Cook & Ors v Modern Mustering Pty Ltd & Ors [2017] NTCA 1

PARTIES:	COOK, Robert Thomas And: SAVAGE, Robert John, SAVAGE, Lillian Rose, COOK, William John and COOK, Letitia Valerie T/as Suplejack Pastoral (NT) v MODERN MUSTERING PTY LTD (ACN 112 371 543) and: HAYES HOLDINGS (NT) PTY LTD (ACN 105 519 695) in its capacity as the Trustee of the Seven H Trust and in its own capacity and: LESLIE, Zebb Raymond
TITLE OF COURT:	COURT OF APPEAL OF THE NORTHERN TERRITORY
JURISDICTION:	CIVIL APPEAL FROM THE SUPREME COURT EXERCISING TERRITORY JURISDICTION
FILE NO:	No AP 2 of 2016 (21132488 and 21132442)
DELIVERED:	23 June 2017
HEARING DATE:	31 May 2016
JUDGMENT OF:	SOUTHWOOD, BLOKLAND and HILEY JJ
APPEALED FROM:	KELLY J

CATCHWORDS:

AVIATION – *Civil Aviation Regulations 1988* (Cth) – helicopter accident – helicopter flying at low altitude when engine failed – whether pilot permitted to fly below 500ft by Regulation 157 and *Civil Aviation Order 2910* – whether appellant was a "crew member" within the meaning of Regulation 2– appellant working as a 'spotter' and performing a duty on the helicopter – appellant a "crew member" – whether pilot engaged in "aerial stock mustering operations" at the time of the accident – flight type under Regulation 2(6) remains the same for the duration of the flight – pilot engaged in "aerial stock mustering operations" – pilot not in breach of Regulation 157(1) and entitled to fly below 500ft – pilot not in breach of Regulation 173(2) as not shown practicable for the helicopter to fly above 500 feet at the relevant time

NEGLIGENCE – Duty of care – breach of duty – whether pilot breached his duty to the appellant by flying under 500ft– *Wyong Shire Council v Shirt* (1980) 146 CLR 40 – no evidence of probability of helicopter engine failure – no evidence on which to base the assessment of what a reasonable pilot would have done in the circumstances – sound operational reasons for flying below 500ft near cattle – no evidence that the pilot was not performing a task which required flight below 500 feet – appellant did not establish that a reasonable pilot would not have flown below 500 feet in the circumstances – breach of duty not established

NEGLIGENCE – Causation – loss of chance – mere possibility of a better outcome had the pilot flown higher – causation not established

Civil Aviation Act 1988 (Cth)
Civil Aviation Regulations 1988 (Cth)
Civil Aviation Order 20.10

Interpretation Act 1901 (Cth) s 15AA
Workers Rehabilitation and Compensation Act (NT)

March v E & MH Stramare Pty Ltd (1991) 171 CLR 506; *New South Wales v Fahy* [2007] HCA 20; (2007) 232 CLR 486; *Tabet v Gett* (2010) 240 CLR 537; *Vairy v Wyong Shire Council* [2005] HCA 62; (2005) 223 CLR 422; *Wyong Shire Council v Shirt* (1980) 146 CLR 40, applied

Aon Risk Services Australia Ltd v ANU (2009) 239 CLR 175; *Australian Tea Tree Oil Research Institute v Industry Research and Development Board* [2002] FCA 1127; 124 FCR 316; *Benning v Wong* (1969) 122 CLR 249; *Bradshaw v McEwans* (1951) 271 ALR 1; *Collector of Customs v Agfa-Gevaert Ltd* [1996] HCA 36; 186 CLR 389; *Director of Public Prosecutions (Cth) v Poniatowska* [2011] HCA 20; 244 CLR 408; *Director of Public Prosecutions (Cth) v Keating* [2013] HCA 20; 248 CLR 459; *Gill v Donald Humberstone & Co Ltd* [1963] 1 WLR 929; *Jones v Dunkel* (1959) 101 CLR 298; *Kuhl v Zurich* (2011) 243 CLR 361; *Langton v Independent Commission against Corruption* [2000] NSWCCA 145; 49 NSWLR 164; *Melbourne Pathology Pty Ltd v Minister for Human Services and Health* (1996) 40 ALD 565; *Paul v Cooke* (2013) 85 NSWLR 167; *South Australian Ambulance Transport v Wahlheim* [1948] 77 CLR 215; *Waller v James* [2015] NSWCA 323, referred to

REPRESENTATION:

Counsel:

Appellants:	M Livesey QC with D McConnel
First & Second Respondents:	R Newlinds SC with M Crawley
Third Respondent:	A Wyvill SC with T Brown

Solicitors:

Appellants:	Hunt & Hunt as town agents for Curwoods Lawyers
First and Second Respondents:	Paul Maher agent for Norton White
Third Respondent:	Ward Keller

Judgment category classification:	B
Number of pages:	103

IN THE COURT OF APPEAL
OF THE NORTHERN TERRITORY
OF AUSTRALIA
AT DARWIN

Cook & Ors v Modern Mustering Pty Ltd & Ors [2017] NTCA 1
No. AP 2 of 2016 (21132488 and 2113242)

BETWEEN:

ROBERT THOMAS COOK

AND:

ROBERT JOHN SAVAGE, LILLIAN ROSE SAVAGE, WILLIAM JOHN COOK and LETITIA VALERIE COOK T/as SUPLEJACK PASTORAL (NT)
Appellants

AND:

MODERN MUSTERING PTY LTD (ACN 112 371 543)
First Respondent

AND:

HAYES HOLDINGS (NT) PTY LTD (ACN 105 519 695)
Second Respondent

AND:

ZEBB RAYMOND LESLIE
Third Respondent

CORAM: SOUTHWOOD, BLOKLAND and HILEY JJ

REASONS FOR JUDGMENT

(Delivered 23 June 2017)

SOUTHWOOD J

Introduction

[1] This appeal involves two proceedings against the respondents that were heard together in the Supreme Court. First, a common law action for damages for personal injuries brought by an injured worker, Mr Rob Cook; and, secondly, a recovery proceeding brought by the Mr Rob Cook's employers, Mr Robert John Savage, Ms Lillian Rose Savage, Mr William John Cook and Ms Letitia Valerie Cook trading as Suplejack Pastoral (NT) (hereafter referred to as 'Suplejack Station').

[2] The history of the proceedings is as follows. First, Mr Rob Cook commenced a proceeding in the Work Health Court against his employer, Suplejack Station, seeking statutory benefits under the *Workers Rehabilitation and Compensation Act* (NT). These proceedings were settled with Suplejack Station to pay Mr Rob Cook $10.5 million inclusive of Suplejack Station's liability for future payments. Secondly, Mr Rob Cook commenced a common law action for damages for personal injuries in the Supreme Court against the respondents. Thirdly, Suplejack Station commenced recovery proceedings against the respondents to recover the $10.5 million paid to Mr Rob Cook. There are also claims for contribution.

[3] On 11 March 2015 the Supreme Court ordered that the common law action and the recovery proceeding be heard together, the evidence in each proceeding be evidence in the other and that liability be determined before

the claims for contribution were determined and the quantum of Mr Rob Cook's damages was assessed. In the end the trial was conducted as a trial of the common law action which, in practice, would also determine the recovery proceeding.

[4] At the trial, all three respondents admitted Mr Leslie owed a duty of care to Mr Rob Cook, and the first and second respondents admitted that they were vicariously liable for any breach of duty by Mr Leslie. The issues at trial were, did Mr Leslie breach his duty of care and, if so, did the breach of duty cause the injuries suffered by Mr Rob Cook.

[5] On 10 December 2015, the Supreme Court ordered that there be judgment for the respondents in both proceedings. This appeal is against those judgments.

Background

[6] Suplejack Station is a cattle station in the Northern Territory. It is operated by a partnership between members of the Cook family and the Savage family trading as Suplejack Pastoral (NT).

[7] Mr Rob Cook is a son of Mr William John Cook and Ms Letitia Valerie Cook. He was employed on the station along with other members of both families. On 30 September 2008 Mr Rob Cook was badly injured in a helicopter accident on the station. All of the proceedings have been brought because of that accident.

[8] In September 2008 cattle were mustered on Suplejack Station using helicopters. At the start of each muster Mr Rob Cook or his father would use the station map to show the helicopter pilots the areas on the station where the cattle were located. They would discuss where they wanted the cattle directed and concentrated, and how far out from a particular place they wanted the pilots to start directing the cattle. Someone who knew the area, the cattle and how far the cattle would walk from water would then go up in the helicopters with the pilots to 'spot' the cattle. One of Mr Rob Cook's jobs on 30 September 2008 was to fly in one of the helicopters as a 'spotter' with the pilot to locate the cattle that were to be directed and concentrated. He also mustered cattle by flying a gyrocopter.

[9] On 30 September 2008 one of the helicopters used in the mustering was a Robinson 22 (VH-HQM) belonging to Hayes Holding (NT) Pty Ltd. The helicopter was flown by Mr Leslie, an employee of Hayes Holding (NT) Pty Ltd. He flew the helicopter under an Air Operator's Certificate held by Modern Mustering Pty Ltd. There was a contract in place between Suplejack Station and Hayes Holding (NT) Pty Ltd for provision of helicopter mustering services and a commercial arrangement between Hayes Holding (NT) Pty Ltd and Modern Mustering Pty Ltd for the operation of the helicopter under Modern Mustering Pty Ltd's Air Operator's Certificate. The certificate authorised Modern Mustering Pty Ltd to conduct "aerial work operations" for the "aerial work purpose[s]" of "aerial stock mustering", "aerial surveying" and "feral and diseased animal control".

[10] On 30 September 2008 the employees of Suplejack Station set up a stock camp with portable stockyards about 50 kilometres south west of the homestead. Mr Rob Cook did some mustering in his gyrocopter and then flew in the Robinson R22 helicopter as a spotter with Mr Leslie as the pilot. They flew wide around the northern side of a 'lake' (a dry swamp bed) on the station, heading east. The cattle were following a pad,[1] heading north-west along the lake. Mr Rob Cook showed Mr Leslie where he had been mustering the cattle in his gyrocopter. They flew at an altitude of somewhere between 200 and 500 feet above ground level.

[11] When they located the tail[2] of the cattle, Mr Rob Cook saw the cattle were strung out too far. This meant they could wander off from the rest of the "mob"[3] too easily, and they would keep stopping. Mr Rob Cook and Mr Leslie hovered above the tail at about 80 to 100 feet above ground and got them moving. Then Mr Rob Cook asked Mr Leslie to take him back to the portable stockyards so he could fly his gyrocopter to assist Mr Leslie keep the mob of cattle moving and Mr Leslie could muster other cattle towards the lake.

[12] After hovering above the tail, Mr Leslie turned the helicopter, gained altitude and increased speed to about 60 to 70 knots to take Mr Rob Cook back to his gyrocopter. They flew in a north-north east direction. They did not fly towards the portable stockyards before the accident occurred because

[1] A track made by cattle.
[2] The cattle at the rear of a herd of cattle.
[3] herd.

that would have involved flying over the mob and scaring the cattle in the wrong direction.

[13] About one to two minutes before the accident, they came upon a troublesome animal and moved it on. This happened very shortly after they were hovering above the tail of the cattle.

[14] They had stopped working the tail and had been flying at about 250 feet above the ground for one or two minutes when suddenly Mr Rob Cook felt the helicopter “lag”, it seemed to slow right down. To Mr Cook it felt as though Mr Leslie had backed the throttle off to stop, head lower, or hover. In fact, the helicopter had completely lost power.

[15] Mr Lesley said, “We’re going down”. He turned the helicopter through about 90 to 180 degrees – towards the south – and attempted a landing with a manoeuvre known as an autorotation. An autorotation is performed by a helicopter pilot to try to make a controlled descent and achieve a safe landing after an engine failure. In normal powered helicopter flight, the engine turns the rotor. This draws the air from above and blows it downward, generating lift. During autorotation the main rotor of the helicopter is driven only by the action of the air moving up through the rotor as the helicopter descends, rather than engine power. This upward flow of air through the rotor system provides sufficient thrust to keep the rotor moving with enough speed to control the rate of descent and enable some manoeuvring of the helicopter.

[16] The area they were flying over was wooded and Mr Leslie attempted to land in the only clearing that Mr Rob Cook could see from the height they were flying.

[17] As the helicopter came down, the tail rotor clipped a tree and broke off. The helicopter landed on the skids without the tail, slid forward for about seven metres then tipped forward until the rotor hit the ground. It is probable that one of the skids dug into the soft ground or hit a concealed obstacle, causing the helicopter to tip over. Once the rotor hit the ground, the helicopter flopped around and landed on the passenger side.

[18] Mr Rob Cook sustained catastrophic injuries to his spine. Those injuries resulted in permanent loss of movement and sensation below Mr Rob Cook's C4 vertebrae, including his left arm and both legs. He retains a limited ability to move his right arm. Mr Leslie was uninjured.

The regulatory regime

[19] The Robinson R 22 helicopter was operating under a regulatory regime which permitted the aircraft to operate at lower heights than 500 feet above ground level while the aircraft was engaged in aerial stock mustering operations authorised by an aerial work licence. The regime was established by the *Civil Aviation Act 1988* (Cth), the *Civil Aviation Regulations 1988* (Cth), *Civil Aviation Order 29.10*, an Air Operator's Certificate granted to Modern Mustering Pty Ltd, a Low Flying Permit granted to Modern

Mustering Pty Ltd, and the Aerial Stock Mustering Approval granted to Mr Leslie who also held the necessary pilot's licences.

[20] There are three parts to the regime. First, approval must be granted to conduct the particular aerial operations in which the aircraft and the pilot are to be engaged. Secondly, approval must be granted for low flying below 500 feet above ground level. Thirdly, the pilot may only carry another person on the helicopter if the person is a crew member who is essential to the successful conduct of the operations.

[21] The Act and associated regulations are the primary instruments by which a comprehensive scheme for the regulation of civil aviation in Australia is created and the Civil Aviation Safety Authority (CASA) is established. Among other functions, CASA has the function of conducing the safety regulation of civil air operations in Australian territory by means that include issuing certificates, licenses, registrations and permits.

[22] Under the Act, commercial air operators such as Hayes Holding (NT) Pty Ltd and Modern Mustering Pty Ltd are required to be authorised pursuant to *a license* issued by CASA called an Air Operator's Certificate (AOC).

[23] Subsection 27(2) of the *Civil Aviation Act 1988* (Cth) provides:

> (1) CASA may issue AOCs for the purposes of its functions.

(2) Except as authorised by an AOC […][4]:

(a) an aircraft shall not fly into or out of Australian territory; and

(b) *an aircraft shall not operate in Australian territory*; and

(c) an Australian aircraft shall not operate outside Australian territory.

[…]

(9) Subsection (2) applies only to the flying or operation of aircraft for such purposes as are prescribed.

[24] The effect of s 27(2) of the *Civil Aviation Act 1988* is to prohibit the use of aircraft in Australia unless CASA has authorised that use by issuing an AOC, but s 27(9) provides that subsection (2) applies only to flying or operation of an aircraft "for such purposes as are prescribed". Regulation 206 of the *Civil Aviation Regulations 1988* prescribes *the purposes for which an AOC is required* for a commercial air operation. There are three purposes prescribed. Relevantly, they include aerial work purposes.

[25] In the text of s 27(2)(b) 'operate' is used as an intransitive verb as in, "shall not be in action" or "shall not work as a machine" or "shall not perform jobs or tasks".

[26] AOCs are issued for aircraft that are classified in accordance with r 2(6) of the *Civil Aviation Regulations 1988* which provides:

[4] And apart from exceptions not presently relevant.

> (6) For the purposes of these Regulations, an aircraft shall be classified in accordance with *the type of operations* in which it is being employed at any time, as follows:
>
> (a) when an aircraft is being employed in *aerial work operations*, it shall be classified as an aerial work aircraft;
>
> (b) when an aircraft is being employed in charter operations, it shall be classified as a charter aircraft;
>
> (c) when an aircraft is being employed in regular public transport operations, it shall be classified as a regular public transport aircraft;
>
> (d) when an aircraft is being employed in private operations, it shall be classified as a private aircraft.

[27] In the text of r 2(6)(a) of the Regulations, 'operations' is used in a technical sense as a noun meaning courses of productive activity or collections of tasks and subtasks or jobs undertaken for particular purposes while the aircraft is in flight.

[28] Modern Mustering Pty Ltd held an AOC which was valid from 10 July 2006 to 31 July 2009. It authorised the holder to conduct the ***aerial*** *work operations* set out in Schedule 3 of the Certificate. Relevantly, Part 3.1.1 of Schedule 3 states that the Robinson R 22 helicopter was authorised to conduct the aerial work operations specified in Part 3.1.2. That part states the aircraft listed in Part 3.1.1 are authorised to conduct the following aerial work *operations*: aerial stock mustering, aerial surveying, and feral and

diseased animal control. The only conditions contained in the Certificate prohibit the aircraft from being fitted with or carrying certain equipment.

