

**EASTERN CARIBBEAN SUPREME COURT
BRITISH VIRGIN ISLANDS**

**IN THE HIGH COURT OF JUSTICE
(COMMERCIAL DIVISION)**

CLAIM No: BVIHC (COM) 2018/0062

BETWEEN:

**(1) HQ AVIATION LTD
(2) GREAT LAKES REINSURANCE (UK) SE**

Claimants

and

SUN VESSEL GLOBAL LTD

Defendant

THE M/Y BACARELLA

Appearances:

Mr. Matthew Reeve and Mr. Joseph England, with them Ms. Sarah Thompson of Harneys for the Claimants

Mr. Timothy Marland, with him Mr. Jerry Samuel and Ms. Allana-J Joseph of Conyers for the Defendant

2021 April 19-22, 26 and 27
April 29 (Oral Judgment)
May 17 (Written Judgment)

JUDGMENT

- [1] **JACK, J [Ag.]**: On the 10th of May 2017, an AS350 B3 helicopter was landing on the aft leisure deck of a superyacht, the Motor Yacht Bacarella in Bergen Harbour in Norway. The cover of a fuel tank on the deck of the vessel was blown off by the down blast of the helicopter. The cover was pulled into the rotating blades of the aircraft. Control of the helicopter was lost but due to the exceptionally fast actions

of the pilot in command, Captain Quentin Smith, the helicopter was able to be ditched in the sea instead of crashing on to the yacht. It ended up upside down in the water.

- [2] When the machine hit the water, Captain Smith, in the left-hand seat, was able to get out of the cockpit. The helicopter started to sink with two other men inside. One was Charles Kwok Keung Chan, known as "CCK". He had been piloting the helicopter under Captain Smith's supervision until Captain Smith took over in the last fateful seconds of the flight. CCK was in the right-hand seat. The other man was David Tang. He too knew how to pilot a helicopter but was travelling on this flight as a passenger in the rear seat.
- [3] Captain Smith's first action, after ditching the helicopter, was to dive back into the cockpit to flick the switch which inflated the skids on the aircraft so that it did not sink. Mr. Tang was able to exit the cockpit but CCK did not. He was trapped in his seat by his seatbelt. Captain Smith dove back in a second time and was able to free CCK. There is little doubt that Captain Smith's actions saved CCK's life.
- [4] Mr. Tang, after freeing himself, lost consciousness and stopped breathing, either due to a heart attack or by swallowing jet engine fuel. Fortunately, there was nearby to the crash site a sea rescue boat which had been towing another vessel. The sea rescue boat cast the tow rope off and was able to arrive next to the helicopter very quickly indeed. Cardiopulmonary resuscitation was effected on Mr. Tang and he was able to be brought to hospital where he was put in intensive care. Fortunately, he was able to be released after some days without any permanent ill effects.
- [5] The helicopter itself was a constructive total loss. The value has been agreed at £2,092,369 sterling. The First Claimant was the owner of the helicopter; the Second Claimant was its insurer. Although originally there was an issue on the pleadings as to which was entitled to bring the current action to recover the value of the

helicopter, it is now common ground that it must be one or the other. I am not asked to differentiate between the two.

- [6] The Defendant is a BVI company, which owned the Bacarella. She was registered in Cayman. The crew were employed by another company in the same stable.

Ex tempore judgments

- [7] Before turning to the issues for determination, I should mention one matter. This is an *ex tempore* judgment. In a number of recent cases, I have been concerned that in the event of an appeal, an uncorrected version of the oral judgment has been placed before the Court of Appeal. That is not in anybody's best interest. As Danckwerts LJ said in **Bromley v Bromley**:¹

"An extemporary judgment is not always easy to deliver perfectly in all respects on the spur of the moment. There must be corrections which need to be made so as to give the real meaning of the judge and he is perfectly entitled, it seems to me, not only to correct mistakes but to alter words which do not express his intended meaning at the time when he uttered them."

- [8] And, of course, there is the need to correct the typescript.

The issues

- [9] There were originally three issues for determination:
- (1) Was the Defendant negligent in leaving the fuel tank cover inadequately secured?
 - (2) Are the Claimants guilty of contributory negligence?
 - (3) Is the Defendant entitled to limit its liability under section 391 of the **BVI Merchant Shipping Act 2001**,² which gives domestic effect to the **Convention on the Limitation of Liability for Maritime Claims 1976**?³

¹ [1965] P 111 at p 116.

² No 13 of 2001 of the Laws of the Territory of the Virgin Islands.

³ Treaty Series No. 13 (1990) Cm. 955.

- [10] In the week before trial, the Defendant abandoned its defence to its primary liability. It has produced a medical certificate to show that Captain Marsh, the Master of the Bacarella, was unable and unwilling to give evidence at trial on the Defendant's behalf. I shall come back to the issues raised by this. At the moment, it suffices to say that the first issue has gone. The sole questions for me are what, if any, contributory negligence there was and whether the Defendant can limit its liability under section 391.

The facts

- [11] There is little dispute about the primary facts. I can take these from Mr. Reeve's opening note for the Claimant.

