

IN THE HIGH COURT OF AUSTRALIA
BRISBANE REGISTRY

No. B61 of 2015

ON APPEAL FROM THE COURT OF APPEAL OF THE SUPREME COURT OF
QUEENSLAND

B E T W E E N: ROBINSON HELICOPTER COMPANY INCORPORATED
Appellant

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and

GRAHAM JAMES McDERMOTT
First Respondent

and

JUANITA CAROL McDERMOTT
Second Respondent

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and

NTB PASTORAL HOLDINGS PTY LTD (ACN 078 593 469)
Third Respondent

RESPONDENTS' SUBMISSIONS

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Part I: Certification regarding Publication

1. These submissions are in a form suitable for publication on the internet.

Part II: Issues

2. The issue the appeal is concerned with is whether the Court of Appeal was correct in finding that the appellant's Maintenance Manual for the helicopter failed to provide adequate inspection procedures during 100 hourly inspections and servicing which are likely to have identified the defect and avoided the occurrence of the crash.

Part III: Certification *Judiciary Act* 1903, s 78B

3. The respondents consider that notice is not required pursuant to s 78B of the *Judiciary Act* 1903.

Part IV: Facts

4. The respondents accept the facts in paragraphs 11, 20, 22, 23, 28, 29(a), 30(e) and 30(g).
5. The respondents accept the facts in paragraph 8, save it was admitted that the helicopter was being flown at Tobermorey Station, Queensland, near the Northern Territory border.¹
6. The respondents accept the facts in paragraphs 9 and 13, but it is also relevant (and not disputed) that the appellant was also the supplier and the manufacturer of the Manual.²
7. The respondents accept the facts set out in paragraph 10, save that it was not controversial that the failure of the forward flexplate was the *immediate* cause of the crash and that the forward flexplate is critical to the airworthiness and safety of the helicopter.³ Procedures to inspect it were subject to a "warning" in the Manual, defined as a procedure that, if not properly followed, can result in personal injury or loss of life.
8. The respondents accept the facts in paragraph 12, save that as found by the majority of the Court of Appeal, where or how the bolt was installed and not properly tightened remains a mystery. The focus of the case was on why the looseness of the bolt was not detected.⁴
9. The respondents accept the facts in paragraph 14, save that Mr Lay's evidence was that that scenario was feasible, and not "most likely".⁵

¹ HCA Index 1, Seventh Amended Statement of Claim, paragraph 24; HCA Index 2, Defence to the Seventh Amended Statement of Claim, paragraph 11(b)

² HCA Index 2, Seventh Amended Statement of Claim, paragraphs 55(b) and 56(b); HCA Index 2, Seventh Amended Defence, paragraphs 34(a) and 35(a)

³ HCA Index 24; Conference Call Report of Maintenance Liability Experts dated 30.08.12; pp.616-617; Joint Report of Engineers, p.624A; HCA Index 1, Seventh Amended Statement of Claim, paragraph 30A; HCA Index 2, Seventh Amended Defence, paragraph 18

⁴ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [46] per Alan Wilson J (with whom McMurdo P agreed)

⁵ HCA Index 24; Report of Jerry Lay dated 04/11/11, p.17

10. As to paragraph 15, the respondents accept that this appeal does not concern the introduction of the defect itself, but do not accept that this appeal merely concerns the identification of the defect by others. What this appeal concerns was identified by the majority in the Court of Appeal, namely, that the appellant's Manual, "... in it directions to servicing mechanics (and pilots), failed to require that the tightness of the four bolts through the flexplate should be checked by a method more stringent than simply looking to see if marking on the bolts, called torque stripes, were in a proper condition."⁶ Put another way, this appeal concerns whether the Manual is defective "because reliance upon the torque stripes was not a sufficiently safe practice to determine that the bolts were properly tightened when installed, and remained so at the time of subsequent inspections."⁷
11. The respondents do not accept the facts in paragraph 17. Regulation 2A of the *Civil Aviation Regulations 1988* (Cth) provides that the approved maintenance data (here, the Manual) are "... requirements that specify **how maintenance** on aircraft, aircraft components or aircraft materials **is to be carried out**."⁸ Regulation 42V(1) mandates that a person carrying out maintenance on an Australian aircraft **must ensure** that the maintenance **is carried out** in accordance with the applicable provisions of the aircraft's approved maintenance data (emphasis added).
12. The respondents do not accept the facts in paragraph 18. The appellant's provision in the Manual that maintenance be carried out by LAMEs who had completed its training course constitutes no requirement of Australian Law. Under Australian Law, a LAME could carry out maintenance if he or she was (1) qualified and (2) licensed.⁹ Accordingly, a LAME who had not carried out the appellant's training course could carry out maintenance on the appellant's helicopters in Australia. Indeed, of two of the LAMEs who did in fact do so, Mr Fisher and Mr Bray, only Mr Bray had completed that course.¹⁰ The appellant did not allege, and there was no evidence adduced by the appellant, that a LAME who had completed its factory training course would have been instructed that the direction to "Inspect condition ... Verify security" meant, or was understood to mean, that a LAME must apply a torque wrench to the bolted joints of the flexplate during a 100 hourly inspection.
13. The respondents do not accept the facts in paragraph 19. The direction at the time of the accident (and also the significant changes made to it by the appellant after the accident) was identified by the majority of the Court of Appeal.¹¹ Also, as found by the trial judge, the Manual at the time of the accident did not specifically refer to Bolt 4 or torque stripes in relation to 100 hourly inspections.¹² The majority of the Court of Appeal and the trial judge identified that the direction is contained in a different part of the Manual than the part relating to procedures to be carried out by LAMEs during

⁶ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [48] per Alan Wilson J (with whom McMurdo P agreed)

⁷ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [57] per Alan Wilson J (with whom McMurdo P agreed)

⁸ See also the Heading to Division 4, "How maintenance is to be carried out", in which regulation 42V is contained

⁹ *Civil Aviation Regulations 1988* (Cth), regulations 31 and 42ZC

¹⁰ HCA Index 11, T4-9, line 15

¹¹ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [5] – [6] per McMurdo P and at [49] and [89] per Alan Wilson J; *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [59]

¹² *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [52]

100 hourly inspections.¹³ Following the accident, the appellant also made numerous changes to the Manual, including to specifically refer to torque stripes in relation to 100 hourly inspections.¹⁴ The respondents do not accept that the loss of torque will necessarily cause the torque stripe to break in all cases as this is contrary to the evidence.¹⁵

