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The *ALNIC MC/ USS JOHN S McCAIN* collision

On 26 July, 2024 the United States Court of Appeals for the Second Circuit in New York (the "Appeal Court") decided the appeal of the *Alnic MC* against the finding at first instance that she was also to blame for the collision with the *USS John S McCain*[1]. In doing so the Appeal Court upheld all of the trial judge's[2] findings of negligence by the *Alnic MC* and rejected the appeal and affirmed the apportionment of liability for the collision: that the *Alnic MC* was 20% blame and the *USS John S McCain* was 80% to blame. For the reasons we have set out in this paper we believe the Appeal Court's judgment is demonstrably wrong and this apportionment of liability manifestly unfair.

As in the Appeal Court's judgment we have abbreviated "*Alnic MC"* to "ALNIC" and *"USS John S McCain"* to "MCCAIN". References in the footnotes to page numbers are to the pages of the Appeal Court judgment unless otherwise stated.

THE JUDGMENT

The Facts

The Appeal Court summarised the facts of the collision under the first section in the judgment headed *"BACKGROUND"*[3]. The following brief summary however, is taken from our earlier paper on the District Court's judgment[4] which we have condensed and further simplified in our own words. A more comprehensive summary is contained in that judgment[5]; and in the National Transportation Safety Bureau ("NTSB") report[6] and the Singapore Transport Safety Investigation Bureau ("TSIB") report[7]. These reports contain diagrams showing the tracks of the two vessels leading up to the collision and copies of these diagrams are attached at Appendix No.1 (NTSB) and Appendix Nos. 2,3 & 4 (TSIB).

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1 22-1765-cv(L) *In the Matter of Energetic Tank, Inc*
2 Crotty J of the US District Court for the Southern District of New York.
3 At pages 7-17.
4 *"A fair apportionment? The Alnic MC/USS John S McCain collision"* by Harry Hirst, published in the Journal of International Maritime Law, March-April 2022, Volume 28, Issue 2 (at page 116) - referenced hereafter as "(2022) 28 JIML"
5 No.18-cv-1359 (PAC)(RWL).
6 NTSB/MAR-19/01 - available on line at www.ntsb.gov
7 MIB/MAI/CAS.021 - available on line at www.mot.gov.sg

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The Collision

The collision occurred on 21 August, 2017 at about 05:23:58 local time (UTC+8 hours) in clear weather and good visibility in the west bound lane of the Singapore traffic separation scheme about 5 miles NE of the Horsburgh Light. The two vessels were proceeding on SW'ly courses bound for Singapore, the ALNIC at a speed of 9.6 knots and the MCCAIN at an increased speed of 20 knots because of concerns that she was falling behind her intended schedule. The MCCAIN was shaping up to overtake the ALNIC on the ALNIC's starboard side at a distance of about 3 cables (0.3 miles). As she started to come abeam of the ALNIC she suddenly and without any warning turned to port into the path of the ALNIC. The bow of the ALNIC struck the port side aft of the MCCAIN in way of her Nos. 3 & 5 berthing compartments which flooded, drowning ten US Navy sailors. Several other US Navy sailors were injured in the collision[8] which caused substantial damage to the MCCAIN[9]. The MCCAIN is about 154 metres in length and the point of impact on collision was about 60 metres forward of her stern.

The Navigation of the MCCAIN

The sudden and unexpected porting by the MCCAIN started at about 05:20:30, 3 minutes and 28 seconds before collision (C-3:28). This porting occurred because the bridge team on the MCCAIN did not know how to properly use the vessel's computerised Integrated Bridge and Navigation System ("IBNS"). As a result they did not understand the consequences of the orders they were inputting to the IBNS; orders which caused a mis-match of the throttle control settings for her port and starboard engines and the MCCAIN to turn to port. Their lack of knowledge and understanding arose from the want of proper training and experience in the use of the IBNS.

The porting by the MCCAIN continued for over 3 minutes because of the actions of her bridge team who wrongly thought the MCCAIN had lost steering. They reduced speed but as the throttle controls were no longer linked only the port engines slowed increasing the MCCAIN's rate of turn to port. They tried to 're-gain' control of the steering by repeatedly pressing the *"Emergency Override to Manual"* button on the IBNS but as a result *"control of steering ping-ponged around the ship, with none of the crew understanding where it was at any given time, or how to get it back"*[10]. They did not press the *"All Stop"* button on the IBNS which could have been used to immediately stop the vessel's engines. As the District Court noted, timely and proper use of either of these two buttons would have avoided the collision entirely. Instead, whilst trying to 're-gain' control the bridge team broadcast this loss of steering over the MCCAIN's internal and external speakers at C-2:35, and turned on her 'not under command' ("NUC") lights at C-2:33.

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[8] According the NTSB report (at page 21) a total of 48 US Navy sailors were injured.
[9] The MCCAIN's repair costs were agreed at US$185 million.
[10] At pages 11,12.

At C-0:31 the bridge team on the MCCAIN finally worked out how to steer the vessel again but because the last helm order to be inputted into the IBNS was "*hard left*", the rudders now moved over to port. It took until C-0:14 to re-set the rudders over to starboard[11] but this was too late to avoid collision.

The Navigation of the ALNIC

The ALNIC was proceeding at her full ahead manoeuvring speed in automatic steering. The team on her bridge first particularly observed the MCCAIN visually at C-2:51 and they first acquired the radar target of the MCCAIN on the ARPA[12] at C-2:04. It appeared to them initially that the MCCAIN was manoeuvring so as to cross ahead of, and pass between the ALNIC and another vessel close ahead[13]. At first they thought this manoeuvre was *"OK"* but at C-0:41 they considered it was *"wrong".* At C-0:14 the engine of the ALNIC was put to half ahead, and after the collision, at C+0:42, the engine was stopped. The ALNIC did not alter her course at all before the collision and remained in automatic steering throughout until the autopilot was disengaged after the collision at C+1:02.

The team on the bridge of the ALNIC consisted of the Master, who was in command; the Chief Officer who was the duty officer; and the duty AB. The Second Officer was also on the bridge working on some papers in the chart room but not engaged at all in the navigation of the vessel. As such, the bridge of the ALNIC was not manned in accordance with the vessel's Safety Management System ("SMS") which required five persons to be on duty on the bridge when the ALNIC was transiting the Singapore Strait: the Master; two deck officers, one of whom was to be monitoring the risk of collision at all times on the radar; and two sailors, one of whom was to be keeping look-out at all times.

The Decision

For our purposes the Appeal Court's decision begins with its analysis of the applicable substantive law and ends with its analysis of fault, all under the section in the judgment headed *"DISCUSSION"*[14].

The Applicable Substantive Law

The Appeal Court agreed with the District Court that liability for the collision was to be determined by applying Singapore law and that in order for the vessels to have any liability they must have been negligent; that is, they must have been in breach of their duty of care

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[11] The rudders were only 15˚ to starboard as the helm order was "*right standard rudder*" - see the NTSB report (at page 13).
[12] Automatic Radar Plotting Aid.
[13] The *Team Oslo,* a vessel which had earlier overtaken and was now ahead of the ALNIC.
[14] At pages 29-43.

(to exercise good seamanship) and this breach must have caused or contributed to the collision and damage. In evaluating such negligence the Appeal Court indicated it would follow the Singapore courts by treating the decisions of the English courts in particular, as *"persuasive authority"* noting that *"Singapore law on maritime collisions [remains] closely similar to English law"*[15]. It also noted that the COLREGS[16] form part of Singapore law and considered these Rules[17] *"central"* to its analysis[18].

Later, when discussing the faults of the ALNIC, the Appeal Court noted that under Singapore law liability for the collision must be apportioned *"to the degree in which each ship was in fault"*; that the Singapore Courts have made it clear that *"the determinative factor for apportionment is … the comparative appreciation of the degree in which the respective faults of the vessels have contributed to the result of the collision."*[19] It noted that under Singapore law only causative fault is relevant when apportioning liability, and that both the blameworthiness (culpability) and causative potency of those faults needed to be considered[20].