"12. *The First Claimant.* The First Claimant is an English company, with 24 employees, supplying helicopter pilot training and maintenance services from its base at Denham Aerodrome. It is approved by the UK Civil Aviation Authority as a 'Declared Training Organisation' (previously 'Registered Training Facility') for the purposes of providing formal training for helicopter pilot licences and ratings. It also provides ad hoc training to licenced holders. It has trained over 500 pilots. It owns seven helicopters, including three which are operational, and looks after about 50 helicopters for clients. Captain Quentin Smith (sometimes referred to as 'Q') is its director. He is an unusually experienced professional pilot (Air Transport Pilot Licence Helicopters — ATPL(H)), helicopter instructor and examiner with over 15,000 hours, including 400 hours on the AS350. He had instructor rating for the AS350. His credentials are set out in his two witness statements.

13. *The helicopter.* The First Claimant purchased the helicopter, an Airbus AS350B3 Écureuil (or squirrel) helicopter new from the manufactures in July 2016. The AS350, also known as the H125, is a single-engine light utility helicopter. It has fixed skids, not wheels with oleos (oleos are suspension units with springs and dampers). Its main rotor disk diameter is 10.69 meters. A dimensioned drawing is produced in the photograph. It has six seats and is approved for single pilot use. Its fuel tank holds 540 litres. It is limited to visual flight rules when flying in the daytime. The callsign of the helicopter was G-HKCN. At the time of the accident it had flown for a total of 89.2 hours from new.

14. *CCK.* CCK is a well known businessman and has been a client of the First Claimant for about seven years. He learned to fly with the First Claimant, passed his test on 10 May 2014 and gained his private licence in June 2014, initially for the Robinson R44 piston engine helicopter type. He

earned his rating for the Robinson R66 turbine engine type on 8 May 2015. As a result, he was entitled to fly those helicopter types solo and to land on the yacht. The day before the accident, he had successfully completed five days' training for his rating for the AS350. Subject only to the formal issue by the CAA of his license with the new rating or the issue by his instructor of the temporary rating on form SRG1100, he would have been entitled to fly the AS350 helicopter as a single pilot, and to land on the yacht, without further training and without an instructor. By the time of the accident, he had acquired 290.6 hours including 16.4 hours on the AS350. The majority of those hours on the AS350 were (because of the five days of recent training) relatively current in aviation terms.

15. The Claimants believe that CCK is the ultimate beneficial owner of the yacht and he was referred to by the crew as 'the Boss'. The Defendant admits only that CCK has a 'minority beneficial interest'. The difference may not matter. There has been no disclosure of CCK's beneficial interest and the beneficial ownership remains opaque. Captain Marsh describes him as the 'main user' of the yacht.

16. *The yacht and crew.* M/Y Bacarella is a 60-metre superyacht with a gross tonnage of 1052 tons built in 2009. The top (stern) deck was a helideck. She was originally classified for commercial service but, in 2011, was changed to private use only. As such, there is no continuing requirement for the licensing of the helideck. The helideck was marked with a circle and metal tie-down securing points were embedded in the deck. The yacht was purchased by the Defendant on 4 June 2014. She is British flagged at the Cayman Islands and was entered on the British Registry as a pleasure yacht on the same date.

17. The Master at the time of the accident was Captain Steve Marsh. He is certified for vessels of up to 3000 gross tonnage. He joined the yacht in June 2014. There was a professional crew of 16, including the Master. A new Chief Officer, named James Lines, had apparently joined the yacht just before the accident, probably the day before. He was immediately given the important role of 'Helicopter Landing Officer' (HLO). This was his first helideck operation.

18. *Prior landings.* The Master estimates that there have been about 100 helicopter landings on the yacht between 2014 and the accident, using the prior Robinson R66 helicopter, and many with the AS350. The Claimants cannot precisely verify this figure but they accept Captain Marsh's essential point that there were a very large number of helicopter landings with both helicopters in this period. The Claimants can verify the following at least:

- (1) Between 11 July and 30 September 2016 there were 17 recorded landings with both Captain Smith and CCK together in the R66 helicopter, mostly on the yacht, but a couple were on another superyacht, the 'Cappella C'. It is accepted that there were other

landings, not necessarily recorded in the pilot log books and did not need to be. So, for example, on the yacht's log for 28 May 2016 they recorded three helicopter take-offs and landings.

(2) The equivalent notation in Captain Smith's logbook is of 1.1 hours of local flying from the yacht, without the take-offs and landings being separated out.

(3) On 6 January 2017, CCK did his first landing of the AS350 helicopter on the yacht in the Caribbean.

(4) On previous landings, Captain Smith had found the Master to be reliable and competent in the preparation of the helideck for landing, and the yacht had always been properly prepared; 'everything had worked like clockwork'. Prior to take-offs from the yacht, four to five members of the yacht's crew were observed taking down the railings and securing covers on furniture. Personal possessions were removed from the helideck and lower decks.

19. It is common ground that the Master and the crew were and/or should have been aware that loose or unsecured items in the area of the helideck represented a serious danger to landing helicopters. It is obvious that such loose items had to be removed or secured by the crew.

20. *The Norwegian cruise and the fuel tank.* In April 2017, CCK gave the Master voyage instructions for a holiday cruise along the Norwegian Fjords. The expectation was that CCK would join the yacht in Norway via helicopter, and he wanted the helicopter to be available during the cruise to fly ashore. Because of the shortage of airports and refuelling opportunities in that area, it was decided to install an aviation fuel tank on the yacht. With the assistance of Captain Smith a 910 litre tank was selected. The tank's dimensions were 1.895m long x 0.99m wide x 1.165m high. It weighed 227kg empty and 957kg fully laden. [I interpolate to say that I have seen a photograph of the tank.] The yacht sailed from Falmouth to Bergen and arrived on 29 April 2017. The tank was delivered to the yacht in Bergen and installed towards the forward end of the top deck. Captain Marsh sent two photographs of it in position to Captain Smith on 4 May 2017. [Again I have seen those photographs.] Captain Marsh then purchased and fitted a white cover and, on 8 May 2017, sent Captain Smith photographs of it in position over the tank."