14. As to paragraph 21, lack of clamping force was the *original* cause of the failure of the flexplate, however the failure was the result of a process, where the disbonding of washers that were meant to be bonded to the tips of the flexplate arms, combined with fretting wear of the bolt itself, increased the magnitude of stresses around the bolt holes and allowed flexure of the tips of those arms and cracking.¹⁶ The Manual specifically provided that disbonding of the washers made the helicopter unairworthy, and the trial judge found that the Manual was inadequate in its directions to LAMEs to check for disbonding of those washers, and for fretting wear and cracking.¹⁷ The appellant does not challenge those findings, and they were one of the many reasons the Court of Appeal overturned the trial judge’s findings that the Manual was adequate.¹⁸
15. The respondent does not accept the facts in paragraph 25. While the respondent did allege that the Manual was inadequate in its direction to “Verify security” of the flexplate, the respondent also alleged that the Manual contained inadequate inspection procedures in its direction to “[i]nspect condition...” and Figure 2-4A of the Manual, in respect of cracks and fretting; and in its direction to “[v]erify bonded washers are securely bonded to both sides of the flexplate arm” in respect of bonded washers.¹⁹ The Respondent accepts that it does not impugn that part of the Manual concerning the initial installation of Bolt 4. The Manual did not instruct LAMEs to remove the flexplate at 100 hourly inspections, thereby necessitating any installation of Bolt 4 following its removal. The appellant maintained that it was not necessary to remove the flexplate and a visual inspection was adequate. The trial judge found that it was necessary to remove the flexplate at a 100 hourly inspection to check for cracks and for disbonding of the bonded washers, and the Manual was inadequate in its directions in those respects. Those findings are unchallenged, and important, in the decision of the Court of Appeal to overturn the trial judge’s finding that the Manual was adequate.²⁰
16. The respondents accept the facts in paragraph 27, save that the trial judge did not find “that the absence of a torque stripe (or a stripe which had deteriorated or broken) indicated a risk of bolt rotation.” The trial judge found that a torque stripe was not applied but also that it was present and had broken.²¹ All of the members of the Court

¹³ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [49] per Alan Wilson J (with whom McMurdo P agreed); See also *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [60] HCA Index 24, Maintenance Manual; HCA Index 54, Respondent’s Submissions, paragraph 101

¹⁴ HCA Index 24, Conference Call Report of Maintenance Liability Experts dated 30/8/12, p.624; Joint Report of Engineers p.624E

¹⁵ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [24]; *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [45] per Alan Wilson J (with whom McMurdo P agreed)

¹⁶ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [48], [193], [181], [190]

¹⁷ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [73] per Alan Wilson J (with whom McMurdo P agreed)

¹⁸ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [53] – [57]

¹⁹ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [191] – [193], [183], [186], [189], [190]; *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [73] per Alan Wilson J (with whom McMurdo P agreed)

²⁰ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [150], [157], [202], [234]

²¹ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [150], [157], [202], [234]

of Appeal considered that the trial judge's findings were inconsistent.²² *Both* findings were based upon the evidence that a torque stripe would only break *if it had been properly applied*.²³ The majority of the Court of Appeal also identified this critical condition in the evidence.²⁴

17. The respondents accept the facts in paragraph 29(d), but it is also relevant that the majority of the Court of Appeal identified that the LAMEs and pilots gave evidence of their differing responses to the existence of a deteriorated torque stripe, and that it was important that after the accident the appellant altered its Manual so as to direct that torque stripes must be renewed if they were deteriorated; which would necessarily also involve ensuring that the bolt itself was properly torqued.²⁵
18. The respondents accept the facts in paragraph 29(e), save that the cogency of the evidence²⁶ of the instructions in the other manufacturer's Manual was not affected by there being no flexplate in that helicopter, as was correctly identified by the majority of the Court of Appeal.²⁷ A general objection to the evidence was taken on behalf of the appellant, but this was not persisted with and ultimately the relevant pages of the other manufacturer's manual were tendered without objection.²⁸
19. The respondents accept the facts in paragraph 29(f), but the majority of the Court of Appeal relevantly held that the trial judge's finding that the Manual was adequate on the basis of the reliability of torque stripes was erroneous. It was *not possible* to establish that a bolted joint was correctly torqued save with the use of a torque wrench. And the evidence that torque stripes deteriorate in a variety of ways meant that their reliability as indicators of a loss of torque was thereby reduced.²⁹
20. The respondents accept the facts in paragraph 30(a) save that Her Honour did not find that the evidence of Mr Fisher and Mr Bray was the same. Her Honour set out their relevant evidence at paragraph [30] of the Court of Appeal's reasons. Her Honour also referred to the differing evidence of other expert witnesses about torque stripes at paragraphs [32] to [35] of those reasons.
21. The respondents accept the facts at paragraph 30(b), save that the fact that the LAMEs' inspections had been defective *was in issue* because the appellant had pleaded it. The appellant pleaded that the cause of the accident, amongst other things, was the failure of "the maintenance organisations which inspected the helicopter subsequent to the improper installation of the bolt" or the pilot, or both of them, to detect "missing or broken torque stripes on the bolted joints of the forward flex plate."³⁰ The respondents had denied that there were any missing or broken torque stripes and the accident had

²² *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [71] – [72] per Alan Wilson J and [8] – [10] per McMurdo P and at [39] Holmes JA (in dissent)

²³ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [146], [148], [154], [157]

²⁴ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [13]–[15], [18] per McMurdo P

²⁵ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [78] – [81], [88] – [90] per Alan Wilson J; see also at [6], [17], [21] per McMurdo P

²⁶ HCA Index 69, appellant's Amended Reply, paragraph 7

²⁷ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [91] per Alan Wilson J (with whom McMurdo P agreed)

²⁸ HCA Index 12, Dr Orloff's evidence, T4-80/50 – T4-83/9

²⁹ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [101] per Alan Wilson J (with whom McMurdo P agreed)

³⁰ Defence to the Seventh Amended Statement of Claim, paragraph 16(a)(ii)(G)

not been caused by any failure to detect them.³¹ The respondents had pleaded that the LAMEs' failure to detect and remedy the defect was caused by the appellant's failure to exercise reasonable care to provide adequate inspection procedures and directions to the LAMEs in the Manual. The respondents did not allege that the inspections were defective in the sense that they were carried out negligently, and the respondents carried no onus of proving same. Accordingly, it was, with respect, erroneous for Her Honour to find that the matter was not in issue. The respondents' criticism of the appellant's failure to put this critical aspect of its case to Mr Bray and Mr Fisher was, and remains, quite founded.

