SUPREME COURT OF SOUTH AUSTRALIA

(Full Court: Civil)

BHP BILLITON LTD v HAMILTON & ANOR

[2013] SASCFC 75

Judgment of The Full Court
(The Honourable Chief Justice Kourakis, The Honourable Justice Blue and The Honourable Justice Stanley)

15 August 2013

TORTS - NEGLIGENCE - ESSENTIALS OF ACTION FOR NEGLIGENCE - DUTY OF CARE - REASONABLE FORESEEABILITY OF DAMAGE - PARTICULAR CASES - DANGEROUS THINGS OR SUBSTANCES

TORTS - NEGLIGENCE - DANGEROUS AND INJURIOUS THINGS, ETC - BREACH OF DUTY OF CARE

TORTS - NEGLIGENCE - ESSENTIALS OF ACTION FOR NEGLIGENCE - DAMAGE - CAUSATION - GENERALLY

STATUTES - ACTS OF PARLIAMENT - INTERPRETATION - GENERAL APPROACHES TO INTERPRETATION - GENERALLY

DAMAGES - MEASURE AND REMOTENESS OF DAMAGES IN ACTIONS FOR TORT - MEASURE OF DAMAGES - PERSONAL INJURIES - PREVAILING STANDARDS OF GENERAL DAMAGES

Mrs Hamilton (as executor and in her own right) sued BHP Billiton Ltd in the District Court for damages for negligence leading to Mr Hamilton's contraction of mesothelioma

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On Appeal from DISTRICT COURT OF SOUTH AUSTRALIA (MCCUSKER J)

Appellant: BHP BILLITON LTD Counsel: MR T G R PARKER SC - Solicitor: PIPER ALDERMAN

First Respondent: MARGARET SCHOULAR HAMILTON (AS LEGAL PERSONAL REPRESENTATIVE OF THE ESTATE OF THE LATE RAYMOND CHARLES HAMILTON Counsel: MR M C LIVESEY QC WITH MR A V L POSSINGHAM - Solicitor: MOLONEY PARTNERS

Second Respondent: MARGARET SCHOULAR HAMILTON Counsel: MR M C LIVESEY QC WITH MR A V L POSSINGHAM - Solicitor: MOLONEY PARTNERS

Hearing Date/s: 06/09/2012, 07/09/2012, 05/10/2012

File No/s: SCCIV-12-387

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and ultimately his death. The trial Judge upheld the claim and awarded damages, which included damages for pain and suffering and loss of amenities of life of $115,000.

BHP appeals against the judgment on liability contending that the trial Judge erred in concluding that:

1. BHP breached its duty of care to Mr Hamilton; and

2. BHP's breach of duty (if established) caused or contributed to Mr Hamilton's contraction of mesothelioma.

Mrs Hamilton cross-appeals on quantum contending that the trial Judge's award of $115,000 for pain, suffering and loss of amenities of life was manifestly inadequate.

Held by the Court dismissing the appeal:

As to negligence:

1. On its proper construction, where the pre-conditions are satisfied so as to enliven the presumption, s 8(2) of the Dust Diseases Act 2005 (SA) creates a rebuttable presumption that the defendant knew at the relevant time that some (ie any) exposure to asbestos dust could result in the plaintiff contracting any or all of the pathological conditions included in the definition of "dust disease" in s 3 of the Act (at [16]-[26] per Blue J and [201]-[207] per Stanley J, Kourakis CJ agreeing).

2. The pre-conditions having been satisfied by the evidence led at trial, that presumption was engaged (at [27] per Blue J and [227]-[234] per Stanley J, Kourakis CJ agreeing).

3. The trial Judge correctly found that BHP had failed to rebut the presumption (at [31]-[48] per Blue J and [239]-[248] per Stanley J, Kourakis CJ agreeing).

4. The trial Judge correctly found that BHP was negligent in not taking steps which were available to it to reduce the inhalation of asbestos dust by its workers at Whyalla (at [53]-[56] per Blue J and [258]-[276] per Stanley J, Kourakis CJ agreeing).

As to causation:

5. Section 8(1) of the Act translates a mere possibility that a plaintiff's exposure to asbestos dust resulting from a defendant's negligence might have caused or contributed to his or her dust disease into an actuality or finding that the exposure did cause or contribute to the dust disease (at [64]-[65] per Blue J and [208]-[211] and [218]-[224] per Stanley J, Kourakis CJ agreeing).

6. The trial Judge's findings as to the avoidability of the great majority of the exposure if BHP had not been negligent and acceptance of the evidence of Professor Henderson were open to him and appropriate on the evidence (at [68]-[76] per Blue J and [218]-[224] and [299]-[303] per Stanley J, Kourakis CJ agreeing).

7. In the circumstances, it was proved that the exposure resulting from BHP's negligence might have caused or contributed to Mr Hamilton's mesothelioma within the meaning of and so as to relevantly to engage the presumption under section 8(1) of the Act (at [76] per Blue J and [282] and [299]-[303] per Stanley J, Kourakis CJ agreeing).

8. On the evidence, the trial Judge correctly found that BHP had failed to rebut the presumption (at [86]-[92] per Blue J and [304]-[311] per Stanley J, Kourakis CJ agreeing).

9. The trial Judge correctly concluded that Mr Hamilton's exposure to asbestos dust resulting from BHP's negligence caused or contributed to his mesothelioma (at [77] and [79] per Blue J and [312] per Stanley J, Kourakis CJ agreeing).

Held by the Court allowing the cross-appeal:

1. In considering whether an award in this State is manifestly inadequate or excessive, it is permissible to have appropriate regard to appropriate awards in comparable cases at first instance and on appeal in this jurisdiction and other jurisdictions (at [101]-[118] per Blue J and [317]-[318] per Stanley J, Kourakis CJ agreeing).

2. The general level of damages for pain, suffering and loss of amenities in terminal illness cases such as Ewins v BHP Billiton Ltd (2005) 91 SASR 303 should be increased (at [140] per Blue J and [328] per Stanley J, Kourakis CJ agreeing).

3. The assessment of damages in Mr Hamilton's case of $115,000 for pain, suffering and loss of amenities was manifestly inadequate (at [140] per Blue J and [328] per Stanley J, Kourakis CJ agreeing).

4. Damages for pain, suffering and loss of amenities is re-assessed at $190,000 (at [147] per Blue J and [330] per Stanley J, Kourakis CJ agreeing).

Acts Interpretation Act 1915 (SA) s 22(1); *Civil Law (Wrongs) Act 2002* (ACT) s 99; *Civili Liability Act 1936* (SA) s 52; *Civili Liability Act 2002* (NSW) ss 16. 17, 17A; *Civil Liability Act 2002* (WA) ss 9, 10A; *Civil Liability Act 2002* (Tas) s 27, 28; *Civil Liability Act 2003* (Qld) ss 61, 62; *Compensation (Commonwealth Government Employees) Act 1971* (Cth) s 30; *Dust Disease Act 2005* (SA) ss 3, 4, 8, 8(1), 8(2), 9(2); *Dust Diseases Regulations 2006* (SA) Sch 1; *Dust Diseases Tribunal Act 1989* (NSW) s 32; *Jurisdiction of Courts (Cross-Vesting) Acts* ss 4, 5; *Motor Vehicle (Third Pary Insurance) Act 1943* (WA) s 3C; *Personal Injuries (Liabilities and Damages) Act 2003* (NT) ss 27, 28; *Safety, Rehabilitation and Compensation Act 1988* (Cth) s 45; *Supreme Court Civil Rules 1987* (SA) rr 18.02, 18.03; *Supreme Court Rules 1947* (SA) O 11, r 1; *Workers Rehabilitation and Compensation Act 1986* (SA) ss 31, 113; *Wrongs Act 1958* (Vic) ss 28G, 26H, 28HA, referred to.
Amaca Pty Ltd v Booth [2011] HCA 53; (2011) 246 CLR 36; *BHP Billiton Ltd v Parker* [2012] SASCFC 73; (2012) 113 SASR 206; *Bird v The Commonwealth* (1988) 165 CLR 1, applied.
Amaca Pty Ltd v King [2011] VSCA 447; *Bennett v Minister for Community Welfare* (1992) 176 CLR 408; *Bonnington Castings Ltd v Wardlaw* [1956] AC 613; *Carson v John Fairfax & Sons Ltd* (1993) 178 CLR 44; *Chakravarti v Advertiser Newspapers Ltd* (1998) 72 SASR 361; *Commission for Railways (NSW) v Agalianos* (1955) 92 CLR 390; *Coyne v Citizen Finance Limited* (1991) 172 CLR 211; *CSR Ltd v Young* (1998) Aust Torts Reports 81-468; (1998) 16 NSWCCR 56; *Czatyrko v Edith Cowen University* [2005] HCA 14; (2005) 79 ALJR 839; *Ellis v State of South Australia* 2006] WASC 270; *Ewins v BHP Billiton Ltd* [2005] SASC 95; (2005) 91 SASR 303; *Hamilton v BHP Billiton Limited* [2012] SADC 25; *Hannell v Amaca Pty Ltd* [2006] WASC 310; *Hirsch v Bennett* [1969] SASR 493; *K-Generation Pty Ltd v Liquor Licensing Court* [2009] HCA 4; (2009) 237 CLR 501; *Lowes v Amaca Pty Ltd* [2011] WASC 287; *McGilvray v Amaca Pty Ltd* [2001] WASC 345; *Misiani v Welshpool Engineering Pty Ltd* [2003] WASC 263; *Neill v NSW Fresh Food and Ice Pty Ltd* (1963) 108 CLR 362; *New South Wales v Fahy* [2007] HCA 20; (2007) 232 CLR 486; *O'Gorman v Sydney South West Area Health Service* [2008] NSWSC 1127; *Packer v Cameron* (1989) 54 SASR 246; *Parkinson v Lend Lease Securities and Investments Pty Ltd* [2010] ACTSC 49; (2010) 4 ACTLR 213; *Perez v The State of New South Wales* [2013] NSWDDT 1; *Planet Fisheries Pty Ltd v La Rosa* (1968) 119 CLR 118; *Project Blue Sky Inc v Australian Broadcasting Authority* [1998] HCA 28; (1998) 194 CLR 355; *Reynolds v Comcare* [2006] SADC 136; *Saeed v Minister for Immigration and Citizenship* [2010] HCA 23; (2010) 241 CLR 252; *Sienkiewicz v Greif (UK) Ltd* [2011] 2 AC 229; *Waugh v Kippen* (1986) 160 CLR 156; *WorkCover Corporation v Perre* [1999]

SASC 564; (1999) 76 SASR 95; *Wyong Shire Council v Shirt* (1980) 146 CLR 40, discussed.

Amaca Pty Ltd v Hannell [2007] WASCA 158; (2007) 34 WAR 109; *Bank of New South Wales v Commonwealth* (1948) 76 CLR 1; *Bankstown Foundry Pty Ltd v Braistina* (1986) 160 CLR 301; *Betts v Whittingslowe* (1945) 71 CLR 637; *Bull v Attorney-General (NSW)* (1913) 17 CLR 370; *Burch v South Australia* (1998) 71 SASR 12; *Chanter v Blackwood* (1904) 1 CLR 39; *Easther v Amaca Pty Ltd* [2001] WASC 328; *Farah Constructions Pty Ltd v Say-Dee Pty Ltd* [2007] HCA 22; (2007) 230 CLR 89; *Fox v Percy* [2002] HCA 22; (2003) 214 CLR 118; *Graham Barclay Oysters Pty Ltd v Ryan* [2002] HCA 54; (2002) 211 CLR 540; *Hamilton v Nuroof (WA) Pty Ltd* [2012] SADC 25; *IW v City of Perth* (1997) 191 CLR 1; *John Pfeiffer Pty Ltd v Rogerson* [2000] HCA 36; (2000) 203 CLR 503; *Joyce v Pioneer Tourist Coaches Pty Ltd* [1969] SASR 501; *Lange v Australian Broadcasting Corporation* (1997) 189 CLR 520; *Mabo v Queensland (No 2)* (1995) 175 CLR 1; *March v E & MH Stramare Pty Ltd* (1991) 171 CLR 506; *Nemer v Holloway* [2003] SASC 372; (2003) 87 SASR 147; *Owen v South Australia* (1996) 66 SASR 251; *Police v Cadd* (1997) 69 SASR 150; *R v Place* [2002] SASC 101; (2002) 81 SASR 395; *Roads and Traffic Authority v Royal* [2008] HCA 19; (2008) 82 ALJR 870; *Roads and Traffic Authority of New South Wales v Dederer* [2007] HCA 42; (2007) 234 CLR 330; *South Australian Housing Trust v State Government Insurance Commission* (1989) 51 SASR 1; *Stateliner Pty Ltd v Legal & General Assurance Society Ltd* (1981) 28 SASR 16; *The State of South Australia v Ellis* [2008] WASCA 200; (2008) 37 WAR 1; *Sydney South West Area Health Service v Stamoulis* [2009] NSWCA 153; *Tesco Supermarkets Ltd v Nattrass* [1972] AC 153; *Vozza v Tooth & Co Ltd* (1964) 112 CLR 316; *Wakeline v London and South Western Railway Co* (1886) 12 App Cas 41, considered.

WORDS AND PHRASES CONSIDERED/DEFINED

"Dust Disease"
"Asbestos Related Disease"

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KOURAKIS CJ:

1 I would dismiss the appeal for the reasons given by Blue and Stanley JJ. I would allow the cross-appeal and join in the orders proposed by them for the reasons they give.

BLUE J:

2 The respondent/plaintiff Mrs Hamilton (as executor of the estate of Mr Hamilton and in her own right) sued BHP Billiton in the District Court for damages for negligence leading to Mr Hamilton's contraction of mesothelioma and ultimately his death. The trial Judge upheld Mrs Hamilton's claim and awarded damages of $232,704.96 (inclusive of interest), which included damages for pain and suffering and loss of amenities of life of $115,000.

3 BHP appeals against the judgment on liability and Mrs Hamilton cross appeals on quantum.

4 The issues which arise on BHP's appeal are whether the trial Judge erred[1] in concluding that:

1. BHP breached its duty of care to Mr Hamilton;

2. BHP's breach of duty (if established) caused or contributed to Mr Hamilton's contraction of mesothelioma.

5 The issues which arise on Mrs Hamilton's cross appeal are:

1. the extent to which the trial Judge was entitled, or this Court on appeal is entitled, to have regard to comparable awards in this or other jurisdictions;

2. whether the trial Judge's award of $115,000 for pain, suffering and loss of amenities of life was manifestly inadequate.

6 The relevant facts, evidence, reasoning of the trial Judge and arguments on appeal are set out in the reasons for judgment of Stanley J.

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[1] Adopting the approach articulated in *Fox v Percy* [2002] HCA 22; (2003) 214 CLR 118 at [21]-[31] per Gleeson CJ, Gummow and Kirby JJ.

Existence and content of duty of care

7 The existence of a duty of care was and is not in dispute. The relationship of employer and employee is a clearly established category in which a duty of care arises.[2] It is also clearly established that the duty of care owed by an employer to an employee is a duty to take reasonable care for the employee's safety which encompasses providing a safe place and system of work and avoiding exposing the employee to unnecessary risks of injury.[3]

8 Parties (plaintiffs and/or defendants) sometimes seek to define the content of the duty of care in specific terms tailored to the particular circumstances of the breach in a manner in which the definition of the content of the duty answers (affirmatively or negatively) the issue of breach. BHP's submissions on appeal at times were expressed in terms of there being a dispute about the content of the duty of care owed by BHP to Mr Hamilton. In reality, the dispute is not about the content of the duty of care (which is as expressed in the previous paragraph), but rather whether BHP was in breach of that duty of care. Issues of breach should not be disguised as issues of content of duty.[4]

Breach of duty of care

9 BHP contends that the trial Judge made a series of errors in reaching his conclusion that BHP breached a duty of care owed to Mr Hamilton.

10 The issues concerning breach of duty of care are whether the trial Judge erred:

(a) in construing section 8(2) of the *Dust Diseases Act 2005* (SA) ("the Act") so as to presume that BHP knew that exposure to asbestos dust at any level could result in a dust disease;

(b) in finding that BHP had not rebutted the presumption;

(c) in finding in the alternative that Mrs Hamilton had proved that contraction of a dust disease by Mr Hamilton was reasonably foreseeable by BHP in accordance with common law principles;

(d) in finding that precautions and protections were reasonably available to BHP to minimise Mr Hamilton's exposure to asbestos dust and risk of contracting a dust disease;

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2 *Czatyrko v Edith Cowen University* [2005] HCA 14; (2005) 79 ALJR 839 at [12] per Gleeson CJ, McHugh, Hayne, Callinan and Heydon JJ.

3 *Bankstown Foundry Pty Ltd v Braistina* (1986) 160 CLR 301 at 307-308 per Mason, Wilson and Dawson JJ; *Czatyrko v Edith Cowen University* (2005) 79 ALJR 839 at [12]-[16] per Gleeson CJ, McHugh, Hayne, Callinan and Heydon JJ; *BHP Billiton Ltd v Parker* [2012] SASCFC 73; (2012) 113 SASR 206 at [12]-[13] per Doyle CJ and White J.

4 See *Graham Barclay Oysters Pty Ltd v Ryan* (2002) 211 CLR 540 at [106] per McHugh J and [187] and [191]-[192] per Gummow and Hayne JJ; *New South Wales v Fahy* (2007) 232 CLR 486 at [53] per Gummow and Hayne JJ.

(e) in finding that a reasonable employer in BHP's position would have undertaken and provided such precautions and protections.

Statutory presumption of knowledge: construction of section 8(2)

11 At trial, the issue whether BHP had relevant presumed knowledge turned on the construction of section 8(2) of the Act. That subsection provides:

> A person who, at a particular time, carried on a prescribed industrial or commercial process that could have resulted in the exposure of another to asbestos dust will be presumed, in the absence of proof to the contrary, to have known at the relevant time that exposure to asbestos dust could result in a dust disease.

12 The trial Judge construed section 8(2) such that, when the presumption is engaged, the defendant is presumed to have actual (subjective) knowledge, not that a reasonable person in the defendant's position would foresee the risk of a dust disease resulting (constructive knowledge).[5] On appeal, BHP accepts that construction.

13 The trial Judge construed section 8(2) such that the presumed knowledge is that exposure at *any* level to asbestos dust could result in a dust disease.[6] BHP contends that the trial Judge misconstrued the section and that the presumed knowledge (when the presumption is engaged) is that exposure at *sufficient* levels to asbestos dust could result in a dust disease without the subsection addressing what is a sufficient level for this purpose. BHP's senior counsel coined the convenient shorthand term "generalised knowledge" to denote this latter concept.

14 In approaching the construction of section 8(2), four matters can be observed. The subsection is confined in its application to a defendant who carried on a prescribed industrial or commercial process at the relevant time: it does not apply to any defendant or any employer. The knowledge which is presumed is that exposure to asbestos dust could result in a dust disease, which refers to a possibility rather than a probability or certainty. Leaving aside the tense, the subsection uses the same phrase (*could have resulted*) to link the prescribed process to the exposure as it uses (*could result*) to link (in the mind of the defendant) the exposure to a dust disease. To enliven the presumption, it is sufficient that some exposure to asbestos dust could have resulted from the prescribed process: there is no requisite amount of exposure specified to trigger the presumption.

15 The subsection operates against the background and in the context of the common law defining what constitutes breach of duty: the subsection addresses one element of breach of duty but does not otherwise modify the common law.

16 The literal meaning of the words "known … that exposure to asbestos dust could result in a dust disease" is that the presumed knowledge is that some

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5 [2012] SADC 25 at [350] and [355]-[357].

6 Ibid at [349].

exposure to asbestos dust (with no requisite quantity) could result in a dust disease. The construction advanced by BHP requires additional words to be read into the section along the lines of "known … that exposure to asbestos dust *at sufficient levels* could result in a dust disease". There is no warrant for reading in such words.

17 Both the structure and evident purpose of the subsection indicate that it is self-contained in creating the presumption. On BHP's construction, to give operative content to the presumption, it would always be necessary for the plaintiff to adduce extrinsic evidence of what was known by the defendant at the relevant time to be *sufficient levels* of exposure to asbestos dust such that a dust disease could result.

18 While the subsection uses the definite article when referring to exposure to asbestos dust in defining the second precondition to enliven the presumption ("*the exposure* … to asbestos dust"), it does not use either the definite or indefinite article when referring to exposure as the subject matter of the presumed knowledge ("*exposure* to asbestos dust"). The presumed knowledge is simply that exposure to asbestos dust could result in a dust disease, not a given level of exposure to asbestos dust. The fact that the presumed knowledge is of the possibility, rather than probability or certainty, of a dust disease resulting from exposure supports a construction that the presumed knowledge does not refer to a sufficient level of exposure to asbestos dust.