Once again, I have seen photographs of those. I should explain that the cover itself had eyelets at the bottom which would allow them to be roped on to the frame of the fuel tank.

"21. *The flight(s) on 10 May 2017.* The first leg of the trip was an international flight from Denham to Bergen airport, via Oban. At 20:36 p.m.

on 9 May 2017, the night before, CCK sent a copy of the flight plan and a message to Captain Marsh 'Hello hello Steve. This is our flight plan. Will leave London 9:00 a.m. tomorrow morning. Try to do it in one day. Hope to see you tomorrow evening.'

22. There were three occupants of the helicopter boarding..." (I have set out the way in which the men sat.) "The helicopter landed at Bergen Airport and underwent customs and immigration formalities. Contact was made with Captain Marsh, including by WhatsApp, and at 20:52 p.m. CCK received a message from Captain Marsh: 'We leave port in about 10 minutes see you.' At Bergen, the occupants of the helicopter shed the dry suits and life jackets they had been wearing for the North Sea crossing."

Pausing there, the authorities in Bergen had refused to allow the helicopter to land on the Bacarella at the quayside so she had to go into the harbour in order to allow the helicopter to land.

"23. According to the yacht's log, she left the berth at Bergen at 20:50 p.m. and exited the inner harbour for the rendezvous with the helicopter. The wind was force 1 to 2, that is 3 to 4 knots westerly and the sea state was calm. Visibility was good.

24. It was agreed that CCK would handle the landing on the yacht, under the supervision of Captain Smith. This was ad hoc instruction and not a part of any formal licence training syllabus.

25. The flight between Bergen Airport and the yacht took about 8 minutes. It was mostly over land. The entire flight is recorded on the cockpit video and the last 30 to 40 seconds are recorded on the yacht camera video.

26. Captain Marsh gave clearance to land over the radio.

27. The helicopter flew a downwind leg parallel to the yacht's longitudinal axis on its starboard side and, after it passed the stern, it turned right (starboard) on a short base leg, and right again to make the final approach from the stern of the yacht.

28. On the final approach to landing, CCK was handling the controls, with Mr. Smith shadowing, his hands close to the controls. Just as the helicopter was over the deck a few feet from touchdown (at 9:45 on the cockpit video and 13:25.4.31 on the yacht video), the unsecured fuel tank cover shot up off the tank, propelled by the helicopter downwash. In probably less than a quarter of a second and certainly less than half a second, Captain Smith's right hand took control of the cyclic stick, moving it to abort the landing and pull the helicopter left and back, away from the danger. But within less than

2 seconds of shooting off the tank, the cover had recirculated up and back down unto the helicopter main rotor blades from above making it uncontrollable. Captain Smith initially increased power to get clear and then once it became apparent that a ditching was inevitable, he reduced power to ensure that the rate of descent at impact was survivable. The helicopter crashed into the sea about 5 seconds after the cover hit the main rotors."

And then it describes the way in which Captain Smith reacted to inflate the skids and to get CCK out of the aircraft.

[12] That opening, I should say, does not give full credit to Captain Smith's achievements as a helicopter pilot. He has a number of firsts, including landing at both the north and the south poles. He was a world acrobatic champion after managing what frankly is the toe-curling achievement of doing a backflip in a helicopter at 300 feet with the engine turned off.

[13] Mr. Marland raised an issue as to the circumstances in which Captain Smith and his then co-pilot had to ditch a helicopter near the Cape of Good Hope. I found Mr. Marland's suggestion that Captain Smith ran out of fuel difficult to accept, but the incident in any event is to my mind wholly irrelevant to the issues in this case.

[14] I can say at once that I find Captain Smith an honest witness doing his best to assist the Court.

[15] I should also add that Mr. Marland for the Defendant also paid tribute to the actions of Captain Smith after the fuel tank cover blew off and his heroic and thankfully successful efforts to save lives. No criticism was made of Captain Smith's actions after the cover blew off.

The allegations of contribution fault

[16] Allegations of contributory fault are pleaded in the amended defence submissions. They cover several pages. It begins by giving notice pursuant to Section 73(1) of

the **Evidence Act 2006**⁴ that the Defendant intends to rely on the contents of the final report of the Accident Investigation Board Norway issued on the 11th of February 2019 to support its case that the First Claimant and Quentin Smith were negligent. And then it sets out particular passages.

[17] It says:

"For the avoidance of any doubt, the Defendant will not contend that the Court is bound by the findings of the AIBN. The Court will rely on the AIBN report for the admissible factual and expert evidence contained therein."