[29] In the AOC, "operations" is again used as a noun meaning courses of productive activity or collections of tasks and subtasks or jobs undertaken for particular work purposes. One of the collections of tasks and jobs that the holder of the AOC may conduct is aerial stock mustering. Aerial stock mustering is a subset of aerial work operations. Aerial stock mustering is not defined; or, put another way, the tasks and subtasks or jobs that constitute aerial stock mustering are not specified in the *Civil Aviation Act 1988* (Cth) or the *Civil Aviation Regulations 1988* (Cth) or the AOC.

[30] Under s 98 of the *Civil Aviation Act 1988* (Cth) the Governor-General may make regulations not inconsistent with the Act for the safety of air navigation. Regulation 157 of the *Civil Aviation Regulations 1988* (Cth) deals with the low flying of aircraft below 500 feet above ground level.

[31] Sub-regulation 157(1) of the *Civil Aviation Regulations 1988 (Cth)* provides:

> (1) The pilot in command of an aircraft must <u>not</u> fly the aircraft over:
>
> (a) Any city, town or populous area at a height lower than 1,000 feet; or
>
> (b) Any other area at a height lower than 500 feet.
>
> Penalty: 50 penalty units.

[32] Sub-regulation 157(4)(b) of the *Civil Aviation Regulations 1988* provides r 157(1) does not apply if the aircraft is engaged in aerial work operations, being operations *that require* low flying, and the owner or operator of the aircraft has received from CASA either a *general permit for all flights* or specific permit for the particular flight *to be made at a lower height while engaged in such operations*. The permits are for flights – all flights or particular flights – not parts of flights.

[33] In the text of r 157(4), "operations" is, once again, used as a noun meaning courses of productive activity or collections of tasks and subtasks or jobs undertaken for particular work purposes. However, there is the further qualification that the performance of the operations requires low flying.

[34] Regulation 5 of the *Civil Aviation Regulations 1988* (Cth) enables CASA to make civil aviation orders in circumstances where CASA is empowered or required under the regulations to issue a direction or instruction or to give permission, approval or authority. Under r 157, CASA has issued *Civil Aviation Order 29.10*.

[35] Among other things, *Civil Aviation Order 29.10* states:

> **2 Definitions**
>
> In this section, unless the contrary intention appears:
>
> **Aerial stock mustering** means *the use* of aircraft *to locate, direct and concentrate livestock* while the aircraft is flying below 500 feet above ground level and for related training operations.

[…]

4 Low flying permission

4.1 Pursuant to paragraph 157 (4) (b) of the *Civil Aviation Regulations 1988*, permission is hereby granted for aircraft to operate at lower heights than prescribed in paragraph 157 (1) (b) of those regulations while engaged in:

(a) aerial stock mustering *operations* authorised by *an aerial work licence* or classified as a private operation in accordance with subparagraph 2 (7)(d)(iii) of those regulations; and

(b) training flights in preparation for such operations.

4.2 The permission granted in paragraph 4.1 shall be subject to compliance with the requirements and limitations specified in this section.

…

5 Operational limitations

5.2 During aerial stock mustering operations a pilot shall not carry more than 1 other person and that person must be essential to the successful conduct of the operations. Notwithstanding this provision, a passenger shall not be carried during the solo training specified at paragraph 7.2 of this section.

[36] The permission granted in *Order 29.10* is permission for aircraft to operate at lower heights than prescribed while engaged in aerial stock mustering operations authorised by an aerial work licence. In the text of *Order 29.10*, "operations" is, once again, used as a noun meaning the collection of tasks and subtasks or jobs undertaken when using aircraft to locate, direct and concentrate livestock while the aircraft is flying below 500 feet above

ground level. It is notorious that aerial stock mustering requires low level flying. It entails locating and concentrating livestock and moving or directing them by means of aerial manoeuvring in an aircraft to desired locations.

[37] In accordance with *Civil Aviation Order 29.10*, under paragraph 157(4)(b) of the *Civil Aviation Regulations 1988* Modern Mustering Pty Ltd was granted a low flying permit which permitted the Robinson R22 helicopter to fly over any area other than a city, town or populous area at a height of lower than 500 feet on condition that:

> (i) the aircraft is engaged *in aerial work operations* that *require* low flying;
>
> (ii) persons other than crew members are not carried;
>
> (iii) the aircraft is not flown over an area within a horizontal radius of 300 metres for helicopters, or 600 metres for aeroplanes, from any building likely to be occupied unless the building's resident owner or tenant has permitted such flight; and
>
> (iv) an aircraft flown over an area prescribed in subparagraph (iii) above is flown in a manner such that in the event of any in-flight emergency the aircraft will avoid colliding with the building.

[38] Aerial stock mustering is an aerial work operation that requires low flying. The permit granted to Modern Mustering Pty Ltd was a general permit for all flights to be made at a low height while engaged in aerial work operations that require low flying.

[39] "Crew member" is defined in regulation 2(1) of the *Civil Aviation Regulations 1988* (Cth) to mean a person assigned by an operator for duty on an aircraft during flight time. It should also be noted that under paragraph 5.2 of *Civil Aviation Order 29.10* the pilot cannot carry more than one other person and that person must be essential to the successful conduct of the operations.

[40] Finally, Mr Leslie held an aerial stock mustering approval under *Civil Aviation Order 29.10* to conduct aerial stock mustering in helicopters.

[41] It was common ground that:

(a) regulation 157(1) of the *Civil Aviation Regulations 1988* (Cth) makes it an offence to fly a helicopter at a height lower than 500 feet unless (relevantly) the aircraft is engaged in aerial work *operations*, that require low flying, and the owner or operator of the aircraft has a permit to fly at lower height while engaged in such operations;

(b) *Civil Aviation Order 29.10* (made under reg 157) grants permission for a helicopter to fly at a height lower than 500 feet while engaged in aerial stock mustering *operations* authorised by an aerial work licence; and

(c) Modern Mustering Pty Ltd had permission from the Civil Aviation Safety Authority to fly below 500 feet while engaged in aerial work operations that require low flying and Mr Leslie had the relevant licences and endorsements and approvals from the CASA to conduct aerial mustering operations.

[42] The main compliance issues in the appeal are: (1) was the Robinson R22 helicopter engaged in aerial stock mustering operations immediately before

the accident; and (2) was Mr Rob Cook a crew member who was essential to the successful conduct of the operations.

[43] As I have stated more fully below, the pilot complied with the provisions of the regulatory regime. The permit was for flights not parts of flights. The use of the helicopter and the purpose of the flight was to locate (spot) cattle while flying below 500 feet above ground level. By definition one of the tasks or operations of aerial stock mustering is to locate cattle.[5] The task of locating cattle during this flight involved the use of Mr Rob Cook as a spotter; and, at all times, the completion of that task, or operation, required him to be returned to the portable stockyards. It would be highly artificial to say the purpose of the flight and the use of the helicopter changed after the cattle had been spotted. The flight which is the subject of the appeal would not have been made but for the need to locate the cattle. It was essential to the successful conduct of the operation that Mr Rob Cook act as a spotter. Things may have been different if, for example, Mr Leslie was flying Mr Rob Cook from the homestead to the portable-yards before any mustering had started.

The appellants' case in the Supreme Court

[44] The appellants' case in the Supreme Court was as follows. First, it was a breach of duty for Mr Leslie to fly below 500 feet above ground level. Secondly, because Mr Leslie flew below 500 feet above ground level he

[5] See paragraph 2 of *Civil Aviation Order 29.10* at [35].

landed at the accident site. Thirdly, if Mr Leslie had flown above 500 above ground level he would have landed at an alternate site (which was particularised in the pleadings), he would have landed the helicopter safely and Mr Rob Smith would not have been injured.

[45] In the Supreme Court the appellants contended that Mr Leslie breached r 157(1)(b) the *Civil Aviation Regulations 1988* (Cth) because he had stopped aerial mustering operations before the accident and he negligently flew below 500 feet while carrying Mr Rob Cook as a passenger on the 'return' flight to the portable stockyards. Aerial stock mustering operations are confined to the specific use of the helicopter to locate, direct and concentrate livestock and do not include any ancillary or related operations. Further, a reasonable pilot in Mr Leslie's position would have flown above 500 feet on the "return journey".

[46] If Mr Leslie had flown the helicopter at 500 feet above the ground he would have been able to land the helicopter safely at a suitable alternate landing spot and Mr Rob Cook would not have been injured. Flight at a higher altitude would have enabled the pilot to select a better landing spot and execute a safe landing.

[47] In the Third Amended Statement of Claim the appellants pleaded the following about the crash, breach of duty and material contribution.

> 25. As part of the flight referred to in [17] above, Zebb Leslie flew the helicopter from the stock camp to an area approximately

12 kilometres due east of the stockyards and mustered some cattle at that location for approximately 15 minutes.

26. Upon being asked by Robert Cook to take him back to the stockyards, Zebb Leslie ceased mustering cattle, increased the airspeed of the helicopter from 40 knots to 60-65 knots and commenced the return flight to the stockyards incompliance with the request of Robert Cook (Return Flight).

27. Approximately 5 minutes into the Return Flight, on a direct track back to the stockyards, Zebb Leslie flew the helicopter at an approximate speed of 60-65 knots and at an approximate height of 100-200 feet above ground level.

28. At this time and at this speed and height, the helicopter suddenly began losing height and it became necessary for Zebb Leslie to make an immediate emergency landing.

29. Zebb Leslie attempted an autorotation and emergency landing. During the crash landing which ensued, the tail rotor hit a tree, the Helicopter skidded along the ground and flipped onto the passenger side and came to rest in that position (Crash).

30. *Immediately adjacent to where the helicopter crash landed was a suitable area for a landing following an autorotation* [emphasis added].

31. Robert Cook suffered and continues to suffer injuries to his person as a result of the Crash as pleaded in [51] below (Injuries).

G. BREACH OF DUTY OF CARE OWED TO ROBERT COOK

Zebb Leslie

32. Zebb Leslie breached the duty of care to Robert Cook to operate the helicopter exercising the skill and care expected to

be exercised by an ordinary skilled commercial helicopter pilot so as to avoid injury to Robert Cook.

Particulars of breach of duty of care

Zebb Leslie flew the helicopter at a height lower than 500 feet above ground level during the Return Flight and immediately prior to the loss of speed and height which forced the helicopter to the ground.

Zebb Leslie flew the helicopter at a height of approximately 100-200 feet above ground level during the Return Flight and immediately prior to the loss of speed and height which forced the helicopter to the ground.

Zebb Leslie conducted the Return Flight below 500 feet above ground level which was contrary to Civil Aviation Regulation 157(1)(b) and was not permitted by Civil Aviation Order 29.10 or otherwise.

33. Zebb Leslie's breach of duty of care caused or materially contributed to the Crash.

Particulars of cause or material contribution

A helicopter which cannot maintain height and is thereby forced to the ground, descends with both vertical and horizontal components in its flight path. The horizontal component means that while descending it can fly some distance in any direction depending upon the height from which the descent commences, the airspeed it has at the time and the velocity of any wind it encounters. The distance it can cover horizontally during such emergency descent increases with the height above ground level of the helicopter at the time of onset of the emergency.

The area of ground available to Zebb Leslie for the purpose of selecting a site to land the helicopter in an emergency landing if an autorotation became necessary depended upon the height above ground level at which he was flying the helicopter at the time of the emergency, such that the lower the height above

> *ground level at the moment of onset of the emergency the smaller the available area, and the greater the height above ground level at that moment, the greater the area* [emphasis added].
>
> As a result of flying at 100-200 feet above ground level, the area of ground upon which Zebb Leslie could land the helicopter when the Helicopter first began losing height was a small area which was covered in trees to such an extent that any emergency landing in that area carried a significant risk or alternatively a certainty of the helicopter colliding with one or more trees.
>
> *If Zebb Leslie had flown the helicopter at a height of 500 feet above ground level or higher on the Return Flight, then the area of available ground in which he could have selected a site to land the helicopter during the emergency landing would have been greater and would have included areas in the vicinity of the site of the Crash which were devoid of trees and other obstacles and which were suitable for a safe emergency landing, including the area referred to in [30] above, upon which he could have safely landed the helicopter without colliding with any trees or without injuring Robert Cook, or alternatively, without injuring Robert Cook to the degree he was actually injured* [emphasis added].

[48] However, it became apparent to the appellants that they faced considerable difficulty proving the above allegations for the following reasons. From the air, the area of land identified in paragraph 30 of the Third Amended Statement of Claim, looked almost identical to site where the helicopter landed; and, in any event, the area had been cleared following the accident. Consequently, the appellants were unable to establish what the alternate site was any better than the landing site chosen by Mr Leslie.

[49] These difficulties caused the appellants, on the morning the trial started, to make an application to further amend the Third Amended Statement of Claim to plead the following:

> 32. Zebb Leslie breached the duty of care to Robert Cook to operate the helicopter exercising the skill and care expected to be exercised by an ordinary skilled commercial helicopter pilot so as to avoid injury to Robert Cook.
>
> Particulars of breach of duty of care
>
> Zebb Leslie attempted a touch down at a speed (rather than a zero speed touchdown) as the termination profile which caused the helicopter to skid on impact and hit a stump or other object and thereafter tip forward and roll onto its side and the main rotor blades to hit the ground, which in turn caused the helicopter to be flipped violently over on the ground from one side to the other.
>
> 33. Zebb Leslie's breach of duty of care caused or materially contributed to the crash.
>
> Particulars of cause or material contribution
>
> A pilot who adopts a touchdown speed (rather than zero speed touchdown) as the termination profile in a desert area runs the risk that the helicopter may skid on impact and hit an object on the ground and tip over, and cause the main rotor blades to hit the ground. [….] A zero speed touchdown could have been executed from the height at which the helicopter was flying and would have avoided that risk. Further, the low height at which the helicopter was flying reduced or removed Zebb Leslie's opportunity to decide to make a zero speed touchdown rather than a touchdown at speed.

[50] The application to further amend the appellants' pleadings was refused and, in any event, the appellants were unable to prove (1) that Mr Leslie did not

attempt a zero speed landing which is difficult to achieve, and (2) that a zero speed landing would not have caused more harm.

[51] In addition, during the course of the trial the appellants sought to rely on r 173(2) of the *Civil Aviation Regulations 1988* and contend that, if Mr Leslie was flying at 500 feet above ground level, he would have been able to land at alternate sites that were about 500 metres away from where the helicopter landed. It was said that there were large clear areas at those alternate sites. Neither the regulation nor the further alternate landing sites were pleaded in the Third Amended Statement of Claim.

[52] Further, the evidence about the alternate landing sites that were said to be about 500 metres away from the site where Mr Leslie landed the helicopter, amounted to little more than mere assertions. No photograph of these alternate sites was tendered, no map coordinates were given for them, there was no evidence from any pilots about them, no evidence about what they looked like from the air, and little evidence about whether the sites could have been reached under autorotation.

[53] The trial Judge found:

(1) Mr Leslie was engaged in aerial stock mustering *operations* at the time of the accident and that it was, therefore, not in breach of reg 157(1) for Mr Leslie to be flying the helicopter below 500 feet.

(2) The appellants had not proven on the balance of probabilities that a reasonable pilot in Mr Leslie's position would, in the circumstances, have flown the helicopter at 500 feet or more

above ground level to guard against the risk of injury to Mr Cook. It follows that the appellants have not proven that it was in breach of Mr Leslie's duty to Mr Rob Cook for him to be flying less than 500 feet above ground level.

(3) The appellants have not proven that, given the opportunity, a reasonable competent pilot would have chosen an alternative site rather than the one chosen, and, even if that was established, that would not suffice to establish causation, because trees were not the cause of the helicopter tipping and injuring Mr Rob Cook. All that would have established is that there was a bare possibility of a different outcome, in other words, the loss of opportunity for a different outcome. A hidden hazard on the ground might have been present at any landing site.

The grounds of appeal

[54] The appellants rely on the following grounds of appeal.

1. The trial judge erred in her construction of "aerial mustering operations" for the purposes of Regulation 157 of the *Civil Aviation Regulations* and *Civil Aviation Order 29.10*, as well as in its application to the evidence before the Court.

2. The trial judge did not adequately address the defendants' apparent disregard of the requirement that the pilot of a helicopter ensure that the cruising level of the aircraft is, whenever practicable, appropriate to its magnetic track (Regulation 173(2)), and the appropriate heights set out in Figure 5 from the Visual Flight Guide in the Aeronautical Information Publication. If on a westerly track, the minimum height is 2500 feet; if on an easterly track, the minimum height is 1500 feet.

3. The trial judge was wrong to find that flying below 500 feet and the occurrence of the accident did not represent a breach of the duty of care owed to the plaintiffs.