19 This construction is supported by the evident purpose of the subsection. The subsection was enacted against the background of the common law which defines the elements of causes of action, especially the cause of action of breach of duty of care. Knowledge of risk (actual or constructive) is usually an essential element in establishing breach of a duty of care.[7] If knowledge of the relevant risk is established, the enquiry proceeds to the steps which could and should have been taken by a reasonable person in the position of the defendant.[8] The evident purpose of the subsection is to create a presumption of knowledge of the relevant risk merely upon proof that the defendant carried on a prescribed process and that the process could have resulted in the exposure of the plaintiff to asbestos dust. The purpose is to aid the proof of a component of the plaintiff's cause of action.

20 If a plaintiff were required to prove *aliunde* the level of exposure to asbestos dust which the defendant knew (or ought to have known) could result in a dust disease, the subsection would have little, if any, practical operation.

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[7] Knowledge of risk (actual or constructive) can also be an important element going to the existence of a duty of care in other than established categories in which a duty of care arises. However, in established categories of duty of care, such as employer and employee, the existence of a duty of care is usually uncontroversial.

[8] *Wyong Shire Council v Shirt* (1980) 146 CLR 40 at 47-48 per Mason J (Stephen J and Aickin J agreeing).

21 In *BHP Billiton Ltd v Parker,*[9] this Court considered section 9(2) of the Act which addresses exemplary damages. It was held that section 9(2) empowers, but does not mandate, an award of exemplary damages when the specified pre-requisites are satisfied (being pre-requisites which differ from those at common law).[10] Section 9(2) provides:

> The Court should make an award of exemplary damages in each case against a defendant if it is satisfied that the defendant—
>
> (a) knew that the injured person was at risk of exposure to asbestos dust, or carried on a prescribed industrial or commercial process that resulted in the injured person's exposure to asbestos dust; and
>
> (b) knew, at the time of the injured person's exposure to asbestos dust, that exposure to asbestos dust could result in a dust disease.

22 In the present case, no issue arises under section 9(2). In *BHP Billiton Ltd v Parker*, in the course of construing the phrase "knew … that exposure to asbestos dust could result in a dust disease" appearing in section 9(2)(b), Doyle CJ and White J expressed the following *obiter* view concerning the meaning of the similar phrase appearing in section 8(2):

> It can be seen that s 8(2) also includes the expression "that exposure to asbestos dust could result in a dust disease". It is reasonable to suppose that the Parliament intended the expression to have the same meaning in each provision. Thus, if the construction proposed by BHP is correct, s 8(2) would require a presumption, in the absence of proof to the contrary, that a defendant who carried on a prescribed process knew, at the relevant time, that the particular exposure of a plaintiff (as opposed to exposure more generally) could result in a dust disease. That does not appear to be the ordinary meaning of s 8(2). It is more natural to understand the second use of the expression "exposure to asbestos dust" in s 8(2) as referring to the same kind of exposure to which the expression when first used refers, ie, any exposure at all. Persons who carry on a process which could result in the exposure of another to asbestos dust (ie, any exposure) are to be presumed, in the absence of proof to the contrary, to know that exposure (ie, exposure generally) could result in a dust disease.[11]

23 If the last sentence quoted in the previous paragraph were considered in isolation, the words "exposure generally" might be regarded as ambiguous, capable of meaning either "any exposure" or "exposure at sufficient levels". However, the previous sentence unequivocally construes the second use of the expression "exposure to asbestos dust" in section 8(2) as referring to "*any exposure at all*". The *obiter* observation by Doyle CJ and White J therefore supports the construction adopted by the trial Judge.

24 In any event, while the decision in *BHP Billiton Limited v Parker* is binding as to the construction of section 9(2), the opinion expressed by Doyle CJ and White J as to the construction of section 8(2) was *obiter.* There would be no

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9 (2012) 113 SASR 206.
10 Ibid at [228]-[232] per Doyle CJ and White J and [411]-[412] per Gray J.
11 Ibid at [224] per Doyle CJ and White J.

disharmony between one construction of the relevant phrase in section 8(2) and a different construction of the same phrase in section 9(2). The context and purpose of section 9(2) are very different to those of section 8(2). Section 8(2) addresses an essential element in the cause of action (negligence, at least). Section 9(2) addresses an additional head of damages, exemplary damages, which requires additional elements to those comprising the cause of action. Section 8(2) addresses presumed knowledge (as the outcome of the operation of the section). Section 9(2) addresses actual knowledge (as a criterion for the award of exemplary damages).

25 Finally, in *BHP Billiton Limited v Parker*, Doyle CJ and White J applied section 8(2) directly in a manner consistent with the construction adopted by the trial Judge and inconsistent with the construction advanced by BHP identified at [13] above. They said:

> … by s 8(2) of the DDA, BHP is presumed to have known in 1971 and 1972 that exposure to asbestos dust could result in a dust disease. BHP carried on "a prescribed industrial or commercial process": see the *Dust Diseases Variation Regulations 2009* (SA), Sch 1, Items 6(a), 7(a) and 8(a). That process could have resulted in the exposure of Mr Parker to asbestos dust. BHP is presumed to have known in 1971 and 1972 that Mr Parker's exposure to asbestos dust could result in dust disease.[12]

26 In conclusion, on its proper construction, where the pre-conditions are satisfied so as to enliven the presumption, section 8(2) creates a rebuttable presumption that the defendant knew at the relevant time that some (ie any) exposure to asbestos dust could result in a dust disease. BHP's construction of the subsection should be rejected.

27 The trial Judge found that the pre-conditions for the presumption had been satisfied.[13] On appeal, BHP does not challenge those findings. It follows that BHP was presumed to have known in 1964/65 that some (ie any) exposure of Mr Hamilton and his fellow workers to asbestos dust could result in, *inter alia*¸ mesothelioma.

Rebuttal of the presumption

28 BHP accepts on appeal that, if the presumption is engaged, the onus of proof is thrown upon a defendant.[14]

29 The trial Judge found that BHP did not discharge the onus of rebutting the statutory presumption of knowledge of the risk of exposure to asbestos dust.[15] BHP contends that the trial Judge erred in this conclusion.

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12 Ibid at [27] per Doyle CJ and White J.

13 [2012] SADC 25 at [349].

14 Compare, for example, *WorkCover Corporation v Perre* [1999] SASC 564; (1999) 76 SASR 95 at [28] per Mullighan J (Doyle CJ and Wicks J agreeing), addressing ss 31(2) and 113(2) of the *Workers Rehabilitation and Compensation Act 1986* (SA).

15 [2012] SADC 25 at [174]-[176], [192], [237], [358].

30 In reaching his conclusion that BHP had not rebutted the presumption, the trial Judge observed that no evidence as to BHP's actual knowledge in 1964/65 was lead. BHP's primary contention on appeal is that the trial Judge erred because he appears to have thought that in order to rebut the presumption BHP needed to lead evidence from the officer or officers whose subjective knowledge was relevant, whereas such knowledge could be proved circumstantially by way of documentary evidence.

31 BHP's primary contention should be rejected. It can be accepted that, like any other fact, a state of mind such as knowledge may be proved by either direct or circumstantial evidence.[16] However, at trial there was not only an absence of direct evidence, there was also an absence of circumstantial evidence capable of giving rise to an inference that BHP knew or believed that exposure to asbestos dust was safe (whether below any given level or at all).

32 BHP did not adduce any evidence at all, either testimonial or documentary, bearing on the actual knowledge of its officers in 1964/65 of the risks of exposure to asbestos dust. It did not adduce any oral evidence from BHP officers concerning their state of knowledge in 1964/65 or at any time. It did not adduce any evidence of its occupational health, safety and welfare systems, policies, practices, personnel or otherwise in 1964/65. It did not adduce any evidence of its business records in 1964/65 which might comprise circumstantial evidence of BHP's officers' knowledge. It did not adduce any evidence of inquiries made by BHP in or before 1964/65 concerning risks of exposure to asbestos dust. It did not adduce any evidence of its having taken or made any measurements or estimates in or before 1964/65 of the levels of asbestos dust to which its workers were exposed or of any knowledge or belief of its officers as to those levels. It did not adduce any evidence demonstrating or explaining an inability to adduce any such evidence.[17] In these circumstances, the trial Judge rightly concluded that BHP had not adduced any evidence, direct or circumstantial, as to its officer's actual knowledge in 1964/65.

33 BHP's secondary contention on appeal is that the trial Judge ought to have inferred from three bodies of circumstantial evidence adduced by BHP that its officers believed that workers such as Mr Hamilton were exposed to less than five million particles of asbestos dust per cubic foot of air ("5 mppcf") and that exposure to such levels could not result in a dust disease and accordingly that BHP did not know that relevant exposures could result in a disease.

34 Both limbs of BHP's secondary contention should be rejected. As to the first limb, BHP did not adduce any evidence that its officers believed in 1964/65 that workers such as Mr Hamilton were exposed to less than 5 mppcf. There was

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[16] *Edgington v Fitzmaurice* (1885) 29 Ch D 459 at 483 per Bowen LJ.

[17] BHP complains on appeal that there was no evidence at trial that the relevant officers were alive or available, or even who they were. However, BHP did not adduce any evidence of any steps taken to attempt to ascertain the availability of evidence of the knowledge of the relevant officers in 1964/65, whether by way of testimony or from contemporaneous business records.

no evidence that BHP in or before 1964/65 undertook any testing or made any estimates of the levels of exposure of its workers to asbestos dust or had any belief on that topic. BHP sought to prove through Mr Rogers' assessments in 2008 and 2010 the *objective* levels of asbestos dust to which workers were exposed. Leaving aside the fact that Mr Rogers had insufficient information and was in no position to determine whether or not 5 mppcf exceeded and the fact that the trial Judge rejected his evidence and found that it was inconsistent with evidence of the witnesses called by Mrs Hamilton, the relevant question was BHP's contemporaneous knowledge or belief, not what might be assessed at trial to have been the objective reality.

35 As to the second limb, BHP did not adduce any evidence that its officers believed that exposure at levels below 5 mppcf was safe and could not result in a dust disease. On such evidence as was adduced by BHP at trial, it was sheer speculation as to what its officers knew or believed in 1964/65 as to asbestos levels which could or could not result in a dust disease.

External documents in existence in 1964/65

36 The first body of evidence from which BHP contends the trial Judge should have inferred that BHP did not have the relevant knowledge was a Schedule of Recommended Maximum Concentrations of Atmospheric Contaminants for Occupational Exposures issued by the National Health and Medical Research Council in 1961 ("the NHMRC Schedule"). That Schedule contained recommended maximum concentrations for an extensive series of atmospheric contaminants, including asbestos dust for which the recommended figure was 5 mppcf.

37 BHP tendered the NHMRC Schedule together with a bundle of internal NHMRC documents, all of which were sourced from the NHMRC (exhibit R71). They were not tendered out of BHP's business records. No evidence was adduced that BHP had the NHMRC Schedule in its possession in 1964/65.

38 No evidence was adduced by BHP that its officers knew of the NHMRC Schedule, the recommendations generally or the figure for asbestos dust. The mere existence of the Schedule, of itself, was incapable of giving rise to an inference of BHP's knowledge.

39 The second body of evidence from which BHP contends the trial Judge should have inferred that BHP did not have the knowledge was a bundle of 7 scientific publications regarding asbestos dating from 1933 to 1960 (part of exhibit R69) ("the R69 Publications"). While BHP relies upon these documents on appeal for the suggested inference, BHP apparently tendered these documents at trial on the basis that it did not concede that they were available to BHP, let alone that BHP had been aware of them.[18] These documents were not tendered

[18] [2012] SADC 25 at [192].

out of BHP's business records. It appears from the trial Judge's reasons that BHP did not rely upon these documents as evidence of its knowledge, but rather on the different issue of the reasonable foreseeability of risk by a reasonable employer in BHP's position under common law principles.[19]

40 No evidence was adduced that BHP was aware of the R69 Publications in 1964/65. The mere existence of these publications in Australia, Britain, South Africa or the United States was incapable of giving rise to an inference concerning BHP's knowledge.

41 Even if BHP had proved that it was aware of the asbestos dust component of the NHMRC Schedule or of the R69 Publications, that evidential fact would have rested in a vacuum. There was no evidence, direct or circumstantial, as to what else BHP knew, what other information or scientific publications were accessed by BHP, how BHP assessed any information to which it had access, or otherwise from which any inference could be drawn about the state of BHP's knowledge. Nor, as observed above, was there any evidence as to BHP's knowledge or belief concerning the levels of asbestos dust to which Mr Hamilton and his fellow workers were exposed, including to whether the exposure exceeded 5 mppcf.

42 Finally, as demonstrated by Stanley J's analysis of five of the seven R69 Publications, they do not convey to a reader that exposure to asbestos is safe, and could not result in an asbestos disease, at levels below 5 mppcf.[20]

Subsequent BHP internal documents

43 The third body of evidence from which BHP contends the trial Judge should have inferred that BHP did not have the relevant knowledge was a bundle of 32 internal BHP Whyalla documents ranging in date from October 1968 to October 1979 (exhibit R68). BHP's contention is that this evidence demonstrated that BHP did not know that exposures to asbestos dust at levels below 5 mppcf were not safe in 1968/69 and it could be inferred in turn that BHP did not know this in 1964/65.[21]

44 BHP did not call any witnesses or adduce any evidence which explained or put into context the internal documents comprising exhibit R68. It did not adduce any evidence to show that the documents were complete, in the sense of including all documents created by BHP over the 10 year period from 1968 to 1979 relating to asbestos, or that they were representative of what had been created or existed.

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19 Ibid at [174]-[223].

20 The trial Judge made findings that a reader of the publications tendered in evidence at trial would not have believed that exposures below 5 mppcf were safe: Ibid at [193]-[216], [362]-[380] and [393]-[394].

21 [2012] SADC 25 at [174] and [175]-[191].

45 As a miscellaneous collection of documents, the documents contained in exhibit R68 are insufficient, without any evidence to explain them or give them context, from which to draw an inference about BHP's knowledge over the period 1968 to 1979. A *fortiori*, they are insufficient to draw any inference about BHP's knowledge in 1964/65.

46 If the documents had established that BHP did not know in 1968/69 that exposure to asbestos dust below 5 mppcf could result in a dust disease, it does not follow that BHP's knowledge was identical four years earlier in 1964/65. No evidence was adduced by BHP that knowledge inevitably advances with the passage of time. History demonstrates that knowledge is often lost or deteriorates over time.

47 Considered individually, there are documents within exhibit R68 which are suggestive that BHP knew in 1968/69 that asbestos dust exposure to its workers at the Whyalla shipyards could result in a dust disease. The first document in exhibit R68 is a memorandum between safety superintendents dated 18 October 1968 referring to various protective measures, including vacuum cleaning and use of protective equipment (dust goggles, respirators and overalls) which should be taken.

48 BHP relies particularly upon reports of a visit on 28 November 1968 by Dr Wilson, Mr Stafford and Mr Turner of the Department of Health to the Whyalla shipyards. Dr Wilson and Mr Turner subsequently prepared reports. Dr Wilson's report was provided to BHP. It is apparent that they witnessed only limited operations which produced very small quantities of asbestos dust. Their descriptions of dust are in stark contrast to the descriptions of witnesses called at trial by Ms Hamilton of conditions generally applying in 1964/65. BHP did not adduce any evidence that those conditions observed by Dr Wilson and Mr Turner were representative of conditions generally prevailing in 1968/69 nor of those prevailing in 1964/65. Notwithstanding the excellent conditions observed by Dr Wilson, he considered that various steps should be taken to minimise risk from asbestos dust, including overalls, respirators, wetting down, vacuum cleaning and segregation of sawing, sanding and drilling of asbestos.

A further matter

49 BHP's contentions addressed at [30] to [48] above proceed on the assumption that it would have been sufficient for BHP to rebut the presumption of knowledge to demonstrate that BHP did not know that relevant exposures could result in a dust disease. It may be that, in order to rebut the presumption, BHP was required to prove that it knew that the relevant exposures could not

result in a dust disease.[22] However, given the conclusions reached above, there is no need to consider that question on this appeal.

Conclusion

50 The trial Judge correctly found that BHP did not discharge the onus of proof concerning its knowledge that asbestos dust could result in a dust disease. Given this conclusion, it is unnecessary to consider the trial Judge's alternative finding and Mrs Hamilton's alternative contention that, independently of the Act, she proved that contraction of a dust disease by Mr Hamilton was reasonably foreseeable by BHP in accordance with common law principles.

Availability of precautions and protections

51 Mrs Hamilton bore the onus of proving that there were practicable precautions available to BHP to eliminate or minimise the risk of injury to Mr Hamilton.[23] However, as was said in *Neill v NSW Fresh Food and Ice Pty Ltd*[24] by Taylor and Owen JJ:

> No doubt in many cases no more than common knowledge, or perhaps common sense, is necessary to enable one to perceive the existence of a real risk of injury and to permit one to say what reasonable and appropriate precautions might appropriately be taken to avoid it.[25]

52 The trial Judge found that as at 1964/65 there were simple precautions and protections available which could have been adopted by BHP to minimise the inhalation of asbestos dust by Mr Hamilton and his fellow workers. Those precautions and protections were:

1. isolating the preparation, application, sawing and drilling of asbestos from other workers;

2. wetting down and using vacuum cleaners to minimise airborne asbestos dust; and

3. providing and requiring the use of respirators and protective clothing coupled with warning of the risks of inhalation of asbestos dust.[26]

53 As found by the trial Judge, the publications tendered in evidence (including R69 tendered by BHP) proved that such measures were available. BHP has not demonstrated that the trial Judge erred in so finding. BHP contends

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22 Compare *WorkCover Corporation v Perre* (1999) 76 SASR 95 at [28] per Mullighan J (Doyle CJ and Wicks J agreeing) addressing ss 31(2) and 113(2) of the *Workers Rehabilitation and Compensation Act 1986* (SA).

23 *Neill v NSW Fresh Food and Ice Pty Ltd* (1963) 108 CLR 362 at 364-365 per Dixon CJ (McTiernan J agreeing), 365 per Kitto J and 369 per Taylor and Owen JJ; *Vozza v Tooth & Co Ltd* (1964) 112 CLR 316 at 319 per Windeyer J (McTiernan, Kitto, Taylor and Owen JJ agreeing).

24 (1963) 108 CLR 362.

25 Ibid at 368 per Taylor and Owen JJ.

26 [2012] SADC 25 at [398]-[399].

that, even if available, it did not know of a relevant risk and hence the need to consider precautions and protections. The issue of BHP's knowledge has been addressed above.

Reasonable response to risk

54 Once it is established that a defendant is (or ought to be) aware of a relevant risk and that measures are available to alleviate the risk, the next question is whether a reasonable person in the position of the defendant would take those measures in all of the circumstances. Those circumstances include the seriousness of the consequences if the risk eventuates, the likelihood of the risk eventuating and the expense, practicality and inconvenience of taking alleviating action.[27]

55 The trial Judge found (applying the section 8(2) presumption) that BHP knew that asbestos was hazardous and could lead to serious dust diseases such as mesothelioma, the precautions identified were simple and straightforward and the only approach by a reasonable employer would have been to reduce the inhalation of dust so far as reasonably possible.[28]

56 BHP has not demonstrated material error by the trial Judge. On the contrary, his conclusions concerning the response of a reasonable employer in BHP's position were inevitable once the findings of knowledge of risk and availability of precautionary measures had been made.

Conclusion on negligence

57 The trial Judge correctly found that BHP was negligent in not taking the various steps identified by him to reduce the inhalation of asbestos dust by its workers at Whyalla.

Causation

58 BHP contends that the trial Judge made a series of errors in reaching his conclusion that BHP's negligence caused the contraction of mesothelioma by Mr Hamilton.

59 The issues concerning causation are whether the trial Judge erred:

a) in finding that the precondition for the presumption under section 8(1) of the Act was established that Mr Hamilton's relevant exposure to asbestos dust might have caused or contributed to his mesothelioma;

b) in finding that BHP had not rebutted the presumption;

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[27] *Wyong Shire Council v Shirt* (1980) 146 CLR 40 at 47-48 per Mason J (Stephen J and Aickin J agreeing).

[28] [2012] SADC 25 at [395]-[399].

c) in finding in the alternative that Mrs Hamilton had proved that BHP's negligence had caused or contributed to Mr Hamilton's contraction of mesothelioma in accordance with common law principles.