The Standards of Review

The Appeal Court summarised the applicable standards of appellate review under US federal law. It noted that the causes of this collision and the District Court's apportionment of liability were all findings of fact and that it could only set aside these findings if it was definitely and firmly convinced that a mistake had been made[21]. It also noted that it was not so constrained by the District Court's interpretations of Singapore law and the COLREGS on which it could form its own opinions[22]. It then concluded by saying *"when a district court makes no error in interpreting the applicable law and no clear error in finding material facts, we ordinarily will sustain that court's negligence determination* [i.e. the district court's apportionment of liability]*"*[23].

The faults of the ALNIC

The Appeal Court upheld all of the District Court's findings of negligence by the ALNIC; that is, it upheld firstly, all of the District Court's findings of fault by the ALNIC and secondly, the District Court's findings that all of these faults were either causative of the collision and damage, or relevant when considering the culpability of the ALNIC for her causative faults.

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[15] At page 30.
[16] The International Regulations for Preventing Collisions at Sea, 1972 (as amended).
[17] i.e. the Rules of the COLREGS. "Rules" in this paper are references to these Rules.
[18] At page 31.
[19] At page 36.
[20] At page 42.
[21] At page 31.
[22] At page 32.
[23] *ibid.*

The District Court found the ALNIC at fault for the following reasons:

(1) failing to properly staff her bridge and assess the risk of collision[24]

The Appeal Court considered this to be one of the District Court's *"central conclusions"*[25]. It considered the District Court was correct to find the ALNIC in breach of Rules 5 and 7(a) because her *"short-staffed crew relied inappropriately on autopilot and missed crucial signs of collision risk, including MCCAIN's audio announcement of "loss of steering"…"*[26]; and correct also, to find the breaches of these Rules *"proximate causes of the collision, which enhanced the tanker's overall fault."*[27]

(2) failing to take any action to avoid the collision

The Appeal Court set out the requirements of Rule 17 then helpfully clarified the findings of the District Court[28]: that Rule 17(a)(ii) took effect at C-2:33 when the MCCAIN turned on her NUC lights; and that Rule 17(b) took effect at C-0:41 when the ALNIC concluded that the MCCAIN was doing a 'wrong manoeuvre' and it should have been clear to the ALNIC that the MCCAIN could no longer avoid collision by her manoeuvre alone.[29] It considered the District Court had *"nowhere concluded"* that ALINC was in breach of Rule 17(a)(ii)[30] and had *"allocated no fault"* to the ALNIC for her actions during the period from C-2:33 until C-0:41[31].

The Appeal Court considered the District Court had not erred in finding the ALNIC in breach of Rule 17(b) for not slowing down and turning hard to port at or after C-0:41; that "*ALNIC's choice not "to take any action at all" during this period was negligent*"[32]. It considered this choice amounted to *"imprudent conduct"* which *"almost certainly caused greater collision damage"*[33]. The Appeal Court considered it was obvious that by proceeding at a higher speed the ALNIC would cause more damage on collision and that the District Court was right to find that her failure to slow down before the collision had *"causative potency"*[34]. It

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[24] It appears this finding was not appealed.
[25] At page 33.
[26] At page 34.
[27] *ibid.*
[28] We found the District Court judgment to be short on detail on several of the key issues including its findings, as we noted in our earlier paper in (2022) 28 JIML.
[29] At page 35.
[30] At page 36.
[31] At page 37.
[32] At page 38.
[33] At page 39.
[34] *ibid.*

considered a prudent mariner in these circumstances would also have turned hard to port as this action would *"likely reduce"* the damage on collision by reducing the angle of impact (blow); and that the ALNIC's failure to do so was causative as *"evidence showed that because ALNIC struck MCCAIN at 48.5˚ and not some smaller angle, she pierced MCCAIN's hull and the two vessels became entangled"*[35].

(3) failing to take any meaningful action after the collision

The District Court found the ALNIC at fault for leaving her engine running until C+0:42 and her autopilot engaged until C+1:02; and that these faults were causative as they propelled the bow of the ALNIC deeper into and across the hull of the MCCAIN[36] thereby increasing the damage caused in the collision[37]. The Appeal Court considered the obligation of the ALNIC to exercise good seamanship continued to apply after the collision when she failed to immediately stop her engine and disengage her autopilot. The Appeal Court considered the District Court was correct therefore, to find the ALNIC at fault in these ways. It also considered the District Court's finding that these faults increased the damage on collision to be *"plainly "permissible"…"* in light of the testimony of the MCCAIN's expert: that *"(1) ALNIC's rotation after the collision was caused in part by her autopilot and her running engine; and (2) that rotation exacerbated the gash in MCCAIN's hull"*[38].

(4) making false log entries and statements after the collision

The District Court considered the false logs and statements *"enhanced"* ALNIC's fault and were relevant to the *"ultimate allocation of liability"* for the collision damage[39]; and notwithstanding *"the creation of false logs had no causative effect"* and that the ALNIC had *"long since admitted the falsities, lessening their poisonous effect on the evidence presented at trial"*[40]. In upholding these findings the Appeal Court said it may *"presume"* that logs falsified by a vessel's crew place her in the best possible light, and that this *"presumption"* can inform its assessment of the *"nature and quality"* [41] of the vessel's faults[42].

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[35] *ibid.*
[36] District Court judgment, at paragraph 105.
[37] *ibid*; at paragraph 106.
[38] At page 41.
[39] District Court judgment, at paragraph 175.
[40] *ibid.*
[41] By which it meant the blameworthiness (culpability) of the ALNIC;s faults.
[42] At page 42.

The Apportionment of Liability

The Appeal Court briefly concluded it's discussion of the ALNIC's faults, noting that it found *"no clear error in the district court's factual findings and no error in its legal conclusions"* and that it must therefore *"affirm the district court's apportionment of fault: 20% to ALNIC and 80% to MCCAIN"*[43].

OUR ANALYSIS

Our analysis of the judgment is based on English law but we believe the position is the same under Singapore law for the reasons noted by the Appeal Court[44].

We start our analysis by drawing attention to what we believe to be a critical finding by the Appeal Court; we then separately analyse each of the ALNIC's faults as found by the District Court and upheld by the Appeal Court, albeit in a different order[45]; and we conclude by analysing the apportionment of liability.

A critical finding

As we have noted, the Appeal Court helpfully clarified the findings of the District Court which it considered had *"nowhere concluded"* that ALINC was in breach of Rule 17(a)(ii) and had *"allocated no fault"* to the ALNIC for her actions during the period from C-2:33 until C-0:41[46]. That is, the ALNIC was not at fault for failing to take any action to avoid collision before C-0:41; and therefore also, that she was not at fault for maintaining her course and speed until C-0:41. This is a critical finding as will appear.

Failure to take any action to avoid the collision

In light of the critical finding (above), this fault is limited to the failure by the ALNIC to take any avoiding action during the 41 seconds before the collision and for which she was found to be in breach of Rule 17(b).

The ALNIC was found at fault for failing to slow down and for failing to turn hard to port at or after C-0:41; that these failings *"almost certainly caused greater collision damage"*[47] as by slowing down and turning hard to port the ALNIC would have *"reduced the force of impact"*

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[43] At pages 42,43.
[44] See above under the section headed *"The Applicable Substantive Law"*.
[45] For reasons which will become apparent.
[46] See above under the section headed *"The faults of the ALNIC"*, at sub-section (2).
[47] At page 39

and struck MCCAIN with a *"glancing blow"*[48]. These failings of the ALNIC therefore, were not causative of the collision which was *"inevitable or all but inevitable"*[49]; they were causative because they were found to have increased the damage which the MCCAIN (and her crew) suffered in the collision. As the Appeal Court observed: *"Expert testimony confirmed that together, these maneuvers* [i.e.actions] *would have meaningfully mitigated the collision* [damage]"[50]; and the District Court considered Rule 17(b) *"requires vessels to mitigate collisions, not just avoid them"*[51], quoting expert Putty (for the sailor claimants) who said *"you have to take action to prevent extreme damage to other vessels and potential loss of life"*[52].