4. The trial judge erred in failing to find that the defendants' breach of duty materially contributed to the crash and was a cause of the injuries sustained by Rob Cook.

[55] The appellants again sought to expand their case by pleading in paragraph 3.1 of the Notice of Appeal the doctrine of *res ipsa loquitur* and in paragraph 3.6 of the Notice of Appeal an appeal against the trial Judge's refusal to allow the proposed amendments to the appellants' Statement of Claim set out at [49]. However, these grounds were abandoned during the course of the appellants' oral submissions.

[56] Senior counsel for the appellants, Mr Livesey, told the Court that the appellants' case on appeal could be summarised in three steps. First, flying at or above 500 feet, in the circumstances proved before the Supreme Court, was required by a combination of the regulations, the order and the permit. This step takes up appeal grounds one and two. Second, flying above 500 feet was also required because it was generally safer. It gave the pilot more options in the event of an unexpected loss of power. It was something for which pilots were trained. It enabled a better selection of landing sites and an adoption of a better landing profile, *including a zero speed landing*. This picks up ground three. Third, had the pilot been travelling at or above 500 feet above ground level the probabilities were that he would have selected a more suitable site *and adopted a zero speed landing and the precise accident would not have occurred*. On the probabilities, the outcome would have been different. This satisfies the 'but for' test. To suggest, as her Honour the trial Judge did, that there might have been other hidden obstacles, unknown and unproved, did not negate proof on the balance of probabilities. This picks up ground 4.

[57] These submissions are very much the same as the submissions made at first instance; and the appellants have the same problems on appeal as they did at first instance. During his submissions in this appeal, Mr Livesey accepted that the pleaded alternate landing site was no different to the actual landing site and was an apparently small area. In addition, the evidence tendered by the appellants was too weak to establish that under autorotation the helicopter could have travelled the distance to the other alternate sites and the quality of those sites. Ultimately, these problems left the appellants with an argument that Mr Leslie could have achieved a zero speed landing if he had commenced his descent from a height of 500 feet or more above ground level. Mr Livesey stated that it was fair to say that was the primary case on behalf of the appellants. The difficulty with this position is that the appellants were refused leave to amend the Third Statement of Claim to plead what was now their primary contention.

[58] In any event, the appeal primarily turns on whether Mr Leslie breached his duty of care by either breaching r 157(1) of the *Civil Aviation Regulations 1988* or because flying at or above 500 feet above ground level was required because it was safer.

Step one (grounds 1 and 2)

[59] As to the first step, Mr Livesey made the following submissions.

[60] First, he submitted there was a cleavage between using the helicopter for mustering, spotting and returning to the portable stockyards so Mr Rob Cook

could fly the gyrocopter. They are three different concepts. The accident occurred after Mr Leslie and Mr Rob Cook had completed mustering and spotting. While Mr Leslie was returning Mr Rob Cook to the portable stockyards so he could fly the gyrocopter to help muster the cattle, he was not actively engaged in moving the cattle. The return flight was over a distance of about 30 kilometres and would take 15 to 20 minutes. It did not involve the use of the helicopter to locate, direct and concentrate cattle. Spotting had nothing to do with how the helicopter was flying immediately before the accident. There was no evidence that it was necessary to fly below 500 feet on the flight back to the portable stockyards to avoid spooking the cattle. Once a decision was made to fly Mr Rob Cook back to the yards, the helicopter was not engaged in aerial mustering and was not permitted to fly under 500 feet. This was a key aspect of the regulatory scheme.

[61] Mr Livesey submitted that in *Civil Aviation Order 29.10*, aerial stock mustering is defined to mean "the use of aircraft to locate, direct and concentrate livestock while the aircraft is flying below 500 feet above ground level and for related training purposes". There is no aerial stock mustering if those activities are not being undertaken by the pilot. The definition of aerial stock mustering excludes not just flights but flying when the pilot is not actively engaged in moving the cattle.

[62] Second, it was submitted that the permit granted to Modern Mustering Pty Ltd did not permit persons other than crew members to be carried in the

helicopter at a height less than 500 feet above ground level. Mr Rob Cook was not a crew member within the meaning of r 2 of the *Civil Aviation Regulations 1988*. Therefore he could not be carried in the helicopter at a height less than 500 feet above ground level.

[63] In my opinion, these submissions are unsustainable.

[64] Mr Rob Cook was the main witness who gave evidence about the purpose of the flight and what was to happen during the flight after a decision was made to return to the portable stockyards. His evidence may be summarised as follows.

[65] Before bringing the cattle together the helicopter needs to be in the air to find where the cattle are and see how far out the helicopters will need to go to move them to the place you want the cattle to be. The spotter is someone who knows the area, knows the cattle, and knows how far the cattle will walk from water. The pilot along with the spotter uses the cattle pads or tracks to work out which direction the majority of cattle will be and how far out they are walking for feed. Once the cattle are located the helicopters can then be used to round them up and move them where you want them to go.

[66] Once the cattle have been located by the spotter and before the chopper actively engages with the cattle, the spotter gets dropped off. Once the spotting is over it is the pilot's duty to go and hunt up the cattle.

[67] At the start of the day on 30 September 2008, Mr Rob Cook had been operating his gyrocopter to muster cattle and his father had been spotting cattle with Mr Leslie in Robinson R 22. As his father was feeling ill, Mr Rob Cook took over from him. His plan was to show Mr Leslie where he had flown in his gyrocopter and mustered cattle earlier that morning so Mr Leslie would not muster the same area. He also wanted to see where the tail of the cattle was, get a general idea of how they were travelling, and show Mr Leslie where the cattle were headed.

[68] As a spotter, it is necessary to keep an eye out for where the cattle that are to be moved are, tell the pilot where those cattle are and look around for cattle so they can be located. The information is important information which allows the muster to occur.

[69] They flew wide around the northern side of the lake, heading east, to locate the tail of the cattle which were following a pad heading north-west along the lake. He pointed out to Mr Leslie where he had mustered cattle. They were flying at a height somewhere between 200 and 500 feet above ground level.

[70] When they got to the tail of the cattle, Mr Rob Cook saw they were strung out too far which meant they could stop and wander off from the rest of the mob too easily. Mr Leslie buzzed around his side of the cattle keeping them moving forward. He pushed the tail forward and he engaged the cattle on several occasions to get them to move. He had to go in low, just over tree

level to get them to move. The helicopter was moving from one direction to another to create a noise to keep the cattle moving. Mr Leslie also moved on a troublesome beast very shortly before the helicopter lost power.

[71] After they had been flying for about 20 minutes, Mr Rob Cook asked to be taken back to the portable stockyard so that he could get his gyrocopter. He wanted to work the wing of the mob with his gyrocopter while Mr Leslie gave the tail a hurry along, keeping the cattle tighter together.

[72] The helicopter turned and increased its altitude and speed to 250 feet above ground level and to 60 to 70 knots. Mr Rob Cook thought they were going to travel back to the portable stockyard at the height of 250 feet above ground level. When they started to leave the tail of the cattle they flew in a north/north-easterly direction away from the tail and towards a ridge. After the helicopter lost power it turned to travel in almost a south-westerly direction. At no stage before the accident did the helicopter fly towards the portable stockyards. The flying time between disengaging with the cattle in the tail and the loss of power was about one to two minutes.

[73] In paragraphs 5 and 6 of the affidavit he swore on 1 October 2015 Mr Rob Cook agreed with the vast majority of the statements that Mr Leslie made in the affidavit he swore on 26 September 2016. While that affidavit was not read in the Supreme Court, Mr Rob Cook adopted a number of the statements made in it during his evidence. He accepted the following. Cattle are highly sensitive to noise and helicopters must be flown with that in

mind. Helicopter noise has to be managed carefully to ensure that cattle fall into mobs and are effectively moved to their destination. It was always important to fly an appropriate route and at appropriate low levels to keep the stress levels of the mob low, to keep building the mob and to keep it moving.

[74] In the circumstances there is a fair inference that Mr Leslie flew to north/north-east and at a low level to ensure that the cattle were not disturbed.

[75] The evidence of Mr Rob Cook supports the finding of the trial Judge that Mr Leslie was engaged in aerial stock mustering operations at the time of the accident and that it was not in breach of reg 157(1) for Mr Leslie to be flying the helicopter below 500 feet above ground level. During the flight in which the accident occurred, both Mr Leslie and Mr Rob Cook were undertaking a very important task that was an integral part of the aerial stock mustering being done on that day and the purpose of attempting to return to the portable stockyards was to enable Mr Rob Cook to collect his gyrocopter so he could assist with concentrating and directing the cattle. The mustering was contingent upon the location and identification of the cattle that were to be included in the muster. The flight clearly fell within the definition of aerial stock mustering contained in *Civil Aviation Order 29.10*.

[76] Contrary to the submissions made on behalf of the appellants, there was no cleavage between spotting and returning to the portable yards and concentrating and directing the cattle. The concentrating and directing of the cattle could not have been done without the spotting which required Mr Rob Cook to be collected and returned to the portable stockyard. The accident occurred during the completion of a task that was integral to the aerial stock mustering of cattle. The return flight was not over a distance of 30 kilometres and it would not have taken 15 to 20 minutes to return. The tail of the cattle was only 12 kilometres from the portable stockyards. The accident occurred within one or two minutes of Mr Leslie disengaging with the tail. It was necessary to fly at a low level and in the north/north-east direction that they did, so as to avoid disturbing the cattle. At the time the accident occurred, the helicopter was still moving away from the cattle in a manner that would not disturb them and it had not starting flying directly towards the portable stockyards.

[77] Further, the question for the trial Judge was not what were Mr Leslie and Mr Rob Cook doing immediately before the accident, but what was the operational purpose of this flight. Plainly the purpose of the flight was to locate cattle and, by definition, this was an aerial stock mustering task for which permission was granted by *Civil Aviation Order 29.10* and by the permit granted to Modern Mustering Pty Ltd. The location of cattle was an aerial work purpose that required low flying.

[78] As to whether Mr Rob Cook was a crew member, the trial Judge found he was because he was performing a duty on the helicopter for the purpose of the aerial stock muster. The pilot was the delegate of the air operator for the purpose of assigning a person for duty on the helicopter, and there can be no doubt that the pilot would have the right to refuse to carry a person as spotter if he did not believe the person was suitable. Her Honour was correct in doing so. Further, the carrying of Mr Rob Cook on this flight was essential to the successful conduct of the aerial stock mustering taking place on 30 September 2008.

[79] It is not an answer to her Honour's finding to contend that Mr Leslie was subject to Mr Rob Cook's direction, not the other way around. This was clearly not the case in relation to the operation of the helicopter. Mr Rob Cook acknowledged that while he flew a gyrocopter he was not a helicopter pilot. He was an employee on Suplejack Station not a principal. There is nothing to prevent an employee of the station being a crew member. The cattle spotting or location operation being carried out by Mr Leslie in the helicopter required a second person who was knowledgeable about where the cattle were on the station. Mr Rob Cook was able to direct Mr Leslie about what cattle to muster and where they were to be concentrated and moved. He was not able to direct Mr Leslie about how to fly or operate the helicopter. As the pilot of the helicopter, Mr Leslie could have refused to take Mr Rob Cook as the spotter and he could direct him about how he was to conduct

himself once inside the helicopter. The purpose of the spotter is to guide the pilot to where the cattle that are to be concentrated and moved are located.

Step two (ground 3)

[80] As the trial Judge stated, the determination of whether a reasonable pilot in Mr Leslie's position would have been flying at a height of 500 feet above ground level within one to two minutes of engaging in aerial manoeuvres to move the tail of the cattle, involves consideration of the following questions.

1. Would a reasonable pilot in Mr Leslie's position have foreseen that his conduct involved a risk of injury to the plaintiff or to a class of persons including the plaintiff; and, if so,

2. what would a reasonable pilot do by way of response to that risk?[6]

[81] The relevant risk is the risk of injury to Mr Rob Cook if there was a sudden loss of power or other mechanical failure in the helicopter. The resolution of the two questions requires consideration of "the magnitude of the risk and the degree of probability of its occurrence, along with the expense, difficulty and inconvenience of taking alleviating action and any other conflicting responsibilities which the defendant may have.[7]

[82] As to the magnitude of the risk, there was evidence that aerial stock mustering pilots regularly conduct most of their flying operations below 500 feet above ground level when engaged in aerial stock mustering. For the

[6] *Wyong Shire Council v Shirt* (1980) 146 CLR 40 at 47.
[7] Ibid at 47 – 48.

15 to 20 minutes of flying before Mr Leslie ceased mustering the tail of the mob of cattle, Mr Leslie had been flying below 500 feet above ground level and no difficulties were encountered with the operation of the helicopter. While most aerial stock mustering pilots invariably fly below 500 feet above ground level while engaged in aerial mustering operations, there was no evidence to suggest that helicopter engine failure was a regular occurrence or that there were a significant number of accidents to do with engine failure where helicopter pilots had been flying at less than 500 feet above ground level, compared to flights at a greater height. As the AOC in this case shows, aircraft have to be approved as being capable of undertaking the relevant aerial work. There was nothing to suggest that the Robinson R22 helicopter had not been properly maintained or had a history of engine failure or problems. Further, the evidence from Mr Allen was that there was really no difference in this case between executing the required landing following an engine failure from 500 feet or 250 feet above ground level. Mr Leslie was a very skilful pilot who had undertaken the appropriate training and held the appropriate licences for aerial stock mustering.

[83] In the circumstances, it cannot be concluded that the magnitude of any risk was such that, within one or two minutes of ceasing to work the tail, Mr Leslie should have flown the helicopter up to a height of 500 metres where there was a similar risk. A reasonable pilot in Mr Leslie's position, foreseeing the risk, would have done nothing to alter the height at which he was flying in order to respond to the risk of engine failure. Balanced against

the risk was also the need to ensure that Mr Leslie flew the helicopter in a manner which did not unduly disturb the cattle. In this regard Mr Rob Cook largely accepted what Mr Leslie stated in paragraphs 15, 16 and 17 of Mr Leslie's affidavit.

[84] Her Honour the trial Judge was correct in concluding that the appellants had failed to prove that a reasonable pilot in Mr Leslie's position would have flown at 500 feet above ground level.

Conclusion

[85] For the above reasons, the appeal should be dismissed as it was not established that Mr Leslie breached his duty of care. Aerial stock mustering is a dangerous activity which, by definition, involves low level flying and, as Mr Rob Cook acknowledges in his book, Mr Leslie flew the helicopter in a skilful manner in order to try and avoid the accident which came about as a result of a hidden object.

[86] In the circumstances, it is not necessary to deal with the other grounds of appeal. However, I have had the benefit of reading a draft of Blokland and Hiley JJ's reasons for decision and I agree with their Honours' reasons and conclusions.

BLOKLAND and HILEY JJ:

Introduction

[87] The appellant[8] Robert Thomas Cook (**Cook**) was badly injured in a helicopter accident at Suplejack Station on 30 September 2008. At the time he was employed by the other appellant Suplejack Pastoral (NT) (**Suplejack**).[9] Mr Cook, and the third respondent Zebb Raymond Leslie (**Leslie**), had been engaged in helicopter mustering in a Robinson R22 helicopter (VH-HQM) (**the helicopter**) owned by the second respondent Hayes Holdings (NT) Pty Ltd (**Hayes**) under a commercial arrangement between Hayes and the first respondent Modern Mustering (NT) Pty Ltd (**Modern Mustering**). Leslie was the pilot of the helicopter and Cook was in the passenger seat.

[88] Following a sudden loss of power (sometimes referred to during the proceedings as "engine failure") the pilot executed an emergency landing by autorotation. This resulted in the helicopter skidding along the ground and being tipped onto its side after hitting a hidden obstacle or soft earth (**the crash**).

[89] At the time of the engine failure the helicopter was being flown at a height of approximately 250 feet above ground level. The appellants' primary contention at trial was that had the helicopter been flying above 500 feet the

[8] Unless otherwise apparent references in these reasons to 'the appellant' are to Robert Thomas Cook.
[9] Suplejack's interest flows from the fact that it has settled proceedings brought by Cook against it seeking statutory benefits pursuant to the *Workers Rehabilitation and Compensation Act* (NT) and has sought to recover payments made under the settlement from the respondents, in Proceeding 119 of 2011.

emergency landing could have been safely executed. The appellants also contended that the pilot was in breach of Regulation 157 (**CAR 157**) of the *Civil Aviation Regulations 1988* (Cth) (**the Regulations**) which prohibits the pilot of an aircraft flying at a height lower than 500 feet, subject to certain exceptions, one of which is where the aircraft is engaged in aerial work operations that require low flying.