- 10 22. The respondents do not accept the facts in paragraph 30(c). The evidence of Mr Fisher and Mr Bray was not the same. Her Honour identified that Mr Bray's evidence was that he had no independent recollection; and Mr Fisher's evidence was that he had no specific recollection.³²
23. The respondents do not accept the facts in paragraph 30(d). Her Honour found that there were two possibilities, namely, (1) that no torque stripe had been applied; or (2), that if it had, it had broken. Her Honour made no reference to a "degraded" torque stripe.³³
- 20 24. The respondents accept the facts in paragraph 30(f), but Mr Bray and Mr Fisher did not give evidence of their response to "anything less than a complete torque stripe." Her Honour at [30] of the Court of Appeal's reasons referred to Mr Bray giving evidence as to his response to a missing torque stripe and a deteriorated torque stripe, but not a broken torque stripe; and to Mr Fisher giving evidence as to his response to a deteriorated torque stripe, but not a missing torque stripe or a broken torque stripe. *Further and importantly*, Her Honour's finding was also explained in the context of her finding immediately above that there were only two possibilities, namely, that no torque stripe had been applied; or that if it had, it had broken.³⁴ Her Honour's reference to "anything less than a complete torque stripe" is to be properly understood in that context.³⁵

Part V: Constitutional Provisions, Statutes and Regulations

- 30 25. The appellant's statement of applicable statutes and regulations is accepted.

Part VI: Argument

26. The respondents submit that no error has been shown on the part of the Court of Appeal in reaching its conclusion as to the adequacy of the inspection procedures set out in the appellant's Maintenance Manual.³⁶ The majority conducted, as they were required to, "a real review" of the evidence and the trial judge's reasons before coming to the conclusion that the evidence fell short of establishing the findings of the learned trial

³¹ HCA Index 3; Amended Reply to the Amended Defence, paragraphs 5(b),(c)(ii)

³² *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [38] per Holmes JA

³³ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [39] per Holmes JA

³⁴ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [39] per Holmes JA

³⁵ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [40] per Holmes JA

³⁶ *Fox v Percy* (2003) 214 CLR 118 at [32] per Gleeson CJ, Gummow and Kirby JJ

judge that the manufacturer's reliance upon the torque stripe as an indicator of the security of the bolt is sufficient.³⁷

Findings of Fact

27. Alan Wilson J found that whatever its actual state, the condition of the torque stripe on Bolt 4 was not such as to alert any LAME (or any pilot) to the fact that the bolt was loose, and rotating [94]. In upholding the appeal, Alan Wilson J identified numerous reasons supporting the finding that the inspection procedures in the Manual were inadequate.³⁸
- 10 28. The fact that the learned trial judge had or had apparently made inconsistent findings as to the state of the torque striping on Bolt 4 did not influence the majority in making "the proper conclusion in this matter" regarding the inadequacy of the instructions for the 100 hourly inspections [94].
29. It is clear that Alan Wilson J was not stating that if a torque stripe had not been applied or was present, and had broken so as to indicate movement in the bolt, this would not have alerted the last LAMEs who serviced the helicopter to check Bolt 4 itself with a torque wrench, or at least, a spanner [71] – [72].
- 20 30. As to paragraph 34, there was no direct evidence supporting the trial judge's finding that a torque stripe had not been applied to Bolt 4. The finding was inferential. It was a possibility, but on the evidence before his Honour, not more probable than the existence of the other possibilities identified by the evidence: [150].
- 30 31. As to the reference to the evidence of Dr Orloff that he would never put a torque seal on an assembly that had not been torqued properly, it must be remembered in this case that the appellant argued, unsuccessfully, that: the person who introduced the defect is also unlikely to have attached a Palnut to the bolt; at least three (3) Palnuts were missing on three (3) bolts on the flexplates at the time of the 100 hourly inspections; and this glaringly tell-tale sign of the incorrectly-assembled bolt was missed by Mr Bray and Mr Fisher. But the trial judge rejected this claim and found that the Palnuts were not missing. It is just as likely that a LAME who would incorrect assemble a bolt and apply a Palnut (a secondary locking device), would also proceed to apply a torque stripe. A torque stripe can be incorrectly applied so as not to adhere both to the bolt as well as the fixed (or bolted) component so that the torque stripe would move with a rotating bolt and not crack despite the presence of a defect. Any improperly-applied torque stripe would not have broken and would not necessarily have put a competent LAME on inquiry.

³⁷ *Fox v Percy* (2003) 214 CLR 118 at [25] per Gleeson GJ, Gummow and Kirby JJ; *Fuller-Lyons v New South Wales* [2015] 323 ALR 639 at [4]; *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [69] – [70] per Alan Wilson J

³⁸ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [58], [60], [61], [64], [65], [69], [70], [73], [74], [75], [76], [77], [82], [83], [84], [85], [86], [87], [88], [89], [90], [91], [98], [99], [101], [102]

32. As to paragraph 37, the majority explained, in detail, why the evidence as a whole did not support the trial judge's finding.³⁹
33. As to paragraph 38, all members of the Court of Appeal considered that the trial judge's findings were inconsistent, and they were plainly so.⁴⁰ If the finding of the learned trial judge was in truth or substance an alternative finding, both were improbable. As Alan Wilson J stated, those inconsistent findings do not affect the proper conclusion in any event [94].
34. His Honour was referring to states and conditions of torque striping, of which there was evidence in other registered operational Robinson R22 helicopters, which would not indicate the bolt was loose and rotating: [96].
35. At [146], the learned trial judge stated that the LAMEs agreed that if a torque stripe had been **properly** applied to the bolted joint, then it would have broken as a result of rotation of the bolt, with probable mis-alignment between the stripe on the bolt and the stripe on the fixed component (in this case, the yoke). The majority did not refer to that situation as an effectively useless indicator of bolt movement or slippage: Alan Wilson J at [71] – [72]. Indeed, it was the sole indicator referred to in the appellant's Maintenance Manual. See the judgment of McMurdo P at [4] where Her Honour stated it was not in dispute in the appeal that "if a torque stripe had been properly applied when Bolt 4 was incorrectly assembled, the stripe would have been visibly damaged shortly thereafter and this damage would have been apparent on the subsequent 100 hourly inspections conducted by the licensed aircraft maintenance engineers (LAMEs), Mr Fisher and Mr Bray". At [5], Her Honour expressly pointed to the provisions of the Manual relating to torque striping and its use as an indicator of bolt movement if a torque seal is properly applied and there is any subsequent rotation of the nut or bolt. At [18], Her Honour recognised, correctly, that a torque stripe over Bolt 4 would have broken and indicated that Bolt 4 was rotating, was **dependent** on the torque stripe having been **properly applied**. (Emphasis added). Alan Wilson J also recognised a properly applied torque stripe as a potential indicator of bolt movement at [49], [67]. The majority were, in fact, referring to various states of torque striping depicted in the photographic exhibit which were "effectively, useless as indicators of bolt movement or slippage." These did include torque stripes with various states of deterioration and those which failed to cover the entire length of the bolt whether by inadvertence or deterioration: [75] and [76] per Alan Wilson J.
36. As to the matters raised in paragraph 40, the misquoted finding of the learned trial judge, which is set out at [159] of his Honour's reasons, was the very subject of the attack on appeal, and found by the majority to have been incorrect. As discussed by the majority, the terms of the Maintenance Manual and the evidence generally did not support such a broad finding.
37. As to paragraphs 41 to 43, the trial judge dealt with evidence by Mr Ogier as to a fifth possibility with respect to the torque striping on a loose bolt, that is, that a torque stripe might "slip", as referred to at [149] – [150] as another risk rendering inadequate the use of a torque stripe as an indicator of bolt movement. Alan Wilson J, with whom