Statutory presumption of causation

60 Section 8(1) is enacted against the background and in the context of the common law principles which define causation as an essential element of the relevant cause of action, especially the cause of action of breach of duty of care. To establish causation, it is sufficient that the breach of duty is a cause of the injury; it need not be the sole or principal cause.[29] A particular application of that approach to causation is that it is sufficient, where there are multiple causes of a disease or injury, that the defendant's conduct materially contributed to the contraction of the disease or occurrence of the injury.[30]

61 At common law, establishing merely that it is *possible* that the defendant's conduct was a cause of (or materially contributed to) the disease or injury is insufficient: it must be proved in accordance with the civil onus that it is probable that the defendant's conduct was a cause of (or materially contributed to) the plaintiff's disease or illness.[31] There is also a distinction between a mere prospective risk that the defendant's conduct might cause injury to the plaintiff and the possibility or probability that the defendant's conduct assessed in retrospect did in fact cause the injury suffered by the plaintiff.[32] This is not to say that, as an evidentiary matter, proof of risk of injury coupled with other circumstances may not be sufficient to prove causation on the balance of probabilities.[33]

62 Section 8(1) of the Act provides:

> If it is established in a dust disease action that a person (***the injured person***)—
>
> (a) suffers or suffered from a dust disease; and
>
> (b) was exposed to asbestos dust in circumstances in which the exposure might have caused or contributed to the disease,
>
> it will be presumed, in the absence of proof to the contrary, that the exposure to asbestos dust caused or contributed to the injured person's dust disease.

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29 *March v E & MH Stramare Pty Ltd* (1991) 171 CLR 506 at 509 per Mason CJ (Toohey J and Gaudron J agreeing) and 521-524 per Deane J (Gaudron J agreeing).

30 *Wakeline v London and South Western Railway Co* (1886) 12 App Cas 41 at 47 per Lord Watson; *Amaca Pty Ltd v Booth* [2011] HCA 53; (2011) 246 CLR 36 at [70] per Gummow, Hayne and Crennan JJ.

31 *Amaca Pty Ltd v Ellis* [2010] HCA 5; (2010) 240 CLR 111 at [51] per French CJ, Gummow, Hayne, Heydon, Crennan, Kiefel and Bell JJ; *Amaca Pty Ltd v Booth* (2011) 246 CLR 36 at [69]-[71] per Gummow, Hayne and Crennan JJ.

32 *Roads and Traffic Authority v Royal* [2008] HCA 19; (2008) 82 ALJR 870 at [144] per Kiefel J; *Amaca Pty Ltd v Booth* (2011) 246 CLR 36 at [41] per French CJ.

33 *Betts v Whittingslowe* (1945) 71 CLR 637 at 649 per Dixon J; *Amaca Pty Ltd v Booth* (2011) 246 CLR 36 at [42]-[50] per French CJ.

63 Three matters can be observed about the structure and context of the subsection. The subsection uses the definite article and the same phrase "*the exposure*" in both the formulation of the second pre-condition for the creation of the presumption and in the subject matter of the operative presumption itself. To establish the second pre-condition for the presumption, it is necessary to establish that the plaintiff's exposure might have caused or contributed to the dust disease suffered by the plaintiff, not just any dust disease. The subsection operates against the background of the common law of causation which requires that ordinarily the plaintiff must prove on the balance of probabilities that the defendant's conduct was a cause of or materially contributed to the injury.

64 The effect of the statutory presumption is to translate a mere possibility (that the exposure might have caused or contributed to the plaintiff's dust disease) into an actuality or finding[34] (that the exposure did cause or contribute to the plaintiff's dust disease). The statutory presumption overcomes the type of problem faced by a plaintiff such as that faced in *Amaca Pty Ltd v Ellis*[35] in which the plaintiff can only prove the possibility, but not the probability, that the exposure resulting from the defendant's negligence caused or contributed to the plaintiff's dust disease. The reference to "the exposure" when used in the second pre-condition in paragraph (b) and the operational presumption in the body of the subsection is to whatever exposure is established as having possibly caused or contributed to the disease.

65 Because the subsection is intended to assist in the proof of causation linking the exposure resulting from the defendant's negligence to the disease, the anticipation of the subsection is that a plaintiff will establish that the exposure which resulted from the defendant's negligence (for which senior counsel for BHP coined the shorthand term "the negligent exposure") might have caused or contributed to the disease and that this in turn will enliven the presumption that the negligent exposure did cause or contribute to the disease. The concept that the exposure "might" have caused or contributed to the disease is the same concept of mere possibility which the common law regards as inadequate in itself to prove causation as identified at [61] above.

66 If on the evidence it is only established that the total exposure (as opposed to the negligent exposure) to asbestos dust might have caused or contributed to the disease, the presumption created by the subsection will not assist in establishing the vital causative link between negligence and the plaintiff's contraction of the disease. However, if on the evidence it is established that the exposure which resulted from the negligence might have caused or contributed to

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[34] Compare the analysis of legal certainty derived from an assessment of probabilities in *Bank of New South Wales v Commonwealth* (1948) 76 CLR 1 at 340 per Dixon J; *Amaca Pty Ltd v Ellis* (2010) 240 CLR 111 at [6] per French CJ, Gummow, Hayne, Heydon, Crennan, Kiefel and Bell JJ and *Amaca Pty Ltd v Booth* (2011) 246 CLR 36 at [72] per Gummow , Hayne and Crennan JJ.

[35] (2010) 240 CLR 111.

the disease, the statutory presumption will establish (in the absence of proof to the contrary) the essential causative link.

67 This approach to the application of section 8(1) was adopted by this Court in *BHP Billiton Ltd v Parker*.[36] Doyle CJ and White J said:

> The judge's findings establish that Mr Parker suffers from a dust disease. The requirement of subpara (a) is established. It is beyond argument that Mr Parker was exposed to asbestos dust. The judge's findings establish that that exposure "might have caused or contributed to the disease". The disease from which Mr Parker suffers is one attributable to exposure to asbestos dust. The evidence establishes that Mr Parker was exposed to asbestos dust for a period of time that could not be put aside as trifling, and in circumstances such that one could not say that the risk of contracting a dust disease was negligible. To the contrary, the evidence was such that there was a risk of the exposure causing Mr Parker to contract a dust disease. Accordingly, the requirements of subpara (b) were established. In light of the judge's findings, there is no basis for a conclusion that BHP has proved, on the balance of probabilities, that exposure to asbestos dust did not cause or contribute to Mr Parker's disease. To the contrary, the evidence establishes that he was exposed to asbestos dust for a period of time and in circumstances at the workplace such that there was a risk of him contracting a dust disease, and measures that might have reduced that risk to a low or negligible level were not taken by BHP.
>
> It follows that by operation of s 8(1) of the DDA, it was right of the judge to conclude that BHP's breach of duty caused Mr Parker's dust disease.[37]

and Gray J said:

> I consider that the terms of s 8(1) had application. On the findings of the judge, Mr Parker was exposed to asbestos in circumstances where that exposure might have caused Mr Parker to suffer from a dust disease. In these circumstances, the presumption arose that exposure was a cause of Mr Parker's dust disease. Given the judge's findings about Mr Parker's exposure at Vickers Armstrong and Mr Parker's concession that the Vickers Armstrong exposure was also a cause of his asbestos related conditions, it may be concluded that BHP's conduct was a contributing cause and not the cause.[38]

Proof of pre-condition

68 BHP contends that the trial Judge erred in finding that Mrs Hamilton proved that Mr Hamilton's relevant exposure to asbestos dust might have caused or contributed to his mesothelioma.

69 BHPs primary contention is that the trial Judge did not make any finding that the *negligent* exposure might have caused or contributed to Mr Hamilton's mesothelioma. It is true that the question framed and answered by the trial Judge was whether Mr Hamilton's exposure at Whyalla might have caused or contributed to his mesothelioma.[39]

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[36] (2012) 113 SASR 206.
[37] Ibid at [117]-[118] per Doyle CJ and White J.
[38] Ibid at [348] per Gray J.
[39] [2012] SADC 25 at [344].

70 BHP contends that Mrs Hamilton did not prove, and there was no basis for a finding, that the exposure to asbestos dust at Whyalla *resulting from BHP's negligence* might have caused or contributed to Mr Hamilton's mesothelioma.

71 The trial Judge found that, if BHP had not been negligent and had taken reasonable precautions which he found a reasonable employer would have taken:

> the levels of asbestos dust inhaled by the deceased would have been a small fraction of what indeed he inhaled.[40]

72 The trial Judge accepted Professor Henderson's evidence from which it is clear that exposure of Mr Hamilton to asbestos dust at levels comprising a substantial majority of his total exposure at Whyalla might have caused or contributed to his mesothelioma. When coupled with the trial Judge's finding referred to in the previous paragraph, this compelled a finding that Mr Hamilton's exposure to asbestos dust resulting from BHP's negligence might have caused or contributed to his mesothelioma. BHP's primary contention should be rejected.

73 BHP's secondary contention is that the trial Judge's finding that reasonable precautions would have decreased the asbestos dust inhaled by Mr Hamilton to a small fraction of what he inhaled was not the subject of, or supported by, any expert evidence. BHP further criticises the trial Judge's finding on the ground that the trial Judge did not quantify the reduction. BHP's secondary contention should be rejected.

74 As summarised at [52] above, the steps which the trial Judge found would have been taken by a reasonable employer fell into three categories: segregating dust creating activities from other workers, minimising atmospheric dust, and personal protection for the workers. Steps taken within any one of those three categories in isolation would inevitably have reduced the exposure by at least an order of magnitude and probably several orders of magnitude. Taking steps within all three categories would have largely eliminated inhalation by reducing it to a small fraction of the dust actually inhaled. In the circumstances, there was no need for a precise quantification of the reduction in terms of a specific percentage, nor was there any need for expert evidence to support findings open on the evidence as a matter of common sense.

75 The trial Judge did in any event have available evidence to support his findings. The papers tendered by both BHP (exhibit R69) and Mrs Hamilton (exhibit A35) comprised evidence of the effectiveness of such measures in vastly reducing the inhalation of asbestos dust.

76 Once it is accepted that reasonable measures by a reasonable employer would have reduced levels of asbestos dust inhaled by Mr Hamilton to a small fraction of what he inhaled at Whyalla, there is no relevant distinction between

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[40] [2012] SADC 25 at [398].

the trial Judge's finding that all of the exposure at Whyalla might have caused or contributed to his disease (which BHP does not challenge) and a finding that Mr Hamilton's exposure resulting from BHP's negligence might have caused or contributed to his disease (which BHP does challenge). This conclusion is reinforced by an understanding of the effect of Professor Henderson's evidence concerning the aetiology of mesothelioma resulting from the inhalation of asbestos fibres. That evidence is addressed in the following section.

77 In conclusion, BHP has not demonstrated material error in the trial Judge's finding that the statutory presumption was engaged and that, in the absence of proof to the contrary, Mr Hamilton's exposure to asbestos dust resulting from BHP's negligence caused or contributed to his mesothelioma. On the contrary, that finding was appropriate on the evidence adduced.

Rebuttal of the presumption

78 The trial Judge concluded that there was an absence of proof to the contrary.[41] BHP contends that the presumption was rebutted. BHP's contention is a simple one. BHP refers to the uncontested fact that Mr Hamilton's exposure to asbestos dust in Scotland was greater than his exposure at Whyalla. While BHP contended before the trial Judge that the finding should be a ratio of 19:1, on appeal it is content not to challenge the trial Judge's finding that the ratio was 6:1.[42] BHP's contention is encapsulated in the following submission from its outline of submissions:

> … the evidence of causation established that the relationship between the inhalation of asbestos and the development of mesothelioma in an individual is the result of random events which can be (and apparently can only be) expressed in terms of "risk" or mathematical probability. On any view, the balance of mathematical probability was overwhelmingly in favour of the Scottish risk rather than the Whyalla risk. In fact, the true comparison was between the negligent exposure at Whyalla and all other exposure, whether in Scotland or (non-negligently) at Whyalla (or elsewhere in Australia). This only made the balance more preponderant.

79 BHP's contention should be rejected for three reasons. It has failed to demonstrate that the trial Judge erred in his finding, based on his acceptance and understanding of Professor Henderson's evidence, that Mr Hamilton's exposure to asbestos dust at Whyalla significantly contributed to his contraction of mesothelioma. Given that it adduced no medical evidence of its own, it failed to discharge the onus of proof through its cross-examination of Professor Henderson that, relevantly, it was the Scottish exposure - and not the negligent Whyalla exposure - which was the sole cause of Mr Hamilton's mesothelioma. BHP's fundamental approach is contrary to the High Court authority.

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41 [2010] SADC 25 at [344].
42 Ibid at [330].

Significant contribution and Professor Henderson

80 At a purely conceptual level,[43] diseases caused by an agent (physical, chemical or biological) can be classified as either indivisible or divisible. An indivisible disease may be compared with a digital switch: an agent of a given quantity either causes or does not cause contraction of the disease; where it does cause contraction, continuing exposure does not affect the cause or severity of the disease. A divisible disease may be compared with an analogue dial: the greater the quantity of the agent, the greater the severity of the disease.

81 Still at a purely conceptual level,[44] diseases can be classified as either caused by a single dose (unit or quantum) or by a cumulative dose (multiple units or quanta).

82 For illustrative purposes, compare a wartime operation. A single sniper fires a single bullet containing a biological agent at an enemy soldier such that the bullet either penetrates the soldier's skin or it does not. If it penetrates, it gives rise to contraction of a disease. That is analogous to a single dose indivisible disease. Compare that with a battalion of soldiers that overwhelms an enemy company by sheer numbers. The battalion's success is not due to the effect of any one soldier or group of soldiers. Rather, it is the cumulative result of overwhelming superiority of numbers. That is analogous to a cumulative dose indivisible disease.

83 While this case is to be decided upon the evidence adduced before the trial Judge and not by reference to the exposition of disease in previous cases, at a purely conceptual level, the following description and examples given by Lord Phillips in *Sienkiewicz v Greif (UK) Ltd*[45] contain an eloquent exposition:

> Many diseases are caused by the invasion of the body by an outside agent. Some diseases are caused by a single agent. Thus malaria results from a single mosquito bite. The extent of the risk of getting malaria will depend upon the quantity of malarial mosquitoes to which the individual is exposed, but this factor will not affect the manner in which the disease is contracted nor the severity of the disease once it is contracted. The disease has a single, uniform, trigger and is indivisible.
>
> The contraction of other diseases can be dose related. Ingestion of the agent that causes the disease operates cumulatively so that, after a threshold is passed, it causes the onset of the disease. Lung cancer caused by smoking is an example of such a disease, where the disease itself is indivisible. The severity of the disease, once it has been initiated, is not related to the degree of exposure to cigarette smoke.
>
> More commonly, diseases where the contraction is dose related are divisible. The agent ingested operates cumulatively first to cause the disease and then to progress the disease. Thus the severity of the disease is related to the quantity of the agent that is ingested.

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[43] It does not matter for present purposes whether in the real world there are any divisible diseases or conversely any indivisible diseases.

[44] It does not matter for present purposes whether in the real world there are any single dose or conversely any cumulative dose diseases.

[45] [2011] 2 AC 229.

> Asbestosis and silicosis are examples of such diseases, as are the conditions of vibration white finger and industrial deafness, although the insults to the body that cause these conditions are not noxious agents. For this reason it is important to distinguish between asbestosis and mesothelioma when considering principles of causation.[46]

84 BHP's contention based on risk and probability depends upon its establishing that mesothelioma is a single dose disease. For the purposes of illustration, assume that malaria is a single dose disease and is contracted anywhere between 10 and 20 days before the onset of symptoms. Assume that P is exposed to mosquito bites at a constant rate over six days due to D1's negligence and then at a constant rate over one day due to D2's negligence (each within 10-20 days before symptoms). On BHP's argument, P would succeed on causation against D1 but fail against D2. BHP contends that the same analysis applies to Mr Hamilton's exposure to asbestos in Scotland (accounting, on the trial Judge's findings, for 86 per cent of his total exposure) and his negligent exposure at Whyalla accounting at most[47] for 14 per cent of his total exposure.

85 The trial Judge found, on the basis of his acceptance and understanding of Professor Henderson's evidence, that mesothelioma is not a single dose disease, that it is dose related and that Mr Hamilton's exposures at both Scotland and Whyalla operated cumulatively to cause his contraction of the disease. While the trial Judge's findings were more comprehensive, his findings are encapsulated in the following passages:

> [Professor Henderson] demonstrated how asbestos participated at a number of different levels over a span of time and the peculiar characteristic of asbestos of persistence of the anthobial fibres over many years together with the role of further episodes of exposure. It reflected the pathogenesis based on what we know about the essential stages. It was the causal explanation of the disease, describing the steps by which asbestos transforms a group of mesothelial cells into a cancer of mesothelial cells.
>
> …
>
> … reactive oxygen species (ROS) and reactive nitrogen species (RNS) … are initially liberated because of the interaction between asbestos fibres and the macrophage. This effected interaction almost immediately with other cells in the near vicinity producing damage. The effort of the macrophage to ingest the fibre resulted in a generation of showers of free radicals … The scale of fibres present determined the scale of reactive chemicals generated and the scale of damage to the DNA, as well as the biopersistence of the asbestos fibre. It has been calculated this damage would be operative over perhaps 120 generations of mesothelioma cells becoming more abnormal. The time for the entire population of mesothelioma cells to be renewed was six to ten times each year and for an average mesothelial between 180 to 300 generations … Further the promotion and proliferation phases involving resistance to apoptosis and an unknown number of cell generations leading to an expanded and mutative clone of cell. This resulted from the fibre load being supplemented by ongoing exposures over the pre-cancerous period. Then

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[46] *Sienkiewicz v Grief (UK) Ltd* [2011] 2 AC 229 at [12]-[14] per Lord Phillips. It does not matter for present purposes whether or not Lord Phillips was correct in assigning malaria, lung cancer and asbestosis etc to the correct categories.

[47] Because on BHP's contention there was some non-negligent exposure at Whyalla: see above.

> a final event associated with transition from those cells to the mesothelioma and the indivisible injury.
>
> …
>
> Because of the lifetime of a generation and the need for so many generations of mesothelial cells, for an average mesothelioma case there was a need for multiple asbestos fibres with their secondary chemical messengers reacting with multiple mesothelial cells over multiple generations of such cells from the point of the initially damaged cell. It is not a matter of a single mutation but new mutations building on top of existing mutations, with stimulation of the cells by both autocrine and heterocrine growth factors. Repair and lethal mutation could occur at all these levels. And importantly further asbestos fibres generated reactive oxygen and species in other chemicals operating further down the mutational chain of events as described in the diagram. This was compounded by the bio-resistance nature of the fibres that can produce effect even decades after their first lodging.
>
> …
>
> The cross-examination of Professor Henderson introduced the question of whether additional fibres increased "risk" or actually contributed to the requisite load for triggering the fatal disease. This gave rise to an issue of what Professor Henderson meant irrespective of wording. I have no doubt, given a close examination of all his testimony, that Professor Henderson meant causation not risk. The defendant in contending he meant risk relied on various passages which were ambiguous and yet it failed in my opinion to confront Professor Henderson with the issue. That was however finally resolved.
>
> …
>
> The contention that Professor Henderson's opinion was in terms of "risk" and not "cause" is rejected.
>
> Each inhalation is not to the point rather periods of exposure are … What was to his mind significant was a continual situation of free radicals caused by the asbestos inducing mutational cascades interacting with multiple mesothelial cells over multiple generations … a significant period of exposure and inhalation clearly contributed.[48]

86 BHP has not demonstrated error by the trial Judge in his understanding or acceptance of Professor Henderson's evidence.

87 BHP's primary contention is that, properly understood, Professor Henderson did not characterise mesothelioma as a cumulative dose indivisible disease. BHP makes the subsidiary contention that Professor Henderson was only saying that additional exposures (and in particular BHP exposure) merely increased the risk of contraction of mesothelioma and did not contribute to the contraction of the disease in the causative sense. Both the primary and subsidiary contentions should be rejected. Professor Henderson's evidence extended over the course of more than a day and needs to be read and understood in its entirety. The following passages are illustrative of his evidence:

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[48] [2012] SADC 25 at [92], [96], [97], [98], [99] and [100].

… in terms of a single-fibre theory for mesothelioma genesis by this sort of thing is – I regard as ridiculous. … The simple fact is, the more … fibres there are present, the greater the number of these reactive chemicals generated from the fibres or in association with them, the greater the probability and extent of damage to the DNA apparatus of the cell, and that these reactions … don't affect a single generation of cells. I think we've calculated that it probably would extend over perhaps 120 generations of mesothelial cells carrying these mutations and then becoming progressively more abnormal before a final event occurs which transforms the cell into a mesothelioma cell …

…

… both for mesothelioma and for other cancers, that they represent singular injuries, that is, all or none injuries; you either develop the cancer or you don't, and, once you've developed the cancer, continued exposure to the event that caused it can't make it really worse, and, equally, if you withdraw the event or the factor that caused it, it doesn't reverse it, it's an irreversible condition.

…

… you're not looking at a single fibre or interacting with a single cell, we're looking at multiple asbestos fibres, with their secondary chemical messengers reacting with multiple mesothelial cells over multiple generations of mesothelial cells. …

There could be either fibres resident within the tissues for a long period of time, or fibres newly deposited from further asbestos exposure. But they will have the same effects in terms of generating reactive oxygen and species in other chemicals. And that they would also operate further down the line in this mutational chain of events.