[18] It was common ground between counsel that the approach I should take to the evidential value of the AIBN Report was that adopted by Leggatt J (as upheld by the English Court of Appeal) in **Rogers v Hoyle**.⁵ That was a case of an accident involving vintage bi-plane where the British Air Accident Investigation Branch had produced a report. The headnote says:

"1. The rule that the findings of courts, tribunals and inquiries are inadmissible in subsequent proceedings, the foundation of which was the preservation of the fairness of a trial in which the decision was entrusted to the trial judge alone, did not apply to the AAIB Report since it contained no findings but statements of fact and expressions of the opinions of its authors who, it was to be inferred, were experts in their respective fields; that insofar as the report consisted of statements or reported statements of fact it was *prima facie* admissible, it being immaterial that it constituted hearsay whether primary or secondary, and those statements were evidence which the trial judge could take into account as he would any other factual evidence, giving to it such weight as he thought fit; that the court was entitled to have regard to the expressions of opinion since it was open to someone with the appropriate special expertise to express an opinion based on the facts as he understood or assumed them to be, if and insofar as his conclusions was informed by or a reflection of that expertise, that the AAIB was a body with the requisite expertise, charged as it was with the responsibility for investigating air accidents and having considerable qualified expertise and experience in doing so; that, although insofar as an expert's report merely opined on facts which required no expertise of his to evaluate it was inadmissible and should be given no weight, there was

⁴ No 15 of 2006, Laws of the Virgin Islands.

⁵ [2013] EWHC 1409, [2015] QB 265.

nothing to be gained, except in very clear cases, from excluding or excising such opinions; and that, accordingly the report was admissible as a whole for its record of factual evidence and its expert opinion, it being a matter for the trial judge to make use of the report as he saw fit, leaving out of account any part which was inadmissible, and the judge had been right so to hold."

[19] I will skip 2. The headnote continues:

"3. That the report, as well as being admissible evidence, was of potential value because the AAIB was independent, its reports were the product of an impartial investigation and it had much greater ability than anyone else to obtain and analyse data relating to an aircraft accident which was likely not otherwise to be available or only with considerable difficulty and at considerable costs; that the circumstances in which it was appropriate to the exercise of discretion given by the English procedural rules to exclude admissible evidence which was likely to be helpful but limited; that that discretion was to be exercised in accordance with the overriding objective of dealing with cases justly and at proportionate costs; that, while every case depended on its own facts, that objective did not call for or justify the exclusion of the AAIB evidence, which Parliament had provided should be made public and the admissibility in evidence of which it had not legislated to restrict, but rather would tend to favour its inclusion; and that, accordingly, the judge had been right to decline to exclude the report in the exercise of his discretion under the relevant English rule."

[20] That is the approach which I shall take, but this should not be taken as a holding by me that **Rogers v Hoyle** properly represents the BVI law of evidence. In particular, the BVI does not have the **Civil Evidence Act 1995**⁶ which effectively abolishes the restrictions on the use of both primary and secondary hearsay. Instead, the provisions of the **Evidence Act 2006** are in somewhat narrower terms. That said, **Rogers v Hoyle** may or may not be a correct reflection of the BVI law of evidence. I do not determine the matter. It simply was not argued before me.

[21] The amended defence submissions which are served by way of a defence contains a detailed statement in paragraphs 23 to 39. I shall not read them all out. There are six major heads of negligence on which reliance is placed.

⁶ 1995 c. 38.

- (1) Inadequate planning. In particular, following the installation of the new fuel tank.
- (2) Letting CCK pilot the aircraft into landing on the Bacarella.
- (3) Captain Smith bearing responsibility for ensuring the cover was adequately tied down.
- (4) Hovering over the landing area for too long.
- (5) When Captain Smith saw the cover billowing, Captain Smith should have taken control of the helicopter and made an immediate landing.
- (6) When Captain Smith saw the cover had broken free, he should immediately have landed to avoid a crash in the sea.

[22] In my original case management directions, I gave permission for expert evidence on helideck operations. The Claimants served a report from Simon Jones. The Defendant did not serve a report to contradict Mr. Jones and did not require his attendance for cross-examination. Mr. Jones' view was the responsibility for adequately tying down the fuel tank cover was exclusively the Master's, so the third head of negligence goes.

[23] Captain Packer argues that there should have been more input to Captain Marsh from Captain Smith, see paragraphs 13 and 14 of the joint memo of the experts' meeting, but for reasons which I shall explain, I do not accept that.

[24] I turn then to the video footage. There are four videos of the accident. Two are shots taken by tourists, which were subsequently posted to YouTube. They are forensically useless and no party relied on them. Of central importance are the videos taken from the yacht and from the cockpit of the helicopter.

[25] Above the top deck of the yacht, there are pylons which support the radar installations. Immediately underneath the cones housing the radar beacons was the camera pointing over the landing deck and the stern of the vessel. The fuel tank

could not be seen with this camera. The camera had a wide-angle lens and was placed higher than the altitude of an incoming helicopter in the final seconds of a landing. Those features make it difficult to judge height and distance with any precision from this particular video footage.

- [26] The cockpit video was affixed to the ceiling of the helicopter's cabin. As such it had a different angle of view from that of either Captain Smith or CCK when they were sitting in their respective pilot seats. This camera also had a wide-angle lens.