³⁹ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [2], [19], [20], [21] per McMurdo P, and at [47], [55], [56], [66], [68], [72], [78], [79], [81], [94], [95], [97], [100] per Alan Wilson J

⁴⁰ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [66], [67], [68], [71], [72], [78], [79], [80], [81], [93] per Alan Wilson J

McMurdo P agreed, placed no reliance upon this additional risk in coming to his conclusion that the instructions in the Manual were inadequate. McMurdo P referred to the fact that in reaching a conclusion that a torque stripe was not applied when Bolt 4 was incorrectly assembled, his Honour referred to this evidence of Mr Ogier. The learned trial judge did not find that the risk which Mr Ogier spoke of did not exist, but, rather, held that such risk did not render inadequate the use of a torque stripe as an indicator of bolt movement. That finding involved no rejection of Mr Ogier's evidence due to his credit. The learned President correctly stated at [18] that in summary, Mr Lay, Mr Ogier and Mr Whitehead's affirmative response that a torque stripe over Bolt 4 would have broken and indicated that Bolt 4 was rotating, was dependent on the torque stripe having been properly applied. Her Honour placed no other reliance on the evidence of Mr Ogier other than to state, as the oral evidence and exhibit disclosed, that the condition of torque stripes in 2004 was highly variable. In truth therefore, the evidence given by Mr Ogier formed no part of Alan Wilson J's reasons and to the extent that they were referred to by the President, only sought to emphasise that the oral and photographic evidence identified a number of possibilities with respect to the possible torque striping on Bolt 4.

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38. As to paragraph 44, the evidence of Mr Ogier played no part in the respondent's argument on appeal as it was not necessary for the respondent to rely upon it, and it was not necessary for the Court of Appeal to deal with the trial judge's reasons for rejecting Mr Ogier's evidence on the theory of slippage. Elsewhere the trial judge accepted Mr Ogier's evidence in respect of other issues.⁴¹
39. Alan Wilson J referred to other findings which were open and no less probable [96]. For these reasons, his Honour correctly stated that it was the reliance in the Manual, upon torque stripes as a method of verifying security that was inadequate – the stripes were not, in light of the weight of the evidence, a trustworthy or reliable indicator: [98] – [99]. The majority recognised that a properly-applied and intact torque stripe could be a trustworthy or reliable indicator; but could not, as the trial judge did, comfortably come to the conclusion that a torque stripe had not been applied, or inconsistently or alternatively, one had been properly applied and had broken and was not detected at two (2) separate 100 hourly inspections by two (2) LAMEs.
40. As to paragraph 45(b), the evidence of the pilots cannot be cast aside. Several pilots flew the aircraft after the defect had been introduced. Each of them carried out the mandated daily inspection of the aircraft to determine its airworthiness before flight; such inspections included an inspection of the flexplate.
41. Mr McKendry is a pilot who signed the Maintenance Release for the helicopter before the first flight of the day on 23 February 2004, 25 February 2004, 11 March 2004, 1 April 2004, and 19 April 2004. He carried out the pre-flight inspections. He gave evidence that he would use a torch and a telescopic mirror and look for torque striping on the bolts. His evidence was not challenged. It was not put to him that a deteriorated torque stripe evidenced the presence of a dangerous defect.⁴²
42. Another pilot, Mr Lewis, gave evidence. Mr Lewis said that on the pre-flight inspection, the flex couplings should be visually and tactilely inspected to see evidence

⁴¹ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [160], [192] per Alan Wilson J

⁴² HCA Index 19; T2-65 Line 35 to T2-66 Line 25

of cracking or of loose nuts. He was not so interested in torque stripes because they generally they had a tendency to fade away and were more of a back up in his opinion. He saw them as less relevant than torque stripes on other parts such as the tail rotor flex plate (a different part).⁴³

43. It was not suggested to these two pilots that the torque stripe was missing or that they were prone to carelessness and might have missed an indicator of a defect. No hypothesis consistent with the defendants' case was put to them. The probability is that there was no indicator that the bolt was loose because the torque stripe had deteriorated, or did not continue on to the part being fastened.
- 10 44. Other pilots also flew the helicopter after the defect was introduced. In total, between 17 February and 12 May 2004, there were 29 documented inspections by pilots who saw no evidence of a defect when carrying out the mandated inspection of the Flex-Plate. The document on which such inspections are recorded when they have been carried out is called the "Maintenance Release". The most current one was destroyed by fire in the accident. The dead pilot flew the helicopter on about 8 to 10 occasions prior to dying in the crash and he evidently also noticed nothing amiss.
- 20 45. The evidence of these witnesses, each independent of the other, raises a strong probability that the state of the torque striping raised nothing of significance; but the learned trial Judge did not deal with it or appear to attach any significance to it. The evidence of the pilots was adverted to by the majority.⁴⁴
46. The trial judge found that compliance with the POH did not require a pilot to use a mirror and torch to inspect the torque stripe at Bolt 4; and the failure of a pilot to detect that it was broken (or, perhaps, missing) does not demonstrate inadequacy in the inspection carried out by the pilot.⁴⁵ The learned trial judge did not find it was improbable that pilots would have been able to have seen the relevant torque stripes; but, rather, it did not follow that a failure of a pilot to detect a broken or missing torque stripe demonstrated lack of compliance or inadequacy of an inspection carried out by the pilot.
- 30 47. As to paragraph 45(c), it was alleged the LAMEs did not detect the defect as a consequence of the inadequate instructions and inspection procedures in the Maintenance Manual.⁴⁶
48. As to paragraph 45(d), the respondents refer to paragraph 13 above.
49. As to paragraph 45(e), the evidence was that Mr Fisher did not recall "any pressure at all" when carrying out the 100-hourly inspection on 12 May 2004.⁴⁷ Mr Fisher conceded, honestly, that it was conceivable or possible there may have been some tell-tale sign missed, but stated "I'd like to think there wasn't ..."⁴⁸ Alan Wilson J adverted to this evidence of Mr Fisher: [79]. In any event, it was not put to Mr Fisher that he had. A candid and inevitable acknowledgement by any honest witness in cross-

⁴³ HCA Index 20; T2-79 Line 1 to T2-82 Line 15

⁴⁴ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [20, [78], [81], [93], [94] per Alan Wilson J (with whom McMurdo P agreed)

⁴⁵ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [233] – [234]

⁴⁶ HCA Index 1, Seventh Amended Statement of Claim, paragraphs 40, 42

⁴⁷ HCA Index 11; lines 16 to 19

⁴⁸ HCA Index 11; T4-5, lines 24 to 29

examination that something “is possible” cannot be transmogrified into a cross-examiner’s successful extraction of a damning admission.