[90] The trial Judge dismissed the appellants' claims because:

(a) the helicopter was engaged in aerial stock mustering operations when the accident occurred and it was, therefore, not in breach of CAR 157 for Mr Leslie to be flying below 500 feet[10];

(b) the appellants failed to prove that a reasonable pilot in Mr Leslie's position would, in the circumstances, have flown the helicopter at 500 feet or more above ground level to guard against the risk of injury to Mr Cook, and therefore the appellant had not satisfied the onus of establishing that it was a breach of Mr Leslie's duty to Mr Cook to be flying at less than 500 feet above ground level in the circumstances,[11]

and

(c) the appellants did not establish that, given the opportunity from 500 feet, a reasonably competent pilot would have chosen an alternative

[10] *Cook v Modern Mustering Pty Ltd & Ors* [2015] NTSC 82 [55] (**Reasons**).
[11] Reasons [70].

landing site rather than the one chosen,[12] and, even if this was established, causation was not proved because a hidden hazard on the ground might possibly have been present at any other landing site.[13]

Grounds of appeal

[91] The Notice of Appeal identifies four grounds of appeal:

1. The trial judge erred in her construction of "aerial mustering operations" for the purposes of Regulation 157 of the *Civil Aviation Regulations* and Civil Aviation Order 29.10, as well as in its application to the evidence before the Court.

2. The trial judge did not adequately address the defendants' apparent disregard of the requirement that the pilot of a helicopter ensure that the cruising level of the aircraft is, whenever practicable, appropriate to its magnetic track (Regulation 173(2)), and the appropriate heights set out in Figure 5 from the Visual Flight Guide in the Aeronautical Information Publication. If on a westerly track, the minimum height is 2500 feet; if on an easterly track, the minimum height is 1500 feet.

3. The trial judge was wrong to find that flying below 500 feet and the occurrence of the accident did not represent a breach of the duty of care owed to the plaintiffs.

4. The trial judge erred in failing to find that the defendants' breach of duty materially contributed to the crash and was a cause of the injuries sustained by Rob Cook.

[92] The Notice of Appeal also includes further particularisation in relation to three of the grounds.

[12] Reasons [103].
[13] Reasons [106].

Main facts

[93] Suplejack Station is a remote cattle station in the Tanami Desert area of the Northern Territory. The station was operated by the other appellants Robert John Savage, Lillian Ross Savage, William John Cook and Letitia Valerie Cook trading as Suplejack Pastoral (NT). The appellant Cook was the son of the Cook partners and was employed on the station along with other members of both families.[14]

[94] On the day of the accident, helicopter mustering was taking place on the station using two helicopters. One was the Robinson R22 helicopter (VH-HQM) owned by Hayes and flown by Leslie. The other was also a Robinson R22 helicopter, supplied by Heli-Muster NT Pty Ltd (**Heli-Muster**), flown by Andrew Scott (**Scott**).

[95] There was a contract in place between Suplejack and Hayes for the provision of helicopter mustering services, and a commercial arrangement between Hayes and Modern Mustering for the operation of the helicopter pursuant to an Air Operator's Certificate (**AOC**) held by Modern Mustering.[15]

The accident

[96] The trial Judge made the following findings:

> [11] The details of what actually happened on the day of the accident are largely not in dispute, and I find them to have occurred essentially in the way described by Mr Cook.

[14] Reasons [2].
[15] Reasons [9] – [10].

[12] The Suplejack partners and employees set up a stock camp with portable stockyards about 50km south west of the house.

[13] That morning, Mr Cook had done some mustering in his gyrocopter. Later he flew in the helicopter with Mr Leslie, acting as spotter.

[14] His plan was to show Mr Leslie where he had mustered in the gyrocopter earlier that morning, so he would not need to waste time going over that area again. He also wanted to locate the tail of the cattle, to get a general idea of how well the cattle were travelling and to point out to Mr Leslie roughly where they were headed with them.

[15] They flew wide around the northern side of a lake on the station, heading east. The cattle were following a pad, heading north-west along the lake. Mr Cook showed Mr Leslie where he had been mustering in the gyrocopter. They also discussed what cattle to leave behind (aged cows with young calves, and old bulls which would cause problems in the yards). They were flying somewhere between 200 and 500 feet.

[16] When they located the tail of the cattle, Mr Cook saw that they were strung out too far, which meant they could wander off from the rest of the mob too easily, and they kept stopping. They hovered above the tail of the mob at about 80 to 100 feet above ground and got them moving again. Then Mr Cook asked Mr Leslie to take him back to his gyrocopter (at the temporary yards) so Mr Cook could help Mr Leslie keep the mob walking and then Mr Leslie could get on to mustering the others towards the lake.

[17] Mr Leslie turned the helicopter, gained altitude and increased speed to about 60 to 70 knots to take Mr Cook back to his gyrocopter. They were flying in a north-north east direction. They did not fly in a straight line towards the yards (which were north-west) because that would have involved flying over the mob and scaring the cattle in the wrong direction. The wind that day was predominantly from the east swinging from north-east to south-east and gusting at times.

[18] They were looking at tracks and pads as they flew, and about one to two minutes before the accident, they came upon a

troublesome animal and moved it along. (I take it that this happened as they were hovering above the tail or very shortly thereafter.)

[19] They had ceased working the tail and had been cruising at about 250 feet above ground for between one and two minutes when Mr Cook felt the helicopter "lag", that is, it seemed to slow right down. It felt to Mr Cook as though Mr Leslie had backed the throttle off to stop, head lower, or hover. In fact the helicopter had suddenly completely lost power.

[20] Mr Lesley said words to the effect of, "We're going down". He turned the helicopter through about 90 degrees – towards south east – and attempted a landing in a manoeuvre known as an autorotation, which is described in more detail below.

[21] The area they were flying over was wooded and Mr Leslie attempted to land in the only clearing that Mr Cook could see from the height they were flying.

[22] As the helicopter came down, the tail rotor clipped a tree and broke off. The helicopter landed on the skids without the tail, slid forward for about seven metres, then tipped forward until the rotor hit the ground. It is probable that one of the skids dug into the soft ground or hit a concealed obstacle, causing the helicopter to tip over. Once the rotor hit the ground, the helicopter flopped around, landing on the passenger side.

[23] Mr Cook sustained multiple catastrophic injuries to his spine. Those injuries have resulted in permanent loss of movement and sensation below the C4 vertebrae, including his left arm and both legs. He retains a limited ability to move his right arm. The pilot, Mr Leslie, was uninjured.

[97] Mr Cook was the only person who gave direct evidence about the events immediately leading up to the accident. His memory was assisted by reference to what he had written in his book "When the Dust Settles" published in 2013. At p 142-3 of that book he wrote:

> While Andrew [Scott] continued with the cattle on his side of the lake, Zebb [Leslie] buzzed around his side, keeping them moving forward. Looking down at the mob stretching out as the cattle walked along, I became a little worried they may have stretched too far apart, so after being up in the sky for twenty minutes, I asked Zebb to fly me back to my gyro. I wanted to work the wing while he gave the tail a bit of a hurry along, keeping them tighter together. Having just moved a troublesome bull along we climbed back up to around 250 feet at 60 or 70 knots and were just above some heavy timber beside the lake when we struck trouble.
>
> It felt like the wheels had fallen off, or as though someone had knocked a car out of gear as it sped along. Suddenly we were no longer powering along; instead, the arse-end of the chopper was beginning to sag. I glanced at Zebb, who I thought had backed off the power and was making a turn in the sky to chase some cattle below us, but his face told a different story. … I could see Zebb's eyes frantically scanning the ground below for a clearing among the timber. There was no real option other than one small area a short way ahead. Without time to hesitate he went about trying to land safely.
>
> … It wasn't a big area, perhaps half the size of a tennis court, with fewer big trees but still plenty of small wattles. On an ordinary day under ordinary circumstances, no pilot would land there, but this was no ordinary landing.

[98] In his first affidavit, sworn 2 October 2015, Mr Cook said that when he had the discussion with Mr Leslie about him taking Mr Cook back to the temporary stockyards in order to get his gyrocopter, they were hovering above the tail of the mob. He could not remember what height they were at or what speed they were doing at that time. He said the helicopter then turned and began moving in the general direction of the temporary stockyards, heading approximately north by north-west. He said that the term "mustering" does not properly describe what they were doing then. However he would have been watching out for any cattle along the way, and

would have given them a wide berth so as not to fly over them and push them in the wrong direction. Any cattle along the way would have moved away from the noise of the helicopter.[16]

[99] Mr Cook swore a second affidavit, also on 2 October 2015, in response to affidavits of Mr Leslie and Mr Armstrong. Neither of those affidavits were read and neither person was called to testify. In paragraph 31 of his affidavit Mr Leslie said that after he got the bull moving he decided to "make my move to check the north-eastern side [of the lake] and then drop [Mr Cook] back to the camp." He said he gained some altitude and speed to about 60 to 70 knots. They were at 150 to 250 feet. He intended to travel in a north easterly direction out to a ridge, and then in a north-westerly direction along the ridge back towards the yards. He intended to fly along the ridge at a low height (50 to 100 feet) to keep his noise down and to spot and muster any cattle in that area.

[100] Mr Cook said that he generally agreed with what Mr Leslie had said in that paragraph, subject to a number of qualifications. They had been hovering close to the tail of the cattle at about 80 to 150 feet. The helicopter then climbed and got going at a reasonable speed, probably in excess of 60 knots. He said that they flew away from the tail of the cattle in a north-north-east direction. He said that "[their] purpose was to get [him] back to the gyrocopter as fast as we could." There was no discussion about flying along the ridge, or flying at 50 to 100 feet. They had climbed to 250 feet and he

[16] Appeal Book 550 - 557 [34] – [36] (**AB**).

assumed that they would stay roughly at that height. He did not recall any specific incident involving a scrub bull. He agreed that the crash occurred about one mile from where they had been hovering over the tail of the mob and that their flying time between those two points was about one or two minutes. He said he did not see any other likely landing spot from the height from which the helicopter fell.[17]

[101] When he gave his evidence he did not recall the incident with the bull. He accepted that there probably had been a troublesome animal but he could not be confident that it was a bull.[18] He also agreed that when he initially thought that Mr Leslie "had backed off the power and was making a turn in the sky to chase some cattle below us"[19] he would not have been surprised if Mr Leslie was to simply dive down to chase some cattle at that particular point in the flight. He said that would be common practice had he not seen any cattle, and would reflect the fact that Mr Leslie is a pilot with a cattleman's head who knows how to muster properly and would be fulfilling the muster by doing such a thing.[20]

Common ground

[17] AB 560 - 567 especially [17], [18], [23] & [31].
[18] AB 203.
[19] Referring to the passage from his book quoted at [97] above.
[20] AB 214.

[102] The respondents admitted the existence of a duty of care owed by Leslie to Cook but denied that he breached that duty of care. Both Hayes and Modern Mustering would be vicariously liable for any breach of duty by Leslie.[21]

[103] Mr Cook pleaded that Mr Leslie's duty of care to him included a duty not to fly the helicopter at a height less than 500 feet from the ground while carrying a passenger unless taking off or landing, or otherwise forced to, or performing a task in which it was necessary. He alleged that Leslie flew below 500 feet, in fact between 100 and 200 feet, during the "return flight" and that this was in breach of CAR 157(1) and not permitted by Civil Aviation Order 29.01 (**CAO 29.01**). The "return flight" was a term used at trial to refer to that part of the flight after Cook asked Leslie to return him to the stockyards (to his gyrocopter).[22]

[104] It was also common ground[23] that:

(a) CAR 157 makes it an offence to fly a helicopter at a height lower than 500 feet unless (relevantly) the aircraft is engaged in aerial work operations that require low flying, and the owner or operator of the aircraft has a permit to fly at a lower height while engaged in such operations;[24]

(b) Civil Aviation Order 29.10 (made under CAR 157) grants permission for a helicopter to fly at a height lower than 500 feet whilst engaged in

[21] Reasons [28].
[22] Reasons [30]. For convenience we also use the same description for this part of the flight.
[23] Reasons [31].
[24] Regulation 157(4)(b).

aerial stock mustering operations authorised by an aerial work licence; and

(c) Modern Mustering had permission from the Civil Aviation Authority to fly below 500 feet while engaged in aerial work operations that require low flying and Leslie had the relevant licences and endorsements and approval from the Civil Aviation Authority to conduct aerial mustering operations.

[105] Her Honour summarised the evidence concerning what is involved in an emergency landing of a helicopter by means of an autorotation at [32] – [39] of the Reasons. It was described in the joint expert report of Messrs Allan and Ogden dated 8 October 2015.[25] In short, autorotation is a manoeuvre performed by a helicopter pilot to enable a helicopter to make a controlled descent to achieve a safe landing following an engine failure.[26] A pilot must commence autorotation within one to two seconds otherwise the speed of the rotors will drop too quickly. Once the helicopter is established in autorotation the pilot must make some rapid decisions. These include locating a suitably sized area to land (preferably one that is into wind) and then establish the appropriate "profile" (ie determine the rate of descent and forward speed with which he will try to land). The pilot will want to land with as low a rate of descent and as little forward speed as possible (ideally

[25] AB 816.
[26] Reasons [33].

zero speed both vertically and horizontally), and into a clear area, but this is not always achievable.[27]

[106] At a particular height before landing the pilot must commence a "flare"; a manoeuvre that pitches the nose of the helicopter up shortly before landing in the hope that the touchdown can be cushioned.[28] Needless to say, there are many variables that the pilot must consider, assess and adjust for when the helicopter is in autorotation. These include the height and speed at which the helicopter entered autorotation, wind speed and direction during the descent and on the surface including turbulence, the availability of a suitable landing area, the ability for the pilot to manoeuvre the helicopter into wind given those and other factors, and the weight of helicopter.[29]

Ground 1 – Civil Aviation Regulation 157

[107] The appellant contends that by flying below 500 feet at the time of the engine failure the helicopter was being flown in breach of CAR 157. In particular the trial Judge erred in concluding that the helicopter was engaged in aerial stock mustering operations and in accordance with the Low Flying Permit held by Modern Mustering.

[108] The relevant parts of CAR 157 provide:

Low flying

[27] Reasons [35].
[28] Reasons [36] – [37].
[29] Reasons [38].

(1) The pilot in command of an aircraft must not fly the aircraft over:

(a) …

(b) any other area at a height lower than 500 feet.

(2) An offence against sub-regulation (1) is an offence of strict liability.

(3) …

(4) Sub-regulation (1) does not apply if:

(a) …

(b) the aircraft is engaged in private operations or aerial work operations, being operations that require low flying, and the owner or operator of the aircraft has received from CASA either a general permit for all flights or a specific permit for the particular flight to be made at a lower height while engaged in such operations

…

[109] As one would expect CAR157(4) contains a large number of other exemptions, many of which relate to particular "operations" other than the "private operations" and "aerial work operations" referred to in CAR157(4)(b). They include search and rescue operations, law enforcement operations and operations which require the dropping of packages or other articles.

[110] A large number of Civil Aviation Orders have been made under the Regulations concerning a wide variety of "air service operations". Civil Aviation Order 29.10 (CAO 29.10) was made under Regulation 157 and

relates to aircraft engaged in aerial stock mustering operations that might involve low flying. It is headed: "Air service operations – aircraft engaged in aerial stock mustering operations – low flying permission."

[111] For the purposes of CAO 29.10 "aerial stock mustering" is defined in paragraph 2 to mean "the use of aircraft to locate, direct and concentrate livestock while the aircraft is flying below 500 feet above ground level and for related training operations." There is no definition of aerial stock mustering operations.

[112] Paragraph 4 of CAO 29.10 includes:

> **Low flying permission**
>
> 4.1 Pursuant to paragraph 157(4)(b) of the *Civil Aviation Regulations 1988*, permission is hereby granted for aircraft to operate at lower heights than prescribed in paragraph 157(1)(b) of those regulations whilst engaged in:
>
> (a) aerial stock mustering operations authorised by an aerial work licence or …; and
>
> (b) training flights in preparation for such operations.

[113] Modern Mustering held a "Low Flying Permit" under CAR 157(4)(b).[30] It permitted aircraft operated by Modern Mustering

> to fly over any area other than a city, town or populous area at a height lower than 500 feet on condition that:

[30] AB 531.

(i) the aircraft is engaged in aerial work operations that require low flying;

(ii) persons other than crew members are not carried;

(iii) …

Trial judge's conclusions

[114] Her Honour outlined the contentions on behalf of Mr Cook that Mr Leslie was not conducting aerial mustering operations at the time of the engine failure. This was said to be because the helicopter was not engaged in "aerial stock mustering" at that point in time. Accordingly it should not have been flying below 500 feet.[31]

[115] Her Honour then dealt with Mr Cook's contention that he was not a crew member at the relevant time, as a consequence of which the helicopter was being flown in breach of the condition in the Low Flying Permit that "persons other than crew members are not carried".