The experts

- [27] I heard from two helicopter experts, Lloyd Watson for the Claimants and Geoffrey Packer for the Defendant. Captain Watson was a Royal Navy flying officer from 1982 to 1998 when he went into the Royal Navy Reserve as a Lynx pilot. He retired on age grounds in 2016. After leaving the navy, he has had various civilian aviation roles. He has in excess of 6,100 hours of rotary wing experience, including on the military version of the AS350.
- [28] Captain Packer was an aircraft engineer at British Aerospace from 1968 until 2000. During that time, he held a private helicopter licence and piloted helicopters extensively, albeit not on a commercial basis. From 2000 he worked as a commercial helicopter pilot, especially on oil rigs offshore. In 2015, he set up his own company which supplies helicopter pilots. He is an experienced instructor on helicopters. Captain Packer had never flown an AS350. He had flown an AS355, but that is a significantly different aircraft to an AS350. The former is twin-engined, whereas the latter is single-engined.
- [29] There are some issues where I prefer the evidence of Captain Packer to that of Captain Watson. Captain Smith, for example, permitted CCK to take off from the airport at Bergen when two aspects of the pre-flight checklist had not been carried out. These comprised of failure to turn on the warmer on the pitot tube and a failure to align the artificial horizon. The pitot tube is part of the speed measurement device

on the aircraft. If it freezes, there is a risk of false reading of speed being made. The artificial horizon allows a pilot to fly safely when in cloud or in fog.

- [30] On the day of the accident, there was no danger of the pitot tube freezing and there was no cloud or fog which could have affected the short journey to the Bacarella. The omissions were, therefore, not dangerous. Packer said that these omissions showed a general casualness on the part of Captain Smith which should not have been allowed on a training trip.
- [31] There are a number of other criticisms made by Captain Packer of what occurred on the short flight. I do not need to deal with them. They are not pleaded allegations and had no causative effect in relation to the accident.
- [32] Captain Watson said that Captain Smith would have been justified in allowing CCK to take off without carrying out the pre-flight checklist on the basis that he could then take the matter up with CCK later as part of the training debrief. Well, maybe, but there is no evidence that this failure was in fact part of some cunning wheeze on Captain Smith's part to train CCK. Captain Smith does not say that. I prefer the evidence of Captain Packer that there was evidence of some laxity in preparation for this short trip.
- [33] In general, however, I prefer the evidence of Captain Watson to that of Captain Packer. I say that for four main reasons:
- [34] Firstly, Captain Packer has never flown the AS350, even after he had been instructed as an expert in this matter. At the heart of the Defendant's case is the averment that Captain Smith should have made a precautionary emergency landing. An important issue in determining this question was the speed at which the helicopter would have descended if Captain Smith had started to make an emergency landing. If the descent is too steep and too quick, the helicopter — which it will be recalled has no suspension — is liable to crash. In cross-

examination, Captain Packer said (although this had not been flagged in his report) that the pilot would need to cushion the landing by increasing the pitch of the rotors just before touchdown.

- [35] In my judgment, his evidence on the safety and practicality of making an emergency landing in this way would have more cogency if he had actually tried the manoeuvre himself on this type of aircraft.
- [36] Secondly, I did not consider his approach to working out the position of the helicopter in relation to the landing deck in the last seconds of the flight was satisfactory. Using the helicopter video timings, this comprised the period of 9:28 when the helicopter neared the yacht to 9:49¼, when the cover blew off. Captain Packer assessed the position of the helicopter visually using the two videos to give his best estimate. By contrast, Captain Watson drew straight lines on frames taken from the video of the cockpit to known fixtures on the deck of the Bacarella. He was then able to use trigonometry to determine the precise location of the helicopter at the various key seconds.
- [37] Captain Packer did not adopt this method, although in my judgment it is a much more reliable system than his visual assessment, nor did he reconsider his evidence after seeing Captain Watson's very precise workings.
- [38] Thirdly, in order to ascertain what Captain Smith and CCK would have been able to see of the fuel tank, Captain Watson carried out an experiment using an AS350 and an oil tank on land at an airfield. He also did a similar trigonometrical analysis of the sightlines from the camera and from the pilot's head. Because the camera was higher than the pilot's head, the camera was able to see the bottom of the fuel tank in positions where the pilot could not.
- [39] Now unlike his calculations of the exact location of the helicopter, this exercise is less robust because sightlines will be affected by yaw and pitch and by the pilot

being able to move his head. Nonetheless, it provides much more satisfactory evidence, in my judgment, of what the pilots could reasonably and probably see at the bottom of the cover of the fuel browser than Captain Packer's opinion based solely on the cockpit camera's view.

[40] Fourthly, one of the issues discussed in the joint memorandum of experts was this. Paragraph 10(c): "Causation — once the cover broke free and if Mr. Smith had immediately attempted to land on the helideck, what is likely to have happened to the aircraft?" And the answer in paragraph 11 is: "Captain Packer states the following: under (c)... GP has been pressed to give an opinion on causation. GP is a helicopter expert and not a legal expert. GP is unfamiliar with its legal term and its implications. GP is of the opinion that he is not qualified to pass an opinion on causation."

[41] I accept, of course, that questions of causation can raise difficult issues of law. The question here though, in my judgment, is straightforward. Captain Packer should have been able to give a view. His reliance on a supposed difficulty in understanding the law and what was meant by "causation" was, in my judgment, an attempt to avoid answering the question which was a perfectly sensible and important question.

The last seconds

[42] I turn then to the last seconds of the flight. At 9:28, I accept Captain Watson's evidence that no part of the skids were over the landing deck. At 9:32, the forward parts of the skids were over the deck. This would mean that a vertical landing would have been very unsafe because of the risk of the helicopter falling backwards on to the lower deck.

[43] 9:32 is the time when the cover on the tank started billowing. However, I find that this was nothing to cause concern. If the cover was tied down, as it ought to have

been, it would have been safe. That was Captain's Watson's evidence, which I accept.