50. As to paragraph 46, the majority were correct in taking this evidence into account in coming to the conclusion that the instructions contained in the Manual were inadequate.
51. As to paragraph 48, Alan Wilson J correctly identified the possible findings which were, in fact, open: [96]. The majority did not find that a missing or broken torque stripe ought not to have alerted the LAMEs to investigate the possible defect which, in fact, existed. The possibility that the LAMEs and pilots might have simply overlooked a missing or broken torque stripe was possible, but as Alan Wilson J correctly held, a possibility that could only be a matter of speculation. Moreover, the evidence of the LAMEs and pilots was such that, on the probabilities, it was not missing or broken but in a state which did not attract or excite the LAMEs’ attention.
52. As to paragraphs 49 to 50, the finding made by the learned trial judge that a torque stripe had not been applied was not based on the credibility of a witness but on a deduction. Moreover, the question of the adequacy of the appellant’s Maintenance Manual was and could not be wholly based on the credibility of a witness. The Court of Appeal was in as good a position as the trial judge to address the issues. The learned trial judge enjoyed no special or relevant advantage, and none are identified in the appellant’s submissions. Before the Court of Appeal, the appellant made no reference to *Fox v Percy* because the issues to be decided did not rely on overturning findings of fact based on credit. Therefore, it is hardly surprising their Honours would not refer to a “test” or embark upon whether the learned trial judge’s finding with respect to the absence of a torque stripe, or alternatively, broken torque stripe were glaringly improbable or contrary to compelling inferences. That aside, the learned trial judge’s findings as to the state of the torque striping was, on the evidence, beyond being a matter of mere speculation, glaringly improbable and contrary to compelling inferences. Before the Court of Appeal, the appellant’s oral submissions also made no reference to the matters now raised in paragraphs 49 to 53.

The Reasons of Holmes JA (as Her Honour then was)

53. The dissenting judgment of Holmes JA with respect to the issues of causation was, with respect, based on a number of errors relating to the nature of the claim and the evidence in the proceedings which are discussed below.
54. Paragraph [28] was not the appellant’s case. The inspection required by the Manual was accepted to be a visual inspection. It was not, if her Honour intended to say so, accepted by the respondents that the Maintenance Manual instruction to verify security required a LAME to ensure that a torque stripe had been applied which extended across all the relevant surfaces. The respondents accepted that if no torque stripe was ever applied (the finding made by the learned trial judge), that would require further investigation by a competent mechanic; or that if a torque stripe was correctly applied, that is applied to both nuts, and to exposed bolt threads, continuing to the part being fastened so that it would crack if rotation of the bolt occurred, this too, would require further investigation if detected while the crack was still observable and the stripe had not yet deteriorated.⁴⁹ The respondents do not and have not ever challenged that, if properly applied, it should

⁴⁹ Exhibit 68, paragraph 14; HCA Index 68; Appellant’s Amended Outline of Argument, paragraph 14

extend across all the relevant surfaces. The respondents maintained that unless the torque stripe was properly applied it would not fulfil its function and could not be a reliable indicator of torque and that it would indicate nothing after it had deteriorated and this was consistent with the evidence. The changes made to the instructions in applying torque stripes was discussed by Alan Wilson J at [48] – [49], [55], [77] and [88] – [90].

55. As to paragraph [32] each of the experts was, or could only have been dealing with a properly-applied torque stripe.⁵⁰ Her Honour misunderstood the evidence of Mr Lay. His evidence related to a properly-applied and intact torque stripe. His reference to the (post-trial) version of the Manual was simply to the stipulation later made that torque stripes “must” rather than “should” be applied to all parts of the bolt, the nuts, and the part being bolted. The evidence referred to by her Honour at [33] – [35] only serves to emphasise the differences in approach of various LAMEs in respect to the varying states of a torque stripe detected visually.
56. As to her Honour’s “Conclusions”, a torque stripe will no longer appear as a continuous stripe across the bolt onto the fixed component only if properly applied in the first instance. The failure of two LAMEs in turn to react to any indication of failure when it was common ground the defect was itself present, makes it probable that there was no such indicator; this would be so if the torque stripe had not been properly applied in the first instance or deteriorated and outlived its usefulness as an indicator of rotation. The probability is that there was no indicator that the bolt was loose because the torque stripe had deteriorated, or did not continue onto the part being fastened. The only way that a torque stripe is a reliable visual indicator of a lack of proper torque is where it has been properly applied and broken. A deteriorated or incomplete torque stripe on a critical fastener was not, at the date of the relevant inspections, stated in the Manual to be an indication of possible rotation of the nut or bolt (a loose bolt); and it was not, in fact, a phenomenon which required a LAME to take further steps to ensure that the fastener was properly torqued and then re-apply the torque stripe. The state of the torque stripe of operational helicopters depicted in the photographic evidence⁵¹ proved beyond argument that the Maintenance Manual only identifies a lack of air-worthiness (relating to inadequate torque of a critical fastener) in the case of a properly applied *and* broken torque stripe.
57. The following criticisms can be made with respect to Her Honour’s reasoning at [37]:
- (a) First, the learned trial judge accepted that the LAMEs conducted a visual inspection of the bolts in the flexplate;⁵²
 - (b) It must be remembered in this case that the appellant argued, but unsuccessfully, that: the person who introduced the defect did not attach a Palnut to the bolt; at least three (3) Palnuts were missing on three (3) bolts on the flexplates at the time of the 100 hourly inspections; and this glaring tell-tale sign of the incorrectly-assembled bolt was missed by Mr Bray and Mr Fisher. The trial judge rejected this claim and found that the Palnuts were not missing. In making such finding, the learned trial judge adopted the same exercise which Her Honour held was

⁵⁰ HCA Index 24; Conference Call Report of Maintenance Liability Experts dated 30/8/12, p.608

⁵¹ HCA Index 38; Exhibit 15, Folder of photos

⁵² *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QSC 34 at [194] – [203]

unsafe. Working back from the proposition that the LAMEs would, as a matter of usual practice, check the Palnuts, and if one was missing, use a torque wrench to check the torque on the bolt, his Honour reasoned that a missing Palnut would be particularly obvious to the LAMEs, and concluded that the Palnuts remained in place at the time of their inspections;