[116] "Crew member" is defined to mean "a person assigned by an operator for duty on an aircraft during flight time".[32] "Flight time" is defined to mean "the total time from the moment at which the aircraft first moves under its own power for the purpose of taking-off until the moment at which it comes to rest after landing".[33] Mr Leslie was flying the helicopter under the Air

[31] Reasons [40].
[32] Regulation 2.
[33] Regulation 2.

Operator's Certificate held by Modern Mustering. That certificate authorised Modern Mustering to conduct "aerial work operations" for the "aerial work purpose[s]" of "aerial stock mustering", "aerial surveying" and "feral and diseased animal control".[34]

[117] Her Honour referred to the evidence concerning the important role of Mr Cook as spotter during that flight, the common practice of hovering and moving below 500 feet when spotting and mustering, and the overlapping nature of those activities. Her Honour also noted that if Mr Cook's contentions were correct it would not be permissible for the helicopter to fly lower than 500 feet with a spotter on board. [35]

[118] Her Honour concluded:

> I consider that while the helicopter is engaged in aerial mustering operations the person accompanying the pilot as spotter comes within the definition of crew member. The spotter is performing a duty on the aircraft for the purpose of the aerial muster. The pilot is the delegate of the air operator for the purpose of assigning a person for duty on the helicopter, and there can be no doubt that the pilot would have the right to refuse to carry a person as spotter if he did not believe the person to be suitable.[36]

[119] Her Honour then turned to consider whether the helicopter was engaged in aerial mustering operations at the time of the engine failure. She referred to the "sharp distinction" drawn by Mr Cook's counsel between "mustering in the strict sense" (ie specific manoeuvres to move or direct cattle) and

[34] AB 528 - 530.
[35] Reasons [41].
[36] Reasons [42].

"spotting", and between "spotting" and ferrying Mr Cook back to the temporary yards.[37]

[120] Her Honour also identified various references to "operations" in the Regulations. The Regulations refer to "private operations" and "commercial operations", and to different subcategories of commercial operations. Regulation 2(6) provides for an aircraft to be classified according to the type of operations in which it is being employed at any time, namely aerial work operations, charter operations, regular public transport operations or private operations.[38]

[121] Her Honour also noted that the Regulations, including Regulation 206, refer to various kinds of "purposes", for example commercial purposes, aerial work purposes, charter purposes and regular public transport purposes.[39] Her Honour added that safety requirements are specified by reference to types of "operations" and referred to Regulation 215 which requires an operator to provide an operations manual in relation to the flight operations of all kinds of aircraft operated by the operator.[40]

[122] Although there is no definition of "aerial stock mustering operations" in the Regulations, her Honour noted that CASA Direction 524/04 entitled "Helicopter Mustering Operations – Flight Time and Duty Time" limits the total number of hours over a particular period which a pilot may spend

[37] Reasons [43].
[38] Reasons [45] – [47].
[39] Reasons [48].
[40] Reasons [49].

"engaged in helicopter mustering operations". It defines "helicopter mustering operations" as "activities related to the aerial supervision and control of livestock, that are carried out by helicopter" including aerial stock mustering, aerial stock spotting, animal culling and flying training to carry out such activities.[41]

[123] Her Honour agreed with the contentions advanced by senior counsel for Leslie, namely that:

> the term "aerial stock mustering operations" in Order 29.10 (and "aerial work operations" in Modern Mustering's Low Flying Permit) must be construed in the context of this legislative regime. The term "aerial stock mustering operations" refers to the purpose for which the aircraft is being flown on a particular flight and therefore is not restricted to the specific activity of moving cattle with a helicopter, but includes all aerial operations that are related to that function and which occur during the course of a flight for that purpose, for example refuelling, or flying Mr Cook to the yards to get his gyrocopter so he could assist in the muster.[42]

[124] Her Honour added that:

> If the term "aerial stock mustering operations" (which it is clear from the regulatory scheme form a sub-set of "aerial work operations") were to be given the narrow construction urged by the plaintiff, then the pilot would potentially be changing regulatory requirements mid-flight (for example in relation to the part of the operations manual applicable to the flight, records to be kept, maximum hours of allowed flying, and flying height restrictions). That would be unworkable and would not seem to me to accord with the legislative purpose in the regulatory framework.[43]

[41] Reasons [50].
[42] Reasons [51].
[43] Reasons [52].

[125] Her Honour then identified reasons why it would be artificial and impractical if a particular flight, whose primary purpose was to engage in stock mustering, must be regarded and treated differently at different points in time and in the different circumstances referred to by counsel for Mr Cook. The activities of both the pilot and spotter would vary and would not always include the physical activity of mustering.[44] Her Honour also referred to evidence from the other helicopter pilot, Mr Andrew Scott from Heli-Muster, to the effect that he had always understood that an aircraft was engaged in a particular operation from the beginning of the flight until the end of the flight, and that a pilot plans a whole flight before undertaking it, not just particular parts of it.[45]

[126] Her Honour added that "in practical terms, the evidence does not support the sharp distinction between the purposes of different parts of the flight contended for by [Mr Cook]."[46] She referred to evidence to the effect that Mr Cook would be watching for stock during the whole time and that the pilot would adjust his flying in various ways so as to avoid scaring cattle in the wrong direction and to fly low in order to move on a stubborn beast. He might also need to fly away from the area where the cattle are being mustered in order to refuel or to collect or drop off a person engaged in the muster.

Appellants' contentions

[44] Reasons [54].
[45] Reasons [53].
[46] Reasons [54], referring back to what her Honour had said at [43], summarised in [119] above.

[127] The Notice of Appeal includes the following contentions in relation to Ground 1:

1.1 Mr Robert Cook was not a "crew member" of Modern Mustering with the result that the helicopter could not be flown below 500 feet.

1.2 Regulation 157(4) only permitted low-flying for aerial work operations which required low-flying and it was never established that immediately before the helicopter descended it was engaged in an operation which required low-flying: the evidence was that returning to the temporary stockyard did not require low-flying.

1.3 Order 29.10 only permitted low-flying when engaged in "aerial stock mustering" defined as "the use of aircraft to locate, direct and concentrate livestock" and the evidence was that returning to the temporary stockyard did not involve locating, directing and concentrating livestock.

1.4 No "specific meaning" of operations was ever identified and the other references in the Regulations made by the trial judge did not bear on the issue before the Court, nor justify anything other than the ordinary literal meaning of the words used in the Regulation and Order. The proper meaning of those words is not determined by an erroneous view about whether compliance was "unworkable", nor the opinion of an experienced pilot.

1.5 The trial judge should have found that the helicopter was being flown in breach of the Regulation and Order, with the result that there was prima facie evidence of a breach of duty.

[128] At this point it is important to note an error in the first two lines of paragraph 1.3 above. The permission granted under paragraph 4.1(a) of CAO 29.10 is for the aircraft to operate when engaged in aerial stock

mustering *operations* as distinct from aerial stock mustering per se. As we conclude below, there is a very important difference between the two terms.

[129] Counsel for the appellant stressed the need to construe the legislation having regard to its emphasis on safety, pointing out that there are strong "airmanship reasons" why a helicopter should be flown at or above 500 feet.

[130] Counsel contended that the helicopter was simply returning to a temporary yard. It was not, at that particular time, engaged in

(a) aerial work operations that required low-flying (cf CAR 157(4)(b));

(b) "aerial work" that "required" low flying within Modern Mustering's low flying permit; or

(c) "aerial mustering operations" within the general permit conferred by paragraph 4.1 of CAO 29.10.

[131] The appellant's contentions relied heavily upon the definition of "aerial stock mustering" and were critical of her Honour's failure to apply this definition when construing the various references to operations, in particular "aerial work operations" and "aerial stock mustering operations".

[132] Counsel also challenged the views expressed by her Honour at [51] and [52] of the Reasons (set out at [124] and [125] above) by contending that the other exceptions in CAR 157(4) "contemplate that the nature of the flight

can change during the course of the flight."[47] However we do not consider that her Honour's comments were concerned with changes in the nature of a flight. Rather they related to the confusion and anomalies that would result if, as Mr Cook contended, the nature of the "operation" could change from time to time during the course of a particular flight.

[133] Counsel also challenged her Honour's conclusions in [54] of the Reasons summarised at [126] above. Counsel referred to evidence of Mr Cook which purported to draw clear distinctions between "mustering in the strict sense", "spotting" and "ferrying the spotter back to the temporary stockyards" and the fact that the crash occurred one mile and one or two minutes after the helicopter had been hovering over the tail of the mob.[48]

[134] In relation to her Honour's conclusions that Mr Cook was a crew member, counsel for the appellant pointed out that Mr Cook was the spotter and delegate (or employee) of the principal (Suplejack) who engaged Modern Mustering, and submitted that Mr Leslie was acting under the direction of Mr Cook, rather than the other way around. More importantly, it was never shown that Mr Cook was ever assigned any crew duty by Mr Leslie or Modern Mustering.

Consideration

[135] In short, we agree with her Honour's conclusions and reasons.

[47] Appellant's Summary of Submissions dated 18 May 2016 [10].
[48] Appellant's Summary of Submissions [11].

[136] We agree with counsel's submission[49] that her Honour's construction "best achieve(s) the purpose or object of the [statutory] scheme",[50] which "leads to a reasonably practicable result"[51] and which ensures that the operation of an offence creating provision like CAR 157 is certain and is able to be ascertained by those who are the subject of it.[52]

[137] Regulation 157(4)(b) contains two conditions relevant for present purposes:

(a) The helicopter must have been "engaged in aerial work operations, being operations that require low-flying"; and

(b) Modern Mustering must have had permission of the kind referred to in paragraph 4.1 of CAO 29.10, namely for the helicopter "to operate at lower heights … whilst engaged in … aerial stock mustering operations authorised by an aerial work licence." It is implicit that the aircraft be so operated in accordance with the conditions contained in such a permit, for example the prohibition against carrying persons who are not crew members.

Aerial operations

[49] Third Respondent's Summary of Submissions [9].
[50] Section 15AA of the *Acts Interpretation Act 1901* (Cth) made applicable to legislative instruments by s 13(1)(a) of the *Legislative Instruments Act 2003* (Cth).
[51] *Gill v Donald Humberstone & Co Ltd* [1963] 1 WLR 929 per Lord Reid at 934; applied in Australia in *Melbourne Pathology Pty Ltd v Minister for Human Services and Health* (1996) 40 ALD 565 at 580 - 581; *Langton v Independent Commission against Corruption* [2000] NSWCCA 145; 49 NSWLR 164 at [12] – [13], [23]; and *Australian Tea Tree Oil Research Institute v Industry Research and Development Board* [2002] FCA 1127; 124 FCR 316 at [37] – [38]. See also *Collector of Customs v Agfa-Gevaert Ltd* [1996] HCA 36; 186 CLR 389 at 398 – 9 per Brennan CJ, Dawson, Toohey, Gaudron and McHugh JJ.
[52] *Director of Public Prosecutions (Cth) v Poniatowska* [2011] HCA 20; 244 CLR 408 at [44] per French CJ, Gummow, Kiefel and Bell JJ; *Director of Public Prosecutions (Cth) v Keating* [2013] HCA 20; 248 CLR 459 at [48].

[138] The application and effect of both of those conditions requires consideration of what is meant by the concept of an aircraft being "engaged in" a particular kind of "operation" at the relevant point in time.

[139] As has already been observed, the Regulations and the numerous Civil Aviation Orders that have been made, make frequent reference to and prescribe detailed requirements in relation to aircraft by reference to the operations in which they are engaged. Clearly the intent is to regulate everything that is likely to occur in the course of every operation, whether it be an aerial work operation, a charter operation, a regular public transport operation or a private operation.[53]

[140] There are different kinds of "aerial work operations", only some of which are operations that require low-flying. Similarly there are a number of kinds of operations that will often fall within that particular category of aerial work operations, one of which is "aerial stock mustering operations".

[141] Although CAO 29.10 specifically relates to aircraft engaged in "aerial stock mustering operations" that term is not defined, in that Order or elsewhere. However CAO 29.10 does describe the kinds of activities likely to be the focus of such operations by defining "aerial stock mustering".

[142] Clearly "aerial stock mustering operations" are operations that involve "aerial stock mustering" namely the locating, directing and concentration of livestock. We consider the word "operations" is intended to cover not only

[53] See references to these operations in Regulation 2(7).

the particular activity for which the aircraft is to be used during a particular flight, for example to "locate, direct and concentrate livestock while the aircraft is flying below 500 feet above ground level", but other parts of the flight including flying to the area where that activity is to be carried out, spotting and moving on stray cattle, flying in such a way as to avoid scaring and scattering cattle, and returning to land after performing the relevant "aerial stock mustering" activity.

[143] It seems to have been accepted at trial that the helicopter had already been engaged in aerial stock mustering shortly before the crash, notwithstanding that the main purpose of that particular flight was for Mr Cook to show Mr Leslie where he should muster during the next flight after returning Mr Cook to his gyrocopter. Some of that work required the pilot to fly below 500 feet.[54] Further, as her Honour found, Mr Cook's evidence was that he would be keeping an eye out for stock and observing pads the whole time.[55]

[144] As counsel for the respondents submitted, the question for the trial judge was not whether the "flying back to the temporary yard 'required' low-flying", but whether or not the aircraft was engaged in "aerial mustering operations" being operations that require low-flying, at the time of the incident.[56] There is no dispute that mustering of the kind contemplated by

[54] Reasons [75].
[55] Reasons [54].
[56] Summary of Submissions of the First and Second Respondents dated 25 May 2016 [2].

the Low Flying Permit and engaged in and to be engaged in on this particular day was an activity that required low-flying from time to time.

[145] If, as the appellant contends, the helicopter ceased to be engaged in aerial stock mustering operations as soon as its occupants interrupted or ceased aerial stock mustering, that is interrupted or ceased locating, directing and concentrating livestock, one would need to know what, if any, alternative regulatory regime was then in place. The pilot's licence only permitted him to conduct aerial stock mustering[57] and Modern Mustering's Air Operator's Certificate only authorised it to conduct the aerial work operations set out in Schedule 3, namely aerial stock mustering, aerial surveying and feral and diseased animal control.[58] Absent relevant authority, any flying that was not directly engaged in the activity of aerial stock mustering would not be authorised and would be in breach of s 27(2)(b) of the *Civil Aviation Act 1988*. As her Honour said in the passage quoted in [124] above, such a regime would be unworkable and would not accord with the legislative purpose in the regulatory framework.

[146] Most of the appellant's contentions on appeal focused upon the definition of aerial stock mustering and the evidence as to what particular activity was being engaged in at the moment when the helicopter lost power and crashed, and in particular whether there was a "cleavage" between the time when Cook and Leslie came across the troublesome animal and moved it along and

[57] AB 479.
[58] AB 528 – 30.

the time when the helicopter lost power, estimated to be somewhere between one and two minutes. However this evidence and those contentions are irrelevant, in view of our conclusion that the particular operation in which the helicopter was engaged at the time of the crash encompassed those and other activities during the flight.[59]

[147] From the time when the helicopter took off from the stock camp to the time of the crash, the helicopter was engaged in "aerial work operations, being operations that require low-flying". The first of the conditions noted in [137(a)] above applied.

[148] Similarly, the helicopter was engaged in aerial stock mustering operations at the time of the crash and was operating under the Low Flying Permit.

Was Mr Cook a crew member?

[149] This leaves for consideration whether the helicopter was operating in breach of the Low Flying Permit by carrying a passenger who was not a "crew member", namely "a person assigned by an operator for duty on an aircraft during flight time".[60]

[150] Her Honour's reasoning and conclusions gain additional support when one takes into account the relevant definition of "flight time", set out in [116] above.

[59] See in [142] above.
[60] Regulation 2.

[151] It is also relevant to consider the "operational limitations" in paragraph 5.2 of CAO 29.10:

> During aerial stock mustering operations a pilot shall not carry more than 1 other person, and that person must be essential to the successful conduct of the operations.

[152] Clearly, Mr Cook's presence was considered essential to the successful conduct of the aerial stock mustering operation being conducted that day, and in particular during the relevant flight. It was not suggested otherwise. The fact that Mr Cook was an employee of Suplejack did not mean that he could not be a crew member and be assigned by an operator for duty on the helicopter.[61] Rather the success of the aerial mustering operation was dependent upon his intimate knowledge of the location and movements of the cattle being mustered and him performing spotting duties so as to direct the pilot where to fly the helicopter during the mustering process.

[153] Counsel for the appellant contended that Mr Cook was not acting under the direction of the pilot. Rather Mr Cook was giving directions to the pilot.[62] But these directions related to where the cattle, including stragglers, were located, and where Mr Cook wanted them concentrated.