We believe this finding was wrong as a matter of fact and law.

Factually not causative or provably so

The testimony relied upon to find the ALNIC in breach of this Rule was based on simulations (models) prepared by the parties experts and upon which the experts relied when giving evidence. These simulations were designed to show *"when, and how, ALNIC had her last chance to avoid colliding into MCCAIN"*[53] from the time when the MCCAIN turned on her NUC lights at C-2:33[54]; that is, they were designed to address a different issue. They were also prepared using the actual track of the MCCAIN leading up to the collision[55] and so with the benefit of hindsight (knowing how the MCCAIN would manoeuvre). This is wrong as Sheen J observed in *The Nordic Ferry*[56]:

"When judging the conduct of a mariner it has always to be remembered that his actions or inaction must not be judged with the benefit of hindsight. He is entitled to be judged in the light of the circumstances as they presented themselves to him at the time. If he is put in difficulty by wrongful action on the part of another ship, his reaction to the emergency thrust upon him must be judged with leniency."

Appendix No.2 shows the position of the two vessels at C-0:46[57] and their tracks (movements) leading up to this position; and we do not believe the position was materially different five seconds later at C-0:41. The District Court considered the ALNIC should have

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48 At page 38.
49 District Court judgment, at paragraph 135.
50 At page 38.
51 *ibid,* at paragraph 170.
52 *ibid.*
53 District Court judgment, at paragraph 112.
54 *ibid,* at paragraph 116.
55 We have not seen the simulations but believe this must be so.
56 [1991] 2 Lloyd's Rep.591
57 The time is shown in the box in the top right of the diagram as 05:23:12; that is C-0:46.

heard the loss of steering broadcast made by the MCCAIN at C-2:35[58], and determined that the ALNIC had seen the MCCAIN's NUC lights after they were turned on at C-2:33[59]. It also found that the collision warning alarm ("CWA") on her ARPA which sounded at C-1:15 signified *"an imminent actual collision, not just a close call"*[60]; a point the Appeal Court considered important enough to separately highlight in its account of the collision.[61]

(1) Risk of collision

The effect of these findings is that the ALNIC was aware at C-0:41 that the MCCAIN was apparently not under command[62] and likely so because of a steering problem[63]; but whilst we believe she was aware there was now the possibility (risk) of a collision we do not believe she could have known at this time that there was risk of an actual collision. For this to be so the closest point of approach ("CPA") of the MCCAIN at this time had to be zero, but it was not.

In finding effectively, that the CPA was zero at this time[64] the District Court relied upon the sailor claimants shipboard operations expert who *"persuasively explained, based on his long experience with the ECDIS*[65] *technology, that this alarm derived from the radar itself - indicating an imminent actual collision, not just a close call"*[66]. It appears the radar overlay facility was in use on the ALNIC's ECDIS and we believe the CWA which sounded was that

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58 This broadcast was picked up by the bridge wing microphones on the ALNIC and recorded on her VDR, and the District Court determined that if her bridge had been manned in accordance with the vessel's SMS this broadcast would have been heard by her bridge team.

59 The evidence of the ALNIC was that she never saw these NUC lights before the collision but the District Court rejected this evidence. The evidence of the MCCAIN was that she switched on her NUC lights before the collision but the log entry recording this was timed at 0534,10 minutes after the collision (NTSB Report, at page 14).

60 At page 13.

61 *ibid.*

62 As a matter of English law, the MCCAIN was never *"a vessel not under command"* as defined in Rule 3(f) of the COLREGS: see *The Djerada* [1976] 2 Lloyd's Rep. 40

63 The MCCAIN's broadcast was intended for her crew (NTSB Report, at page 13) and it was purely fortuitous that it was picked up by the ALNIC's bridge wing microphones. The broadcast only referred to a loss of steering in the pilot house of the MCCAIN and that the aft steering position was to be manned. It was not a warning to other vessels that the MCCAIN had lost *all* control of her steering.

64 At C-1:15 and thereafter.

65 Electronic Chart Data and Information System. The bridge of the ALNIC was equipped with ECDIS which was in use at the time.

66 District Court judgment, at page 30 (footnote No.12).

on the APRA radar. This CWA was set to sound when the CPA of another vessel was 0.3 miles or less, and her time to CPA ("TCPA) was 12 minutes or less[67]. When the CWA sounded at C-1:15 therefore, it only indicated the CPA of the MCCAIN was now less than 0.3 miles[68] and the TCPA was now also less than 12 minutes.

As the radar target of the MCCAIN had been acquired her target data was being displayed on both the ARPA and ECDIS[69]. This data included the CPA of the MCCAIN as calculated by the ARPA, and at no time before the collision was her displayed CPA zero[70]. Our understanding is that APRA works out the CPA and TCPA of an acquired target from forecasts of that target's movements based on its past (historical) positions and data; and this would have been particularly difficult in this case because the MCCAIN was porting at an increasing rate of turn whilst also slowing down[71].

(2) Turn to port

We do not have the manoeuvring data for the ALNIC and do not profess to be experts in ship handling but believe it is reasonable to assume that if the ALNIC had put her rudder hard over to port at C-0:41 her heading is unlikely to have changed by more than 20˚ to port by the time of the collision (See Appendix No.5). The angle of blow on collision was reported to be 48.5˚[72]. If the ALNIC had turned hard to port at C-0:41 this angle would have been reduced to about 28.5˚. It is fanciful to think this reduced angle of blow would not have resulted in the bow of the ALNIC still penetrating the hull of the MCCAIN; and whilst the point of impact would have been further forward on the MCCAIN, the nature and extent of the damage she would have suffered in this different collision is surely a matter of speculation.

During these 41 seconds before the collision the track of the MCCAIN was not steady because of the orders given around this time to reduce her speed and for her to turn to starboard. The District Court judgment indicates the order to reduce speed was given at

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67 TSIB Report, at paragraph 1.2.5

68 It was indicating a CPA of 0.27 miles (District Court judgment, at page 30, footnote No.12)

69 As the radar overlay facility was being used.

70 NTSB Report (at page 15): the CPA as displayed on the ECDIS was never less than 0.18 miles before the collision.

71 "*The risk of collision is more difficult to determine if one or both of the vessels is turning, even if the rate of turn is constant. In this accident, not only was the* [MCCAIN] *turning, but with the mismatch in throttles, the destroyer's rate of turn to port was not constant—it was increasing. Additionally, the destroyer's speed was decreasing during the turn—from 18.6 knots when the turn began to 10.8 knots just before the collision."* (NTSB Report, at page 31).

72 At page 14.

C-1:13[73] but does not record the time of the order to turn to starboard although it notes that the MCCAIN only began turning to starboard at C-0:14[74]. According to the NTSB Report these orders were both given at the same time and shortly after C-0:41 when *"Right standard* [starboard 15˚] *rudder, speed 5 knots"*[75] was ordered; that the throttle controls for the port and starboard engines were at the corresponding speed setting at C-0:36; and that the rudders were set at 15˚ to starboard at C-0:15[76]. Whatever their precise times, these orders clearly affected the track of the MCCAIN and particularly the order to further reduce speed to 5 knots, which also had the effect of further increasing the rate at which the MCCAIN was turning to port[77]. If this order had not been given it is likely that the MCCAIN would have passed ahead of, and onto the port bow of the ALNIC[78]. In these circumstances, any porting by the ALNIC would have increased and not reduced the risk of collision[79].

