as a critical navigation, in response to observations from *Orpheus* upon their initial advice), usual practice for port approaches or long narrow passages (with or without pilotage) should have been followed, namely to have the anchors cleared and ready to let go and sailors on deck on stand-by via radio to proceed to the fo'c'sle at very short notice if required.
234. In answer, then, to the direct question whether *Orpheus* should have deployed anchors as part of collision avoidance at the last minute, the Elder Brothers' answer was yes. To arrest her headway as a last resort, she should have dropped at least one anchor but preferably both to 1-1.5 shackles in the water.
235. For the reasons discussed above, the response of *Orpheus* to the danger ahead that *Alexander* became was inadequate from start to finish. She was not keeping a proper lookout, so she failed to alert herself to the danger that was evident in front of her, she was inadequately prepared for an emergency stop, and she reacted with insufficient immediacy and decisiveness when finally she reacted at all.

Causative Fault Summary

236. All three ships were at fault. The collision would not have occurred had any one of them not been at fault:
- (i) *Falcon* should have navigated past in a way that would not have got *Alexander* into difficulty, even though she (*Alexander*) was moored being imprudently, and despite her lack of effective use of the attending tugs. The operative fault on the part of *Falcon* was that she arrived still making just over 7.0 knots through the water, on a deceleration towards her intended slow passing speed. She should have set herself at a steady, minimum safe speed for the pass, achieving that by 0.5 n.m. off *Alexander* (bow to bow) latest, and if she had adopted that approach, she would in fact have been making 5.5-6.0 knots

through the water and *Alexander* would not have broken free from her mooring so as to become a danger to *Orpheus*.

- (ii) At the same time, though, that difference, between how *Falcon* was navigated and how she should have been, whilst it is enough for her to have been negligent, ought never to have been a problem. *Alexander*'s imprudently inadequate mooring is the root cause of all that followed and was a serious failure of good seamanship on board that stricken ship. Had *Alexander* been properly moored, she would not have broken free so as to become a danger to *Orpheus*.
- (iii) That root fault was seriously compounded by *Alexander*'s failure to raise the alarm when her stern lines parted and she found herself swinging into the channel. It was negligent to a high degree on *Alexander*'s part that she did not make *Orpheus*, the rest of the convoy, and Traffic Control aware by 08:47 hrs at the latest that there was an emergency and an immediate need for the convoy to come to a halt.
- (iv) At the same time again, though, there should not have been a collision, even after all the faults just summarised. *Orpheus* was proceeding with significantly excessive speed, leaving it too late in her progress towards *Alexander*'s position before slowing for the pass; and having thus arrived in the vicinity sooner than she ought to have done, at excessive speed, *Orpheus* failed to keep a proper lookout *and* failed to act with proper urgency and decisiveness when, finally, she did act. Without any one of those failings (speed, lookout, and response), the collision would not have occurred.

Apportionment

- 237. Both *Alexander* and *Orpheus* are substantially more to blame than *Falcon* for the collision in this case, in my view. *Falcon* was guilty of a clumsy, ill-judged approach to the passing manoeuvre, sufficiently so to have been negligent, but how she was therefore navigated was not different from how she should have been by a very wide margin. From her perspective, there is a large element of bad luck that the greater passing vessel forces she therefore generated interacted with so poorly secured a ship as *Alexander* so as to put her into the path of so poorly navigated a ship as *Orpheus*, and that both *Alexander* and *Orpheus* then reacted so inadequately to the situation.
- 238. Causative potency as regards the extent of damage does not add anything in this case. Despite all the faults and their combined consequences, *Orpheus* came close to stopping without hitting *Alexander*. However, given the position *Alexander* had attained, once there was a collision with *Orpheus* making any real headway at all, there was going to be major damage.
- 239. I consider that the inadequacy of *Alexander*'s mooring arrangement was the more powerful of the faults in causing her to break free, given the distance she needed to be able to surge aft before her lines would part, which is what turned her induced motion from something uncomfortable or unnerving for those on board into an emergency and a collision risk. I also consider *Orpheus*'s excessive speed of approach, and her and *Alexander*'s faults in failing to respond to the developing emergency, as more powerful causative factors than *Falcon*'s initial poor navigation.