[154] It was Mr Leslie, the pilot, who was licensed (under CAO 29.10[63]) to conduct the mustering by helicopter and who was the pilot in command of the helicopter. As such he had numerous responsibilities for the whole of

[61] Cf Appellant's Summary of Submissions dated 18 May 2016 (**Appellant's Summary of Submissions**) [6].
[62] Ibid.
[63] AB 479.

the flight including for the operation and safety of the helicopter, for the safety of persons carried on the helicopter and for the conduct and safety of members of the crew. He had "final authority as to the disposition of the [helicopter] while he … [was] in command and for the maintenance of discipline by all persons on board."[64]

[155] Paragraph 5.2 of CAO 29.10 and the definitions of "crew member" and "flight time" clearly contemplate that a person who was to perform the functions which Mr Cook performed during the relevant flight could be "assigned by the operator for duty on [the helicopter] during [the] flight time" of this particular flight.

[156] As her Honour held,[65] Mr Leslie was the person designated by the operator, Modern Mustering, to act as pilot in command of the helicopter. As such he had the responsibilities and authorities summarised in [154] above, and had the right to carry or refuse to carry a person on the helicopter. He would have understood the need for Mr Cook's presence on the helicopter for this particular flight in order to carry out the important duties of and associated with spotting the cattle to be mustered. Mr Cook was assigned by Mr Leslie, as operator[66] and with the authority of Modern Mustering, for duty on the helicopter during the relevant flight time.

[64] Regulation 224.
[65] Reasons [42].
[66] "Operator" is defined in Regulation 2 to mean "a person, organisation or enterprise engaged in, or offering to engage in, an aircraft operation."

[157] Further, as her Honour observed, and counsel for the appellants conceded during the hearing of the appeal, the appellant's contentions if correct would have the effect that if a spotter was in the helicopter it could not be flown below 500 feet, even when the helicopter was engaged in mustering activities in the narrow sense contended for by the appellants. Similarly, as Mr Newlinds SC pointed out by way of example, the construction urged by the appellants would have the absurd effect that a person with a gun accompanying a pilot on a helicopter engaged in aerial feral animal control would not be a crew member, as a consequence of which the helicopter could not fly below 500 feet in order to perform that kind of activity. It is not necessary or appropriate to construe the relevant legislation in such a way as to lead to such unworkable restrictions.

[158] Mr Cook was a "crew member" at the relevant time. The helicopter was not being flown in breach of the Regulations. Ground 1 is not made out.

Ground 2 – disregard of Civil Aviation Regulation 173(2)

[159] Regulation 173(2) provides:

> When a V.F.R. flight is conducted as a height less than 5000 feet above mean sea level, the pilot in command must, subject to any contrary air traffic control instructions, ensure that the cruising level of the aircraft is, whenever practicable, appropriate to its magnetic track.

[160] This rule has the effect of requiring a pilot flying under "visual flight rules" (V.F.R.) to select a cruising level appropriate to the direction of the track

being flown by the aircraft, in order to achieve separation between aircraft on crossing or reciprocal paths. The lowest altitude for an aircraft flying on a westerly track is 2500 feet above mean sea level (**AMSL**). Near the crash site this would have been about 1200 feet above ground level (**AGL**).

[161] At [76] of the Reasons her Honour referred to this Regulation and said:

> However, the amended statement of claim did not plead breach of this regulation as a particular of negligence and, as I have found that Order 29.10 allowed Mr Leslie to be flying under 500 feet at the time, it follows that reg 173 did not require him to be flying at 1200 feet.

[162] In their written submissions counsel for the appellants referred to the evidence of the experts Mr Allan and Mr Ogden quoted below and asserted, without more, that "the trial judge overlooked [this] issue."[67] Little more was said during oral submissions.

[163] Mr Allan, an expert retained by the plaintiffs, expressed opinions[68] that:

> In other words, the pilot in this case, whilst not actively engaged in mustering, should, under CAR 173, (sic) been no lower than 2500' AMSL. At that altitude, the helicopter would have been some 1200' AGL.

and

> It is not proper practice, in my opinion, to fly below 500' AGL when not engaged in aerial stock mustering activities.

[67] Appellant's Summary of Submissions [4].
[68] AB 767 – 8.

[164] On the other hand, Mr Ogden, an expert retained by the defendants, expressed opinions[69] that:

> The regulation and information from CASA in the Aeronautical Information Publication also allows pilots *operating below* 5000ft to not comply with the cruising levels if it is impractical to do so. Consequently the pilot's compliance with the cruising levels when below 5000ft is an assessment made by the pilot on its practicality at the time.

and

> The helicopter was being used to locate cattle, and it would have been highly impractical to consider such location work at 1,250ft AGL (2,500ft AMSL). In my opinion, the helicopter was not required to be operating at 2,500ft (AMSL) as it would have been impractical to track cattle at that height and the pilot was therefore in compliance with (sic) CAR137 and the associated Aeronautical Information Publications.

[165] Counsel for Mr Leslie pointed out that there was no evidence led that it was "practicable" for Mr Leslie to fly at or above 500 feet, let alone 1500 feet, in the circumstances as they existed just prior to the emergency landing.[70]

[166] We agree with these submissions. Nor can it be inferred that it was practicable to fly at or above 500 feet. Even if, contrary to our conclusions in relation to Ground 1, the helicopter was no longer engaged in stock mustering activities that required it to be flown below 500 feet at the instant when it lost power, there is no doubt that it was lawfully engaged in such activities at a much lower height only one or two minutes earlier. There is no evidence to permit the inference that it was practicable to fly the

[69] AB 804.
[70] Third Respondent's Summary of Submissions [13].

helicopter up to 500 feet within that very short time, particularly in light of the risk of the noise of the helicopter interfering with the cattle being mustered.

[167] Ground 2 is not made out.

Ground 3 - breach of duty of care

[168] Ground 3 challenges her Honour's conclusions that the third respondent did not breach his duty of care owed to Cook by flying below 500 feet even if, as her Honour found and we agree, he was not in breach of any relevant regulation when he did so.[71]

[169] There is no suggestion that Mr Leslie was in breach of any duty or statutory obligation or was otherwise negligent at the time when he was mustering the cattle including hovering above the tail of the mob at about 80 to 100 feet above the ground and moving along the troublesome animal. Nor is it suggested on appeal that he was responsible for the loss of power or that he performed the autorotation and emergency landing negligently.[72] Accordingly the focus of the negligence claim is what he did and should have done during the one or two minutes after he had engaged in those particular mustering activities. In short, was he in breach of any relevant duty by not flying the helicopter to a height of 500 feet or more during that short interval? In view of our conclusions that he was not in breach of any

[71] Reasons [56] – [76], in particular [70].
[72] On the first day of the trial the plaintiffs sought and were refused leave to amend their pleadings, mainly to allege that the pilot should have performed a zero speed landing: AB 178.

relevant statutory duty, the issue is whether he was in breach under the common law.

Trial judge's conclusions

[170] As her Honour pointed out, the determination of this issue required the application of the principles enunciated by the High Court in *Wyong Shire Council v Shirt,*[73] sometimes referred to as the "*Shirt* calculus".

> In deciding whether there has been a breach of the duty of care the tribunal of fact must first ask itself whether a reasonable man in the defendant's position would have foreseen that his conduct involved a risk of injury to the plaintiff or to a class of persons including the plaintiff. If the answer be in the affirmative, it is then for the tribunal of fact to determine what a reasonable man would do by way of response to the risk. The perception of the reasonable man's response calls for a consideration of the magnitude of the risk and the degree of the probability of its occurrence, along with the expense, difficulty and inconvenience of taking alleviating action and any other conflicting responsibilities which the defendant may have. It is only when these matters are balanced out that the tribunal of fact can confidently assert what is the standard of response to be ascribed to the reasonable man placed in the defendant's position.[74]

[171] After quoting the passage above and further discussion about *Shirt* in *Vairy v Wyong Shire Council*[75] and *New South Wales v Fahy*[76], her Honour applied the evidence such as it was to the two main parts of the *Shirt* calculus, namely:

[73] [1980] HCA 12;146 CLR 40 (***Shirt***).
[74] *Shirt* per Mason J at 47 - 48.
[75] [2005] HCA 62; 223 CLR 422 (***Vairy***).
[76] [2007] HCA 20; 232 CLR 486 (***Fahy***).

(a) "whether a reasonable man in the defendant's position would have foreseen that his conduct involved a risk of injury to the plaintiff or to a class of persons including the plaintiff"; and if so

(b) "what a reasonable man would do by way of response to the risk".

[172] Her Honour noted it would be wrong to focus exclusively upon the way in which the particular injury came about when considering whether there has been a breach of duty, the relevant inquiry being as to "what response a reasonable person, confronted with a foreseeable risk of injury, would have made to that risk. And one of the possible answers to that inquiry must be 'nothing'."[77] It is in that context that one considers "the magnitude of the risk and the degree of the probability of its occurrence, along with the expense, difficulty and inconvenience of taking alleviating action and any other conflicting responsibilities which the defendant may have."[78]

[173] Her Honour identified the relevant risk as being "the risk of injury to Mr Cook if there was a sudden loss of power or other mechanical failure in the helicopter. The risk of injury should this occur in a helicopter flying at any height is obvious."[79] Her Honour concluded that "[t]he evidence seems to indicate that flying higher is generally considered to be safer in an

[77] Reasons [58] quoting from *Vairy* at [124].
[78] Referring to Gleeson CJ's reference at p 206 of *Fahy* to that important passage in *Shirt*.
[79] Reasons [60].

emergency because it gives the pilot more time and more options, although there are some emergencies in which flying lower would be safer."[80]

[174] Her Honour then referred to the evidence, or lack thereof, concerning the *Shirt* requirements. Following her observation that the risk of injury should there be a sudden loss of power or other mechanical failure "in a helicopter flying at any height is obvious" her Honour said, at [60] – [61]:

> However, in this case there is no evidence from either expert of the probability of its occurrence. There is therefore an absence of information to form the basis for an assessment of what a reasonable pilot *would* have done in the circumstances, if one assumes that flying higher would have generally reduced the risk (although perhaps increasing the risk for some types of mechanical failure), but would have carried its own costs in terms of expense and inconvenience (for example, spreading the noise of the helicopter over a wider area and possibly making the muster more difficult, time consuming, and expensive).
>
> Nor is there a great deal of evidence in relation to these two latter factors (ie the extent to which flying higher would have reduced the risk and the potential costs involved in doing so).

[175] After considering the evidence her Honour provided the following summary at [69] of the Reasons:

> (a) The evidence seems to indicate that flying higher is generally considered to be safer in an emergency because it gives the pilot more time and more options, although there are some emergencies in which flying lower would be safer.
>
> (b) Commercial helicopter pilots engaged in helicopter mustering operations generally fly below 500 feet even when not actively engaged in moving cattle.

[80] Reasons [69(a)]. See too [60] and [62].

(c) There are sound operational reasons for this in some circumstances because low flying minimises the noise footprint of the helicopter and bad management of noise can scare the cattle off in the wrong direction and substantially increase the cost of the muster.

(d) The crash happened about one mile (and one to two minutes) from the tail of the cattle being mustered.

(e) There is no evidence of how long it would have taken the pilot to climb to 500 feet after he turned to fly back to the yards.

(f) There is no evidence of whether flying at 500 feet, in the circumstances as they existed at that time and place, would have been likely to scare the mob off the route they were on, or how soon the pilot could have started to climb without a real risk of scaring them off that route.

(g) There is no evidence of how likely helicopter engine failure is to enable the Court to balance that risk (and the possible additional safety margin achievable by flying higher) against the possible costs in terms of hindering the muster.

(h) No-one expressed the opinion that in the circumstances as described in the evidence of Mr Cook it was not necessary or desirable for operational reasons for the helicopter to be flying at 250 feet when the engine failed.

[176] At [70] her Honour said:

> I am therefore unable to be satisfied that a reasonable pilot in Mr Leslie's position would, in the circumstances, have flown the helicopter at 500 feet or more above ground level to guard against the risk of injury to Mr Cook. It follows that the plaintiff has not satisfied the onus of establishing that it was a breach of Mr Leslie's duty to Mr Cook for him to be flying less than 500 feet above ground level in the circumstances.

[177] Her Honour discussed and rejected submissions based upon the failure of the third defendant to adduce evidence relevant to this issue.

[178] Her Honour then referred to Mr Cook's pleading that it was negligent of the pilot to fly below 500 feet "unless performing a task which required such flight and in respect of which he was authorised to fly below 500 feet above ground level." Her Honour said, at [75]:

> I am satisfied that Mr Leslie was performing a task (namely engaging in aerial mustering operations) in respect of which he was authorised to fly below 500 feet. The plaintiff has failed to adduce evidence that Mr Leslie was not performing a task which required flight below 500 feet.

Grounds of appeal

[179] The Notice of Appeal included a number of sub grounds in relation to Ground 3, namely that "[t]he trial judge was wrong to find that flying below 500 feet and the occurrence of the accident did not represent a breach of the duty of care owed to the plaintiffs." They were:

> 3.1 There was no evidence as to what caused the helicopter to drop or crash, the defendants led no evidence on the topic and their principals, Mr Armstrong and Mr Leslie (the pilot), were not called even though they were present in Court. The trial judge was wrong to find that no adverse inference should be drawn and, in the circumstances, there was at the least an inference of negligence, including by reason of the doctrine of res ipsa loquitur, which was never rebutted, Reasons [71]- [74];

> 3.2 On the whole of the evidence, the training in autorotation and the need to be ready to undertake an emergency landing at any moment, and the potentially catastrophic consequences associated with an uncontrolled descent, demonstrated that it was usually safer to fly at or above 500 feet. There was no evidence that flying higher was relevantly more time consuming or expensive, Reasons [60], [61];

3.3 The trial judge erroneously had regard to opinion evidence about the effect of the noise from a helicopter at height, which evidence was successfully objected to and, were it not for her Honour's ruling, would have been met by expert evidence available to the plaintiffs from an acoustic engineer (whose report was served and who was available for evidence), Reasons [60], [63], [64];

3.4 The trial judge erroneously referred to the joint expert report on the topic of "widely accepted practice", overlooking that the plaintiffs' expert Mr Allan explained in his subsequent report that he had mistaken the question to be one about common practice rather than proper practice and that he thought the common practice of flying low even when not mustering was not proper practice, Reasons [65];

3.5 On the whole of the evidence the trial judge should have found that, in the circumstances, there was a breach of duty by the defendants in flying at around 200 feet when travelling back to the temporary stockyards, Reasons [70];

3.6 In addition, the trial judge should have allowed the proposed amendment regarding the failure to achieve a zero speed landing, and regardless of the amendment, she should have found that the pilot ought to have achieved a zero speed landing, and the failure to do so was negligent, Reasons [99].

Ground 3.1

[180] At the hearing of the appeal the appellants did not press this ground or Ground 3.6 in relation to the possible application of the doctrine of *res ipsa loquitur*.[81]

[181] Counsel for the appellants were critical of the fact that Mr Leslie was not called to testify, and referred to two old High Court authorities *Bradshaw v*

[81] Transcript of Proceedings, *Robert Thomas Cook v Modern Mustering Pty Ltd & Ors* (Northern Territory Court of Appeal, 21132488, Southwood, Blokland and Hiley JJ, 21 May 2016 (**Appeal Transcript**).

McEwans[82] and *South Australian Ambulance Transport v Wahlheim*.[83] Both of those were cases where the Court was asked to draw inferences from established facts as to what else in fact happened in the moments leading up to the particular (traffic) accident that resulted in the plaintiff's injuries. The issues were quite different to those in the present matter. The latter relate to whether the pilot should have taken some action other than that actually taken, namely flown the helicopter to a height of 500 feet or higher.

[182] We agree with her Honour that the failure of the defendants to call Mr Leslie had no relevant consequence. Her Honour accepted Mr Cook's evidence concerning the relevant facts, some of which was assisted by his reference to Mr Leslie's affidavit. That, and the other evidence, did not establish a relevant breach of duty. As her Honour pointed out, a *Jones v Dunkel*[84] inference cannot be used to cure a deficiency in the evidence.[85]

Ground 3.2

[183] As we have noted, the trial judge did conclude that flying higher is generally considered to be safer. However the evidence did not enable her to assess the extent to which flying at 500 feet or higher would have reduced the risk, and therefore to assess what a reasonable pilot would have done in the circumstances, relevantly within a couple of minutes of him moving along the troublesome animal or hovering above the tail of the mob.

[82] (1951) 271 ALR 1.
[83] [1948] HCA 32; 77 CLR 215.
[84] *Jones v Dunkel* (1959) 101 CLR 298.
[85] Reasons [74].

[184] Counsel for the appellants contended that from a greater height the pilot would have had a greater ability to fly to a more suitable landing site and to achieve a zero speed landing – that is to say, to attempt to land the helicopter with no forward or downward speed. Her Honour discussed the evidence about alternative landing sites and zero speed landings in more detail when considering the causation issue.[86] This included discussion about the risks associated with adopting a zero speed profile and the absence of alternative landing sites that might have been suitable. Her Honour concluded that:

> … it is apparent that the plaintiff has not established that Mr Leslie was flying too low for any reason to do with the ability to adopt a zero speed landing profile, or that it was in breach of Mr Leslie's duty to Mr Cook to land at that location with some forward speed.[87]

[185] There being no evidence to the effect that the pilot knew or ought to have known of a more suitable landing spot in the event of a sudden loss of power and no evidence that he should have attempted a zero speed landing whether from 500 feet or 250 feet, her Honour had very limited ability to take those theoretical possibilities into account when attempting to apply this critical part of the *Shirt* calculus.