- 10 (c) With respect, the majority did not work back from the proposition that, as the LAMEs saw nothing about the torque stripe to alert them to the need to investigate, there was, in fact, nothing. Rather, accepting that both LAMEs carried out a visual inspection, as the learned trial judge found they did, their Honours reasoned that “whatever its actual state it [the condition of the torque stripe on Bolt 4] was not such as to alert any LAME ... to the fact that the bolt was loose, and rotating ...”⁵³ and by parity of reasoning with that of the learned trial judge, this must have been correct. Moreover, if there was no torque striping applied, this would be glaringly obvious. This is because the torque stripe is applied over the Palnut and, because it is coloured, is even more conspicuous than the Palnut;
- 20 (d) Although the bolt was moving at the time of their inspections, this movement is not something able to be detected visually. Section 2 of the Maintenance Manual dealing with inspection, and more specifically, the 100 hour or annual air-frame inspections in Section 2.400 did not state that, as to “looseness” the torque stripe of the bolt joints should be examined, by following instructions in another section of the Maintenance Manual. More importantly, however, the only visual indicator of looseness referred to in another section of the Maintenance Manual was a **broken** torque stripe by which “any subsequent rotation of the nut or bolt can be detected visually”;
- (e) Her Honour is incorrect in stating that it was not issue that the torque stripe was missing or broken. The respondents refer to paragraph 21 above which demonstrates that this was not so;
- 30 (f) In fact, Her Honour expressly recognised, somewhat inconsistently, that the respondents had alleged that the failure to identify a loose bolt was the result of the inadequate instructions in the Manual;
- (g) Her Honour, with respect, also seems to be conflating the acceptance that the bolt was incorrectly assembled (prior to inspection by the LAMEs) with a possibility that it was “negligently” not properly examined for and identified in the subsequent inspections by the LAMEs, something which was not in issue and something which the respondents were not required to prove;
58. As to paragraph [38], the learned trial judge did not find that there was “not a complete torque stripe present when the inspections occurred.” His Honour found that one was not applied.
- 40 59. As to paragraph [39] her Honour was incorrect in stating that, on the evidence, the apparently inconsistent findings were inconsequential because, on the evidence, the possibilities were that no torque stripe had been applied or that if it had, it had broken.

⁵³ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [94] per Alan Wilson J

As recognised by the majority, the evidence supported the existence of other possibilities. Moreover, of the two possibilities, her Honour stated one was that had a torque stripe been applied, it had broken. Her Honour said that this possibility “entailed the absence of a complete torque stripe.” Her Honour has misunderstood the evidence. A torque stripe can only break, in the relevant sense, if it has been properly applied and had been complete.

60. As to paragraph [40], neither Mr Bray nor Mr Fisher stated that “it was essential that anything less than a complete stripe required checking of the bolt security.”

Breach of Duty

- 10 61. The majority’s findings as to the appellant’s breach of duty were extensive and closely reasoned.⁵⁴
62. As to paragraph 56:
- (a) The majority did refer to the wording of the Manual and the requirement to verify security;
- (b) Mr Bray and Mr Fisher did not give evidence that “the way to ascertain the torque of the nuts on Bolt 4 was to use a torque wrench” on a 100 hourly inspection. In fact, Mr Bray gave evidence that he saw a disadvantage in applying a torque wrench to the bolts on the forward flexplate when doing the 100 hourly inspection.⁵⁵
- 20 (c) The 100 hourly inspection procedures did not require the use of a torque wrench to ascertain the torque of the nuts on the bolts of the flexplate, nor did it require the checking of the torque of such bolts to ascertain they had been torqued to the degree specified in the Manual;
- (d) The learned trial judge and the majority of the Court of Appeal discussed the different approaches by LAMEs to various conditions of the torque stripe;
- 30 (e) Mr Bray did not say he would apply a spanner to the head of Bolt 4 “in any event”. Mr Bray said that he would “normally” put a spanner on the head of the bolt and apply a small amount of force just to make sure that they were tight. Whatever his normal practice, it is clear that he did not do so on this occasion and it is equally clear that *he was not required to do so by the Manual*. Further, placing a spanner on the head of the bolt does not verify security. This can only be achieved by applying a properly calibrated torque wrench.
63. As to paragraph 57, the addition of such a direction involved no expense, difficulty or inconvenience to the appellant nor did it conflict with any other responsibility on the part of the appellant to take all reasonable care to ensure the continuing air-worthiness of the helicopter. No unreasonable burden would be imposed by directing the use of a properly-calibrated torque wrench to verify the torque of a bolted joint. The majority referred to the evidence supporting this [84] – [86].

⁵⁴ *McDermott & Ors v Robinson Helicopter Company Incorporated* [2014] QCA 357 at [22], [23] per McMurdo P and at [84], [85], [86], [87], [88], [91], [99], [101] per Alan Wilson J

⁵⁵ HCA Index 10, T4-7, lines 30 – 34

64. When the matter of breach of duty is analysed by reference to the applicable statutory provisions, it is readily apparent that it raises no point of principle.⁵⁶
65. Except for the issue of whether the risk was “not insignificant”, s 9 of the CLA essentially reflects the negligence calculus at common law.⁵⁷ The issue is solely whether the term “Verify security” in respect of the flexplate ought to have been defined or elaborated upon with a requirement that a torque wrench be applied to each bolt. This simple measure would have avoided this catastrophic event. The risk of a bolt being incorrectly assembled or inadequately torqued was foreseeable. The risk of a loose bolt could not be seen as insignificant as is evidenced by the requirement of the Maintenance Manual to verify security of the flexplate. In the circumstances, the respondents contend a reasonable person in the position of the appellant would have taken the simple precaution which would have prevented this incident. If the flexplate is not secure, it is virtually inevitable that harm will occur if the defect is not detected. That harm is likely to be potentially fatal, as was the case here. The evidence, in reality, shows no burden in taking the precaution.
66. Any evidence to the effect that the integrity of a properly-applied torque stripe would be put at risk was misconceived and not borne out by the evidence of Dr Gilmore referred to above. The submission made by the respondent in paragraph 33 is not borne out by the actual evidence given by Mr Cox. Mr Cox was asked:

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“Realistically, the application of a wrench or a torque wrench to that part would, compared to the catastrophic consequences that we know have happened in this case, be a minimal risk, wouldn’t it? -- Comparatively speaking.