240. I assess *Alexander* and *Orpheus* as being equally at fault and responsible, overall. They have similarly weighty fault in creating the perilous situation, *Alexander* for being so inadequately secured at the side of the Canal, *Orpheus* for steaming up the Canal far too fast until far too late in her approach to *Alexander*'s position. They each have substantial fault in failing to respond to *Alexander*'s difficulty. It may be said that *Alexander*'s failure to raise an alarm is more blameworthy than *Orpheus*'s failure to see what was happening. But I consider that difference is balanced by *Orpheus*'s failure to take prompt and decisive action.
241. As between *Alexander* and *Orpheus*, if the assessment were only between those two, I would apportion responsibility equally.
242. As between *Falcon* and each of *Alexander* and *Orpheus*, where there is a substantial disparity (*Falcon* much less to blame than either of the others), I think it useful to follow Teare J's practice of considering how many times more at fault it feels right to describe *Alexander* or *Orpheus*, respectively, than *Falcon*. Adopting that approach, I would say that *Alexander* and *Orpheus* were each more than twice but not as much as three times as blameworthy as *Falcon*.
243. That leads me to assess comparative responsibility overall, and consequently to apportion liability, between *Alexander*, *Orpheus* and *Falcon* (in that order) in the proportion 5:5:2. I think that is fair to the three bilateral comparisons of relative responsibility, and also (stepping back) it reflects well how I would describe relative blameworthiness across the incident as a whole and all three ships taken together.

Conclusion on Liability

244. *Alexander* claims damages against both NYK ships, *Orpheus* claims damages against *Alexander*, but *Orpheus* makes no claim against *Falcon*. The result as to liability, therefore, is that there should be:
- (i) judgment for damages to be assessed, if not agreed, in all three Claims;
 - (ii) orders in the respective Claims that upon the recoverable loss and damage suffered by *Alexander* or *Orpheus*, as the case may be, having been finally assessed or agreed:
 - (a) *Orpheus* must pay *Alexander* $\frac{5}{12}$ of the latter's damages;
 - (b) *Alexander* must pay *Orpheus* $\frac{5}{12}$ of the latter's damages;
 - (c) the amounts payable under (a) and (b) above may be set off against each other; and
 - (d) *Falcon* must pay *Alexander* $\frac{1}{6}$ of the latter's damages.

The Additional Issue

245. The basic point to record is that Mr Greenberg's helpful analysis of the marine engineering expert evidence, and his most effective cross-examination of Mr Rawlings, demonstrated that repairs afloat, sufficient to enable *Alexander* to complete her original laden voyage under her own power, were technically feasible, albeit by

no means straightforward. *Orpheus*'s apparently contrary case essentially evaporated upon serious examination, largely because it could be seen that in truth Mr Rawlings' position was to doubt whether those repairs would have been sanctioned and undertaken in fact, which was not the issue being tried at this stage.

246. The additional issue to be determined now under the Admiralty Registrar's case management directions given on 25 May 2021, as varied by a Consent Order agreed on 8 June 2021, is "*whether – but for its collision with NYK ORPHEUS on 16 July 2018 – the PANAMAX ALEXANDER ... would have been physically able to complete its laden voyage either [(a)] under its own power or [(b)] under tow without having to discharge or tranship its cargo and/or carry out repairs in drydock*" (lettering added for my convenience).
247. The answer, I find, is: "*(a) yes, in that it would have been technically feasible for sufficient, temporary repairs to be undertaken afloat; (b) yes*".
248. In *Alexander*'s closing submissions, it was said that it was worth bearing in mind the commercial considerations. Specifically, it was suggested that the disparity in cost means that *Alexander*'s owners "*would have found a way, if at all possible, to make the repair option work*". I have formed no view about the specific suggestion, and I disagree that the commercial considerations are relevant to bear in mind at this stage. They are likely to be material to the question whether temporary repairs would have been attempted in fact, and if so what repair option(s) would have been chosen if there was more than one way of achieving a sufficient repair. That is not the issue ordered to be tried at this stage.
249. Expanding to the extent I consider it possible and appropriate to do so in this judgment upon the simple affirmative answer that sufficient temporary repairs could have been achieved with *Alexander* afloat, I make the following further findings on the expert evidence as to how it might have been possible to attempt the repairs.
250. The rudder stock was bent and twisted and required repair. Optimally, that should be done ashore, requiring the removal of the rudder stock; and the normal method for removing a rudder stock is to lower it from within the steering gear room to the bottom of a dry repair dock. However, in this instance the rudder stock could have been removed with *Alexander* afloat, as described by Mr Twomey in his supplemental report at paragraphs 8.2 to 8.5. That would require: the supporting of the weight of the rudder stock from the top of the steering compartment; underwater welding operations; rudder movement sufficient to enable the rudder stock to clear the rudder. All of that would have been challenging, but possible, with the rudder stock submerged.
251. On a point of detail as to that, I preferred Mr Twomey's evidence to Mr Rawlings' on padeyes. That is to say, I find that there were enough padeyes already on the hull of *Alexander* to support Mr Twomey's proposed method for removing the rudder stock; and in any event, additional padeyes could have been welded to the hull if required, even if that would mean underwater welding.
252. I also find that it would have been possible to remove the rudder stock by lifting it up and out, cutting access holes through the rudder trunk and steering gear flat. Mr Twomey considered that to be technically feasible. Mr Rawlings considered it

impractical because of the difficulty of getting alignment right when reinstalling the rudder stock. I agree with Mr Rawlings that this alternative method would be challenging and difficult to get right; but I accept Mr Twomey's evidence that it would have been possible.