[186] There was a lot of evidence to the effect that it was common practice for a helicopter pilot to keep flying below 500 feet even when not actively mustering particular cattle. See for example the expert evidence referred to

[86] Reasons [86] – [105]. See too discussion about these topics at [211] - [215] below.
[87] Reasons [99].

by her Honour at [65] of the Reasons and Mr Cook's evidence referred to in [100] and [101] above. Moreover there was no evidence from which an inference could be drawn that the pilot could or should have raised the helicopter to 500 feet within the one or two minutes after last encountering an animal that had to be managed from a low height or hovering over the tail of the mob.

[187] The appellants also contend, in Ground 3.2, that her Honour erred because "there was no evidence that flying higher was relevantly more time-consuming or expensive", citing [60] and [61] quoted at [174] above. Even if there was no such evidence, this contention oversimplifies what her Honour did say when addressing that part of the *Shirt* calculus which requires consideration of "the expense, difficulty and inconvenience of taking alleviating action and any other conflicting responsibilities which the defendant may have."

[188] Moreover this submission fails to recognise that the plaintiffs had the onus of proving their case, including the existence and breach of a relevant duty of care. It was up to them to provide evidence in support of their contentions concerning the matters referred to in *Shirt* such as "the magnitude of the risk and the degree of the probability of its occurrence, along with the expense, difficulty and inconvenience of taking alleviating action."

[189] Any likely additional time or expense that might be incurred if the helicopter was to be flown up to a height of 500 feet immediately following the last encounter with one or more animal would have been only one of the considerations relevant to this part of the *Shirt* calculus. In any event, common sense, and the fact that Mr Cook assumed that Mr Leslie was going to fly directly back to the stockyards at a height of about 250 feet in order "to get [Mr Cook] back to the gyrocopter as fast as we could", suggests that that was the quicker and cheaper way to achieve that objective, and one which did not involve any particular or unusual risk.

Ground 3.3

[190] Contrary to the contentions in Ground 3.3, the evidence about the effect of noise from a helicopter, referred to in [60], [63] and [64] of the Reasons, and relied upon by her Honour, was not "successfully objected to". Rather her Honour referred to the evidence of the two experts, Mr Ogden and Mr Allan. Their evidence, which was also consistent with that of Mr Cook, was to the effect that cattle will move away from the noise of a helicopter, and that the higher the helicopter the further the noise will spread (referred to as a "noise footprint"). It was this evidence, together with Mr Cook's evidence referred to by her Honour at paragraphs [66] and [67] of her reasons, that helped her Honour express the conclusions that she did in

paragraphs [69(c)], [69(f)], [60(g)] and [70] of the Reasons, and to place so much emphasis on noise and its importance when a pilot is flying near cattle that are being mustered.

[191] Counsel for the appellants did not identify the evidence that was "successfully objected to" or take this court to "her Honour's ruling" about that, or indicate how or where her Honour had regard to that evidence in her reasons. However counsel did refer to "a debate over an affidavit of Mr Armstrong".[88] There was discussion at an early stage of the trial about reading an affidavit of Mr Armstrong. Although her Honour indicated that she was prepared to limit the use to which some of that evidence was put,[89] she did not end up making a ruling because the tender of Mr Armstrong's evidence was not pressed.[90] In any event it seems that the focus of the objection was to his evidence concerning the distance over which cattle might be able to hear and respond to the noise of a helicopter flying above and near them. That topic did not form part of her Honour's reasoning.

[192] In their written submissions the appellants contended that "there was no evidence that noise levels increase at height, and no evidence at all referable to the events on the day of the crash."[91] Apart from the fact that the onus was on the appellants to adduce such evidence as was relevant, the relevant question was the likely effect upon the cattle that were in the process of being mustered if the helicopter had been flown to a greater height within a

[88] Appeal Transcript p 13.
[89] AB 221.
[90] AB 248. See too AB 343.
[91] Appellant's Summary of Submissions [17].

minute or two of the helicopter last engaging with them, not whether noise levels increase at height. Further, there was evidence, from Mr Cook, including from his book and his acknowledgement of what Mr Leslie had said, about the events on the day of the crash.

Ground 3.4

[193] The context of [65] of the Reasons was widely accepted practice, not "proper practice", whatever that means. The appellants submitted that her Honour "overlooked that Mr Allan explained that he thought he was being asked about 'common practice' rather than 'prudent practice'" and that "Mr Allan did not think that the common practice of flying below 500 feet was prudent practice", citing paragraph [9] of Mr Allan's report of 21 October 2015.[92] That paragraph says nothing about "prudent practice". Rather it contains the following question and answer, referring back to Question 14 in the joint report quoted at [65] of the Reasons:

> Question 14 in the Joint Expert Report referred to "widely accepted practice". If this was intended to be a reference to "proper practice", does this change your answer? If so how?
>
> Yes. It is not proper practice, in my opinion, to fly below 500' AGL when not engaged in aerial stock mustering activities.[93]

[194] Further, as is apparent from the second part of that answer, Mr Allan was acting on assumptions that at the time of the loss of power Mr Leslie had "flown the helicopter in straight and level flight at a speed of 65 to 70 knots

[92] Appellant's Summary of Submissions [18].
[93] AB 768.

and on a westerly track"; "at an approximate height of 100 – 200 feet above ground level"; and "[W]as not taking off, landing, or conducting 'aerial work tasks' including aerial mustering".[94] During his evidence Mr Allan agreed that a pilot would often have to fly very low, sometimes as low as 50 feet, when mustering cattle, and that it was a matter of judgment for the pilot when assessing how high and where he should fly having regard to factors including the need to find and round up particular cattle and the risk of distracting them from the route along which they were being driven with the noise of the helicopter.[95]

[195] In any event her Honour did not overlook his evidence about "proper practice". She expressly acknowledged that "Mr Allan was of the opinion that flying higher was generally more desirable from a safety point of view".[96] This was so notwithstanding Mr Allan's concession that a higher altitude might cause problems in the case of engine failure, for example, of a gearbox problem when a pilot would want to get the aircraft onto the ground quickly, and that there was a "trade-off",[97] a possibility which her Honour noted at [60] of her reasons.

Ground 3.5

[196] This ground assumes that Mr Leslie was simply "flying at around 200 feet when travelling back to the temporary stockyards", and otherwise adds

[94] AB 680 [2.7.2(a)].
[95] AB 285-287.
[96] Reasons [62]. See too [69(a)].
[97] AB 285.

nothing of substance to the other grounds. The fact that the helicopter was travelling back to the temporary stockyards is not the point. The real issue is what if anything should the pilot have done within one or two minutes of last encountering any cattle, and in particular whether he should and could have flown the helicopter to a height of 500 feet within that period of time.

Ground 3.6

[197] Until the first day of trial the breach of duty was alleged to be the pilot's flying of the helicopter at a height lower than 500 feet above ground level, namely at a height of approximately 100 – 200 feet above ground level. That conduct was said to have caused or materially contributed to the crash because the area of available ground for the carrying out of an emergency landing was more limited than it would have been had the helicopter been flying at 500 feet.

[198] After the hearing had commenced the plaintiffs sought leave to amend the statement of claim so they could allege, for the first time, that:

(a) Mr Leslie was also in breach for:

> [attempting] a touchdown at speed (rather than a zero speed touchdown) as the termination profile which caused the helicopter to skid on impact and hit a stump or other object and thereafter to tip forward and to roll onto its side and the main rotor blades to hit the ground, which in turn caused the helicopter to be flipped violently over on the ground from one side to the other.

and

(b) under the heading "[p]articulars of cause or material contribution", Mr Leslie should have executed a zero speed touchdown from the height at which the helicopter was flying instead of attempting a touchdown at speed, because the touchdown at speed carried the risk that the helicopter may skid on impact and hit an object on the ground and tip over, thereby causing major damage to the helicopter and its occupants if they come into contact with the ground.

[199] The proposed amendments were disallowed, mainly because these were fresh allegations not previously raised and fairness to the defendants would require the trial to be adjourned to enable them to investigate and obtain evidence on those matters. It was unlikely that the Court would be able to allocate dates for the resumption of the hearing until early 2016.[98]

[200] Counsel for the appellants did not make any submissions in support of their contention in Ground 3.6 that her Honour should have allowed the proposed amendments. In any event, we consider that her Honour exercised her discretion consistently with established principle.[99]

[201] We agree with Mr Wyvill SC that those issues concerning zero speed touchdown were not issues that the Court needed to deal with.[100] However, her Honour did consider the evidence regarding zero speed landings in the context of the allegation that had the pilot flown the helicopter at a height of

[98] AB 228 – 232.
[99] *Aon Risk Services Australia Ltd v ANU* [2009] HCA 27; (2009) 239 CLR 175.
[100] Appeal Transcript 70 – 71.

500 feet he could have achieved a safer landing by successfully performing a zero speed touchdown.

Conclusions

[202] Her Honour was correct when she found that, on the evidence, she was unable to be satisfied that a reasonable pilot in Mr Leslie's position would have flown the helicopter at 500 feet or more above ground level at the relevant time, namely during the one or two minutes before the power failure.

[203] As Mr Wyvill SC submitted, the trial judge was not given any evidence to assist her to reconcile the tension between the general desirability of flying higher than 500 feet and the need, reflected by general practice and CAO 29.10, for helicopter pilots who are engaged in mustering operations to fly below 500 feet even when not actively engaged in the physical activity of mustering particular cattle. In particular her Honour was not assisted by any evidence concerning any increased risks associated with flying below 500 feet or other evidence that enabled her to perform the task required under *Shirt* so as to be satisfied that the pilot should have immediately flown the helicopter to 500 feet by way of response to such a risk.

Ground 4 - causation

[204] Notwithstanding her conclusions to the effect that there was no breach of duty, her Honour proceeded to consider the other issues in the case, namely

those relating to causation.[101] In view of our rejection of the other grounds of appeal Ground 4 does not need to be considered by this Court. However, we shall deal with the various points raised by the appellants on this issue.

[205] The plaintiffs' case was based on the premise that, contrary to our conclusions, the pilot was negligent in failing to fly the helicopter to a height of at least 500 feet prior to the time when it lost power. As her Honour pointed out at [80] the plaintiffs' case was that:

> (a) if the helicopter had been flying at 500 feet or higher the pilot *could have selected* an alternative landing site *devoid of trees and other obstacles*;
>
> (b) if the pilot had landed at such an alternative landing site, Mr Cook would not have been injured, or not so badly injured
>
> [emphasis added by us]

[206] It is relevant to recall at this point her Honour's findings, at [22] of the Reasons, that after the tail rotor of the helicopter clipped the tree and broke off it is probable that one of the skids dug into the soft ground or hit a concealed obstacle, causing the helicopter to tip over, eventually landing on the passenger side. During their oral submissions at the hearing of the appeal, counsel for the appellants challenged the finding regarding a concealed obstacle and contended that the left-hand skid in fact hit a low lying tree after the tail had collided with a tree. Mr Livesey QC referred to some photographs taken by Sergeant Chalk which depict part of a broken

[101] Reasons [78] – [106].

branch near the skid. Even if that was the obstacle that caused the helicopter to tip over, there was no evidence to suggest that it could have been seen from a height of 500 feet. It was still a "hidden" hazard or obstacle. Counsel contended that neither collision would have occurred if the helicopter had landed at zero horizontal (and vertical) speed, which it could have done had it commenced autorotation at 500 feet.[102]

[207] Her Honour identified the relevant principles set out in *March v E & MH Stramare Pty Ltd,*[103] and further explained in *Tabet v Gett*[104] where Hayne and Bell JJ said:

> For the purposes of the law of negligence, "damage" refers to some difference to the plaintiff. The difference must be detrimental. What must be demonstrated (in the sense that the tribunal of fact must be persuaded that it is more probable than not) is that a difference has been brought about and that the defendant's negligence was a cause of that difference. The comparison invoked by reference to "difference" is between the relevant state of affairs as they existed *after* the negligent act or omission, and the state of affairs that would have existed had the negligent act or omission not occurred.

[208] In *Tabet v Gett* the High Court held that the loss of a chance of a better medical outcome for a woman whose brain tumour should have been detected earlier was not actionable. Hayne and Bell JJ said:[105]

> In this case, saying that a *chance* of a better medical outcome was lost presupposes that it was *not* demonstrated that the respondent's negligence had caused any difference in the appellant's state of health. That is, it was not demonstrated that the respondent's

[102] Appeal Transcript 10.
[103] [1991] HCA 12; 171 CLR 506 per Mason CJ at 509 (Toohey and Gaudron JJ agreeing), per Deane J at 521 - 524.
[104] (2010) 240 CLR 537 at 564 [66].
[105] ibid at [67] - [68].

> negligence was probably a cause of any part of the appellant's brain damage.
>
> As Gummow A-CJ explains, to accept that the appellant's loss of a chance of a better medical outcome was a form of actionable damage would shift the balance hitherto struck in the law of negligence between the competing interests of claimants and defendants. That step should not be taken. The respondent should not be held liable where what is said to have been lost was the possibility (as distinct from probability) that the brain damage suffered by the appellant would have been less severe than it was.

[209] Her Honour then noted that counsel for the plaintiff relied on the following statement by Kiefel J in *Tabet v Gett*:[106]

> The general standard of proof applied by the common law and applied to causation is relatively low. It does not require certainty or precision. It requires that a judge be persuaded that something was probably a cause of the harm the plaintiff suffered. Historically the standard may have been chosen in order to minimise errors in civil jury trials, but it nevertheless serves to accommodate a level of uncertainty in proof.
>
> [emphasis added by the trial judge]

[210] After noting that the key word in those passages is "probably" her Honour said:

> The defendants submit that the plaintiff has not proved any "detrimental difference" and that the plaintiff's case is essentially such a "loss of a chance" case. The plaintiff can only demonstrate a bare possibility that there may have been a different outcome if the helicopter had flown higher. The pilot might have chosen a different landing site and the helicopter might not have caught its skid on a snag and flipped. The plaintiff cannot establish that either of these two eventualities would probably have occurred. I agree.

[106] ibid at 587 [145].

[211] Her Honour proceeded to identify and examine the expert evidence regarding the suitability of one or more alternative landing sites that might have been available had the descent commenced from 500 feet and the suitability of the actual landing site. At [87]:

> In summary, the evidence of the experts is that if the helicopter had been flying at 500 feet, the pilot would have had more time to select a landing site and a larger available area of ground from which to choose. However, they did not believe that flying at a greater height would have made a significant difference in the outcome for these reasons.
>
> (a) The landing site chosen appeared to have been large enough and the area relatively clear of obstructions.
>
> (b) They did not think there was a suitable alternative landing site available nearby.
>
> (c) There are too many other variables (for example wind speed and wind direction relative to the orientation of the long axis of the landing site) to enable them to say that a greater height would have affected the outcome.

[212] Her Honour then discussed the expert evidence in relation to a zero speed landing profile.[107] Mr Allan, the expert engaged by the plaintiffs, prepared a further report after being asked to make a number of assumptions different than those made by him and Mr Ogden when they prepared their joint report. One of the assumptions that he was asked to make was that there were in fact other landing sites within approximately 500 m of the area where the helicopter did land. Apart from stating what would appear to be obvious, namely that if the helicopter was higher the pilot would have had more time

[107] Reasons [88] – [99].

and options and could have reached one of those potential alternative landing sites, he did not otherwise contradict any of the opinions expressed in the joint report. He did add that a greater height would have given the pilot more time and hence a better opportunity to set up a "zero speed landing profile".[108]

[213] In cross-examination, Mr Allan agreed that the opinions expressed in several key passages of the joint report remained his opinions. At [98] of the Reasons Her Honour said:

> In cross-examination, Mr Allan agreed:
>
> (a) that a successful autorotation does not necessarily involve landing on the ground with no forward speed;
>
> (b) that depending on the circumstances one may land in autorotation with forward speed quite safely;
>
> (c) that the R22 is an unforgiving helicopter with low rotor inertia (which on other evidence makes an autorotation landing at zero speed more problematical);
>
> (d) that there are risks involved in attempting an autorotation with zero speed touchdown (including, on other evidence in the joint report, the risk of a heavier touchdown carrying the risk of injury);
>
> (e) that because of the risks, a pilot really only adopts a zero speed touchdown profile when it is absolutely vital to do so;
>
> (f) that he remained of the opinion (set out in the joint expert report) that the height of the helicopter when the engine failure occurred had no significance to the question of whether the pilot achieved a zero speed profile or not;

[108] Reasons [90].