…

… once you have an additional exposure one cannot argue that that exposure with fibres resident in the pleura is not generating the same sorts of reactive chemicals as the earlier exposures by way of an incremental effect upon them and somehow can be quarantined from the effects of those earlier exposures. The point is that all exposures contribute – all exposures will contribute to the total burden of asbestos fibres. The greater the number of fibres, the greater number of the free radicals, the greater the probability those free radicals will induce this mutational cascade interacting with multiple mesothelial cells ultimately over multiple generations … I would say that for each exposure or inhalation of asbestos within a latency interval that each would contribute towards the development of these chemical messages that we've been describing. I do not know of any evidence that an asbestos inhalation would then not be followed by the generation of those free radicals and the mutational events.

…

a proportion of each of the episodes of inhaled asbestos fibres will play some role, and that the more fibres there are, the greater the number of chemicals, the greater the number of mutations.

…

… the more fibres you have in lung – in pleura tissue, interacting with mesothelial cells, the more chemicals there will be causing genetic injury which will ultimately lead to the mesothelioma …

> … Mr Hamilton's mesothelioma from which he died was the outcome of all of his identified asbestos exposures, including the three Scottish shipyard exposures, but it is also my opinion that the Whyalla shipyard of [sic] exposure would have made a causal contribution towards the development of his mesothelioma superimposed upon the causal contributions of everything that went before in terms of asbestos exposure.[49]

88 On the one hand, on many occasions Professor Henderson gave evidence that the prospective risk of contracting mesothelioma increased with further exposures. On the other hand, it is clear from his evidence as a whole (illustrated by the passages quoted in the previous paragraph) that he also gave evidence that, if mesothelioma was contracted, further exposure had contributed in the causal sense. Those two propositions are not mutually inconsistent. The trial Judge correctly understood Professor Henderson's evidence both as to cause or contribution and prospective risk. He also correctly understood Professor Henderson as characterising mesothelioma as a cumulative dose indivisible disease.

Discharge of onus of proof

89 Throughout his lengthy cross-examination, Professor Henderson did not give any evidence at all that, or on the basis of which BHP could prove that, Mr Hamilton's exposure to asbestos resulting from BHP's negligence did *not* cause or contribute to his contraction of mesothelioma. Quite simply, BHP failed to discharge the onus of proof resting upon it by operation of section 8(1) of the Act.

High Court authority

90 In *Amaca Pty Ltd v Booth*,[50] Mr Booth was an automotive mechanic who was exposed to asbestos dust from brake linings between 1953 and 1983. Between 1953 and 1962, Hardie-Bestos and Hardie-Ferodo brake linings were manufactured by Amaca. Between 1962 and 1983, they were manufactured by Amaba. Seventy per cent of the fibres released from brake linings upon which Mr Booth worked were Hardie-Bestos or Hardie-Ferodo brakes. While the number of brake linings replaced by Mr Booth varied from month to month (ranging from 2 to 12 times a month), the parties apparently proceeded on the basis that the exposure between 1953 and 1983 was linear. On that basis, exposure to Amaca dust accounted for approximately 25 per cent and exposure to Amaba dust accounted for approximately 45 per cent of total exposure from brake linings. In addition, Mr Booth had been exposed to smaller amounts of asbestos dust as a result of home renovations and loading asbestos bags onto trucks earlier in his life. Professor Henderson and other doctors gave expert evidence before the trial Judge. The trial Judge found that mesothelioma was caused cumulatively by the asbestos dust to which Mr Booth had been exposed and that the asbestos derived from each of Amaca and Amaba made a significant contribution towards the development of the mesothelioma. There was no

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[49] Transcript pages 458-459, 466, 467, 477, 484, 514 and 537.
[50] (2011) 246 CLR 36.

equivalent of section 8(2) of the Act in that case. Mr Booth bore the onus of proof. The trial Judge's findings were upheld by the Court of Appeal.

91 French CJ, Gummow, Hayne and Crennan JJ (Heydon J dissenting) dismissed the appeals by Amaca and Amaba. The High Court upheld the Court of Appeal's decision that the trial Judge had not erred in finding that it had been proved that each of Amaca and Amaba materially contributed to Mr Booth's mesothelioma. The decision depended upon the evidence adduced in that case, which differs from the evidence adduced in the present case. However, the mere fact that Amaca was responsible for less than 25 per cent of the total exposure did not prevent Mr Booth succeeding on the issue of causation as against Amaca.

92 French CJ said:

> It is enough for present purposes to say that an inference of factual causation, as against both Amaca and Amaba, was open on the evidence before the primary judge. The cumulative effect mechanism involving all asbestos exposure in causal contribution to the ultimate development of a mesothelioma had been propounded and was accepted by his Honour. It depended upon an understanding of physiological mechanisms. It did not depend upon the epidemiology. Whether or not medical science in the future vindicates or undermines that theory, is not to the point. That is not a question which can be agitated on these appeals. The cumulative effect mechanism, accepted by his Honour, implicated the products of both Amaca and Amaba in the development of Mr Booth's disease. The primary judge's interpretation of the expert evidence and his conclusions from it, were open as a matter of law.[51]

and Gummow, Hayne and Crennan JJ said:

> The "but for" criterion of causation proved to be troublesome in various situations in which multiple acts or events led to the plaintiff's injury, for example, where the development of a particular medical condition was the result of multiple conjunctive causal factors. In such cases what may be unclear is the extent to which one of these conjunctive causal factors contributed to that state of affairs. These situations have been addressed by the proposition stated by Lord Watson in *Wakelin v London & South Western Railway Co* that it is sufficient that the plaintiff prove that the negligence of the defendant "caused or materially contributed to the injury". In that regard, reference may be made to the well-known passage in the speech of Lord Reid in *Bonnington Castings Ltd v Wardlaw*. Of that case it was said in the joint reasons in *Amaca Pty Ltd v Ellis*:
>
> > "The issue in *Bonnington Castings* was whether exposure to silica dust from poorly maintained equipment caused or contributed to the pursuer's pneumoconiosis, when other (and much larger) quantities of silica dust were produced by other activities at the pursuer's workplace. Those other activities were conducted without breach of duty. As Lord Reid rightly pointed out, the question in the case was not what was the most probable source of the pursuer's disease: dust from one source or the other. The question was whether dust from the poorly maintained equipment was *a* cause of his disease when the medical evidence was that pneumoconiosis is caused by a gradual accumulation of silica particles inhaled over a period of years."
>
> …

[51] Ibid at [51] per CJ.

> Mr Booth developed his case in the following steps: (1) he had contracted mesothelioma; (2) the only known cause of that disease is exposure to asbestos; (3) the expert evidence at trial, accepted by the primary judge, was that: (a) exposure to asbestos contributes to the disease; and (b) the prospective risk of contracting the disease increases with the period of significant exposure; (4) Mr Booth had two periods of significant exposure; (5) it is more probable than not that each period of exposure made a material contribution to bodily processes which progressed to the development of the disease.
>
> …
>
> It was open to the primary judge to decide that he was "not persuaded that the epidemiological evidence specific to automotive mechanics is adverse to the submission that causation has been proved in this particular case".
>
> The Court of Appeal, with respect, correctly concluded:
>
> > "Findings as to the cumulative effect of exposure to asbestos were undoubtedly open. [Mr Booth's] witnesses, including Professor Henderson and Dr Leigh, sought to reconcile that approach with the epidemiology which suggested there was no increased risk in the case of brake mechanics. It was open to his Honour to accept their evidence, as he did. The underlying proposition put forward by the appellants, that the epidemiology was conclusive, in accordance with the principles applicable to such evidence, did not give rise to a question of law, but to a question of fact, which his Honour resolved against the appellants."[52]
>
> [citations omitted]

Other issues

93 In *WorkCover Corporation v Perre*,[53] this Court considered what was required to rebut the statutory presumption of causation created by sections 31(2) and 113(2) of the *Workers Rehabilitation and Compensation Act 1986* (SA). Section 113(2) creates a rebuttable presumption that, where a worker suffers noise induced hearing loss and was exposed in employment to noise capable of causing noise induced hearing loss, the whole of the noise induced hearing loss arose out of that employment. Mullighan J (Doyle CJ and Wicks J agreeing) said:

> The worker is required to prove that he has noise-induced hearing loss and that he has been employed in work involving exposure to noise. The burden of proof then shifts to the Corporation or an exempt employer, as the case may be. I shall refer only to the Corporation. It must prove that the hearing loss could not have arisen from the employment.[54]

94 If a similar construction were adopted of section 8(1) of the Act, it would require an employer such as BHP to prove that the mesothelioma could not have been caused by the employer's negligence. However, given the conclusions reached above, it is unnecessary to consider that question. Nor is it necessary to

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52 Ibid at [70], [83] and [90]-[91] per Gummow, Hayne and Crennan JJ.
53 (1999) 76 SASR 95.
54 *WorkCover Corporation v Perre* (1999) 76 SASR 95 at [28] per Mullighan J (Doyle CJ and Wicks J agreeing).

consider the other answers advanced by Mrs Hamilton to BHP's contentions summarised at [77] and [87] above. Nor is it necessary to consider whether, but for the existence of section 8(1) of the Act, Mrs Hamilton would have discharged the onus of proof of causation under common law principles.

The cross appeal on damages

95 Mrs Hamilton cross appeals against the trial Judge's award of $115,000 for pain, suffering and loss of amenities of life on the ground that it is manifestly inadequate having regard to comparable awards in interstate jurisdictions. Mrs Hamilton contends that an appropriate award in 2012 was in the vicinity of $230,000.

Comparative awards

96 An issue of principle is raised on the cross appeal whether regard can be had to comparable first instance awards in courts and tribunals of this State and comparable first instance and appellate awards in other jurisdictions in assessing the adequacy of awards for pain, suffering and loss of amenities of life.[55]

97 An assessment of damages is to be made of the individual injuries and circumstances of the plaintiff and it is inappropriate to apply a tariff.[56] However, it is appropriate to have regard in a general sense to awards in comparable cases to ensure that the individual award is reasonably proportionate to damages being awarded generally in comparable cases.[57]

98 In a broad sense, the position is analogous to consideration of the appropriateness of a particular sentence for an offence, in which an assessment is to be made of the sentence appropriate to the individual circumstances of the offending and offender and it is inappropriate to apply a tariff, but it is appropriate to have regard in a general sense to sentences in comparable cases and to ensure that the individual sentence is reasonably proportionate to sentencing generally in comparable cases.[58]

99 Both parties generally accept the principles set out at [97] above. It is common ground that the criterion for determining whether a case is comparable for the purpose of the present case is whether it involves a disease (such as cancer) in the nature of a terminal illness in which life expectancy from the time

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[55] No issue arises in relation to the assessment of damages for economic loss, such as loss of earnings, loss of earning capacity and medical costs. My remarks are confined to the assessment of damages for pain, suffering and loss of amenities of life.

[56] *Planet Fisheries Pty Ltd v La Rosa* (1968) 119 CLR 118 at 124-125 per Barwick CJ, Kitto and Menzies JJ.

[57] *Carson v John Fairfax & Sons Ltd* (1993) 178 CLR 44 at 57-60 per Mason CJ, Deane, Dawson and Gaudron JJ and 72-73 per Brennan J. See also *Hirsch v Bennett* [1969] SASR 493 at 494 per Bray CJ and 497-499 per Travers and Walters JJ and *Packer v Cameron* (1989) 54 SASR 246 at 250-251 per Cox J (Mullighan J agreeing) and 257 per Duggan J.

[58] *Police v Cadd* (1997) 69 SASR 150 at 165-169 per Doyle CJ, 172-173 per Duggan J, 174-180 per Mullighan J, 196-197 per Lander J and 205 per Bleby J; *R v Place* [2002] SASC 101; (2002) 81 SASR 395 at [21]-[33] per Doyle CJ, Prior, Lander and Martin JJ (Gray J agreeing).

of onset of serious symptoms and diagnosis is relatively short (in the vicinity of a year or so).[59]

100 However, BHP contends that it is impermissible to have regard to awards at first instance, awards in other jurisdictions or awards by courts or tribunals not subject to appeal.

Comparative first instance awards

101 BHP contends that, to the extent that there is any consideration of other awards, it should be confined to appellate decisions. Alternatively, BHP contends that, if any first instance decisions are considered, they should be confined to decisions at Supreme Court level. I confine present consideration to South Australian awards. Both of BHP's contentions should be rejected.

102 It is the role of this Court, as the final appellate court in South Australia (subject to the grant of special leave to appeal by the High Court) to oversee damages awards and ensure overall consistency.[60] Accordingly, in considering comparable awards, primacy should be given to awards considered by this Court.

103 This is not to say that no regard can or should be had to first instance decisions from which an appeal lies, or ultimately lies, to this Court. There is a right of appeal to this Court from an assessment of damages by a judge of the District Court or a justice of this Court at first instance. There is a right of appeal from an assessment of damages by a magistrate to a justice of this Court and, by permission, to this Court. All such awards are potentially subject to the supervision of this Court. However, the regard had to first instance decisions should take into account that there may be reasons other than merely prospects of success why in a particular case no appeal is taken from an assessment. Caution should be exercised in relation to such awards particularly where the general level of awards in the relevant category has not been the subject of recent consideration by this Court.

104 An approach under which this Court does have regard to first instance awards is supported by authority. In *Hirsch v Bennett*,[61] Bray CJ said:

> … the remarks of the High Court in *Planet Fisheries Pty Ltd v La Rosa* do not prevent a judge from using his knowledge of the general range of awards in his own jurisdiction …

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[59] While Mrs Hamilton cites the highest awards for pain, suffering and loss of amenities in each jurisdiction regardless of circumstances, it is not suggested that those awards are comparable. I would in any event confine consideration to cases involving disease in the nature of a terminal illness in which life expectancy from the time of onset of serious symptoms and diagnosis is relatively short.

[60] *Hirsch v Bennett* [1969] SASR 493 at 498-499 per Travers and Walters JJ; *Joyce v Pioneer Tourist Coaches Pty Ltd* [1969] SASR 501 at 502-503 per Bray CJ and 505 per Mitchell J (Chamberlain J agreeing); *Chakravarti v Advertiser Newspapers Ltd* (1998) 72 SASR 361 at 378 per Doyle CJ and Perry J (Williams J concurring); *Ewins v BHP Billiton Ltd* [2005] SASC 95;(2005) 91 SASR 303 at [70] per Doyle CJ. See also *Carson v John Fairfax & Sons Ltd* (1993) 178 CLR 44 at 59 per Mason CJ, Deane, Dawson and Gaudron JJ.

[61] [1969] SASR 493.

> … The general experience to which their Honours refer is no doubt an experience which can be in part at least vicarious and derived from what the judge has read and heard of the cases in his own jurisdiction as well as from his knowledge of cases in which he has been personally concerned either at the bar or on the bench.[62]

and Travers and Walters JJ said:

> In this Court, the members of the bench have the benefit of an official report of each case in which an assessment is made in an action for damages for personal injuries … To this extent, the members of this Court are brought towards a consensus of judicial opinion on prevailing levels of damages in this State …
>
> … so long as a judge heeds the warning against the formulation of any norm or standard of compensation by reference to other cases, it is not out of place for him, in his essay to gather the general consensus of judicial opinion on present levels of damages, to search for any trend of awards in reasonably comparable cases and to use any current pattern as a guide in making his assessment in the case under consideration.[63]

Comparable awards in other jurisdictions

105 BHP contends that it is wrong in principle to have regard to awards in other jurisdictions in the assessment of damages for pain, suffering and loss of amenities of life. There were historical reasons why courts may have taken a parochial view in assessing such damages. In the eighteenth and nineteenth centuries, the colonies were relatively isolated, geographically and legally. Typically, in a personal injuries action, the injury occurred and plaintiff and defendant resided in the same colony. Courts of other colonies had no jurisdiction to entertain an action for damages in such cases (unless the defendant could be served with originating process in that colony). While the creation of the Commonwealth of Australia and of the States in 1901 involved a major advance in integration, nevertheless there remained a substantial degree of geographical and legal separation between the States and the limited extra-territorial jurisdiction of the courts of the States was not markedly changed.

106 Over the course of the twentieth century, there was a progressive shrinking of the geographical, social, economic, political and legal isolation between the States and Territories. For example, twin towns (such as Coolangatta/Tweed Heads, Albury/Wodonga) progressively grew and became more integrated.

107 Nevertheless, even in the 1960s and 1970s, the legal systems of the various States and Territories were very largely independent of each other. There was very little uniform legislation and generally decisions from other jurisdictions were rarely cited. The majority of personal injuries claims proceeded to assessments by the courts, and appeals to intermediate courts of appeal against damages assessments were common.

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[62] Ibid at 494 per Bray CJ..

[63] Ibid at 498-499 per Travers and Walters JJ. See also *Joyce v Pioneer Tourist Coaches Pty Ltd* [1969] SASR 501.

108 In 1987, the States and Territories enacted the uniform *Jurisdiction of Courts (Cross-Vesting) Acts* ("the Cross-Vesting Acts"). Section 4 of the Cross-Vesting Acts vested jurisdiction in the Supreme Courts of each State and Territory with respect to State matters. This legislation resulted in due course in the modification of the procedural rules of the States and Territories such that the Supreme Courts (and often lower courts as well) were freed of their territorial-based jurisdictional limits.[64] The position today is that, subject only to the potential transfer of proceedings under section 5 of the Cross-Vesting Acts, where a plaintiff has been injured by a defendant in and all parties reside in one State or Territory, the plaintiff can institute proceedings in any State or Territory.

109 In 1992 and again in 1997, the High Court confirmed that there is but one common law in Australia, rather than a common law of each State and Territory (as is the case in the United States of America).[65] In 2007, the High Court confirmed that intermediate appellate courts and trial judges are obliged (unless persuaded that they are plainly wrong) to follow decisions of intermediate appellate courts in other States and Territories (and federal courts) in relation to the common law.[66] While these pronouncements were pronouncements of what legally had been the position since 1901,[67] they marked a clear pronouncement that that is the position.

110 The overall result of these developments, especially over the last 25 years, has been that the maintenance of inconsistent damages assessment regimes in each State or Territory would be contrary to the contemporary approach to the fundamental unity of Australian common law and harmony of the Australian judicial system. The increased mobility of the Australian population across State borders may result in victims of the same wrong committed in one State and suffering similar injuries bringing actions for damages in different states. If inconsistent assessment regimes were maintained, it would encourage forum shopping and result in unnecessary and undesirable conflicts in relation to transfer applications under section 5 of the Cross-Vesting Acts. If two otherwise identical cases from Albury and Wodonga in which there were a large disparity between damages assessments were to reach the High Court at the same time, it

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64 In South Australia, for example, order 11 rule 1 of the *Supreme Court Rules 1947* (SA) required leave of the Court to serve a writ of summons out of the jurisdiction (ie out of South Australia) and specified criteria involving a link with the State which had to be satisfied before such leave could be given. A similar regime applied under rules 18.02 and 18.03 of the *Supreme Court Civil Rules 1987* (SA). However, in 1992, rules 18.02 and 18.03 were amended to remove these limitations.

65 *Mabo v Queensland (No 2)* (1992) 175 CLR 1 at 29 and 67 per Brennan J (see also, Mason CJ and McHugh J at 15; Deane and Gaudron J at 77); *Lange v Australian Broadcasting Corporation*; (1997) 189 CLR 520 at 563 per Brennan CJ, Dawson, Toohey, Gaudron, McHugh, Gummow and Kirby JJ. See also *John Pfeiffer Pty Ltd v Rogerson* [2000] HCA 36; (2000) 203 CLR 503 at [2], [3] and [15] per Gleeson CJ, Gaudron, McHugh, Gummow and Hayne JJ

66 *Farah Constructions Pty Ltd v Say-Dee Pty Ltd* [2007] HCA 22; (2007) 230 CLR 89 at [135] per Gleeson CJ, Gummow, Callinan, Heydon and Crennan JJ.

67 See for example, Sir Owen Dixon's papers "Sources of Legal Authority" and "The Common Law as an Ultimate Constitutional Foundation" in *Jesting Pilate* (1965). From time to time, reference had been made to a "common law of Australia" since Griffith CJ used that phrase in *Chanter v Blackwood* (1904) 1 CLR 39 at [57], but such references were relatively few and unelaborated.

would be incongruous if, in the absence of relevant legislative differences, the High Court were to uphold the reasonableness of each assessment.

111 In addition, the position today is that the vast majority of personal injuries claims are resolved before trial and do not proceed to an assessment of damages. Few awards reach intermediate courts of appeal. For example, the most recent detailed consideration by a court of intermediate appeal of an assessment by a judge of damages in a terminal illness case cited by the parties was in 1998 of an assessment made in 1994.[68] In the last 10 years, there have been relatively few assessments by judges in South Australia in terminal illness cases.