[44] My conclusion is reinforced by the fact that Captain Smith, with his vast experience, was unconcerned when he saw the billowing. Neither of the other two men on the helicopter, nor Mr. Lines, the helicopter landing officer, saw any reason for concern. Mr. Lines was standing directly behind the bowser behind the glass door of the gymnasium. It was his job to warn the helicopter off if there was a danger and he did not do so. Admittedly he was inexperienced, but his failure to act is still of some evidential weight.

[45] At 9:35 the cover started to inflate. For the same reason as at 9:32, I do not accept that this should have caused alarm, nor was any alarm raised by any of those present.

[46] At 9:43 the bottom of the cover started to flap. On balance, I find that this was not itself sufficient to raise the alarm. It was consistent with the cover being tied down in the bottom four corners of the frame around the oil tank. However, even if I am wrong about that, I find as a fact that neither Captain Smith nor CCK could see the bottom of the cover and so could not have seen the flapping. This is a finding only on balance of probabilities, but it reflects the careful work of Captain Watson in reconstructing the pilots' sightlines.

[47] I accept Captain Watson's evidence that 9:44 was the earliest it would have been safe to land the helicopter. It was the first time all the skids were over the deck. Captain Packer said that it was possible to land a helicopter with skids by skidding forward. This suggestion was not put to the witnesses, but in any event there was no reason to do so.

[48] The movement of the air which then occurred is common ground between the experts. Whilst the helicopter was over the water, the downdraft dissipated all

around the helicopter. When the helicopter got over the landing deck, however, the doors to the gymnasium at the forward part of the deck disrupted the dissipation of the downdraft in the forward direction. The downdraft was forced upwards in front of the gym doors. There, it was then pulled back down into the rotors. The effect is to push the helicopter down.

[49] Captain Packer put great weight on this and said that this was the reason why a hover should be as short as possible in a confined space. The difficulty with his view is that, as he accepted, the increase in downward force would not carry on indefinitely. An equilibrium would be reached but he was unable to say when that state would be reached. Likewise, he was unable to say even to a range of seconds, how long a hover could be until it became unsafe.

[50] I reject the allegation that it was negligent for the helicopter to hover as long as it did. Moreover, even if the allegation were made out, it would fail on causation. The force of the downdraft on the tank cover increased as the helicopter lowered. If the lowering had started at 9:44, it would merely bring forward the moment at which the tank cover popped.

[51] Thus, I find as a fact that the first sign of an emergency was at 9:49. Between the frame of the cockpit video at 9:49 and the next frame at 9:49¼, the cover pops. There was no warning beyond the flapping at 9:43.

[52] In particular, I reject the finding of the AIBN Report at paragraph 3.1(j) that the cover crept upwards. It was a sudden, almost instantaneous explosion upwards which occurred in less than a quarter of a second.

[53] No criticism is or can be made of Captain Smith's actions from 9:49 onwards.

Conclusions on contributory negligence

[54] I turn then to the pleaded allegations of contributory negligence.

(1) Inadequate planning. This is something noted by the AIBN at paragraph 3.1(g), but it was not causative of the accident. The fuel bowser was perfectly safe in the position in which it was installed. I accept that it would have been good instructional practice to brief CCK on this. However, the tank itself presented no risk and its position had no causative effect on the accident.

(2) Letting CCK pilot the helicopter during the landing. I disagree that this was inappropriate. CCK had 290 hours flying experience. He had just finished a five-day course to get type approval for this type of helicopter. He had done one landing with the AS350 already in the Caribbean. He needed to learn deck landings. The conditions for such a landing could hardly have been more favourable than they were that day. In my judgment it was wholly appropriate in a training exercise, with a skilled supervisor like Captain Smith present, for him to land the helicopter. I, therefore, reject this allegation of contributory fault.

(3) Responsibility for the lashing of the cover, I have dealt with.

(4) Hovering for too long. Again I reject this for the reasons given.

(5) The billowing I have found as a fact, was not an alarm signal, nor was the subsequent inflation of the oil tank cover.

(6) I do not accept that an emergency landing on the deck was appropriate. The guidance for emergency landings says that ditching in water is safer than landing on a ship. A helicopter has an immense amount of kinetic energy in both of its rotors. If either rotor came into contact with a fixed part of the ship, there would be a catastrophic release of energy. The danger to the lives of those in the helicopter would be much greater than in the water. There would also be a danger to the yacht's crew which would not arise if a ditching in water was attempted. There would be, in my judgment, a much greater risk of fire and damage to the yacht as well. A sudden descent, as urged by Captain Packer, ran a substantial risk of breaking the skids, which, I repeat, had no suspension. If the skids broke, then there would have been a substantial risk of the tail of the helicopter hitting the deck or some other

part of the ship releasing the kinetic energy in the tail rotor with disastrous consequences.

[55] For all these reasons, in my judgment, it would not have been right to make an emergency landing on deck at any point between 9:28 and 9:49. On the contrary, such a course was contraindicated.

[56] Even if I were wrong in that conclusion, I would hold that the decision not to make an emergency landing on deck was within the reasonable band of responses of a reasonable helicopter pilot.

[57] Accordingly, none of the heads of contributory negligence are made out. I find there was no contributory fault which stands to reduce the liability of the Defendant.

[58] If I am wrong in that, I would need to consider the degree of contributory fault. Mr. Marland suggests that an appropriate figure would be 50:50. Picking a figure is necessarily speculative since I found there was no contributory fault. Nonetheless, I can say that I would find the degree of fault substantially less than the 50/50 suggested by Mr. Marland.