(3) Slowing down

We believe this was the only sensible option available to the ALNIC at this time. She did reduce the speed of her engine to 'half ahead' at C-0:14 but we believe she was at fault for not immediately stopping her engine at C-0:41 and thereafter for not putting it to 'full astern'.

The Appeal Court observed that *"a collision at higher speed will be more destructive than one at lower speed" ;* that *"no expert testimony was needed to establish this common-sense precept";* and that the District Court *"did not clearly err in finding that ALNIC's failure to slow down before the collision had 'causative potency' …"*[80]*.* By doing so however, the Appeal Court (like the District Court) effectively glossed over the extent to which this fault had, as a matter of fact, increased the damage done in collision (its causative potency) and whether this had been (or could be) proved from the evidence presented at trial.

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[73] District Court judgment, at paragraph 94.
[74] *ibid,* at paragraph 99
[75] NTSB Report, at page 15.
[76] *Ibid*
[77] District Court judgment, at paragraph 94.
[78] See Appendix No.5. Simulations carried out by the NTSB indicated the MCCAIN *"with the benefit of crew situation awareness and appropriate steering and/or throttle commands, had opportunity to clear the* [*ALNIC*] *bow until about 30 seconds prior to the collision"* (at page 31).
[79] It appears however, that ALNIC did not seriously contest this finding on appeal (at page 39).
[80] At page 39.

The speed of the ALNIC at C-0:41 was about 9.6 knots[81] and based upon her sea trials data it appears she could achieve a rate of deceleration of about 1 knot per minute[82]. At best therefore, she could have reduced her speed to about 9 knots on collision; that is, by about 0.6 knots. In effect therefore, the ALNIC was found at fault for colliding with the MCCAIN at a speed of 9.6 knots and not at the slower speed of about 9.0 knots when supposedly, the damage to the MCCAIN would have been less. Would such a small reduction in speed however, have *measurably* reduced the amount of collision damage and to a *provable* extent (our emphasis)? We do not think so. Whilst theoretically correct (that slower speeds cause less damage) we believe the causative potency of this fault was of such a low level in this case that it was impossible to prove that it did actually increase the collision damage.

Legally not culpable

Even if this fault was factually causative by increasing the collision damage to the MCCAIN we do not believe it was legally culpable.

The interpretation of the COLREGS is a matter of law for the judge to determine[83] and the wording of Rule 17(b) is clear. The obligation of the ALNIC at C-0:41 was to take such action as would best aid to avoid collision (contact). The Appeal Court interpreted this to mean the ALNIC had to act reasonably, and then considered reasonable action was that which, with the benefit of hindsight, would likely have reduced the damage[84]. The action which will best aid to avoid collision however, is also the action which will best aid to avoid damage, as any damage will arise in collision. To suggest otherwise is to speculate about the different ways in which the two vessels might come into contact; and this is speculation as the actual way in which two vessels collide depends upon the actions which they both take and not just the action which the stand-on vessel takes pursuant to her obligation under this Rule, as we have demonstrated above. [The Appeal Court tacitly recognised this when dismissing ALNIC's arguments on causation - that there was no evidence to support the finding that these failings increased the collision damage and that it was just as probable that a glancing blow would have caused more, albeit different damage - as *"merely speculative"*][85]. The English Courts do not engage in such speculation. So, for example, as Sheen J observed in *The Regina D*[86] when finding the *Regina D* free from any blame for colliding with the *Iran Nabuvat*:

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81 District Court judgment, at paragraph 76.
82 NTSB Report, at page 30.
83 *The Ever Smart* UKSC 6, at paragraph 16.
84 At page 39.
85 At pages 38,39.
86 [1990] 2 Lloyd's Rep.227

"*If the wheel of Regina D had been put hard to starboard about half a minute earlier it is possible that collision would have been avoided. But there is no certainty about that. There might have been a different collision.*"

As we have also demonstrated above we believe the evidential burden of proving the ALNIC was at fault in this way was insurmountable in this case, if not factually then certainly as a matter of law. As the Court of Appeal noted in *The Regina D*[87]:

"The practical burden of proving fault in such circumstances is difficult to overcome. Notwithstanding all the advantages of modern intercommunications and guidance technology which navigators today enjoy over their predecessors in the last century, the opinions expressed in The Bywell Castle remain valid."

The Bywell Castle[88] is the leading English law case on 'agony of the moment' ('*in extremis*' in US law). In that case the two vessels were approaching on opposite courses and shaping up to pass safely port to port when the *Princess Alice* suddenly altered her course to port across the bow of the *Bywell Castle* when the two vessels were only between 100 and 400 metres apart. On seeing the green (starboard) sidelight of the *Princess Alice* the *Bywell Castle* then also turned to port; and the *Princess Alice* sank as a result of the damage she suffered in the ensuing collision. At first instance the Court (Phillimore J) found both vessels liable for the collision. It considered the porting by the *Bywell Castle* was *"not only a wrong manoeuvre but the worst she could have executed"*; and found that if she had not ported *"although the Princess Alice might have received some injury* [in collision]*, she would not have sunk, and the lives of her crew and passengers would probably have been saved".* On appeal however, the *Bywell Castle* was found not to have any liability for the collision. In an oft-quoted passage James LJ said:

"… a ship has no right, by its own misconduct, to put another ship into a situation of extreme peril, and then charge that other ship with misconduct. My opinion is that if, in that moment of extreme peril and difficulty, such other ship happens to do something wrong, so as to be a contributory to the mischief, that would not render her liable for the damage…"

In these circumstances the *Bywell Castle* was not negligent for taking the wrong action by turning to port. As Brett LJ explained:

"*Even if it* [the porting] *had an effect and was wrong, we have come to the conclusion that the captain of the Bywell Castle was suddenly put into an extremely difficult position, and assuming that a wrong order was given, that it ought not under the circumstances to be*

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87 [1992] 1 Lloyd's Rep.543
88 (1897) 4 P.D.219

attributed to him as a thing done with such want of nerve and skill as entitles us to say that by negligence and want of skill the Bywell Castle contributed to the accident."

More recently, in *The State of Himachal Pradesh*[89] the two vessels were similarly approaching on opposite courses and shaping up to pass safely starboard to starboard when the *State of Himachal Pradesh* began altering her course to starboard at C-5 into the path of the laden, deep draught tanker *Capulonix.* In response to a question put to them by the judge at first instance the advice of the Nautical Assessors[90] was that the *Capulonix* should have stopped and put her engines astern immediately on seeing the red (port) sidelight of the *State of Himachal Pradesh.* She did not do so but instead altered her course to port at this time and the trial judge found her at fault for this porting. He did not consider this fault to be causative of the collision which was inevitable at this time, but he did consider it increased the damage in the collision. On appeal, it was shown that the red sidelight of the *State of Himachal Pradesh* became visible to the *Capulonix* at about C-1. In finding the *Capulonix* free from any liability for the collision the Court of Appeal (Lloyd LJ) said:

'… it does not follow that Captain de Jong [*Capulonix*] *was negligent. Even if it was theoretically correct for Captain de Jong to stop his engines at C-1 (which I am bound to say I would find hard to accept) the natural reaction in the extreme emergency in which he had been placed by the negligence of Pradesh was surely to turn away from the danger. This is what he did.*

The judge has found that if Capulonix had stopped her engines, then it is likely that her tanks would not have been penetrated. That may be so. But I would make two comments. By C-1 a collision was inevitable. If … Captain de Jong was negligent by failing to appreciate at C-1 that, if he kept full ahead, the collision would take place in way of the tanks, whereas if he stopped his engines the collision would take place further forward, then with great respect I would disagree. Captain de Jong was not obliged to make so precise a calculation in the agony of the moment.

In the second place, it is at least possible that if Captain de Jong had not done what he did, the damage to his own ship, or to Pradesh, or both, would have been worse."