112 There are no longer any compelling reasons of principle why regard should not be had to awards in other jurisdictions when considering whether an award in this State is manifestly inadequate or excessive.

113 In *Coyne v Citizen Finance Limited*,[69] Toohey J (Dawson J agreeing and McHugh J relevantly agreeing) held that it was inappropriate to direct a jury assessing damages in a defamation case to take into account awards in personal injury cases. Mason CJ and Deane J (dissenting) took a contrary view. They said:

> In determining what those limits [capable of being reasonably seen as appropriate to the circumstances of the particular case] are, an appellate court in this country is, in our view, entitled to take account of the range of damages which it has laid down, or accepted, as appropriate to other kinds of injuries. As Diplock L.J. commented in *McCarey*:
>
> > "I am convinced that it is not just … that in equating incommensurables when a man's reputation has been injured the scale of values to be applied bears no relation whatever to the scale of values to be applied when equating those other incommensurables, money and physical injuries. I do not believe that the law today is more jealous of a man's reputation than of his life or limb. That is the scale of values of the duel. Of course, the injuries in the two kinds of case are very different, but each has as its main consequences pain or grief, annoyance or unhappiness, to the plaintiff."
>
> …
>
> … It seems to us that it would be quite wrong for an appellate court, entrusted with hearing appeals in both defamation and personal injury cases, to be indifferent to the need to ensure that there was a rational relationship between the scale of values applied in the two classes of case.[70]
>
> [citations omitted]

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[68] *CSR Ltd v Young* (1998) Aust Torts Reports 81-468; (1998) 16 NSWCCR 516. In 2011, the Court of Appeal of the Supreme Court of Victoria considered an assessment by a jury but, for reasons which appear below, that assessment cannot be compared with assessments by judges in other States and in the Territories.

[69] (1991) 172 CLR 211.

[70] Ibid at 219 and 221 per Mson CJ and Deane J.

114 In *Carson v John Fairfax & Sons Ltd*,[71] the same issue arose and was addressed by an enlarged court of seven Justices. Mason CJ, Deane, Dawson and Gaudron JJ held that it was appropriate in assessing damages in a defamation case (at least at the appellate level) to have regard to awards in personal injuries cases. Brennan J, Toohey J and McHugh J expressed a contrary view. Mason CJ, Deane, Dawson and Gaudron JJ said:

> … we do not accept the appellant's argument that *Coyne* prohibits an appellate court, deliberating on the quantum of a defamation verdict, from considering verdicts in personal injury cases for the purpose of comparison. … [*Coyne*] is not a binding decision in the circumstances of this case. *Coyne* dealt with the question whether or not the jury were wrongly directed as to whether they could take into account awards in other types of cases when deciding upon a verdict. Here the alleged error is the comparison said to be made by *an appellate court* between verdicts in different types of cases.
>
> In *Coyne*, Mason C.J. and Deane J. considered that it is legitimate for an appellate court considering an appeal against the quantum of damages in a defamation case to bear in mind "the scale of values" applied in dealing with appeals in cases of serious physical injury. There is no occasion here to repeat the reasoning advanced in support of that conclusion. … [F]or an appellate court which must test the quantum of a defamation award against some criteria to be prohibited from considering awards of general damages in personal injury cases would exclude reference to a potentially relevant criterion. In *Andrews v. John Fairfax & Sons Ltd*. Hutley J.A. stated … That statement accords with the observation made by Mason C.J. and Deane J. in *Coyne*:
>
> > "[I]t seems to us that it would be quite wrong for an appellate court, entrusted with hearing appeals in both defamation and personal injury cases, to be indifferent to the need to ensure that there was a rational relationship between the scale of values applied in the two classes of case".
>
> … we see no significant danger in permitting trial judges to provide to the jury an indication of the ordinary level of the general damages component of personal injury awards for comparative purposes, nor in counsel being permitted to make a similar reference. Although there is authority in this Court to the effect that the quantum of damages is not to be resolved by reference to a norm or standard supposedly to be derived from a consideration of amounts awarded in a number of other specific cases, there is much to be said for trial judges offering some guidance on damages - such as inviting the jury to consider the investment or buying power of the amount it might award or perhaps even indicating a range of damages which might be considered appropriate - while ensuring that the jury knows that they are to reach their own decision. Providing basic information on the general damages component of personal injury awards might even be more helpful than these other examples.[72]
>
> [citations omitted]

115 If it is appropriate for this Court on appeal against an assessment of damages in a defamation case to have regard to personal injuries awards, it would be incongruous if this Court could not have regard to personal injuries awards in appropriate cases in other jurisdictions when considering an appeal

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[71] (1993) 178 CLR 44.

[72] Ibid at 57-58 and 59-60 per Mason CJ, Deane, Dawson and Gaudron JJ.

against a personal injuries assessment in this State. BHP did not address assessments of damages by the Federal Court of Australia sitting in South Australia applying South Australian law to a South Australian cause of action. It would be incongruous if regard could not be had to a comparable assessment by the Federal Court in such a case.

116 In *Chakravarti v Advertiser Newspapers Ltd*,[73] this Court held that, on an appeal against an assessment of damages in a defamation case, it is appropriate to have regard to awards in appropriate interstate cases in defamation matters. Doyle CJ and Perry J (Williams J concurring) said:

> Counsel for the defendant provided the court with a schedule of awards of damages made for defamation in the States and Territories of Australia …
>
> We have considered the decision of the Court of Appeal of New South Wales in *Crampton v Nugawela* …
>
> We are cautious about putting too much weight upon a jury verdict as setting a standard for the assessment of damages by a judge sitting alone. Defamation cases are tried by judge alone in this State. We are also inclined to the view that, to the extent that *Crampton v Nugawela* sets a standard, it sets a standard which has not prevailed in this State. We are nevertheless influenced by that decision, and by a more general consideration of damages awarded in other cases, to come to the conclusion that it would be appropriate to increase the level of damages awarded in this State for defamation.[74]

117 In *Ewins v BHP Billiton Limited*,[75] Doyle CJ assessed damages for pain, suffering and loss of amenities of life in a mesothelioma case. He held, relying on *Chakravarti v Advertiser Newspapers Ltd*, that the level of awards in other States is not irrelevant.[76]

118 Accordingly, authority supports the conclusion reached in principle that it is permissible, and indeed desirable, to have appropriate regard to appropriate awards in comparable cases in other jurisdictions.

Relevant interstate courts

119 BHP contends that, if regard is to be had to interstate awards, it should be confined to decisions of appellate courts. That contention *per se* should be rejected for the reasons given at [101]-[104] above.

120 BHP contends in the alternative that, if regard is to be had to first instance decisions, it should be confined to first instance decisions which are subject to a general right of appeal to the intermediate appellate court of the relevant jurisdiction. In particular, BHP contends that regard should not be had to awards of the New South Wales Dust Diseases Tribunal because they are not subject to

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[73] (1998) 72 SASR 361.
[74] Ibid at 377-378 per Doyle CJ and Perry J (Williams J concurring).
[75] (2005) 91 SASR 303.
[76] Ibid at [63] per Doyle CJ.

appeal other than on a point of law or question as to admission or rejection of evidence.[77]

121 If there is no effective appeal from a damages award at first instance, it cannot be the subject of review or correction at intermediate appellate court level. For that reason, the weight which those awards should be given is much reduced. Extreme caution should therefore be exercised before regard is had to such first instance decisions.

122 Legislation enacted approximately 10 years ago in most Australian jurisdictions, now permits a court to refer to earlier decisions of that court or other courts for the purpose of establishing the appropriate award in the proceedings.[78] Caution needs to be exercised in relation to decisions in those jurisdictions after the enactment of that legislation as to the possibility that such decisions have been influenced by first instance decisions of interstate courts from which no effective appeal lies. However, a right of appeal generally lies to the intermediate court of appeal of the Supreme Court in those jurisdictions in respect of damages awards at first instance by the Supreme Court and (where applicable) the District or County Court. Subject to the caution identified above, it is therefore appropriate to have regard to such awards.

123 Legislation in most Australian jurisdictions now imposes a cap or a statutory scale or both for the assessment of damages for non-economic loss either generally (subject to defined exceptions) or in relation to defined liabilities or circumstances.[79] In Western Australia and Tasmania, a statutory scale for damages is imposed generally, but there is no general cap (leaving aside motor vehicle collisions in Western Australia) or statutory scale where damages are assessed in excess of the upper limit of the highest band (which is less than $50,000).[80]

Comparable cases

South Australia

124 There are no recent decisions of this Court at appellate level concerning damages in a terminal illness case.

125 The most recent assessment at first instance in this Court was in *Ewins v BHP Billiton Limited* ("*Ewins*").[81] Damages for pain, suffering and loss of amenities of life were assessed by Doyle CJ in 2005 at $100,000. Mr Ewins

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77 *Dust Diseases Tribunal Act 1989* (NSW) s 32.

78 *Civil Liability Act 2002* (NSW) s 17A; *Wrongs Act 1958* (Vic) s 28HA; *Civil Liability Act 2002* (WA) s 10A; *Civil Liability Act 2002* (Tas) s 28; *Civil Law (Wrongs) Act 2002* (ACT) s 99.

79 *Civil Liability Act 1936* (SA) s 52; *Civil Liability Act 2002* (NSW) ss 16-17; *Wrongs Act 1958* (Vic) ss 28G-28H; *Civil Liability Act 2003* (Qld) ss 61-62; *Motor Vehicle (Third Party Insurance) Act 1943* (WA) s 3C; *Personal Injuries (Liabilities and Damages) Act 2003* (NT) ss 27-28; *Safety, Rehabilitation and Compensation Act 1988* (Cth) s 45.

80 *Civil Liability Act 2002* (WA) s 9; *Civil Liability Act 2002* (Tas) s 27.

81 (2005) 91 SASR 303.

suffered the first symptoms of mesothelioma in early 2003; from late 2004 he was severely restricted in his activities and at the time of trial in March 2005 at the age of almost 72 his life expectancy was six months. Doyle CJ was invited to revise the award of damages upwards, but said:

> It is the function of the Full Court, and not of a single judge, to decide whether the general level of damages should be increased.[82]

126 Awards in the District Court appear to have been made on the basis that the decision in *Ewins* was effectively binding as to the general level of damages. For example, in *Reynolds v Comcare*,[83] Judge Soulio awarded damages in 2006 for pain, suffering and loss of amenities of life of $100,000. The plaintiff in that case accepted that Judge Soulio was effectively bound by *Ewins.*

127 In *Ellis v State of South Australia* ("*Ellis*")[84], Heenan J in the Supreme Court of Western Australia assessed damages in 2006 for pain, suffering and loss of amenities of life of Mr Cotton at $150,000. Mr Cotton had been employed by the Engineering and Water Supply Department in South Australian in the 1970's. In May 2000, he was diagnosed with lung and abdominal cancer and he died aged 45 in January 2002 before trial. The assessment was made under the substantive law of South Australia (and the procedural law of Western Australia). Heenan J did not refer to any comparable awards.

Interstate appellate courts

128 Turning to awards in other jurisdictions, the most recent decision of an intermediate court of appeal is the decision of the Court of Appeal of the Supreme Court of Victoria in *Amaca Pty Ltd v King* ("*King*").[85] Damages of $730,000 were awarded by a jury in 2011 for pain, suffering and loss of enjoyment of life. The Court of Appeal held that the assessment was not manifestly excessive. Mr King was diagnosed with mesothelioma in November 2010 and his life expectancy at trial in August 2011 was nine months. The Court principally had regard to previous jury awards in Victoria in 1988 and 1998 in which the jury had awarded global sums of which the Court of Appeal assessed that the component for non-economic loss was in the order of several hundred thousand dollars. This decision is of no assistance in the present case given that the award in that case was several times the amount suggested by either party in the present case to be appropriate and was affected by the fact that it was a jury award and by comparable Victorian cases also involving jury awards.

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82 Ibid at [70] per Doyle CJ.

83 [2006] SADC 136.

84 [2006] WASC 270. The defendants appealed on liability but not on the quantum of the assessment. On liability, the defendants essentially failed in the Court of Appeal (*The State of South Australia v Ellis* [2008] WASCA 200; (2008) 37 WAR 1) but succeeded in the High Court (*Amaca Pty Ltd v Ellis* (2010) 240 CLR 111).

85 [2011] VSCA 447.

129 The most recent appellate decision cited by the parties prior to *King* is the decision of the Court of Appeal of the Supreme Court of New South Wales in *CSR Ltd v Young* ("*Young*").[86] Mrs Olson first noticed symptoms of what was later diagnosed as mesothelioma in about January 1994. She was diagnosed in April 1994 and at the date of trial in December 1994 she was aged 35 and her life expectancy was three months (she subsequently died in January 2005). The trial Judge assessed damages in 1994 for pain, suffering and loss of amenities of life at $150,000 and for loss of expectation of life at $20,000. In the Court of Appeal, Giles AJA (Handley JA agreeing) reduced the damages for non-economic loss to a total of $120,000 (of which I consider an allocation of $105,000 to pain, suffering and loss of amenities of life would be appropriate). Cowan AJA dissented and would not have disturbed the trial judge's assessment.

Interstate first instance awards

130 In *Easther v Amaca Pty Ltd* ("*Easther*"),[87] Scott J in the Supreme Court of Western Australia assessed damages for pain, suffering and loss of enjoyment of life at $130,000 in 2001. Mr Easther began suffering symptoms of what was later diagnosed as mesothelioma in mid 1999. In April 2001, he began experiencing more serious symptoms and in May 2001 he was diagnosed with mesothelioma and underwent surgery. At the time of trial in October 2001, he was aged 67 and his life expectancy was four or five months. Counsel for the plaintiff referred to several recent assessments by the Dust Diseases Tribunal of New South Wales, but Scott J considered they were of limited utility because they turned on their own particular facts.[88]

131 In *McGilvray v Amaca Pty Ltd* ("*McGilvray*"),[89] Pullin J in the Supreme Court of Western Australia assessed damages for pain, suffering and loss of enjoyment of life at $160,000 in 2001. Mr McGilvray first noticed symptoms of what was later diagnosed as mesothelioma in September-October 2000. In May 2001, he was diagnosed with mesothelioma. At the time of trial in December 2011, he was aged 54 and his life expectancy was six months. Pullin J had regard to the assessment by and cases referred to by Scott J in *Easther*.

132 In *Misiani v Welshpool Engineering Pty Ltd* ("*Misiani*"),[90] Barker J in the Supreme Court of Western Australia assessed damages for pain, suffering and loss of amenities at $150,000 in 2003. Mr Misiani began to experience symptoms of what was later diagnosed as mesothelioma in September 2001. He died aged 54 in July 2002. Barker J had regard to the recent awards in *McGilvray* and *Easther*.

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86 (1998) Aust Tort Reports 81-468; (1998) 16 NSWCCR 56.
87 [2001] WASC 328.
88 This was before the enactment in 2003 of section 10A of the *Civil Liability Act 2002* (WA).
89 [2001] WASC 345.
90 [2003] WASC 263.

133 In *Hannell v Amaca Pty Ltd* ("*Hannell*"),[91] Le Miere J in the Supreme Court of Western Australia, assessed damages for pain, suffering and loss of amenities of life at $180,000 in 2006. In about October-November 2005, Mr Hannell first noticed symptoms and was quickly diagnosed with mesothelioma. He ceased work in March 2006. At the time of trial in June 2006, he was aged 63 and his life expectancy was variously estimated at around six months or at best three to four years. Counsel for the plaintiff cited the recent assessments in *Easther*, *McGilvray* and *Misiani* as well as recent assessments in the Dust Diseases Tribunal of New South Wales.

134 In *O'Gorman v Sydney South West Area Health Service* ("*O'Gorman*"),[92] Hoeben J in the New South Wales Supreme Court assessed damages for pain, suffering, loss of amenities of life and loss of expectation of life at $247,500 in 2008. Ms O'Gorman developed breast cancer which the defendant negligently failed to diagnose in February 2006. She was diagnosed with breast cancer in January 2007 and underwent surgery to remove the tumour. In August 2007, she underwent a mastectomy. Apart from the side effects of her treatment, she began to develop significant symptoms of cancer in mid 2007 at which time she ceased work. At the time of trial in October 2008 she was aged 57 years and her life expectancy was two months. The assessment was governed by the *Civil Liability Act 2002* (NSW) which imposed a cap of $450,000. Hoeben J assessed damages by reference to where on a table the plaintiff's situation most aptly fitted compared to the top very serious cases at the statutory cap at $450,000. He assessed Ms O'Gorman at 55 per cent of a most extreme case and that is how he arrived at the figure of $247,500.[93] Given the provisions of the *Civil Liability Act* in that case and the method of assessment adopted by Hoeben J, the award is of limited assistance in the present case.

135 In *Parkinson v Lend Lease Securities and Investments Pty Ltd* ("*Parkinson*"),[94] Higgins CJ in the Australian Capital Territory Supreme Court assessed damages for pain, suffering and loss of amenities of life at $300,000 in 2010. Mr Parkinson began experiencing symptoms of what was diagnosed as mesothelioma in August 2004. He underwent surgery in November 2004 and again in May 2008. At the time of trial in March 2010, he was aged 72 and his life expectancy was 18 months. The defendant suggested an assessment of $225,000 and the plaintiff an assessment in the range $575,000 to $700,000. In light of the extended period of suffering and treatment and the attitude of counsel, the award is of limited assistance in the present case.

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[91] [2006] WASC 310. The defendant appealed on liability but not on the quantum of the assessment. On liability, the defendant succeeded in the Court of Appeal (*Amaca Pty Ltd v Hannell* [2007] WASCA 158; (2007) 34 WAR 109).

[92] [2008] NSWSC 1127. The defendant appealed on liability. The legal representative of Mrs O'Gorman's estate cross-appealed on the quantum of the assessment. On liability, the defendant succeeded in the Court of Appeal. The cross-appeal failed (*Sydney South West Area Health Service v Stamoulis* [2009] NSWCA 153).

[93] [2008] NSWSC 1127 at [155] and [162].

[94] [2010] ACTSC 49; (2010) 4 ACTLR 213.

136 In *Lowes v Amaca Pty Ltd* ("*Lowes*"),[95] Corboy J in the Supreme Court of Western Australia assessed damages for pain, suffering and loss of amenities of life at $250,000 in 2011. Mr Lowes first experienced symptoms of what was later diagnosed as mesothelioma in December 2006. He underwent various surgical procedures until he was diagnosed with mesothelioma in March 2009. He ceased work at that time. At the time of trial in August 2011, he was aged 42 and his life expectancy was two years. The plaintiff's counsel referred to several recent decisions of the Dust Diseases Tribunal of New South Wales as well as the decision of Higgins CJ in *Parkinson.* Corboy J had principal regard to the decisions in Western Australia in *Easther*, *McGilvray*, *Misiani*, *Ellis* and *Hannell.* In light of the extended period of suffering and treatment and the references to the decisions of the Dust Diseases Tribunal, the award is of limited assistance in the present case.

Should the general level of damages be increased?

137 In *Ewins*, in awarding damages for pain, suffering and loss of amenities of life of $100,000, Doyle CJ referred to his general knowledge of previous awards and said that it was the function of the Full Court, and not of a single judge, to decide whether the general level of damages should be increased. This indicates that he was considering the level of damages which had prevailed for some time before 2005.

138 The assessment of the Court of Appeal in New South Wales in *Young* of around $105,000 relating to an assessment in December 1994 confirms that, at a national level, an award in the vicinity of $100,000 was appropriate in the 1990s, but is no longer appropriate today.

139 The movement in the consumer price index between December 1994 and December 2011 was an increase of approximately 60 per cent. The movement in average weekly earnings between December 1994 and December 2011 was an increase of approximately 90 per cent.

140 The above considerations, coupled with an analysis of the assessments interstate between 2001 and 2011 set out at [130]-[136] above, clearly demonstrate that an assessment of damages in Mr Hamilton's case of $115,000 in 2012 was manifestly inadequate. This Court should decide that the general level of damages for pain, suffering and loss of amenities of life in a terminal illness case should be increased well above the level of approximately $100,000 referred to by Doyle CJ in *Ewins*.

141 In the Court below, Mrs Hamilton accepted that the trial Judge was effectively bound by the decision in *Ewins* as to the general level of damages in a terminal illness case and did not invite the trial Judge to depart from that approach. Given what was said by Doyle CJ in *Ewins* about its being a function

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[95] [2011] WASC 287.

of this Court, and not a judge at first instance, to decide whether the general level of damages should be increased, coupled with the fact that BHP does not point to any prejudice, it is appropriate that this Court undertakes its own assessment of damages notwithstanding the attitude of Mrs Hamilton in the Court below.