(g) that he remained of the opinion (set out in the joint expert report) that the pilot had sufficient height to adopt any termination profile he wanted to, including a zero speed profile;

(h) that the area where the helicopter landed "seemed fine";

(i) that the thing the helicopter hit which tipped it over could not be identified from the air;

(j) that there was nothing to say that an alternative site which might have been chosen might not have had similar hidden objects;

(k) that he does not know whether the pilot attempted to land with zero speed and failed or whether he decided to land with some forward speed; and

(l) that there was nothing wrong with the pilot's judgment if he had decided to land at that spot with some forward speed.

[214] During the appeal counsel for the appellant challenged the correctness of what her Honour said at [98(e)] of the Reasons and submitted that Mr Allan's view was that one generally adopts zero speed landings. Although there was some evidence to that effect, Mr Allan did answer "yes" to the question: "And, because there are risks, involved in doing a zero speed touchdown itself, you really only adopt a zero speed touchdown when you have determined that it is absolutely vital to do so?"[109] He later said that if the landing area was as confined as it was the most appropriate technique to apply would have been a zero speed touchdown. However he was applying some degree of hindsight in the context of the assumption that "the landing area at that particular time was not suitable in the sense that the

[109] AB 282.9.

aircraft struck a stump".[110] By way of footnote to [98(e)] her Honour referred to Mr Allan's changes of opinion on this issue. We do not consider this to be a major point of relevance, particularly in light of her Honour's other findings in [98] about his evidence.

[215] Her Honour expressed the conclusions quoted in [184] above. Whilst many of those opinions of Mr Allan would also be relevant to the breach of duty issue they effectively negate any relevant causal link in the context of zero speed landings. Even if the pilot had a wider range of options at 500 feet or higher there was no greater likelihood that he would then have attempted a zero speed landing and that such a landing would have resulted in a different outcome.

[216] Her Honour then addressed the plaintiffs' primary case on causation.[111] She considered the submissions and evidence concerning the alternative landing areas suggested by counsel for the plaintiffs. Her Honour said, at [101]:

> The plaintiff's case boils down to this: that if the helicopter had been flying higher it might have landed somewhere else and if it had landed somewhere else it would not have struck the hidden object and turned over as it did.
>
> (The amended statement of claim pleads that a more suitable site devoid of trees could have been chosen and that a safer landing could have been achieved in that the tail rotor would not have hit a tree, but the evidence points to the cause of the helicopter flipping over having nothing to do with hitting the tree and losing the rotor. The evidence was that it happened when one skid snagged on a hidden object.)

[110] AB 288.
[111] Reasons [100] – [106].

[217] At [103] her Honour concluded that:

> The plaintiff has not established that, given the opportunity, a reasonably competent pilot would have chosen an alternative site rather than the one chosen. The joint opinion of the expert is to the contrary:
>
> > If the ground had not been soft or a possible obstruction been hidden in the ground, the helicopter would have likely remained upright and not rolled over. The landing site appeared to have been large enough and the area relatively clear of obstructions.[112]

[218] Her Honour referred to Mr Allan's views that the skid snagged on a hidden object, not soft ground, and that the hidden obstacle could not be identified from the air. She said, at [104]:

> There is no evidence that any of the alternative landing sites had soil that was less soft, and lacked hidden obstacles, and that these qualities could be identified from the air so as to make it probable that the alternative site been chosen in preference to the one that was chosen.

[219] At [105] her Honour said:

> Moreover there is no evidence that the chosen site looked unsuitable (or less suitable than any of the others) from the air. Mr Allan's evidence was that it looked all right. Mr Scott gave evidence that when he lost radio contact with Mr Leslie, he flew his helicopter in to look for him. When he found the crash site he saw that the place where Mr Leslie had landed was the best clearing in the area for an emergency landing.

[220] Her Honour concluded, at [106]:

> Even if the plaintiff had established that another site would likely have been chosen (because, for example, it had less trees), that would not suffice to establish causation, because trees were not the cause of

[112] Joint expert report at [11.1].

> the helicopter tipping and injuring Mr Cook. All that would have established is that there was a bare possibility of a different outcome, in other words, a loss of opportunity for a different outcome. A hidden hazard on the ground might have been present at any landing site.

[221] Accordingly, "even if the third defendant had been in breach of his duty of care in flying under 500 feet, the plaintiff has not shown that his doing so was a cause of the plaintiff's injuries."[113]

Grounds of appeal

[222] The Notice of Appeal included a number of sub grounds or particulars in relation to Ground 4, namely that "[t]he trial judge erred in failing to find that the defendants' breach of duty materially contributed to the crash and was a cause of the injuries sustained by Rob Cook." They were:

> 4.1 The evidence was that the pilot apparently ran out of room, did not achieve a zero speed landing and was travelling across the ground at speed and clipped a tree before crashing. With greater height, and in any event, at zero speed there were alternative landing sites available to the pilot in the immediate vicinity of the crash site, Reasons [96] - [99].
>
> 4.2 In addition, the evidence showed that with a greater height the pilot had a greater travel distance, more time and more alternative landing sites from which to choose, including areas 300 to 500 metres away which were open and relatively level and 100 metres wide, Reasons [106];
>
> 4.3 The joint expert report referred to by the trial judge was not based on the evidence actually before the Court and, unlike the supplementary report of Mr Allan, did not consider the evidence before the Court regarding the alternative landing sites, Reasons [86] - [90];

[113] Reasons [107(4)].

> 4.4 The trial judge erroneously mischaracterised the plaintiffs' case as one concerning the loss of a chance in circumstances where alternative landing sites were proved to exist. The possibility of a low lying tree or other object at those other sites did not displace the plaintiffs' proof, on the balance of probabilities, that the defendants' breach was causative, Reasons [100] - [104]. This finding was reinforced by the absence of evidence from the defendants (including the pilot) that the apparently suitable alternative sites were not safe, Reasons [106].

Consideration

[223] In order to establish causation it would be necessary for the Court to conclude "as a matter of evidence and inference that, more probably than not, the taking of [the action which the appellants say should have been taken, namely flying at a height of at least 500 feet] would have prevented or minimised the injuries the plaintiff sustained."[114]

[224] As her Honour pointed out at [100] of the Reasons the plaintiffs' primary contention in relation to causation was that if the helicopter had been flown at 500 feet or more the pilot would have had more time and more options in relation to landing areas. There would have been alternative landing sites that the pilot could have chosen which were devoid of trees and other obstacles and thus more suitable than the site where the helicopter did land.

[225] This was the main point made by the appellants in their submissions. Counsel contended that, contrary to her Honour's findings set out in [217] - [219] above, there was evidence that there were several other better landing sites:

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[114] *Kuhl v Zurich* [2011] HCA 11; 243 CLR 361 at 379 [45]; *Paul v Cooke* [2013] 85 NSWLR 167; *Waller v James* [2015] NSWCA 323.

(a) “an area immediately adjacent to the area [where the helicopter did land] being the area circled in red in Annexure A to the Pugh Affidavit, which comprised some 15 metres in diameter”;[115]

(b) “the area in which Andrew Scott's R22 was landed when the photograph was taken by Dr Manders from the approaching R44 as shown in Exhibit P10”;[116]

(c) “the area where Andrew Scott's R22 was landed to drop off Michelle Gough and her equipment, being an area about 500 metres from the crashed helicopter”,[117] and

(d) open areas of more than 100 metres diameter within 300 - 500 metres of the location of the crashed helicopter.[118]

[226] The sequence of events in relation to landing areas following the crash was as follows:

(a) When Mr Andrew Scott, the pilot and sole occupant of the other helicopter, saw the crashed helicopter:

(i) “[he] could see that the best clearing in the area for an emergency landing was the one [Mr Leslie] selected”; and

[115] Referring to the evidence of Mr Pugh at AB 658 [7] – [8].
[116] Referring to the evidence of Dr Jamaty at AB 572 [9].
[117] Referring to the evidence of Ms Gough at AB 666 [6] - [7].
[118] Referring to the evidence of Sergeant Thomas Chalk in 3 of his 4 affidavits, specifically at AB 582 [6] – [7], AB 646 [2] – [3] and AB 652-653 and the photographs attached.

(ii) "[he] flew around the area looking for a place to land and found one about 30 to 50 m away. [He] could just get into it because [he] only had [himself] on board."[119]

(b) Mr Scott then flew back to the temporary stockyards and picked up Mr Shane Pugh. Mr Scott said that when he came back with Mr Pugh he could not land where the helicopter had crashed because of the additional weight, so he landed about 50 to 70 m away from the crashed helicopter.[120] Mr Pugh said that Scott landed his helicopter vertically into an area that was approximately 15 m in diameter, less than 50 m away from the crashed helicopter. It is indicated by a circle drawn on Attachment A to Mr Pugh's affidavit of 13 October 2015.[121] This is the area referred to in [225(a)] above, and was referred to by her Honour at [88(a)] and [100(b)] and footnotes 29 and 30. Mr Pugh said that after Scott flew away again (apparently to pick up Mr Cook's father and take him back to the crash site), he "removed some obviously dead limbs from the trees surrounding the clearing [but] did not uproot any trees and did not increase the size of the clearing."[122]

(c) Mr Scott flew the helicopter to the Tanami Mine, about 15 minutes flight away, and picked up a paramedic Michelle Gough. Ms Gough said Scott dropped her off approximately 500 m away from the crash site. He told her he did not want to land too close to the crashed

[119] AB 847A [2]. See too Mr Scott's evidence at AB 337.
[120] AB 847A [3].
[121] AB 658 [7].
[122] AB 658 [8].

helicopter because it was too windy and the space was a bit too tight. He expressed concerns about the weight of the helicopter with her and her gear in it.[123] Mr Scott said it was somewhere between 500 – 1000 m away from the crash site.[124] This is the area referred to in [2254(c)] above, and was referred to by her Honour at [88(b)] and [100(c)].

(d) Mr Scott then flew towards the crash site guiding Ms Gough to the site. He then landed his helicopter about 10 m away from the crashed helicopter.[125] He said he performed a vertical landing in a very confined area surrounded by low trees and that he could not have formed that landing with Ms Gough on board. Mr Leslie had already prepared that landing area by removing dead trees so as to allow a vertical landing.[126]

(e) Mr Scott subsequently picked up Dr Jamaty at Suplejack Station and landed between 50 and 100 m away from the crashed helicopter. She said she could see the crashed helicopter from where they landed. The vegetation in and around the crash site was not dense.[127] This is the area depicted in Ex P10 referred to in [225(b)] above, and was referred to by her Honour at [88(c)] and [100(b)] and footnote 30. Mr Scott said

[123] AB 666 [6].
[124] AB 845.
[125] AB 666 [8] and AB 846 [8].
[126] AB 846 [8].
[127] AB 572 [9] & [10].

that prior to the photograph (Ex P10) being taken he had cleared that site of some timber to make it safer and easier to fly out.[128]

(f) Subsequently, a larger helicopter, R44, arrived with Dr Manders and a nurse, and landed a little further away from where Scott's helicopter was situated after he had dropped off Dr Jamaty. Mr Scott and others "had to do quite a bit of clearing of [that] site for the R44."[129]

(g) Mr Scott said that the photographs, including Ex P10, show the site where the R44 subsequently landed "after people have been on the site for a number of hours and a lot of clearing had been done. The site looked very different when [he] first saw it."

(h) Two days later, on 2 October 2015, Sergeant Chalk attended the scene of the accident, by walking some five kilometres from where he could drive his car, mainly through areas of spinifex. He took photographs, two of which indicated the general nature of the terrain in the vicinity of the crashed helicopter. Sergeant Chalk referred to some open and relatively level spaces more than 100 m wide beyond a few hundred metres of the crash site which he described as a dry swamp.[130] These are the areas referred to in [225(d)] above, that were referred to by her Honour at [88(d)] and [100(d)]. However Mr Pugh, who accompanied

[128] AB 847A [4].
[129] AB 847A [5].
[130] AB 645 [6].

Sergeant Chalk on that walk, said that "in the last 500 m or so [of that walk the] large open areas of spinifex … no longer appeared."[131]

[227] Apart from the fact that most of the evidence relates to areas which were cleared or otherwise interfered with during and after the accident there was very little detail about those areas and less evidence still about the areas some distance away from the accident site such as would enable a court to draw inferences about the nature of those areas. None of that evidence showed that such areas were as or more suitable for an emergency landing than the area where the helicopter actually landed, whether or not it started from a height of 500 feet.

[228] No reasons were advanced as to why the plaintiffs, their insurer, expert or other agents, could and did not visit and investigate the suggested alternative landing sites all of which are presumably situated on Suplejack, for the purposes of showing that one or more of them would have been suitable for a safer emergency landing had the helicopter commenced its emergency descent from a height of 500 feet.

[229] Her Honour had the evidence from the two experts referred to in [211] above. Both of them gave evidence and could have been questioned further about the alternative landing sites suggested by counsel for the plaintiffs. More importantly her Honour had the evidence of Mr Scott that when he arrived at the scene "[he] could see that the best clearing in the area for an

[131] AB 662 [4].

emergency landing was the one [Mr Leslie] selected"[132] and that if he had a choice between that site and the other places where he landed that day he would have picked that site to land because it was "clear" and "longer".[133] Mr Scott would have been in the best position of anyone to assess the suitability of that and other feasible landing sites during his various landings delivering people to assist with the rescue operation. If, as the evidence of Sergeant Chalk might suggest, there was a suitable site closer than the place where he dropped Ms Gough, one would have expected him to have dropped her there. Also, Mr Cook said that "[he] did not see any other likely landing spot from the height at which the helicopter fell."[134]

[230] Even if that particular area, or one of the other areas about 500 m away from the crash site, was in fact suitable, it would probably have been very risky for the pilot to have attempted to steer the disabled helicopter towards that site in the limited time available in the hope that the helicopter would get that far and achieve a safe landing. Mr Ogden's evidence was to the effect that a helicopter of this kind in autorotation might cover a distance of between 540 and 720 m from a height of 500 feet, depending on the wind.[135]

[132] AB 847A [2].
[133] AB 337.
[134] AB 564 [31].
[135] AB 791.

[231] Mr Allan said "yes" in answer to the following question: "Really, does your opinion come down to this? That if the helicopter had been higher when the engine failed, the pilot might have landed somewhere else?"[136]

[232] Further, the evidence was to the effect that, but for the hidden hazard, the helicopter would have likely remained upright and not rolled over, as a consequence of which Mr Cook would not have been so seriously injured.[137] The alternative sites could also have had hidden hazards and or soft sand or a low tree that could not be seen from a height of 500 feet.

[233] We agree with her Honour's conclusions to the effect that the evidence does not show that if the helicopter had lost power at 500 feet a more suitable landing spot would have been available and the pilot would have chosen to land there instead. We agree with her Honour's characterisation of the appellants' case as a "loss of a chance case".

[234] Further, as her Honour concluded at [106], even if the plaintiff had established that another site would likely have been chosen, that would not suffice to establish causation. All that would have established is that there was a bare possibility of a different outcome, in other words, a loss of opportunity for a different outcome.[138]

[235] The other main submission made by the appellants in relation to the causation issue was that the onus lay on the pilot to show that other safe

[136] AB 290.
[137] AB 830 [11.1] and AB 831 [12.1].
[138] *Paul v Cooke* [2013] NSWCA 311; 85 NSWLR 167.

landing sites were not available. In support of this proposition counsel for the appellants relied on the High Court's decision in the *Benning v Wong,*[139] presumably dicta of the two minority judges, Barwick CJ at 266 and Windeyer J at 308. However that was a *Rylands v Fletcher* type of case involving a gas company which allegedly allowed gas to escape thereby causing personal injury to the plaintiff. The gas company asserted that it had acted lawfully pursuant to statutory authority. The Court's decision concerned whether the plaintiff had a cause of action in such circumstances, not causation or onus of proof on that issue. The obiter comments in the judgements concerning onus of proof related to the particular statutory provisions under which the gas company was operating and the potential defences that might have been available to the gas company.

[236] *Benning v Wong* is not authority for the propositions advanced by counsel which are to the effect that a defendant has the onus of proving that it did not cause the plaintiff's injuries. As always, at least in respect of common law claims, the onus of proof remains with the plaintiff, subject to any statutory provision to the contrary.

[237] In conclusion, even if the respondents were in breach of a relevant duty of care, namely to have flown the helicopter to a height of at least 500 feet immediately prior to the loss of power, the appellants have not established that Mr Cook's injuries were caused by such breach. At best, the appellant

[139] (1969) 122 CLR 249.

Mr Cook lost a possible, but remote, chance of a better outcome as a result of the helicopter not being at such a height.

Disposition

[238] As none of the grounds of appeal have been made out the appeal is dismissed. We will hear the parties on the question of costs.