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89 [1985] 2 Lloyd's Rep.572; [1987] 2 Lloyd's Rep.97 (Court of Appeal)

90 Independent experts appointed to sit with the judge and advise on matters of navigation and seamanship.

Failing to take any meaningful action after the collision

The ALNIC was found at fault for failing to stop her engine until C+0:42 and remaining in autopilot until C+1:02 because these failures *"exacerbated the gash in MCCAIN's hull"*[91] further increasing the collision damage. In making this finding the District Court relied again on expert testimony[92], and on this basis the Appeal Court considered this finding to be *"plainly permissible"* and found *"no error"* with it[93].

We believe this finding was also wrong as a matter of fact and law.

Factually wrong

The District Court found that the vessels remained entangled for 66 seconds after the collision; that during those 66 seconds the ALNIC's engines were propelling her bow deeper into the MCCAIN and her autopilot was causing her to steer across the hull of the MCCAIN; and that these combined actions caused the angle of collision to open from 48.5˚ to 94.6˚ before the vessels finally separated.[94] It continued:

"…Thus, over the course of those 66 post-collision seconds, ALNIC's bow arced over 45˚ … within MCCAIN's hull. That sweeping movement aggravated what was originally a smaller gash created by ALNIC's bow."

This however, is not what happened during these 66 post-collision seconds which is more accurately described, we believe, in the TSIB and NTSB reports. From these two reports it appears that on collision the ALNIC was on a heading of 231˚ and her speed was 9.5 knots[95], and the MCCAIN was on a heading of 177˚ and her speed was 9.3 knots (see Appendix No.4. The NTSB report notes this was the heading of the MCCAIN at C-0:14 when her speed was 11.8 knots[96]; and it appears from both of these reports that the MCCAIN had succeeded in steadying her heading before the collision whilst her speed was still decreasing). As a result, the force of the collision caused the headings of both vessels to swing rapidly to port and their speeds to rapidly reduce, so that the *"MCCAIN came on to a nearly reciprocal heading with ALNIC … and was seen briefly scraping along ALNIC's port side from forward to the gangway area where both vessels finally separated and stopped."*[97]

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91 At page 41
92 Notably that of the experts acting for the US Navy and the sailor claimants.
93 At page 41.
94 District Court judgment, at paragraphs 104-106.
95 TSIB Report (at paragraph 1.12).
96 NTSB Report (at page 16).
97 TSIB Report (at paragraph 1.2.30).

The NTSB report contains a diagram[98] recording the ALNIC's *"rudder and propulsion parameters"* before and after the time of the collision, and a copy of this diagram is attached (see Appendix No.6). This shows that throughout the 66 seconds post collision the heading of the ALNIC was always swinging to port; that her speed very quickly reduced to 3.5 knots; and her rudder went over about 18˚ to starboard. The TSIB report notes that when the MCCAIN stopped her engines after the collision, her heading was 139˚, her speed had reduced to 6 knots, and she was turning to port at 1.4˚ per second[99]. This suggests the MCCAIN ordered her engines to be stopped around C+0:27, and whilst we do not know what helm orders were inputted after the collision, her rudders were 15˚ to starboard on impact and it appears they may have been put even further to starboard thereafter, as the District Court noted that during this time the MCCAIN *"worked to separate herself"* and *"positioned her rudders to the right in an attempt to free herself from ALNIC's bulbous bow".*[100]

It is clear from these reports that the opening of the angle of collision by over 45˚ was the combined effect of the headings and speeds of the two vessels on collision, and had nothing, or certainly very little to do with the actions of the two vessels in the 66 seconds post collision. Even if we are wrong about that however, we have difficulty seeing how this fault of the ALNIC was factually causative (that it did increase the damage to the MCCAIN), or provably so. As with the ALNIC's earlier fault discussed above, this fault was based again on expert testimony which was entirely theoretical (that the autopilot on a moving vessel at sea will try to correct any deviation in the vessel's heading from the course selected) and where again, there was no reference to any comparative analysis proving this fault did in fact exacerbate the damage to the MCCAIN. This, we believe, would also have been impossible to prove and particularly in the circumstances of this collision and where the MCCAIN was also still using her engines and rudders during these 66 seconds after the collision[101].

Legally not culpable

We are not aware of any reported case where the English Courts have considered a vessel's actions after impact when determining her liability for that collision and the damage caused by it. One reason for this, we suspect, is that such actions too, would qualify as actions taken in the agony of the moment (collision) for which no liability will attach (see above). That was clearly the case here where this fault took place whilst the two vessels were still in the throes of the collision and within 62 seconds of the initial impact.

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98 NTSB Report, Appendix C
99 TSIB Report, at paragraph 1.6.16.
100 District Court judgment, at paragraph 109.
101 *ibid.*

Another reason, and why this finding is wrong as a matter of law, is that apportioning liability to such actions or omissions is tantamount to blaming a vessel twice over for what is essentially one and the same fault. In this case the ALNIC was found at fault for not slowing down by stopping her engine before the collision and so increasing the damage to the MCCAIN (see above); and again for not stopping her engine after the collision until C+0:42 and so increasing the damage to the MCCAIN. Admittedly, the ALNIC was also found at fault for failing to disengage her autopilot until C+1:02 but the supposed increase in damage to the MCCAIN could only arise if the engine of the ALNIC was not stopped.

Failing to properly staff her bridge and assess the risk of collision

In making this finding we believe the District Court failed to apply the correct legal test which was not whether the vessel complied with her SMS but whether, as a matter of good seamanship, the bridge of the ALNIC was manned in the manner to be expected on a vessel of her type and size navigating in this section of the Singapore TSS in the circumstances and conditions prevailing at the time of the collision. The District Court however, confused *"employer standards with legal standards"*[102] and by upholding this finding the Appeal Court did so too. We analysed this fault in our earlier paper on this collision[103] explaining why we believed it was not causative[104]; and following the critical finding (above) we believe it cannot have been causative.

The ALNIC was not at fault for her navigation until C-0:41. By C-0:41 the ALNIC had seen the MCCAIN visually and on radar; she was aware the MCCAIN was turning to port and was found to have seen the MCCAIN's NUC lights; and she was aware of the risk of collision and was found to have been aware at this time that an actual collision was imminent. Clearly therefore, her navigation after C-0:41 was not prejudiced at all by the absence on her bridge of an extra deck officer monitoring the risk of collision and an extra sailor on lookout duty. The ALNIC was still in autopilot but as no helm orders were given before the collision the presence of a man on the wheel would not have changed anything. The collision would still have occurred and in the same manner.

The ALNIC was found at fault for not immediately stopping her engine and disengaging her autopilot on collision (above), and it is fair to say that if there had been a man on the wheel at the time of impact her rudder would not have moved to starboard after the collision. As we have observed (above) we do not believe this movement of the rudder by the autopilot

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[102] see *"Farwell's Rules of the Nautical Road"* by Craig H Allen (8th Edition, at page 37), referenced hereafter as "Farwell".

[103] (2022) 28 JIML.

[104] The NTSB did not consider this fault to be causative noting that *"it is unlikely that the presence of additional watchstanders on the ALNIC bridge would have changed the outcome of the accident."* (NTSB report, at page 31).

had any effect on the extent of the damage to the MCCAIN during the 66 seconds the two vessels were entangled post collision. The District Court considered it did however, when it found the ALNIC at fault for failing to take any meaningful action after the collision (above). By finding the ALNIC separately at fault for not staffing her bridge as required by her SMS, the District Court apportioned liability twice over again, for what was essentially the same fault: for being in autopilot and not hand steering before the collision after also finding her at fault for remaining in autopilot after the collision until C+1:02. If the ALNIC had staffed her bridge as required by her SMS she would have been in hand steering and could not then have been found at fault for "*dall[ying] in autopilot after the collision"*[105].