Assessment

142 In October 2006, Mr Hamilton began to suffer breathlessness. It progressively worsened to the point at which he had to cease his normal activities and regimes. In March 2007, he underwent surgery to drain his lungs and take a biopsy. This resulted in his diagnosis of mesothelioma. His pain progressively worsened. From early April, he began using various pain relieving drugs. He was waking up at night with pain. He experienced difficulty sleeping. He began to experience coughing. He continued to experience shortness of breath. He lost weight and appetite. His position was made more difficult because Mrs Hamilton has a bad back and had herself been reliant upon him to attend to various household duties. His condition further deteriorated and he died on 14 August 2007 at the age of 67.

143 In cases of terminal illness, it is clearly established that there is no specific relationship, and certainly no linear relationship, between the period of suffering and the damages award. This reflects the reality that, while a terminal illness suffered over a shorter period might involve less cumulative pain, the mental anguish is more intense and poignant due to the realisation of the imminent loss of life.

144 In considering the appropriate award of damages for pain, suffering and loss amenities of life of Mr Hamilton, it is appropriate to have regard, in a very general sense, to the level of awards in non-terminal illness cases both where the loss is severe and prolonged (such as quadriplegia involving severe curtailment of activities and necessity for constant care over decades) resulting in higher levels of damages and in less severe cases (involving less severe or less prolonged curtailment of activities and pain and suffering) resulting in lower levels of damages.

145 It is appropriate to have particular regard to the decision of the Court of Appeal of the Supreme Court of New South Wales in *Young* involving an assessment of damages as at 1994 in a terminal illness case at approximately $105,000.

146 It is appropriate to have regard to the assessments by single judges of interstate Supreme Courts referred to at [127] and [130]-[136] above. Because the circumstances of each case are unique, it is not possible to make a direct comparison between those assessments. The assessments in *Easther, Misiani* and *Ellis* ($130,000 in 2001 and $150,000 in 2003 and 2006 respectively) appear to fall on the lower side, on a time adjusted basis, of the comparable awards. The awards in *McGilvray, Hannell, O'Gorman, Parkinson* and *Lowes* ($160,000 in

2001, $180,000 in 2006, $247,500 in 2008, $300,000 in 2010 and $250,000 in 2011) appear to fall on the high side, on a time adjusted basis, of awards in comparable cases.

147 Taking into account Mr Hamilton's individual circumstances, an appropriate assessment of damages for pain, suffering and loss amenities of life in 2012 is $190,000.

Conclusion

148 BHP's appeal should be dismissed.

149 Mrs Hamilton's cross appeal should be allowed. The assessment of damages for pain, suffering and loss of amenities of life should be varied from $115,000 to $190,000.

STANLEY J:

Introduction

150 This is an appeal from a judgment of the District Court in which the Court awarded damages to the plaintiff/respondent in the sum of $232,704.96. The defendant, BHP Billiton Ltd, appeals this judgment.

151 The respondent is the widow of Raymond Charles Hamilton ("the deceased") who was employed by the appellant, BHP Billiton Ltd ("the appellant") as an electrician at its Whyalla shipyard between 1964 and 1965 where he worked in ship construction, particularly in the engine room of one ship, the *Musgrave Range*. He had previously been employed as an apprentice and qualified electrician in a number of Scottish shipyards between 1956 and 1964. Many decades later the deceased contracted mild asbestosis and later mesothelioma. He died of this disease on 14 August 2007. The deceased brought proceedings[96] against the appellant claiming damages on the basis that it had negligently or in breach of statutory duty exposed him to excessive quantities of asbestos in his employment at Whyalla, and that his mesothelioma was caused or contributed to by that exposure. This claim was upheld by the District Court.

152 The damages awarded includes a component of $115,000 for pain, suffering and loss of amenities.

153 The appellant appeals against the finding that it was liable because its negligence contributed to the deceased contracting mesothelioma.

154 The respondent cross-appeals on the basis that the award of $115,000 for pain, suffering and loss of amenities is manifestly inadequate.

Relevant principles of law

155 In *Czatyrko v Edith Cowen University*[97] the High Court summarised the general principles in relation to a negligence action by an employee against the employer:[98]

> An employer owes a non-delegable duty of care to its employees to take reasonable care to avoid exposing them to unnecessary risks of injury. If there is a real risk of an injury to an employee in the performance of a task in the workplace, the employer must take reasonable care to avoid the risk by devising a method of operation for the performance of the task that eliminates the risk, or by the provision of adequate safeguards. The employer must take into account the possibility of thoughtlessness, or inadvertence, or carelessness, particularly in a case of repetitive work.
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> (Citations omitted).

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96 Upon the death of the deceased, the action vested in and was continued by the respondent.
97 (2005) 79 ALJR 839.
98 (2005) 79 ALJR 839 at 842–843.

156 The appellant owed the deceased a duty to take reasonable care to establish and to maintain a safe system of work and a safe place of work. As was noted by the Full Court in *BHP Billiton Ltd v Parker:*[99]

> In most cases it will be necessary to identify the particular risk which it is said the employer, in the exercise of reasonable care, should have taken steps to minimise or avoid. It is necessary to identify the risk so that one can assess what a reasonable response to that risk would be.[100]

157 The risk in this case was that the deceased would be exposed to asbestos dust and fibres in the course of his work due to the use of products containing asbestos by other workers working in his vicinity in the engine room of the *Musgrave Range*. That risk carried with it the further risk that such exposure would result in the deceased contracting a "dust disease" as defined in the *Dust Diseases Act 2005* (SA) ("the Act").

The facts

158 The deceased was born in Glasgow, Scotland, on 14 May 1940. He commenced work in the Clydebank shipyards at the age of 15 as an office boy. On 14 May 1956 he commenced his apprenticeship as an electrician. He qualified on 19 December 1961. During his apprenticeship he worked predominantly in workshops, and intermittently on ships. After completing his apprenticeship he continued in the employment of the same company until 19 December 1962 when he was made redundant. In February 1963 he commenced employment with another shipyard in Glasgow. He remained with that company until mid-1963 when he took employment with another shipyard at Greenock, Scotland. He remained with this company until May 1964 when he emigrated to South Australia. His employment as a qualified electrician in Scotland was mostly on ships. From time to time he would work in proximity to laggers, whose work included insulating pipes in a ship's engine room with asbestos. This work was undertaken at the fitting out stage of ship construction. This is the last stage of construction.

159 In Scotland, the deceased was not provided with any protective equipment while he was working in proximity to the laggers, when they were covering pipes with asbestos.

160 The deceased worked for the appellant at its Whyalla shipyard from about May 1964 until about April 1965.

161 During that period it is most likely that he worked on the one ship, the *Musgrave Range*. His work mainly involved installing cables. It was overwhelmingly performed in the engine room of the ship. As was the case in Scotland, the deceased did not work personally with asbestos. Rather, he worked

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[99] (2012) 113 SASR 206 at 215 [14].
[100] *Roads and Traffic Authority of New South Wales v Dederer* (2007) 234 CLR 330 at 351 [59].

in the vicinity of laggers who were using asbestos lagging to insulate, what he described as, "a maze of pipe work" in the engine room. The laggers performed their work at the same time and place as electricians and other trades. The appellant described the deceased's exposure to asbestos dust and fibre as "bystander exposure".

162 The lagging occurred in different ways. Pipes were lagged by using precast sections of rigid insulation which would be cut to size using a handsaw. This was frequently done in the engine room, and on occasions right alongside the deceased. Pipes were also insulated by the use of asbestos rope which was wound around the pipes and then cut with a knife. In each case the precast sections of insulation or the rope would be covered by a wet slurry. The slurry was prepared by mixing bags of asbestos with water to create a wet paste which was applied by hand. The slurry was prepared either on the wharf using 44-gallon drums, or in the engine room using a 20-litre drum.

163 The work area of the engine room was like an atrium. At times there were people working above, below and alongside the deceased. This included the laggers. The work was hot and dusty. The laggers' activities would distribute the asbestos dust to the workers adjacent to or below them. The deceased described being covered by this dust when working in the engine room. Touching the insulation, in any of its forms, caused it to come off and attach to the person. The deceased described asbestos sticking to him. He contrasted this with the position in Scotland where in the colder weather it blew off. As in Scotland, he was not provided with any protective equipment. Neither was he given any warning regarding the risks posed by the use of asbestos in circumstances where he might inhale asbestos fibres.

164 The deceased was diagnosed with mild asbestosis in August 2005. In early 2007 he presented with symptoms of mesothelioma. That diagnosis was confirmed on 13 March 2007. He died five months later. Before his death, the deceased gave evidence consistent with the findings I have set out above.

The trial judge's reasons

165 At trial, the appellant did not contest the proposition that it owed the deceased a duty of care while he was employed at Whyalla. The appellant, however, disputed the scope of the duty it owed.[101] It contended that it was not under a duty to take precautions to protect the deceased from the risk of developing lung disease as a result of bystander exposure to asbestos because it submitted that risk was not reasonably foreseeable in 1964 or 1965. In addition, it submitted that, if the relevant risk was within the scope of its duty of care, that duty was not breached. Finally, it submitted that any breach of duty, had it occurred, was not causative of the deceased's mesothelioma.

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[101] I agree with the reasons of Blue J that the appellant's submission concerning the scope of the duty of care observed the real issue it sought to agitate which was breach of the duty.

166 The judge rejected each of these arguments. He found that pursuant to the Act, the appellant was presumed to have known that the deceased was at risk of developing a dust disease. Further, the appellant had failed to rebut that presumption. In the alternative, his Honour concluded that the evidence established that the appellant ought to have known of such a risk. The judge concluded that the appellant had breached the duty it owed to the deceased in that there were steps that it could, and should, have taken in order to alleviate that risk. Finally, the judge found that while the deceased's exposure to asbestos in Scotland was much more significant than the exposure in Whyalla, he was satisfied that the Whyalla exposure was causative. His Honour reached this conclusion first on the basis that the Act created a presumption to this effect which the appellant had failed to rebut, and secondly, on the evidence which established the Whyalla exposure as contributing in a material way to the development of the deceased's mesothelioma. In this regard the judge relied on the expert evidence of Professor Henderson, a pathologist with a particular interest in asbestos related disease, and an occupational hygienist, Michael Kottek, in preference to the evidence of another occupational therapist, Alan Rogers. The judge reasoned as follows:[102]

> **Findings on the Content of the Duty**
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> The substantial points of issue raised by the defendant were the content of the admitted duty of care in the circumstances, and further what ought to have been done that it failed to do which resulted in injury. The Trial Book sets out the plaintiff's pleadings on this. She firstly alleges a failure to warn.[103] She secondly pleads failure to provide adequate protective equipment or other appropriate respiratory protection to prevent the inhalation of asbestos dust and fibres by the deceased.[104] She thirdly pleads a failure to control the release of asbestos fibres occurring in or about the premises.[105] She fourthly pleads a failure to provide ventilation to extract asbestos fibres from the atmosphere.[106] She fifthly pleads the defendant failed to enquire as to the dangers asbestos posed to its employees or obtain advice as to the risks or act on that advice.[107] She sixthly pleads that the defendant failed to institute safe systems of work to reduce the dangers of asbestos.[108]
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> …
>
> There appear to be four general groupings to the plaintiff's contention of content of the duty. These are a failure to provide a safe place to work, a failure to warn, a failure to conduct proper investigations regarding the materials being used (i.e. asbestos) and a failure to provide proper clothing and equipment for the work to be safely carried out. I find that each of these obligations fell within the scope of the relevant duty of care in the given circumstances. They constitute the content of the duty owed in the circumstances that the defendant knew or ought to have known asbestos was a hazardous material. It was a case in which the content of the duty was informed by and was commensurate with

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[102] *Hamilton v BHP Limited* [2012] SADC 25 at [389] and [391]–[403].
[103] Statement of Claim [14.2].
[104] Statement of Claim paras [14.3], [14.4].
[105] Statement of Claim paras [14.5],]14.6].
[106] Statement of Claim [14.7].
[107] Statement of Claim [14.8], [14.9].
[108] Statement of Claim [14.11], [14.12], [14.3].

the gravity of the consequences.[109] I find a reasonable person in the defendant's position would have foreseen a serious risk of injury to the class of person which included the deceased and set about consideration of what could be done in reasonable response to that risk.[110]

The principle to be applied at this juncture remains the "Shirt calculus".[111] Mason J, as he then was, in *Wyong Shire Council v Shirt* stated: [112]

> 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.

I find as follows. The defendant knew or ought to have known that the asbestos it was using was hazardous. If it had made due enquiry about its possible dangers, it would have discovered on the literature asbestos presented a serious risk of lung disease including asbestosis, lung cancer or mesothelioma. It would have appreciated that responses to asbestos dust inhalation were variable and different workers had different susceptibilities. It would have realised asbestosis, lung cancer and mesothelioma appeared load related. The danger occurred when the asbestos in dust form was inhaled. The literature indicated that while the dosage and duration needed to cause harm was unknown it may have been satisfied by high dosage of short duration. Therefore the only reasonable approach and the one generally recommended by the experts was to reduce the inhalation of dust so far as was reasonably possible. Moreover it was part of the content that the workers who were likely to be exposed to the risk should be informed of the danger. With respect to the latter I regard any other expectation would be to suggest the men be treated as helots.

In particular I find that a reasonable employer with the knowledge that the defendant had or should have had would have realised that any MACs in regulations or stated in Dreessen were questionable at best. To conclude observance of a 5mppcf limit as sufficient response, given the information available, particularly Fleischer, but also McLaughlin, would have been obtuse, on the basis of the available information.

Findings on Preventability

It is ironic that had the defendant at the relevant time put a fraction of the investigative effort as had been expended in defending this claim into a sensible and warranted examination of the dangers of asbestos and what ought to be done to reduce dust levels, there would be little chance that they would not have realised the dangers and acted. A reasonable employer could have taken action to suppress the dust. Instead nothing was done in this regard.

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[109] *Paris v Stepney Burrough Council* (above cited) at 385.
[110] *Kuhl v Zurich Finance Services Australia Ltd* (2011) 243 CLR 361 at paras [19], [21], [22].
[111] See *RTA (NSW) v Dederer* at [18] per Gummow J.
[112] (1980) 146 CLR 40 at 47.

The defendant should have made appropriate enquiry and investigation. Had it been made at the appropriate time and reasonably assessed, on the basis of the evidence before me and which was available to the defendant, it would have found high levels of asbestos laden dust in the engine room. That would have informed it that action had to be taken.

I find that steps could and should have been taken and indeed were taken shortly after the relevant time as is evidenced by the fact that the dustiness in the workplace was dramatically changed between 1965 and 1968. This is demonstrated by Dr Wilson's finding. In contrast to the shocking state of dustiness described by the witnesses in the engine room in 1964, the dust created by any of the processes in 1968 was found to be so slight that it was impracticable to carry out any meaningful form of air sampling. It is clearly a basis upon which I can make a finding that actions could reasonably have been taken in 1964.

I find on a basis of the available literature detailed by me including the American studies and the studies by Harries, that there were many actions that could have been taken so that the deceased would not inhale the levels of asbestos he did while he was engaged in his workplace. But more significantly there were measures at Whyalla that were shown to work. Ventilation ought to have been operative during the fit-out. When operated, clearly it had a significant effect.[113] The spraying of asbestos on the bulk heads and other surfaces was done at night to avoid exposing the other workers. The laggers could have done their work also in the absence of the tradesmen. Indeed this was accepted as being so.[114] When the laggers were not there the evidence was there was hardly any dust. The cutting and mixing could have all been carried out on the wharf. The defendant acknowledges this implicitly with its contention that indeed this occurred, a contention I have rejected. It certainly ought to have occurred. Respirators and clothes could have been provided and the men made to wear them. This was subsequently done. It could have been done in 1964 without apparent difficulty. The cleaners could have used vacuum cleaners. Ultimately they did.[115] That could have been so in 1964. Wetting down could have been instituted. As indeed it was in the end. Had all these steps been taken at or before 1964, as I find a reasonable employer would have taken, the levels of asbestos dust inhaled by the deceased would have been a small fraction of what indeed he inhaled. Each of these actions that ought to have been taken and were not taken amounted to breaches that led to damage.[116]

I refer to the obligation to warn. I find had the deceased been warned it would likely have been the last straw and he would have left Whyalla probably within weeks. He ultimately cut short his contract with the defendant. That is because upon his arrival in Whyalla he was significantly disenchanted with what he found there. It was far different from his and his wife's expectations. The landscape was harsh, a far cry from what he would have appreciated in Scotland. There was no social life and facilities were distant. He disliked the job he was given and regarded it as demeaning compared with his employ in Scotland.[117] With the added knowledge of the danger the asbestos posed of cancer and the fact that little was being done to reduce the asbestos dust in the workplace, he would unlikely have tolerated the situation. He would have in all likelihood translocated to Adelaide.

Findings on Negligent Causation of Injuries

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[113] T pp 188, 207.
[114] Exhibit R68 Letter 14 dated 21 January 1969, Douglas to Manager Industrial Relations.
[115] Exhibit R68 Letter 15 RG Hawke to Bells Thermolag dated 23 January 1969.
[116] *Hamilton v BHP Limited* [2012] SADC 25 at [177], [185], [186] and [236].
[117] Exhibit A6 paras [9], [18].

The failures to reduce the levels of asbestos dust in the workplace were causative of the mesothelioma and the mild asbestosis on the evidence of Professor Henderson. His evidence was that all significant inhalations of asbestos were making a significant contribution to the ultimate mesothelioma. The failures of the defendant caused a significant load of inhalation of the asbestos dust. I find the cause established on that basis. The failure to provide suitable clothes and respirators was to the same effect. The failure to warn lead to the deceased staying in Whyalla for the ten months of significant exposure.

In *Roche Mining Pty Ltd v Jeffs*[118] McColl JA, with whom the other Members of the Court agreed, dealt with a case decided within the legislative framework of the *Civil Liability Act 2002 (NSW).* However parts of her decision gives guidance to the case here. Her Honour stated:[119]

> … To satisfy the element of causation [the plaintiff] had to identify the action which, on the available evidence, the primary judge could conclude ought to have been taken. That action, if failure to take it was to be considered negligent, had to be such that the foreseeable risk of injury would require it to be taken, having regard to the nature of the risk and the extent of injury should the risk mature into actuality. It was necessary to establish that the primary judge could conclude as a matter of direct evidence or legitimate inference that, more probably than not, the [remedial action] would have prevented or minimised the injuries the respondent sustained: *Kuhl* (at [45]) per French CJ and Gummow J; at [104] per Heydon, Crennan and Bell JJ (all citing *State of Victoria v Bryar).*[120]
>
> [The defendant's] written submissions on causation contended that the respondent had to establish that the [remedial action] would have obviated the risk of injury and that it was not sufficient that it be established that that system would have reduced the risk. It is apparent from *Kuhl* (and numerous other authorities, as to which see *Varga v Galea*[121]) that that submission must be rejected. It is sufficient that the suggested precaution would have minimised the injury. …

The principle is stated in Kuhl v Zurich Financial Services:[122]

> To satisfy the element of causation … it would be necessary to identify the action which, on the available evidence, the trial judge could conclude ought to have been taken; that action, if failure to take it is to be accounted negligent, must be such that the foreseeable risk of injury would require it to be taken, having regard to the nature of that risk and the extent of injury should the risk mature into actuality; and it would be necessary that the trial judge could conclude as a matter of evidence and inference that, more probably than not, the taking of the action … would have prevented or minimised the injuries the plaintiff sustained: *Victoria v Bryar* (1970) 44 ALJR 174 at 175.

I find the mesothelioma and the mild asbestosis was caused or materially contributed to by the various specified breaches of the defendant's duty to the deceased.

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[118] [2011] NSWCA 184.
[119] Paras [80], [81].
[120] (1970) 44 ALJR 174 at 175 per Barwick CJ, McTiernan, Owen and Walsh JJ concurring.
[121] [2011] NSWCA 76 at [25].
[122] (2011) 243 CLR 361 per French CJ and Gummow J at [45].

The appellant's submissions

167 On appeal, BHP developed four principal submissions.

168 First, it contended that the judge erred in his construction of s 8(2) of the Act. Section 8(2) provides:

> A person who, at a particular time, carried on a prescribed industrial or commercial process that could have resulted in the exposure of another to asbestos dust will be presumed, in the absence of proof to the contrary, to have known at the relevant time that exposure to asbestos dust could result in a dust disease.

169 A dust disease is defined in s 3 as follows:

> ***dust disease*** means one or more of the following:
>
> (a) asbestosis;
>
> (b) asbestos induced carcinoma;
>
> (c) asbestos related pleural disease;
>
> (d) mesothelioma;
>
> (e) any other disease or pathological condition resulting from exposure to asbestos dust;

170 It submitted that the provision did not create a presumption of foreseeability and the onus remained on the plaintiff to demonstrate that BHP had actual knowledge of a risk to the deceased. The evidence did not affirmatively establish that BHP had such actual knowledge. Alternatively, if the presumption was one of foreseeability, it was rebutted on the evidence.