Yes. In this case, had that instruction been there, you would accept this defect would have been picked up, don’t you? -- I would agree that the loss of torque would have been picked up. ----”⁵⁸

67. As to paragraph 58, the respondents refer to paragraph 23 above.

Question of Causation

The Trial

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68. Having found that the appellant did not breach its duty of care to the respondents, the learned trial judge did not consider the issue of causation or assess damages. In the course of his judgment, his Honour identified the respondents’ submission that had instructions to “Verify security” been given in the Maintenance Manual to “check the tension of the primary nut with a torque wrench, in order to verify that the flexplate was securely bolted... use of a torque wrench would have identified the looseness of bolt 4, which would then have been dealt with.”⁵⁹ The respondents made written submissions on the issue of causation under the CLA and the TPA.⁶⁰ The respondents’ case, and what it was required to prove, was that if the Manual directed a LAME to verify security by checking the torque of the bolts on the flexplate by the application of a

⁵⁶ *Neindorf v Junkovic* (2005) 80 ALJR 34 at [92] per Hayne J; [99] per Callinan and Heydon JJ

⁵⁷ *Laresu Pty Ltd v Clark* [2010] NSWCA 180 at [42] per McFarlane JA (with whom Tobias JA and Handley AJA agreed)

⁵⁸ HCA Index 14; T5-47, lines 20 to 33

⁵⁹ *McDermott v Robinson Helicopter Company Limited* [2014] QSC 34 at [55]

⁶⁰ HCA Index 56, paras. 13 – 16; 28 – 40; 44 -45

properly-calibrated torque wrench, this direction was likely to have been followed at either of the 100 hourly inspections, the defect is likely to have been detected and remedied, and the crash would have been avoided.

69. The appellant's pleaded case was that the accident was caused by the failure of the maintenance organisations which inspected the helicopter to detect –
- (a) the loose bolt;
 - (b) resultant fretting and cracking;
 - (c) the absence of one or more Palnuts from the forward flexplate assembly; and
 - (d) missing or broken torque stripes on the bolted joint of the flexplate.⁶¹
- 10 70. The appellant's case was that it did not breach its admitted duty of care and therefore any alleged breach of duty on its part was not a cause of the accident. The appellant did not allege that, if it did breach its duty of care as alleged by the respondents, the sole cause of the accident was the negligence of the LAMEs, or alternatively, if it did breach its duty of care, the conduct or negligence of the LAMEs (the latter being something the respondents did not allege or required to prove), such conduct or negligence had the effect of breaking the chain of causation which would otherwise have existed between the appellant's breach of duty and the particular loss or damage.⁶² As to the TPA claims, the appellant alleged the Manual did not contain a defect, and therefore the respondents' loss and damage was not suffered as a result of the pleaded defects.⁶³
- 20 71. The appellant submitted that, as the LAMEs already knew that the only way to be certain that a bolt had been properly torqued was to apply and check the torque of a bolt with a properly-calibrated torque wrench, there was no reasonable need to include a direction to that effect; if there was a direction to that effect, the LAMEs would not, necessarily, have had regard to it when carrying out the 100 hourly inspections; therefore the Court could not be satisfied that the lack of some other direction in the Maintenance Manual was the cause of the respondents' loss and damage; it was caused by Mr Fisher and Mr Bray failing to apply knowledge they already possessed through the course of their training and experience as LAMEs.⁶⁴
- 30 72. The appellant submitted negligence on the part of Mr Fisher and Mr Bray was "a contributing cause of the plaintiffs' loss and damage – the primary cause was the introduction of the Defect in the first place".⁶⁵
73. In oral submissions, the appellant submitted that s.11 of the CLA (which deals with "CAUSATION – General principles"), "add nothing either to the general law requirements or to the level of detail in this instant matter that would be required in order to satisfy its purposes."⁶⁶ Further, the appellant indicated that the questions raised

⁶¹ HCA Index 2, para 29

⁶² HCA Index 2, para 33

⁶³ HCA Index 2, para 34(e)

⁶⁴ HCA Index 57, at [5] – [6]

⁶⁵ HCA Index 57, at [50]

⁶⁶ HCA Index 59, p.14 – 16.10

by the general law and the TPA would probably not result in a different or varying outcome.⁶⁷ In his reasons, his Honour expressed agreement.⁶⁸

The Appeal

74. The appellant's oral submissions on appeal said nothing relating to the issue of causation in the sense that it was likely that a direction to check the torque of the bolt with a properly-calibrated torque wrench would not have been followed. If the appellant intended to contend the decision of the learned trial judge should have been affirmed on the ground that the respondents failed to prove the alleged breaches of duty on the part of the appellant were a cause of their loss and damage, this should have been stated in a Notice of Contention.⁶⁹ The appellants made no reference to s 11 of the *Civil Liability Act 2003* (Qld) or any issue of causation relating to the provisions of the *Trade Practices Act 1974* (Cth).
75. As to paragraph 72, the Notice of Contention was abandoned because, as stated by the appellant, "as the matter has been conducted, the question is what was required in order to verify security and the adequacy of the instruction to verify security."⁷⁰
76. In dissent, Holmes JA did not conclude that a direction to check the torque by applying a properly-calibrated torque wrench was unlikely to have been followed by Mr Bray or Mr Fisher, and the trial judge made no such finding. No such case was advanced. There was evidence that supported the finding that it was more probable than not that if the Manual had contained adequate instructions, the LAMEs would have followed it:
- (a) LAMEs were obliged by law to carry out maintenance in accordance with the applicable provisions of the Manual. A failure to so was an offence of strict liability.⁷¹
 - (b) The Manual itself, in respect of the inspection of the flexplate during the 100 hourly inspection, contained a "Warning" which the Manual defined as "A procedure that, if not properly followed, can result in personal injury or loss of life."
 - (c) After completing the actual 100 hourly inspections on the helicopter, both Mr Fisher and Mr Bray signed worksheets stating that those inspections were carried out in accordance with the Manual. These worksheets include a checklist for a 100 hourly inspection that is contained in the Manual and a certification of the completion of the work pursuant to the *Civil Aviation Regulations 1988* (Cth).⁷²
 - (d) Mr Bray gave evidence that, as to his usual practice in 2004 when he performed 100 hourly inspections that: (1) He was aware that the bolted joint was a vital part of the security of the flexplate;⁷³ (2) He was aware of the Manual;⁷⁴ (3) He used

⁶⁷ HCA Index 59, p.14.40.42

⁶⁸ *McDermott v Robinson Helicopter Company Limited* [2014] QSC 34 at [68], [69], [134], [204] – [218], [234], [235]

⁶⁹ UCPR r 757

⁷⁰ HCA Index 70, p.1-46

⁷¹ *Civil Aviation Regulations 1988* (Cth), s. 42V

⁷² HCA Index 24; Fourth Defendant's Worksheets pp. 1923 to 1933; Seventh Defendant's Worksheets pp. 1941 to 1948; *Civil Aviation Regulations 1988* (Cth), s. 42ZE

⁷³ HCA Index 10; T4-6 Lines 1 to 9

⁷⁴ HCA Index 10; T4-4 Lines 12 to 15

the Manual when he performed 100 hourly inspections;⁷⁵ (4) When he needed any special information he would look it up in the Manual.⁷⁶

(e) Mr Fisher gave evidence that: (1) He was aware that the bolted joint was an important part of the security of the flexplate;⁷⁷ (2) He was aware of requirements or specifications of the Manual in respect of the torque to be placed on nuts.⁷⁸