Making false log entries and statements after the collision

The Appeal Court accepted this fault was not causative of the collision but considered it could *"presume"* the logs were falsified in order to place the ALNIC in the best possible light, and that this *"presumption"* could inform its assessment of the culpability of her other faults[106]. This is clearly wrong as a matter of both English and Singapore law. As the Appeal Court noted*"*[107], Singapore has ratified the "*Brussels Collision Liability Convention of 1910"*[108] and Article 6 of this Convention provides that *"All legal presumptions of fault in regard to liability for collisions are abolished".*[109] The culpability of a vessel for her causative faults is determined by reference to the circumstances prevailing at the time when the particular fault was committed, and not by reference to things done after the collision.

Apportionment of Liability

The Appeal Court correctly stated the law for apportioning liability but never compared the faults of the MCCAIN with those of the ALNIC in terms of their causative potency and culpability. Indeed, in upholding the District Court's findings of negligence the Appeal Court simply confirmed the ALNIC was at fault as found by the District Court, and that these faults were causative of the collision. The Appeal Court never examined the causative potency of these faults or the ALNIC's culpability for these faults.

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[105] At page 41.
[106] Like the District Court (District Court judgment, at paragraph 175).
[107] At page 36.
[108] The Convention for the Unification of Certain Rules of Law with respect to Collisions between Vessels, 1910.
[109] The USA has not ratified this Convention and the US Courts still rely on such presumptions, including the presumption *"following unexplained alterations or destruction of a vessel's logs or records that the unaltered evidence would have been adverse to that party's interest"* (Farwell, at pages 31,32).

In finding the ALNIC 20% to blame for the collision the District Court also failed to do so. It correctly stated the law for apportioning liability[110], then stated what its apportionment would be[111], which it then explained by separately analysing the faults of the MCCAIN[112] and then those of the ALNIC[113]. The District Court did not obviously consider and compare the causative potency and culpability of the MCCAIN's faults with those of the ALNIC. That appears to be because the District Court considered that:

"Ultimately, "allocation of liability for damages, requiring consideration of matters not readily amenable to precise analysis, does not oblige an admiralty judge to do more than provide ultimate percentages of allocation, accompanied only by sufficient explanation to provide a reviewing court with some general understanding of the basis for the decision." Otal II, 494 F.3d at 63. Accordingly, the Court allocates fault between MCCAIN and ALNIC on a percentage basis." [114]

This is stating the practice of the US Courts and the position under US law. The practice of the English (and Singapore) Courts is to provide a detailed analysis of each vessel's faults and then to compare them in terms of their causative potency and culpability when determining the apportionment of liability for the collision: see, for example, *The Nordlake*[115]; *The Dream Star*[116] (a Singapore case).

For the reasons we have discussed above, we believe the English Courts would have found the ALNIC free from any liability for this collision and the MCCAIN solely (100%) to blame.

The District Court found that the collision was inevitable or all but so because of the faults of the MCCAIN. Any fault by the ALNIC therefore - and we believe she was at fault for not stopping her engine at C-0:41 and putting it to 'full astern' (see above) - was not causative of the collision. As Gross J observed in *The Global Mariner*[117]:

"For my part I am satisfied that a collision would probably not have been avoided … While it was possible that a collision would be avoided (if all concerned were lucky there might have been the closest of near misses) the probability was that a collision would have occurred in any event … It must follow from these conclusions that though there is much to criticise in

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110 District Court judgment, at paragraphs 132,133.
111 *ibid,* at paragraph 134.
112 *ibid,* at paragraphs 136-150.
113 *ibid,* at paragraphs 151-176.
114 *ibid,* at paragraph 134.
115 [2016] 1 Lloyd's Rep.656
116 [2017] SGHC 220 (at paragraphs 128-132).
117 [2005] 1 Lloyd's Rep.699

the conduct of those on [ship A] *her failure … was not causative of the collision. It follows further that* [ship B] *must be held solely to blame."*

Even if this fault of the ALNIC was causative by increasing the collision damage, then as it was made in the agony of the moment the ALNIC would be judged leniently by the English Courts and found not to have any liability: *The Bywell Castle*; *The State of Himachal Pradesh* (discussed above).

Even if this fault was both causative and culpable - and we believe it was the only fault of the ALNIC for which any liability could reasonably attach now the Appeal Court has clarified the ALNIC was not at fault until 41 seconds before the collision (see above) - we believe the English Courts would still find the ALNIC free of any liability. If we assume that the relationship between a vessel's speed on collision and the resulting damage is a linear one[118], then the ALNIC was liable for causing 6% of the collision damage[119]. That is, the causative potency of her fault was limited to 6% of the collision damage. In terms of culpability, she was entitled to be judged leniently; and the District Court recognised it had to be *"wary of judging ALNIC too harshly for decisions made in extremis"*[120] (agony of the moment). By comparison, the many faults of the MCCAIN were the sole cause of the collision and the cause of 94% of the collision damage; and these faults were also particularly culpable therefore, and also because the degree of fault - negligence - of her bridge team in navigating the MCCAIN was of such a high order as to be bordering on incompetence. On this basis therefore, the liability of the ALNIC was exceedingly small when compared with that of the MCCAIN which was many more times (and not just four times) to blame for this collision than the ALNIC. In these circumstances and as the apportionment of liability is not an exact science we believe the English Courts would still have found the ALNIC free of any liability and the MCCAIN solely to blame for this collision.

OUR COMMENTS

As noted, apportioning liability for a collision at sea is not an exact science and is necessarily somewhat subjective, as the Court of Appeal observed in *The Maloja II*[121]. Even so however, for the reasons we have discussed we believe this apportionment of liability is obviously wrong and manifestly unfair. In our opinion, the Appeal Court clearly failed to correctly apply Singapore law (the applicable substantive law) and to properly review the

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[118] Which it clearly isn't.
[119] But for this fault her speed on collision would have been about 9.0 knots instead of 9.6 knots, and her other faults as found by the District Court are really all one and the same as this fault, for the reasons we have set out.
[120] District Court judgment, at paragraph 174.
[121] [1994]1 Lloyd's Rep.374

District Court's findings. We can only speculate why this should be so in a sophisticated jurisdiction like the USA. Even Homer nods occasionally but rarely to this degree. We suspect the sailor claimants cannot recover all of their damages from the US Navy. Whilst not a valid reason, did this influence the decision of the District Court in particular, and now also the Appeal Court? Was this why the ALNIC was found to be as much as 20% to blame? And why the District Court also found that the ALNIC was not entitled to limit her liability[122]? The District Court appears to have relied predominantly on the testimony of the experts for the sailor claimants and the US Navy when determining the faults of the ALNIC. It also used particularly colourful and emotive language when describing these faults. Was that to highlight and magnify their apparent causative potency and blameworthy nature in order justify this apportionment of liability? Whatever the reason, by upholding the findings of the District Court we believe this Appeal Court judgment seriously undermines the reputation and the credibility of the US Courts as a forum for the resolution of maritime collision claims.

Harry Hirst
Hirst Marine Consultancy Pty Ltd

[122] District Court judgment, at paragraphs 177-190. We understand this issue is still under appeal.