171 Second, it submitted the judge erred in finding that BHP ought to have known of a risk of asbestos related disease to the deceased. It submitted that the judge ought to have determined the forseseeability of a risk of disease in the circumstances of the deceased's employment by reference to the maximum allowable concentration standards (MACS) published by the National Health and Medical Research Council in the early 1960s. Instead, it submitted that the judge undertook his own review of the literature adduced by the plaintiff. It submitted he was wrong in principle to do this. In any event, it submitted that the judge's interpretation of the evidence was wrong in fact. On a proper analysis of the evidence, including the lay evidence dealing with general conditions of the shipyard, and the expert evidence dealing with the deceased's potential exposure, the finding that should have been made was that his exposure did not exceed the maximum allowable concentration, nor was it otherwise such as to give rise to a reasonably foreseeable risk of disease.

172 Third, it submitted that the judge's erroneous finding as to work practices and conditions at the Whyalla shipyard destroyed or undermined his findings as

to breach of duty. It submitted that his Honour's approach also involved errors of principle. Even if there had been a reasonably foreseeable risk, the judge failed to quantify that risk, and to identify the steps which BHP ought to have taken in response, with a sufficient level of precision to support the adverse findings made.

173 Fourth, it submitted that the judge misinterpreted the scientific evidence in concluding that the deceased's exposure at Whyalla materially contributed to the development of his mesothelioma. It submitted that, properly understood, the evidence demonstrated no more than that such exposure contributed to the overall risk of mesothelioma developing. It submitted that the presumption established by s 8(1) of the Act was not engaged. Section 8(1) provides:

> (1) If it is established in a dust disease action that a person (the ***injured person***)—
>
> (a) suffers or suffered from a dust disease; and
>
> (b) was exposed to asbestos dust in circumstances in which the exposure might have caused or contributed to the disease,
>
> it will be presumed, in the absence of proof to the contrary, that the exposure to asbestos dust caused or contributed to the injured person's dust disease.

174 In the alternative, it contended that if the presumption was engaged, it was rebutted and causation was not established.

Principles on appeal

175 The approach to be adopted by this Court in hearing an appeal involving a challenge to findings of fact made by a trial judge is explained by the High Court in *Fox v Percy.*[123] Gleeson CJ, Gummow and Kirby JJ said:[124]

> Within the constraints marked out by the nature of the appellate process, the appellate court is obliged to conduct a real review of the trial and, in cases where the trial was conducted before a judge sitting alone, of that judge's reasons. Appellate courts are not excused from the task of "weighing conflicting evidence and drawing [their] own inferences and conclusions, though [they] should always bear in mind that [they have] neither seen nor heard the witnesses, and should make due allowance in this respect". In *Warren v Coombes*, the majority of this Court reiterated the rule that:
>
> > "[I]n general an appellate court is in as good a position as the trial judge to decide on the proper inference to be drawn from facts which are undisputed or which, having been disputed, are established by the findings of the trial judge. In deciding what is the proper inference to be drawn, the appellate court will give respect and weight to the conclusion of the trial judge but, once having reached its own conclusion, will not shrink from giving effect to it."
>
> As this Court there said, that approach was "not only sound in law, but beneficial in … operation". After *Warren v Coombes*, a series of cases was decided in which this Court

[123] (2003) 214 CLR 118.
[124] (2003) 214 CLR 118 at 126-128.

> reiterated its earlier statements concerning the need for appellate respect for the advantages of trial judges, and especially where their decisions might be affected by their impression about the credibility of witnesses whom the trial judge sees but the appellate court does not. Three important decisions in this regard were *Jones v Hyde, Abalos v Australian Postal Commission* and *Devries v Australian National Railways Commission.* This trilogy of cases did not constitute a departure from established doctrine. The decisions were simply a reminder of the limits under which appellate judges typically operate when compared with trial judges.
>
> The continuing application of the corrective expressed in the trilogy of cases was not questioned in this appeal. The cases mentioned remain the instruction of this Court to appellate decision-making throughout Australia. However, that instruction did not, and could not, derogate from the obligation of courts of appeal, in accordance with legislation such as the *Supreme Court Act* applicable in this case, to perform the appellate function as established by Parliament. Such courts must conduct the appeal by way of rehearing. If, making proper allowance for the advantages of the trial judge, they conclude that an error has been shown, they are authorised, and obliged, to discharge their appellate duties in accordance with the statute.
>
> Over more than a century, this Court, and courts like it, have given instruction on how to resolve the dichotomy between the foregoing appellate obligations and appellate restraint. From time to time, by reference to considerations particular to each case, different emphasis appears in such reasons. However, the mere fact that a trial judge necessarily reached a conclusion favouring the witnesses of one party over those of another does not, and cannot, prevent the performance by a court of appeal of the functions imposed on it by statute. In particular cases incontrovertible facts or uncontested testimony will demonstrate that the trial judge's conclusions are erroneous, even when they appear to be, or are stated to be, based on credibility findings.
>
> (Footnotes omitted).

176 I have approached this appeal in accordance with this principle.

Dust Diseases Act 2005 **(SA)**

177 The disposition of this appeal depends, in part, upon the correct construction of ss 8(1) and (2) of the Act.

178 The process of construction begins with a consideration of the ordinary and grammatical meaning of the words of the provision, having regard to their context and legislative purpose. As the High Court said in *Project Blue Sky Inc v Australian Broadcasting Authority*,[125] citing with approval the dictum of Dixon CJ in *Commission for Railways (NSW) v Agalianos*,[126] the context, the general purpose and policy of a provision and its consistency and fairness are surer guides to its meaning than the logic with which it is constructed.

179 The construction of these provisions is also informed by a consideration of the terms of s 22(1) of the *Acts Interpretation Act 1915* (SA) which relevantly provides:

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[125] (1998) 194 CLR 355 at 381 [69].
[126] (1955) 92 CLR 390 at 397.

> [W]here a provision of an Act is reasonably open to more than one construction, a construction that would promote the purpose or object of the Act (whether or not that purpose or object is expressly stated in the Act) must be preferred to a construction that would not promote that purpose or object.

180 The starting point for identifying the object of the Act is s 4. It provides:

> The object of this Act is to ensure that residents of this State who claim rights of action for, or in relation to, dust diseases have access to procedures that are expeditious and unencumbered by unnecessary formalities of an evidentiary or procedural kind.

181 In seeking to identify the legislative purpose, it is permissible to refer to Parliamentary debates.[127] In *K-Generation Pty Ltd v Liquor Licensing Court*[128] French CJ said:[129]

> The question whether extrinsic materials may be considered in South Australia and what circumstances they may be considered as an aid to statutory interpretation is to be answered by the common law. The answer at common law is that such materials can be considered to determine, *inter alia*, the mischief to which an Act is directed. … At common law it is not necessary before entering upon a consideration of such material to surmount a threshold of ambiguity, obscurity or possible absurdity. Statutory interpretation requires the Court to have regard to the context in which the words to be interpreted arise and also their statutory purpose. Context includes "the existing state of the law and the mischief which, by legitimate means … one may discern the statute was intended to remedy".
>
> (Footnotes omitted).

182 In this regard I note the injunction of the High Court in *Saeed v Minister for Immigration and Citizenship*[130] that statements as to legislative intention found in extrinsic materials, however clear or emphatic, cannot overcome the need to carefully consider the words of the statute to ascertain its meaning.

183 The appellant conceded it was permissible for the Court to consider the terms of the Minister's second reading speech, at least for the purposes of identifying any mischief to which the legislation was directed.

184 A consideration of Hansard reveals that the legislation was introduced as a private members' bill in the Legislative Council by the Honourable Nick Xenophon MLC. The legislation was supported by the government and was extensively amended in the House of Assembly on the motion of the Attorney-General.[131] It is apparent the legislation was dealt with by the Parliament with some haste. The Attorney-General gave a second reading speech but did not table any explanatory memoranda. In lieu thereof, he provided, during the

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[127] *Owen v South Australia* (1996) 66 SASR 251 at 255-256 per Cox J; *Burch v South Australia* (1998) 71 SASR 12 at 16-19 per Cox J, at 26-27 per Lander J, at 39 per Bleby J; *Nemer v Holloway* (2003) 87 SASR 147 at 166-167.

[128] (2009) 237 CLR 501.

[129] (2009) 237 CLR 501 at 521-522 [51]-[52].

[130] (2010) 241 CLR 252 at 264-265 [31]

[131] Hansard House of Assembly 30 November 2005 p 4,278-4,294.

committee stage of the debate, an explanation for each clause of the bill which he sought to amend, in a form which subsequently reflected the terms of the Act. In the circumstances, I consider I am entitled to have regard to what fell from the Attorney-General in the course of explaining the purpose of each provision during the committee stage of the debate, as well as his second reading speech, in identifying the mischief to which the particular provision was directed and its legislative purpose.

185 In his second reading speech the Attorney-General said:[132]

> The bill would require the District Court to deal with dust diseases cases expeditiously and without the unnecessary formalities of an evidentiary or procedural kind. There are special provisions about evidence that are intended to speed the resolution of these cases.

186 During the committee stage of the debate, the Attorney-General explained what became subsections 8(1) and (2), as follows:[133]

> Subclause (1) would create a rebuttable presumption of cause and effect. If a plaintiff proves that the injured person suffered a dust disease as defined in the Act and that the injured person was exposed to dust in circumstances in which the exposure might have caused – might have caused – or contributed to the disease, then it is presumed that the exposure caused the disease unless the defendant proves the contrary.
>
> This has the effect of reversing the onus of proof as to causation. The idea has been taken from the *Workers' Rehabilitation and Compensation Act 1986*. Subclause (2) would create a rebuttable presumption that a person who, at a particular time, carried on prescribed industrial or commercial processes that could have resulted in the exposure of another to asbestos dust knew at the relevant time that the exposure could result in a dust disease unless the contrary is proved. This, in effect, reverses the onus of proof as to knowledge in prescribed circumstances. It would save the plaintiff having to prove that the defendant knew.

187 Mr Parker SC, counsel for the appellant, argued for a narrow construction of s 8. He described it as a procedural provision, designed merely to facilitate the process of proof.

188 He submitted that s 8(1) did not automatically create a presumption of causation. Section 8(1) merely provides that if it is established that a person suffers from a dust disease and was exposed to asbestos in circumstances in which that exposure might have caused or contributed to the dust disease, then it is presumed, in the absence of proof to the contrary, that the exposure did cause or contribute to the person's disease.

189 The appellant argued that s 8(1) operates in the context of an action in negligence for damages for personal injury or wrongful death. Unless the plaintiff could prove that there had been discrete, identifiable and measurable *negligent* exposure to asbestos dust, the provision was not enlivened and the

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[132] Hansard p 4, 278.
[133] Hansard p 4, 291.

presumption did not arise. Section 8(1) cannot assist a plaintiff establish a cause of action in respect of a dust disease by creating a presumption of causation in respect of non-negligent exposure to asbestos dust. It operates in respect of a particular exposure not exposure generally.

190 The appellant submitted that s 8(2) speaks of "exposure to asbestos dust" generally, not exposure to a particular fibre type, or exposure of particular intensity or duration. On its face, it creates a presumption that such generalised "exposure to asbestos dust" is capable of causing disease. It says nothing about whether there is a reasonably foreseeable risk that a particular type or level of exposure will do so. The generalised presumption created by s 8(2) that "exposure to asbestos could result in a dust disease" is not sufficient to establish foreseeability at common law. The provision merely creates a presumption of fact which might or might not, in the circumstances of a particular case, be relevant to the issue of foreseeability. It does not give rise to a presumption of foreseeability. It does not create any special rules relating to liability in dust disease actions.

191 The appellant sought to rely upon the following passage from the joint judgment of Doyle CJ and White J in *BHP Billiton Ltd v Parker*:[134]

> Section 9(2)[135] is to be read consistently with s 8(2). BHP acknowledged as much in its submissions on appeal. Section 8(2), referred to earlier, provides:
>
> > (2) A person who, at a particular time, carried on a prescribed industrial or commercial process that could have resulted in the exposure of another to asbestos dust will be presumed, in the absence of proof to the contrary, to have known at the relevant time that exposure to asbestos dust could result in a dust disease.
>
> It can be seen that s 8(2) also includes the expression "that exposure to asbestos dust could result in a dust disease". It is reasonable to suppose that the Parliament intended the expression to have the same meaning in each provision. Thus, if the construction proposed by BHP is correct, s 8(2) would require a presumption, in the absence of proof to the contrary, that a defendant who carried on a prescribed process knew, at the relevant time, that the particular exposure of a plaintiff (as opposed to exposure more generally) could result in a dust disease. That does not appear to be the ordinary meaning of s 8(2). It is more natural to understand the second use of the expression "exposure to asbestos dust" in s 8(2) as referring to the same kind of exposure to which the expression when first used refers, ie, any exposure at all. Persons who carry on a process which could result in the exposure of another to asbestos dust (ie, any exposure) are to be presumed, in

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[134] (2012) 113 SASR 206 at 257 [224].

[135] Section 9(2) provides:

> The Court should make an award of exemplary damages in each case against a defendant if it is satisfied that the defendant—
>
> (a) knew that the injured person was at risk of exposure to asbestos dust, or carried on a prescribed industrial or commercial process that resulted in the injured person's exposure to asbestos dust; and
>
> (b) knew, at the time of the injured person's exposure to asbestos dust, that exposure to asbestos dust could result in a dust disease.

> the absence of proof to the contrary, to know that exposure (ie, exposure generally) could result in a dust disease.

192 The appellant submits the presumption that is established by s 8(2) is of generalised knowledge, rather than knowledge that the particular exposure which the person concerned underwent, could have resulted in that person suffering any of the diseases or pathological conditions prescribed in the definition of "dust disease" in s 3 of the Act.

193 Section 8 is a remedial provision.

194 The Act was enacted against a background where it was a matter of notoriety that plaintiffs who were the victims of asbestos related disease, with its long latency period, confronted significant forensic hurdles in proving a cause of action in negligence or breach of statutory duty in respect of events which mostly had occurred three or four decades earlier. The purpose of s 8 is to overcome some of those forensic hurdles. As Heydon J observed in *Amaca Pty Ltd v Booth:*[136]

> Mesothelioma is a painful illness leading to death. It is a cancer of the lining of the lung. It is very commonly caused by inhaling asbestos fibres, though perhaps not always. It can be caused by very brief intense exposures whether occupational, domestic or recreational, and by lower-level environmental exposures – sometimes after exposures which are very short – a day – or very slight. On the other hand, many people can have heavy and sustained exposures to even the most dangerous types of asbestos without suffering the disease. This phenomenon, like much else about the disease, is something which scientists have found difficult to explain. The disease has a latency period of at least 10 years, and sometimes much longer – as long as 75 years. The disease is often not diagnosed until many years after exposure to asbestos. It is therefore difficult for plaintiffs suffering from mesothelioma to establish the facts necessary for success in negligence actions. In particular it can be difficult for them to establish that the conduct of a given defendant caused the disease. A related difficulty for plaintiffs springs from the fact that the earlier the exposure the greater the chance that it could cause harm. Because of the valuable characteristics of asbestos, particularly its capacity to retard fires, it has been commonly used until quite recently. The extent of exposure to asbestos amongst those now living, the likely exposure amongst those yet to be born, and the likelihood of further injury taking place when asbestos is removed from the many places where it is now found, mean that problems of the kind thrown up in these appeals will remain for decades to come. Perhaps a social-medical problem of this size requires a legislative solution. In some places solutions have been sought in judicial or legislative changes to the law relating to causation.

195 This is an example of a solution of the kind to which Heydon J referred that has been made by legislative change.

196 In *Waugh v Kippen*[137] the High Court referred to "the character of the Act" as a guide to its construction. This is an example of the purposive approach to statutory interpretation. In that case the legislation concerned industrial safety.

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[136] (2011) 246 CLR 36 at 191-192.
[137] (1986) 160 CLR 156 at 164.

Having regard to that character, the High Court held that the legislation should be construed "so as to give the fullest relief which the fair meaning of its language will allow", to use the words of Isaacs J in *Bull v Attorney-General (NSW).*[138] I consider the Act is of a similar character.

197 In *Bird v The Commonwealth*[139] the High Court considered a similar provision to s 8, namely, s 30 of the *Compensation (Commonwealth Government Employees) Act 1971* (Cth). In this context it is notable that s 8 itself was modelled on a provision found in workers' compensation legislation enacted by the South Australian Parliament, as is evidenced by the passage from Hansard referred to earlier in these reasons.[140] Section 30 created a rebuttable presumption that the nature of the employment in which an employee was engaged would be deemed to have been a contributing factor to the employee's contraction of a disease where the employee was engaged in employment of a kind, which was specified in regulations to be, related to a particular specified disease. The relevant approach to construction is set out in the joint judgments of Mason CJ, Brennan and Toohey JJ, and of Deane and Gaudron JJ. The majority observed that the Act is remedial legislation, and if there is any ambiguity, ought not to be construed narrowly.[141] Deane and Gaudron JJ, who while in dissent on the ultimate result of the appeal, explained the principle in the following terms:[142]

> … employee's compensation legislation, such as the Act and the regulations, is remedial in its character "and, like all such Acts, should be construed beneficially": *Bist v. London & South Western Railway Co.* The "established principle" was correctly identified by Fullagar J. in the course of his dissenting judgment in *Wilson v. Wilson's Tile Works Pty. Ltd.* "where two constructions of a *Workers' Compensation Act* are possible that which is favourable to the worker should be preferred." If a person or a case falls within the general spirit of such remedial legislation, and there are two possible interpretations, the courts ought not to construe the Act so as to exclude that person or case…
>
> (Footnotes omitted).

198 In accordance with these principles, reinforced by s 22(1) of the *Acts Interpretation Act 1915* (SA), I consider that s 8 should be construed liberally and beneficially so as to afford the section the widest meaning its language is capable of supporting.

199 It is convenient to address the construction of s 8(2) before considering the construction of s 8(1) given that s 8(2) is concerned with the issue of foreseeability while s 8(1) is concerned with the issue of causation.

200 Section 8(2) creates a rebuttable presumption. In this case the presumption is that, at a particular time, a person who carried on a prescribed industrial or

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[138] (1913) 17 CLR 370 at 384. See also *IW v City of Perth* (1996-97) 191 CLR 1 per Brennan CJ and McHugh J at 12.
[139] (1988) 165 CLR 1.
[140] Hansard p 4,291 quoted at 50 [186] above.
[141] (1988) 165 CLR 1 at 6.
[142] (1988) 165 CLR 1 at 9.

commercial process that could have resulted in the exposure of another to asbestos dust, knew that exposure could result in a dust disease as defined.

201 In my view, as an aid to proof in a dust disease action as defined, s 8(2) is to be construed to mean that where a plaintiff has proved that, at a particular time, a person carried on a prescribed industrial or commercial process that could have resulted in the exposure of another to asbestos dust, that person is presumed to have known, at that time, that the exposure of the plaintiff to asbestos dust could result in the plaintiff contracting any or all of the pathological conditions included in the definition of "dust disease" in s 3.

202 In my view, such construction is consistent with the language of the subsection and consonant with the legislative purpose of the provision.

203 The construction contended for by the appellant, on the other hand, would scarcely assist a plaintiff in proof of a dust disease action. A presumption of a generalised knowledge on the part of a person, who carried on a prescribed industrial or commercial process that could have resulted in exposure of another to asbestos dust, that the exposure to asbestos dust could result in a dust disease, which did not extend to the exposure to which the plaintiff was subjected, would not assist the plaintiff at all. The plaintiff would still have to prove that the defendant had actual knowledge that the injured person was at risk of contracting a particular dust disease from the particular process in which the injured person had been engaged.

204 Such a construction would be contrary to the injunction that in construing legislation of this character, a liberal and beneficial approach should be adopted.

205 I do not consider that the Court is compelled to adopt the construction contended for by the appellant by reason of anything that fell from this Court in *BHP Billiton Ltd v Parker*.[143] In the passage relied upon by the appellant referred to above[144], the words "any exposure" and "exposure generally" are important. The passage must also be read in light of the following passage from the joint judgment of Doyle CJ and White J where their Honours said:[145]

> [B]y s 8(2) of the DDA, BHP is presumed to have known in 1971 and 1972 that exposure to asbestos dust could result in a dust disease. BHP carried on "a prescribed industrial or commercial process": see the *Dust Diseases Regulations 2009* (SA), Schedule 1, item 6(a), item 7(a) and item 8(a). That process could have resulted in the exposure of Mr Parker to asbestos dust. BHP is presumed to have known in 1971 and 1972 that Mr Parker's exposure to asbestos dust could result in dust disease.

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[143] (2012) 113 SASR 206.

[144] At 51-52 [191] setting out p 257 [224] of the judgment in *BHP Billiton Ltd v Parker* (2012) 113 SASR 206.

[145] *BHP Billiton Ltd v Parker* (2012) 113 SASR 206 at 218-219 [27].