[59] I did not hear evidence from Captain Marsh. He produced medical evidence of hypertension, but that would not normally prevent his giving evidence. I accept that there may have been difficulties in making him give evidence as a matter of law. Neither counsel were able to say whether, for example, it might have been possible to issue a subpoena in the Grand Court of Cayman in support of these proceedings.

[60] The only result of my own researches is an obscure textbook dating from 1841 and published in Dublin by Richard Nun, **The Powers and Duties of Justices of the Peace in Ireland; and of Constables as Connected therewith**. He says:⁷

⁷ At p 590, Footnote B.

"A subpoena cannot be served on board a ship, but instead a writ of *habeas corpus ad testificandum* can be used to get the evidence of a witness who is on board ship."

[61] Nun cites no case law authority for that proposition. Instead he cites two commentaries which I have to say are even more obscure than his own work. There seem to me to be some difficulties with the use of *habeas corpus ad testificandum*, not least that the Master is, of course, the man to whom the writ would be addressed. Normally one would not expect a Master to have to produce himself at court to give testimony under such a writ.

[62] Leaving this fascinating legal issue to one side, the reality is the Defendant could probably have made Captain Marsh give evidence as a matter of fact. He was not employed directly by the Defendant, but he was employed by an associated company. If it had been necessary to draw **Wisniewski** inferences,⁸ I would have done so.

[63] Even if I did not, however, the degree of contributory fault would have been small, probably at most 20 per cent and quite possibly as little as 10 per cent.

Limitation

[64] I turn then to limitation. Section 390(1) says:

"Shipowners and salvors may limit their liabilities in accordance with this Chapter."

[65] Section 391(1) says:

"Subject to sections 392 and 393, the following claims shall be subject to limitation of liability regardless of the basis of liability:

- (a) Claims in respect of loss of life or personal injury or loss of or damage to property, including damage to harbour works, basins

⁸ *Wisniewski v Central Manchester Health Authority* [1998] PIQR P324.

and waterways and aids to navigation), occurring on board or in direct connection with the operation of the ship or with salvage operations, and consequential loss resulting therefrom."

[66] I do not need to read the rest of that subsection. Section 392 says:

"For the purposes of this Chapter, the liability of a shipowner shall include liability in an action against the ship, and the act of invoking limitation shall not constitute an admission of liability."

[67] Section 393 has a list of exclusions, none of which are relevant.

[68] The Act reproduces the text of the 1976 Convention. Counsel are agreed that the Act has to be construed in the same way as the Convention. I agree.

[69] The principles of construction of international conventions are usefully set out in **Re Deep Vein Thrombosis and Air Travel Group Litigation**,⁹ where Lord Mance said (omitting citations):

"The primary consideration is the natural meaning of the language used, taking into account the text as a whole, and such conclusions as can be drawn regarding its object and purpose. The text should be interpreted in a normal manner, appropriate for the interpretation of an international convention, unconstrained by technical rules of English law, or by English legal precedent, on broad principles of general acceptance.

The concepts deployed in the convention are thus autonomous international concepts. The legislative history and travaux préparatoires may be considered to resolve ambiguities or obscurities, when the material is publicly available and points to a definite consensus among delegates. It is also legitimate to have regard to any subsequent practice among the parties which is capable of establishing their agreement regarding interpretation. All these points are, for conventions concluded after 27th January 1980, covered in articles 31(3) and 32 of the Vienna Convention on the Law of Treaties and in **Fothergill**,¹⁰ Lord Diplock and Lord Scarman treated these articles as codifying previous international legal principles."

⁹ [2005] UKHL 72, [2006] 1 AC 495 at [54].

¹⁰ *Fothergill v Monarch Airlines Ltd* [1981] AC 251 at pp 282D and 290C.

[70] And then he deals with subsequent practice and the need to have regard to decisions of Courts in other jurisdictions so as to foster unanimity in the law (in that case) of international air travel.

[71] The Claimant puts its argument in this way in its opening. At para 89, it refers to the case of **CMA CGM SA v Classica Shipping Co Ltd (The CMA Djakarta)** where Mr. Reeves argues that the Court of Appeal made clear¹¹ that:

"The Court should avoid placing a gloss on the words used in the Convention which is not apparent from the words used. This approach was approved by the Supreme Court of the United Kingdom in **Gard Marine and Energy Ltd v China National Chartering Co Ltd (The Ocean Victory)**.¹² It was also agreed in **The CMA Djakarta** that the object and purpose of the Convention were as follows:

(a) that the general purpose of owners, charterers, managers and operators being able to limit their liability was to encourage the provision of international trade by way of sea carriage;

(b) that the main object and purpose of the 1976 Convention was to provide for limits which were higher than those previously available in return for making it more difficult to 'break' the limit, to use the colloquial expression. Before 1976, any person, arguing in the United Kingdom that the limit should not apply, only needed to show 'actual fault or privity' on the part of the party relying on the limit. Under the 1976 Convention the (now higher) limit is to apply unless it can be shown that the loss resulted from the personal act or omission of the party relying on the limit 'committed with intent to cause such loss or recklessly with the knowledge that such loss would probably result'. It is thus particularly difficult to break the limit, but the amount available for compensation is higher than it was previously;

(c) one of the other objects of the Convention was to enable salvors to claim that their liability could be limited in the same way as owners and charterers; this reverses **The Tojo Maru**.¹³

The Court of Appeal accepted this formula, and held that it was 'not...possible to ascertain with certainty any object or purpose of the 1976 Convention beyond this common ground'."