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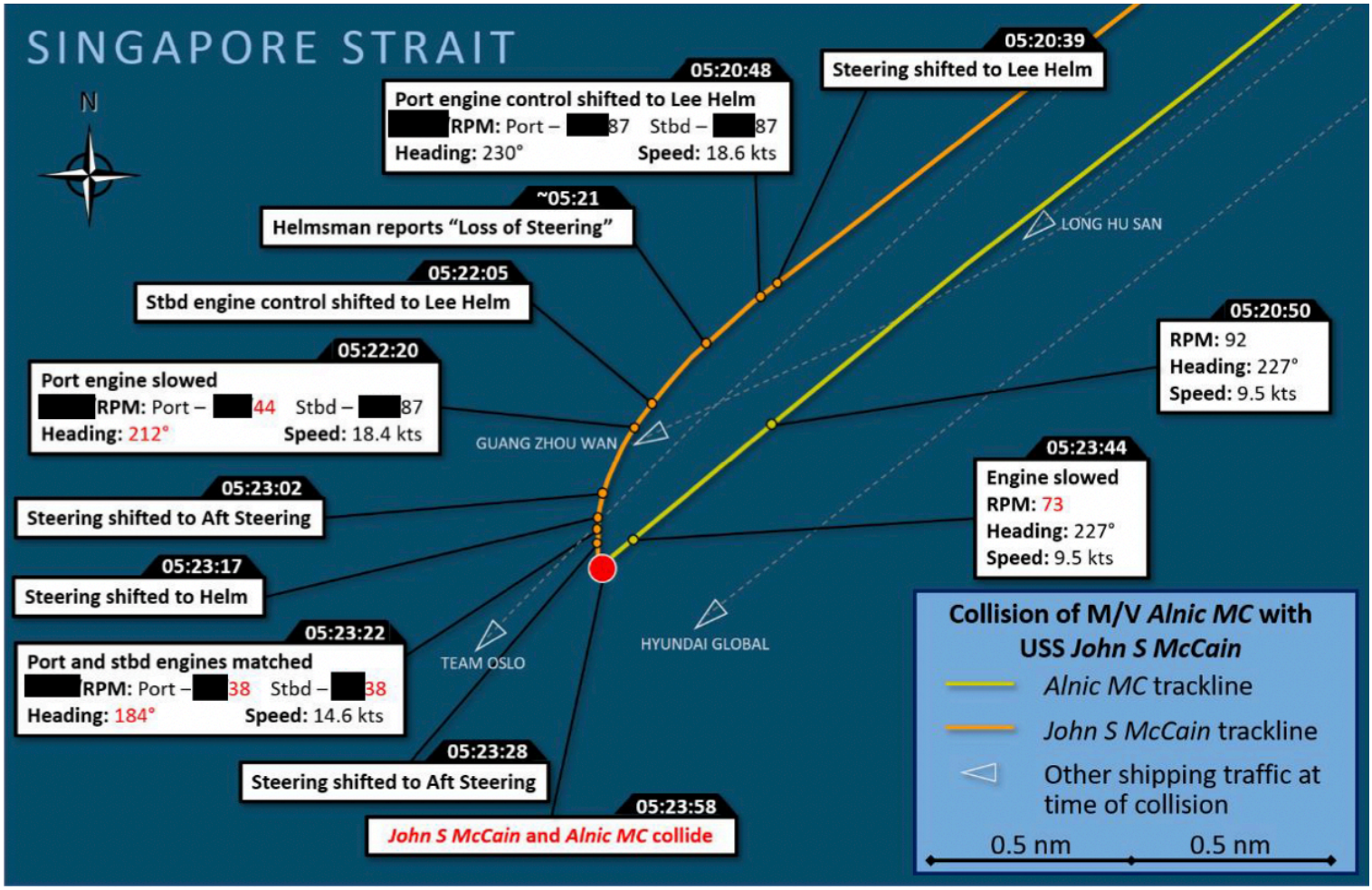
APPENDIX No.1

Vessels Tracks - NTSB



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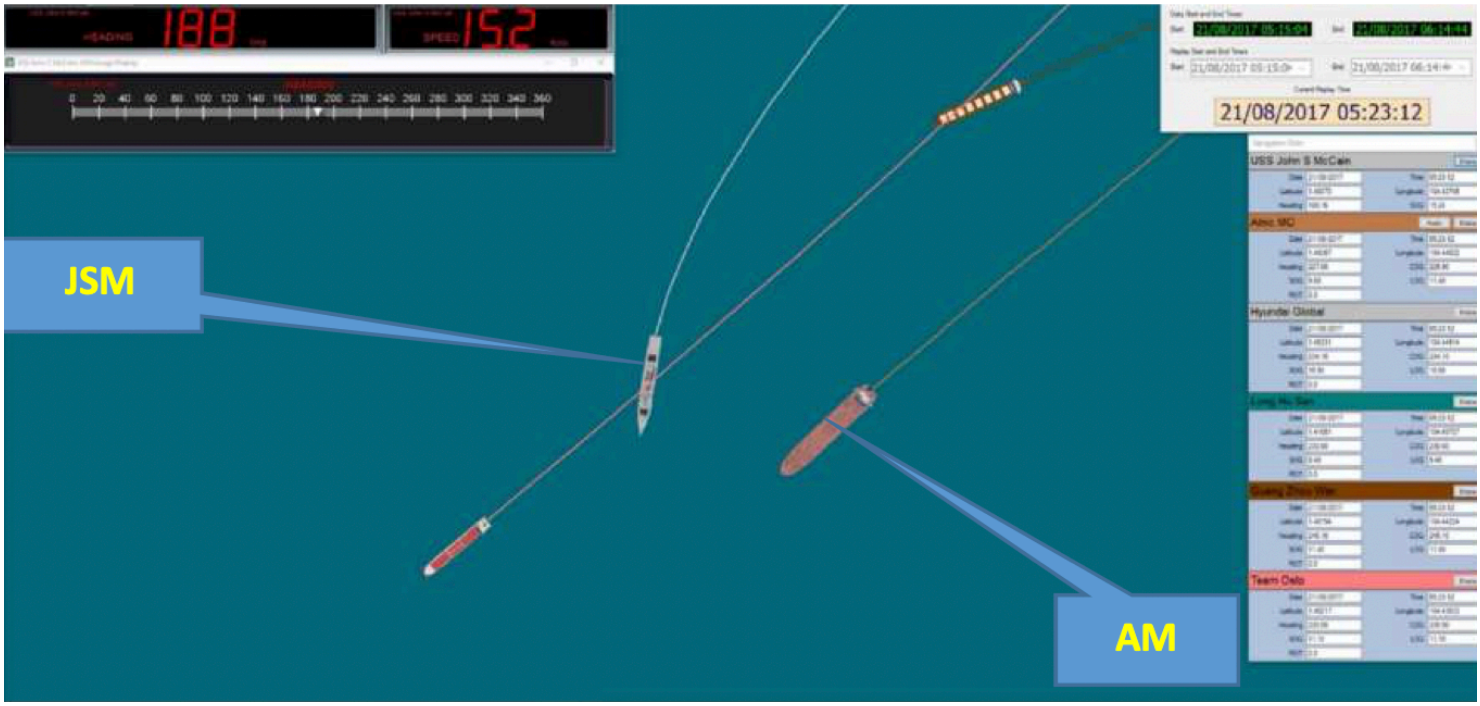
APPENDIX No.2