10 (f) It was never put to Mr Bray or Mr Fisher that the instruction to “Verify security” in the Manual was understood to mean that a LAME had to apply a torque wrench to the bolted joint. The expert LAMEs would not agree that a LAME should “verify security” by applying a torque wrench on a 100 hourly inspection, and neither would the expert engineers.⁷⁹ Mr Bray gave evidence that he saw it as a disadvantage to apply a torque wrench during a 100 hourly inspection.⁸⁰

(g) Mr Cox, an expert LAME (and employee of the appellant) called by the appellant, gave evidence as follows:

“Yes. In this case, had that instruction been there, you would accept this defect would have been picked up, don't you?-- I would agree that the loss of torque would have been picked up-----.”⁸¹

20 “Yes. It is likely to the point of certainty that if the manual had directed a LAME to apply a torque wrench to these bolts and the LAME had done so, that the defect would have been detected and, indeed, you would expect that it would have been rectified in one form or another?-- Yes, he would have caught the lack of torque and I hope he would have rectified it.”⁸²

30 (h) Dr Orloff, an expert LAME and engineer called by the appellant, gave evidence that: (1) He would follow instructions in a Manual even if he was unsure about why something was being instructed to be done in a particular way;⁸³ (2) If something was instructed to be done in the Manual, then that is the way he would do it, even if he didn't know why the instruction had been put in there;⁸⁴ (3) (When asked if he would follow instructions in the Manual meticulously) he answered: “I would follow the Manual, yes sir.”⁸⁵; (4) He was aware of cases, apart from this one, where aircraft had failed because LAME's had failed to follow the Manual;⁸⁶ (5) It is an error for a LAME to not follow the Manual.⁸⁷

⁷⁵ HCA Index 10; T4-4 Lines 17 to 18

⁷⁶ HCA Index 10; T4-4 Lines 20 to 22

⁷⁷ HCA Index 11; T4-12 Lines 23 to 24

⁷⁸ HCA Index 11; T4-12 Lines 29 to 34

⁷⁹ HCA Index 24; Conference Call Report of Maintenance Liability Experts dated 30/8/12, paragraphs 17 and 18, p. 609; Joint Report of Engineers dated 28/8/12, p. 624J

⁸⁰ HCA Index 10; T4-7 Lines 30 to 34

⁸¹ HCA Index 14; T5-47 Lines 20 to 33

⁸² HCA Index 14; T5-48 Lines 38 – 48

⁸³ HCA Index 12; T5-2 Lines 34 to 43

⁸⁴ HCA Index 12; T5-2 Lines 52 to 53

⁸⁵ HCA Index 12; T5-2 Lines 55 to 56

⁸⁶ HCA Index 12; T4-74 Lines 14 to 18

⁸⁷ HCA Index 12; T4-74 Lines 24 to 29

- (i) Dr Turnour, an expert LAME (and employee of the appellant) called by the appellant, gave evidence that if a LAME had tested the tightness of the bolt with a spanner or a wrench the defect would have been picked up.⁸⁸
- (j) Mr Lay, an expert LAME called by the respondents, gave evidence that he knew that the Manual specified the torque values for all bolts.⁸⁹
- (k) Mr Ogier, an expert LAME called by the respondents, gave evidence that he knew that the nuts were required to be at a particular tightness, 240 in-lbs and that that figure was specified in the Manual.⁹⁰
- 10 (l) The appellant's pleaded case on causation for the purposes of the claim under s. 75AD of the *Trade Practices Act 1974* (Cth) was that the respondents had not suffered loss and damage because there was no defect.⁹¹
- (m) The appellant alleged numerous other alternative causes for the accident, by the conduct of others, namely: (1) The dead pilot, Mr Norton;⁹² (2) The injured plaintiff, Mr McDermott;⁹³ (3) The owner of the destroyed helicopter, NTB Pastoral Holdings Pty Ltd, the corporate third plaintiff;⁹⁴ (4) The LAMEs' failure to detect allegedly obvious things like fretting dust, cracks and missing pal-nuts;⁹⁵ (5) The other pilots that flew the helicopter.⁹⁶ All these were excluded as a cause by findings against the appellant, which are unchallenged.⁹⁷
- 20 (n) For the purposes of s. 75AD of the *Trade Practices Act 1974* (Cth), Mr McDermott had, as a matter of common sense, obviously suffered his severe injuries "because of" the defect in light of the evidence.⁹⁸
- (o) Further, the trial judge correctly found that it was "self-evident" that: (1) without proper maintenance, at some point in time, a helicopter cannot be flown safely; (2) that LAMEs could not be expected to identify all that is necessary for the adequate maintenance of a helicopter without the benefit of maintenance instructions from the manufacturer.⁹⁹
77. Again, when the matter of causation is analysed, by reference to the applicable statutory provisions, it is readily apparent that it raises no point of principle.¹⁰⁰ In these circumstances, the majority were not called upon or required to deal with the issue of
- 30 causation in a more detailed manner than they did.

⁸⁸ HCA Index 22; T3-54 Lines 1 to 18; T3-55 Lines 23 to 26

⁸⁹ HCA Index 8; T3-28, Line 49 to T3-29, Line 7

⁹⁰ HCA Index 9; T3-38, Lines 27 to 32

⁹¹ HCA Index 2; Defence to the Seventh Amended Statement of Claim, paragraph 34(e); See also paragraph 35(e)

⁹² HCA Index 2; Defence to the Seventh Amended Statement of Claim, paragraphs 36(c) and 36(d); *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [223] – [232]

⁹³ HCA Index 2; Defence to the Seventh Amended Statement of Claim, paragraph 36(e)

⁹⁴ HCA Index 2; Defence to the Seventh Amended Statement of Claim, paragraphs 36(b) and 36(e)

⁹⁵ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [176] – [180]; [184] – [189]; [194] – [202]; Paragraphs 32(g)(vi), 32(k), 55 of the Defence of the Seventh Amended Statement of Claim

⁹⁶ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [224] – [240]

⁹⁷ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [181], [189], [201] – [202]; [220], [233] – [234], [235] – [241], [242]

⁹⁸ *Carey-Hazell v Getz Bros & Co (Aust) Pty Ltd* [2004] FCA 853 at [195] per Keifel J

⁹⁹ *McDermott & Ors v Robinson Helicopter Company* [2014] QSC 34 at [215]

¹⁰⁰ *Neindorf v Junkovic* (2005) 80 ALJR 34 at [92] per Hayne J; [99] per Callinan and Heydon JJ

Part VII

78. Not applicable.

Part VIII

79. The respondents estimate 2.5 hours will be required for the respondents' oral arguments.

Dated: 18 December 2015



10 **Walter Sofronoff QC**

Michael Eliadis

Chris George