253. I was not persuaded that, if that were wrong so that the rudder stock would need to be out of the water for any removal ashore to be attempted, it would have been possible safely to trim *Alexander* by the bow to an extent sufficient to lift the rudder stock to clear the water.
254. In the circumstances, the question of repairing the rudder stock *in situ* (without removal ashore) may not need to be considered later in the case. For completeness, however, I accept Mr Twomey's evidence that such repairs would have been challenging but technically feasible. Mr Rawlings would have it as very challenging, and he may yet prove to be right about that, but questions of degree of that kind do not affect what I am determining now. Repairing the rudder stock *in situ* would have been possible, in my judgment.
255. I turn to the rudder carrier damage. The deformation of the rudder stock had caused one bolt on the pedestal of the carrier bearing to shear off, causing the starboard side of the pedestal to part. The foundation of the rudder carrier also required machining. The experts agreed that if the rudder stock was removed, then the repairs to the rudder carrier would not have been a problem.
256. If the rudder stock were not removed, even so *in situ* repairs to the rudder carrier, I find, would still have been possible. Mr Rawlings accepted as much in cross-examination, in substance, suggesting that such repairs would have been "*difficult*", and a few answers later, "*extremely difficult*". Either way, that is, not impossible. In particular, he accepted that a rig could be constructed to mount to the rudder stock itself so that removing the rudder stock was not necessary for machining the carrier flange.
257. The rudder pintles were undamaged, but there was minor damage to the lower carrier bearing bush. In the event, in Oman the bearings were renewed as part of repairs but the pintles were reused after inspection. None of that required the ship to be in dry dock if dry-docking was not otherwise required.
258. However, Mr Rawlings expressed a view that dry-docking would have been necessary in order to assess the extent of the damage. Given the minor nature of the damage, Mr Twomey's view is that repairs, and a final determination of the extent of damage, which would have required dry-docking, could have been deferred. In his opinion, once the rudder stock was repaired, the operation of the rudder and steering gear could have been reinstated and tested to the satisfaction of Class, who would probably have permitted deferral of any repairs in connection with the rudder pintles. I consider that at that point, the expert evidence on both sides strayed beyond the issue currently being determined, and I make no finding one way or the other as to what Class would or would not have demanded or as to whether any such demand could and would have been satisfied to avoid an otherwise avoidable dry-docking.
259. I turn to a possible propulsion system misalignment issue. A measurement report dated 8 August 2018, i.e. after both July collisions, found high main engine

deflections and low load on the intermediate bearing. Those readings were taken, however, when the vessel was in an abnormal state of loading due to the flooded cargo hold. The experts agreed that the readings would have been influenced by that abnormal loading condition of the vessel, and that they cannot say how extensively.

260. The work done in Oman to address any misalignment issue, if there was one, was minor: (i) a correction to the position of the intermediate bearing housing; (ii) retightening of the main engine foundation bolts. I reject what was in truth speculation by Mr Rawlings that further relevant work might also have been done. In particular, therefore, there was no re-chocking of the main engine, no adjustment to the stern tube bearing position, and no correction to any other component of the main propulsion shaft system.
261. Mr Rawlings accepted, after an initial attempt to dodge the question, that the work done at Oman to which I have just referred could have been done at Suez and did not need a dry dock. Once that work had been done, and the vessel was no longer in an abnormal loading condition, the alignment measurements were within normal limits. That minor work, therefore, I find, had corrected the alignment (if there was in truth a misalignment rather than only the impact of an abnormal loading condition).
262. In those circumstances, my finding is that in the absence of the second collision, if (which I think it impossible to know) a suspected misalignment would have been detected at all, it would not have required more than the minor work in fact done in Oman to correct it. I reject *Orpheus*'s case that the August 2018 readings provide any evidence for a conclusion that *Alexander* could not have completed her original laden voyage without repairs requiring dry docking.
263. Finally, *Orpheus* accepted, and in any event I would have found, that the damage *Alexander* had suffered to her propeller blades in the first collision could have been repaired sufficiently at Suez, without any need to dry dock, for her to complete the original laden voyage under her own power.
264. I therefore agree with a submission by *Alexander* in closing that two residual differences between the experts about the propeller are irrelevant. For completeness, I record that those were differences as to:
- (i) the viability of cold straightening, as an alternative to cropping;
 - (ii) the extent of the propeller damage in the first collision, and whether the final extent of damage found was to some extent the result of the second collision;

but I say, finally, that I agree with *Alexander* that I need not reach any conclusion on those differences at this stage, and I take the view that I should not do so.