Vessels Tracks and Positions at C-0:46 - TSIB



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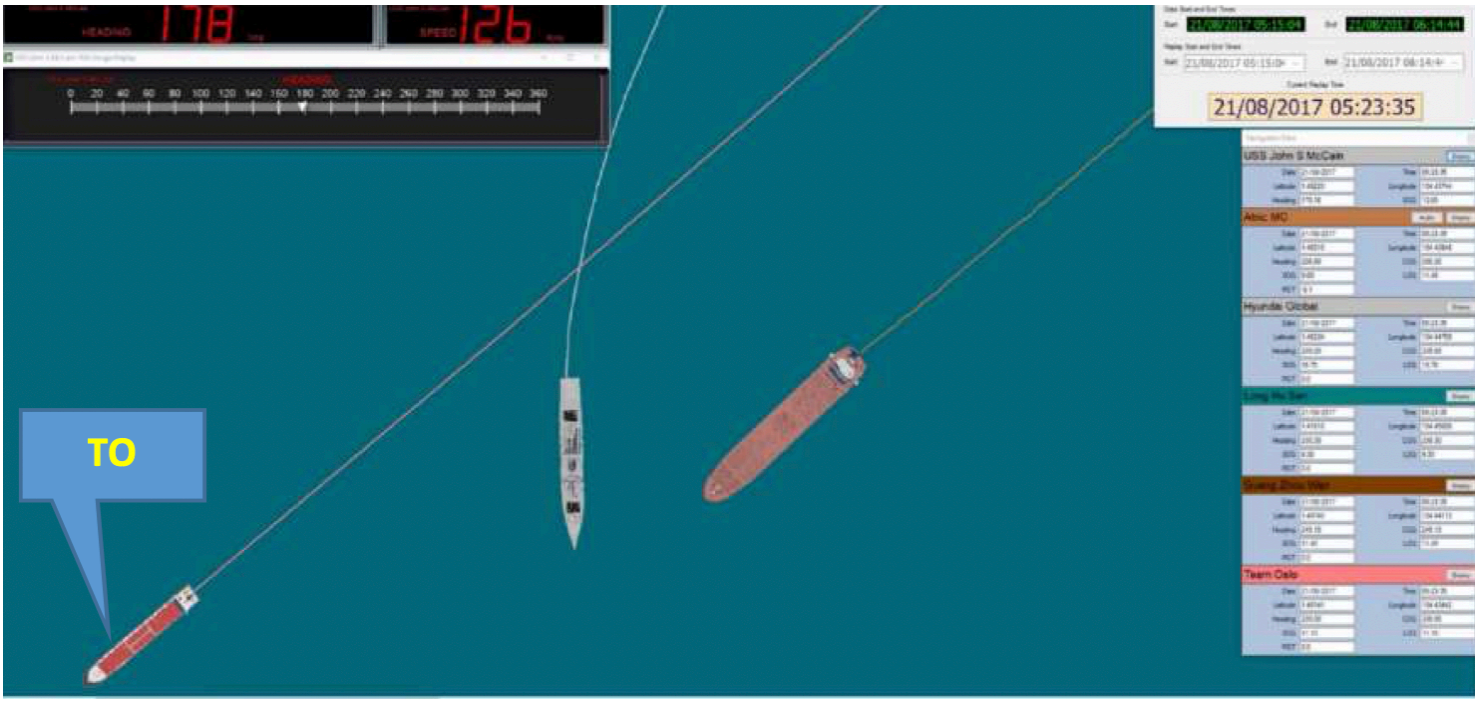
APPENDIX No.3

Vessels Tracks and Positions at C-0:23- TSIB



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APPENDIX No.4

Vessels Tracks and Positions on Collision - TSIB

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APPENDIX No.5

Mitigating the Damage - Our Analysis

It takes most vessels between 2 and 3 minutes to alter their heading by 90˚ when proceeding at full speed: see *"A Guide to the Collision Avoidance Rules"* by Cockcroft & Lameijer, 5th Edition, at pages 238-239.

As the ALNIC was a loaded tanker with a displacement of about 39,000 tonnes (see page 7 of the judgment) and we are considering the first 41 seconds of a hard turn to port, we have assumed her time for doing so would be nearer 3 minutes than 2 minutes.

Assuming the rate of turn was constant over these 3 minutes (it would have been slower at the start of the turn but we have already factored that in by assuming the time for the ALNIC to change her heading by 90˚ is 3 minutes rather than 2 minutes) we believe her heading would have changed by about 20˚ by the time of collision.

The speed of the ALNIC at C-0:41 was 9.6 knots, or about 4.9 metres per second. In 41 seconds therefore, she would travel about 202 metres ahead whilst an alteration of course of 20˚ to port would move her bow about 69 metres laterally to port. This is indicative of the distance which her porting would have moved the point of collision forward on the MCCAIN , so to a point about in line with front of her pilot house.

The speed of MCAIN reduced from about 15 knots around C-0:41 to about 9 knots on collision. Her average speed during this period therefore, was about 12 knots. If the *"right standard rudder, speed 5 knots"* order had not been given we believe the speed of the MCCAIN on collision would have been about 12 knots, and not less than 10 knots because this was the last speed order before this one.

At an average speed of 12 knots the MCCAIN travels 253 metres in 41 seconds. The point of impact was 60 metres forward of MCCAIN's stern so but for this order she would have passed ahead and onto port bow of the ALNIC.

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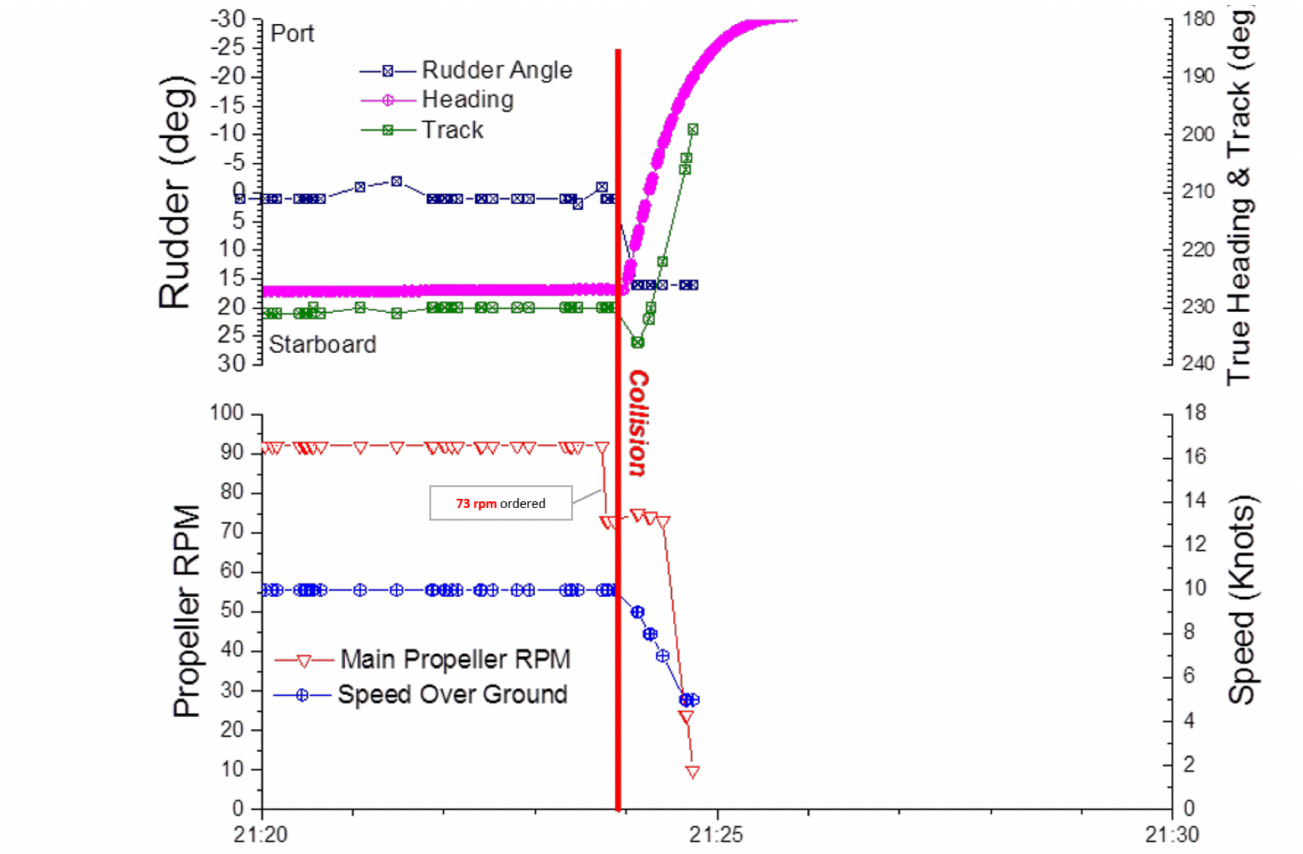
APPENDIX No.6

ALNIC - "Rudder and Propulsion Parameters" - NTSB



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