¹¹ [2004] 1 Lloyd's Rep 460 at para [13].

¹² [2017] UKSC 35 at paras [75], [78] and [87].

¹³ **The Tojo Maru (No 2) (Tojo Maru (Owners) v NV Bureau Wijsmuller)** [1972] AC 242.

[72] It will be recalled that section 391, insofar as relevant, applies limitations to losses occurring on board or in direct connection with the operation of the ship. It is common ground that what occurred was off the ship because the destruction of the helicopter took place before the helicopter had landed. Instead, limitation is argued on the basis as to whether or not the accident was in direct connection with the operation of the ship.

[73] At para 94, the Claimant's submissions say:

"The case law emphasises the operation of the ship for the regular purposes for which ships are used i.e. carrying cargo (as in the *CMA Djakarta*). The connection must be directly related to the operation of the ship, as a ship, not a non-maritime or aviation function which is being carried out on it."

[74] And he then cites from **The Caspian Basin**¹⁴ which was a case of a barge which was lost whilst under tow, **The River Rima**¹⁵ and **The Ming Galaxy**.¹⁶ None of these, it seems to me, are of great use in deciding whether the current accident was directly connected with the operation of the ship.

[75] At para 98, Mr. Reeve says:

"Indeed, there may be many activities on board that have nothing to do with core operation of the ship as a ship — from bars to casinos to swimming pools to clay pigeon stands."

[76] Then he deals with European law case about the installation of gaming machines on ferries. And at para 99, he says:

"There is no case supporting the proposition that an activity, such as a landing facility for aircraft, not integral to the operation of a ship as such, or

¹⁴ *Montedison SpA v Icroma SpA (The Caspian Sea)* [1980] 1 WLR 48.

¹⁵ [1988] 1 WLR 758.

¹⁶ *Herceg Novi, Owners Of The Ship v Ming Galaxy, Owners Of The Ship* [1998] EWCA Civ 1223, [1998] 4 All ER 238.

its typical maritime trade, is to be treated as 'the operation' of the ship for the purposes of the Convention. On the contrary, such authorities as there are suggest that the operation of the ship has to be something integral to essential functions as a ship. The purpose of the Convention is to provide maritime trade, not other activities of shipowners such as aviation. The line has to be drawn somewhere. It is also clear from above that the types of activities that are treated as part of the operation of the ship cannot stretch to the present facts, and would be most unlikely to have been the type envisaged when the provisions of the 1976 Convention, on which Section 391(a) is based, were drafted."

[77] And then he says: "Helidecks are a form of aerodrome and are regulated as such by international aviation convention." He sets out some of those and concludes:

"There is an international aviation regulatory regime which does not distinguish or exclude helidecks because they happen to be found on ships. There is no applicable maritime convention. Even the standard guidances for mariners makes this clear. The Guide for Helicopter Ship Operations 2008 gives guidance on selecting helicopter operations and summarises the international regimes as follows:

Even though aviation, like shipping, has varying standard of operating practice, the 'minimum recommended standards' are contained in Annex 6 Part III of the ICAO Convention on International Civil Aviation (for operations) and Annex 14 Volume II (for design issues relating to heliports/helidecks).

The yacht's helideck was subject to that aviation international regulatory regime when it operated commercially between 2009 and 2011. When the deckchairs were pulled back on the Bacarella in preparation for landing, the deck was performing the characteristic aviation function of a helideck, a sub-species of aerodrome. It did not cease to be an aviation function merely because it was on a ship (rather than on a building or oil rig). The centre of gravity for these purposes was the aviation function of helicopter carriage operations, in which the landing area on the top deck played a supporting role. At that time it was not supporting the operation of the ship."

[78] A difficulty with Mr. Reeve's argument is that there is necessarily a grey area on his analysis. In an international convention of this type, that is inherently unlikely. The draftsmen and women of international conventions will strive to establish bright lines.

- [79] In my judgment, applying the guidance as to the interpretation of international conventions, I have to stand back and ask one simple question: was the landing of the AS350 helicopter on the 10th of May 2017 in direct connection with the operation of the motor yacht Bacarella?
- [80] Mr. Reeve sought to analyse this question in terms of whether this was an operation of the ship *qua* ship and said that the landing was the Bacarella acting *qua* aerodrome. This sort of Aristotelian analysis is not, in my judgment, appropriate. Whether St Thomas Aquinas would have considered that there was a change in the Aristotelian substance of the Bacarella when the ship took on the function of an aerodrome is not a relevant question in construing an international convention.
- [81] The operation of a ship can involve numerous different processes. I do not see any difficulty in saying that a ship can operate as a floating helicopter landing point and that, when it is operating in that way, it is also operating as a ship. It is simply wrong to make a distinction between ship *qua* ship and ship *qua* aerodrome. A ship like the Bacarella can in my judgment be both at the same time.
- [82] In my judgment, the question does not leave a lot of scope for detailed analysis. This was a superyacht which was being used for a holiday by helicopter enthusiasts. The landing of the helicopter was in direct connection with that use of the vessel and, therefore in my judgment, in direct connection with the operation of the ship.
- [83] Accordingly, in my judgment, the Defendant is entitled to limit its liability under the 2001 Act.

[84] I shall hear counsel on consequential issues.

Adrian Jack
Commercial Court Judge [Ag.]

By the Court

Registrar