206 That passage makes clear that their Honours construed s 8(2) to presume knowledge of the risk posed by exposure to any asbestos, which necessarily includes the specific exposure experienced by the injured person.

207 In any event, if I am wrong, the construction of s 8(2) referred to in [224] of the joint judgment is plainly obiter. It was merely a step in the reasoning of their Honours in construing the operation of s 9(2) of the Act. The question in issue in *Parker* was whether, in order to displace that provision and escape an award of exemplary damage, the defendant must prove that it was not aware that asbestos could in *any* circumstance cause a dust disease or whether it need only prove that it was not aware that the exposure in *its workplace* could result in a dust disease.

208 Section 8(1) was considered by this Court in *BHP Billiton Ltd v Parker*.[146] The joint judgment of Doyle CJ and White J construed the provision on the basis that, to establish the rebuttable presumption of causation, it is necessary for a plaintiff to prove that:

(i) the injured person suffers or suffered from a dust disease;

(ii) the injured person was exposed to asbestos dust;

(iii) that exposure to asbestos dust might have caused or contributed to the dust disease the injured person suffers or suffered; and

(iv) the disease from which the injured person suffers or suffered is one attributable to exposure to asbestos dust.

209 Once these matters are proved on the balance of probabilities, the presumption of causation is established and causation is proved unless the defendant rebuts the presumption on the balance of probabilities.[147] Gray J took a similar approach.[148]

210 With respect, that analysis is correct.

211 The significance of the operation of s 8(1)(b) is that, subject to proof on the balance of probabilities of the fact required in sub-paragraph s 8(1)(a), causation will be presumed, subject to proof to the contrary, if the plaintiff can prove a relevant exposure to asbestos dust, in circumstances in which the exposure might have been causative of the proved dust disease.

212 Mr Livesey QC, counsel for the respondent, submitted that when s 8(1) provides that the exposure to asbestos dust is presumed to have caused or contributed to the injured person's dust disease, the presumption is to be understood to mean that every element of the injured person's exposure to

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[146] (2012) 113 SASR 206.
[147] (2012) 113 SASR 206 at 239 [117].
[148] (2012) 113 SASR 206 at 281-282 [343]-[348].

asbestos dust has caused or contributed to the contraction of that disease. I do not accept this submission.

213 In my view, it is only that exposure to asbestos dust experienced by the injured person which might have caused or contributed to suffering the dust disease to which the statutory presumption applies. The respondent's submission is good only if every element of the injured person's exposure to asbestos dust created or gave rise to a risk of him or her contracting the dust disease. That is a question of fact.

214 I come to this conclusion based on a textual analysis of the subsection and a consideration of its object and purpose.

215 Section 8(1) refers to "the exposure" in two places.

216 The first reference to "the exposure" is in s 8(1)(b). That provision imposes the second of the two evidentiary conditions which must be established for the operation of the statutory presumption. "The exposure" referred to therein is the exposure to asbestos dust experienced by the injured person which might have caused or contributed to the dust disease from which the injured person suffers or suffered. The legislature, in imposing this test, plainly had in contemplation that not every exposure might cause or contribute to that dust disease. On the other hand, the terms of the provision in s 8(1) that predicate the operation of the statutory presumption on exposure that "might have caused or contributed to the disease" suggests that the evidentiary condition which the plaintiff in a dust diseases action must satisfy, is evidence that the relevant exposure created the possibility of the injured person contracting the dust disease from which he or she suffers or suffered. Proof that the exposure to asbestos dust created the possibility of suffering a dust disease, to my mind, means that the exposure "might have" caused or contributed to that disease. The concept of exposure that might have caused or contributed to the disease connotes something contingent or possible. If the exposure has created or given rise to a possibility of a person suffering a disease, the exposure might have caused or contributed to the disease, unless the exposure was so insignificant in a causative sense as to be disregarded on the *de minimus* principle. That is the meaning which I would attribute to the concept of exposure to asbestos dust which might have caused or contributed to the injured person's dust disease. The statutory presumption relieves the plaintiff from proving that the exposure actually caused or contributed to the injured person suffering asbestos disease. As French CJ observed in *Amaca Pty Ltd v Booth*[149] causation in tort is not established merely because the alleged tortious act or omission increased the risk of injury. The risk of an occurrence and the cause of the occurrence are quite different things. That proposition highlights the work that is performed by the specified condition which enlivens the presumption. It is sufficient for the presumption to operate for the plaintiff merely to prove that the exposure created or gave rise to a possibility of the

[149] (2011) 246 CLR 36 at 182.

injured person suffering dust disease rather than proof of actual causation. So much is obvious because if proof of actual causation was required it would negate the presumption of causation which is the purpose of s 8(1).

217 I consider that the second reference to "the exposure" in s 8(1) is a reference to the same exposure as referred to earlier in the subsection. That is, to any exposure to asbestos dust which might have caused or contributed to the injured person's dust disease. Which is to say, any exposure that created or gave rise to a possibility of the injured person contracting the dust disease from which he or she suffers or suffered. There is an identity between the exposure referred to in subparagraph (b) of subsection (1) and the exposure referred to in the last phrase of that subsection.

218 Section 8(1), like s 8(2), is an aid to proof. Obviously, in the absence of proof of breach of duty, the question of causation does not arise. In my view, however, once breach has been proved, the provision of s 8(1) operates to establish the presumption of causation, in relation to that breach, where the facts prescribed by s 8(1)(a) and (b) have been proved by the plaintiff. The defendant's breach of duty is intended to give rise to the presumption in those circumstances.

219 If the evidence establishes that the injured person suffers from a dust disease and the person was exposed to asbestos dust in breach of duty in circumstances in which it was possible that the exposure might have caused or contributed to the disease, the presumption of causation is established. A finding of causation will then be made unless the defendant rebuts the presumption.

220 It is most useful in cases in which all of the exposure capable of causing a dust disease to which the plaintiff was exposed was negligently caused. However, it also operates beneficially in cases in which the breach of duty merely increases the extent, duration and intensity of exposure if the magnified exposure resulting from the breach might have caused or contributed to the disease.

221 On the other hand, in cases in which the relevant exposure resulting from the breach was not an exposure which might have caused or contributed to the dust disease, the presumption is not enlivened.

222 The evidential significance which attaches to the occurrence of an injury within an area of foreseeable risk was commented on by Gaudron J in *Bennett v Minister for Community Welfare*:[150]

> [G]enerally speaking, if an injury occurs within an area of foreseeable risk, then, in the absence of evidence that the breach had no effect, or that the injury would have occurred even if the duty had been performed, it will be taken that the breach of the common law duty caused or materially contributed to the injury.

[150] (1992) 176 CLR 408 at 420-421.

[Footnotes omitted].

223 In my view, this construction operates as an aid in proof of a dust disease action. That is the underlying legislative purpose. It is to be remembered that Parliament has prescribed a rebuttable presumption. It has established a balance between the interests of plaintiffs and defendants in dust disease actions. The presumption overcomes a significant forensic difficulty confronting a plaintiff in proving causation once breach of duty has been proved, while affording a defendant the forensic opportunity to prove that the breach did not cause or materially contribute to the injured person suffering the dust disease.

224 I reject the submission of the appellant that the presumption created was not engaged by the evidence in this case. The presumption applies to any exposure that might have contributed to the injured person suffering dust disease in the manner I have explained. If there has been exposure without any breach of duty, the question of causation is irrelevant because the plaintiff's action cannot succeed absent proof of breach of duty. For the reasons given in [279] – [303] the negligent exposure of the deceased might have caused his mesothelioma and therefore the presumption was enlivened.

225 On the other hand, the respondent's submission to which I referred at [212] cannot be accepted. In the absence of clear language, s 8(1) of the Act should not be so construed as subjecting a defendant to the operation of the presumption when there is no rational reason to do so. The presumption operates, and must be construed, in the context of an action for breach of duty in which the common law rule is that it is the injury caused by the breach of duty of the defendant for which it is liable. The presumption is intended to facilitate proof of the consequences of wrongful conduct. It is not intended to make a defendant liable for the consequence of the defendant's innocent conduct.

The presumption in s 8(2)

226 It is common ground between the parties that the appellant carried on a prescribed industrial or commercial process within the meaning of s 8(2).[151] Further, it was accepted that the prescribed process could have resulted in the exposure of the plaintiff to asbestos dust. In any event, the judge found that this was so.[152] In my view, no proper basis has been established to interfere with that finding. There is ample evidence that during the period when the deceased was working in the engine room of the *Musgrave Range*, he was working in an environment where asbestos dust was present.

227 The deceased gave evidence that in the engine room there was a maze of pipe work which was lagged with asbestos slurry, in many cases, mixed from asbestos powder in the deceased's presence, by laggers who worked at times in

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[151] The *Dust Diseases Regulations 2006* (SA), Schedule 1, clause 2, item 8, Installation of Products Containing Asbestos (Whether in Buildings, Plant and Equipment, Vehicles or Vessels or Otherwise).

[152] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [349].

close proximity to the deceased, whether alongside him or above or below him. In addition, the work of the laggers involved the sawing and cutting of asbestos products. This work distributed dust in the vicinity of the area where that work was performed. The deceased worked in that area. He gave evidence of the asbestos dust sticking to his skin and clothes. He gave evidence of being covered in this dust. The plaintiff confirmed this by reference to cleaning his overalls. This work took place in the *Musgrave Range* over a period of nearly two months.

228 The deceased's evidence was corroborated by other workers including Mr Ewbank, Mr Schrapel and Mr Steenson. While Mr Ewbank did not work on the *Musgrave Range*, he worked on a ship with identical specifications a short time later and I consider the judge was entitled to rely on his evidence in making findings of fact. There is a sound basis in the evidence for finding that Mr Ewbank's experience was likely to reflect the nature of the deceased's exposure.

229 Mr Ewbank recalled the conditions at Whyalla being very dusty. He gave evidence that when the boxes of asbestos material were opened, dust would fly out. When the workers in the engine room knocked themselves against any surface, dust would become airborne. Dust would be found in his overalls at the end of a shift. He referred to the cutting of the asbestos product. He compared the dust produced by that process to sawdust produced when cutting timber.

230 The evidence establishes that these conditions were not confined to periods when the laggers were working in the engine room. These conditions existed generally. The evidence establishes that these conditions prevailed during the time the deceased was working in the engine room of the Musgrave Range.

231 Furthermore, the evidence was that there were no respirators supplied to the deceased or the other workers, nor were vacuums used to clean up the asbestos dust. As a result the asbestos dust remained in the engine rom. In fact, the rudimentary efforts made to clean, such as manual sweeping of the floor, actually aggravated the situation by sending large amounts of settled dust into the atmosphere. Mr Ewbank gave evidence of being able to see the dust floating in the air illuminated by the rays of sunlight. He described it as floating through the engine room all the time.

232 All of this must, or should, have been known to the appellant at the time through its supervisors.

233 Accordingly, consistent with the construction of s 8(2) I have adopted, the judge was entitled to draw the presumption that the appellant knew, at the time the deceased was working on the *Musgrave Range*, that his exposure to asbestos dust could result in him contracting any or all of the pathological conditions included in the definition of "dust disease" in s 3. It follows that I reject the appellant's submission to the contrary.

234 The presumption is one of actual knowledge. Being a corporation, the appellant's knowledge is that of its relevant officers and employees, namely, those officers and employees with responsibility for the occupational health and safety of the appellant's workforce at the Whyalla shipyard.[153] The presumption is rebuttable. In order to rebut the presumption of actual knowledge, the defendant had to prove on the balance of probabilities that at the time of the deceased's exposure to asbestos while working on the *Musgrave Range*, its relevant officers and employees did not know that his exposure, or the exposure of a person in a class of which the deceased was a member, could result in any or all of the pathological conditions included in the definition of "dust disease" in s 3. In other words, it was incumbent upon the appellant to prove on the balance of probabilities, that at the time, it did not know that the exposure to asbestos dust experienced by the deceased while working on the *Musgrave Range*, could have resulted in him contracting a "dust disease" as defined.[154]

235 The appellant had to displace the presumption.

236 The judge found it had not.[155]

237 On appeal, the appellant submits that the presumption was rebutted on the evidence. It put this submission in two ways. First, it contends that the contemporaneous scientific evidence showed that in 1964 there was no knowledge in the Australian scientific community that there was any material risk of a bystander in the position of the deceased contracting a dust disease. Secondly, there was documentary evidence in 1968 concerning the asbestos hazard at the Whyalla shipyard, from the South Australian Department of Public Health, together with the appellant's own internal documents resulting from the Department of Public Health's investigation, which rebutted the statutory presumption. These documents evidence an investigation of the working conditions in the appellant's ships at Whyalla by Dr K Wilson of the Department of Public Health. The investigation concerned the risk posed to workers by the inhalation of asbestos dust. The documents report that the amount of dust present during the investigation was so slight that it was impracticable to carry out any meaningful form of air sampling. It referred to the MACs and the risk of workers contracting asbestosis or mesothelioma from exposure to asbestos dust. Dr Wilson reported that the risk of mesothelioma was very slight. The risk would be negligible if preventative measures were adopted including the use of respirators, proper clothing, vacuuming, dampening of surfaces, and the replacement of compressed air riveters. The appellant's documents evidence a commitment to adopt these measures.

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[153] *Tesco Supermarkets Ltd v Nattrass* [1972] AC 153 at 170; *Stateliner Pty Ltd v Legal & General Assurance Society Ltd* (1981) 29 SASR 16 at 40; *South Australian Housing Trust v State Government Insurance Commission* (1989) 51 SASR 1 at 7-8.

[154] See the consideration of a similar statutory provision creating a rebuttable factual presumption in *WorkCover Corporation v Perre* (1999) 76 SASR 95 per Mullighan J (Doyle CJ and Wicks J agreeing) at 100-101.

[155] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [358].

238 There are five answers to this submission.

239 First, at trial the appellant led no direct evidence about its actual state of knowledge in 1964 or 1965, whether from a witness or by tendering documents. No evidence was led, nor any explanation provided, for the appellant's failure to do so. In lieu thereof, the appellant criticised the judge's reliance upon his analysis of documentary evidence tendered at trial by the respondent. While the absence of direct evidence from a witness as to the actual knowledge of the appellant at the relevant time, as to the risks posed to the deceased or to the relevant class of persons of whom the deceased was a member, from his exposure to asbestos dust, is not necessarily fatal to displacing the presumption, it renders the discharge of the onus by the appellant problematic.

240 Second, the appellant's criticism of the judge's analysis of the documentary evidence, to the effect that his findings in relation to the 13 publications considered by him were wrong in fact, does not discharge the persuasive onus cast on the appellant. To submit that these publications did not, properly understood, say what the judge found they said, does not prove the contrary proposition. It is important to bear in mind that the trial judge's analysis was not undertaken in the context of rebutting the presumption but rather in considering whether the respondent had proved foreseeability in the event that the trial judge's construction of s 8(2) was wrong. Rebuttal of the presumption required a positive averment by the appellant. The submission that some of these publications said the opposite of the finding made by the judge, even if accepted, does not, of itself, prove that the scientific evidence, upon which the appellant seeks to place reliance, establishes that the appellant did not know, in 1964 or 1965, that the exposure to asbestos dust experienced by the deceased while working on the *Musgrave Range* could have resulted in him contracting a "dust disease" as defined in the Act.

241 Third, I do not accept the judge was wrong, or at least completely wrong, in his analysis of the publications. In any event, the publications do not prove that in 1964 or 1965 there was no knowledge in the Australian scientific community that there was any material risk of a bystander in the position of the deceased contracting a dust disease. The category of a "bystander" is an invention of the appellant. The issue is not whether the publications refer to "bystanders" expressly, but whether they establish that in 1964 or 1965 the appellant did not know of a material risk of injury from exposure to asbestos dust to a person in the position of the deceased because the Australian scientific community did not possess such knowledge at that time. In my judgment, they do not.

- ***Merewether papers***[156]

[156] Merewether ERA and Price C W, *Report on Effects of Asbestos Dust on the Lungs and Dust Suppression in the Asbestos Industry* (1930), exhibit A34 p 200; Merewether ERA, 'The Occurrence of Pulmonary Fibrosis and Other Pulmonary Afflictions in Asbestos Workers' (1930) 12 *Journal of*

The judge found that the Merewether papers confirmed that asbestos dust was lethal, and that the danger increased with the duration and dosage of inhalation, and that "dust" should be suppressed by all means. The appellant submitted that, on the contrary, asbestosis would only develop as a result of very high levels of exposure. These papers written in the 1930s, however, do make clear that asbestos has "disabling and lethal potentialities". While the articles do proceed on the assumption that there could be circumstances in which workers could work in exposure to asbestos dust safely, Merewether concluded that where the process of working with asbestos produces visible dust in the air, then the invisible dust, which he considered to be potentially lethal, existed in a dangerous concentration. He concluded that remedial steps were necessary to reduce the concentration of dust in the air in order to prevent the development of asbestosis in workers employed in quarrying asbestos and manufacturing asbestos-based materials.

- ***Dreessen paper***[157]

  The judge found that Dreessen confirmed the dangers of dosage and duration, and proposed a concentration of five million parts per cubic foot of air as a tentative standard, subject to acknowledged limitations, such as the fact that workers in the study had not been exposed for long periods to low concentrations. It made four recommendations including control of dust by exhaust ventilation, the wearing of respirators, the study of the working environment, and the recirculation of clean air. The appellant criticises his Honour's finding on the basis that Dreessen's 1938 study was concerned with different working conditions from those which prevailed at Whyalla, and was focussed on identifying a safe level of exposure of asbestos workers to asbestos dust. In my view, the judge's conclusion as to the substance of the Dreessen paper is accurate. Like the other papers considered by the judge, the fact that dust control measures were considered necessary in all cases indicated that exposure might cause a dust disease. Moreover, the Dreessen paper does not prove that the appellant would not have known of the material risk of injury to the deceased from exposure to asbestos dust in 1964 or 1965.

Industrial Hygiene 198, exhibit A34 p 241; Merewether ERA, 'A Memorandum of Asbestosis' (November, 1933) *Tubercle* 69, exhibit R69 p 1; Merewether ERA, 'A Memorandum of Asbestosis' (December, 1933) *Tubercle* 109, exhibit R69 p 14; Merewether ERA, 'A Memorandum of Asbestosis' (January, 1934) *Tubercle* 152, exhibit R69 p 24; Merewether ERA, 'Dust and the Lungs-With Particular Reference to Silicosis and Asbestosis' (1938) *Industrial Medicine Medical Press and Circular Supplement, Symposium No. 3,* exhibit A35 p 407.

[157] Dreessen et al, 'A Study of Asbestosis in the Asbestos Textile Industry' (1938) *Public Health Bulletin No 241*, exhibit A35 p 414.

- ***US Navy Minimum Requirements***[158]

  The judge found that the US Navy's minimum requirements for safety and industrial health in contract shipyards document, from 1943, provided that respirators had to be worn when undertaking pipe lagging work, that work which involved the release of asbestos had to be segregated, and that ventilation had to be installed. Again, in my view, the judge accurately summarised the effect of the document. The appellant submitted that there was no evidence that the document was available in Australia in 1964, but this submission is wrong. The evidence establishes that it was reproduced in an industrial medical journal which was available in Australia.[159]

- ***Lawrence article***[160]

  The judge found that the Lawrence article confirmed, in 1944, the hazard of respiratory disease in shipyards due to asbestos, and that ventilation and removal of dust at the source was required. His Honour also found the article indicated that asbestos had to be dampened down whenever possible, and that respirators had to be worn and workers subject to periodic medical examinations. Again, I consider that the judge accurately summarised the effect of the article. The appellant submitted that there was no evidence the article was directed to products and processes which were being used at Whyalla in 1964 or 1965. On the other hand, it is not clear that the article is not referring to products and processes which were used at Whyalla in 1964 or 1965. Certainly the article does not prove that the appellant would not have known of a material risk of injury from exposure to asbestos dust to the deceased at that time.

- ***Fleischer paper***[161]

  The judge found the Fleischer paper from 1945 was of particular importance because it dealt with the hazards associated with pipe covering in a shipbuilding context. He drew attention to specific activities that invariably produced dangerous levels of asbestos dust. The trial judge found that Fleischer had recommended that enclosed areas in which the hand-sawing of insulation segments was performed have adequate exhaust ventilation, and that the workers involved wear respirators; that the ventilation and respiratory equipment be provided

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[158] US Navy Department, US Maritime Commission, 'Minimum Requirements for Safety and Industrial Health in Contract Shipyards' (February, 1943), exhibit A35 p 499.

[159] Exhibit A35 Volume 2 p 519-523.

[160] Lawrence, 'Fume Control in Shipyards' (1944) *National Safety News* 16, exhibit A35 p 525.

[161] Fleischer et al, 'A Health Survey of Pipe Covering Operations in Constructing Naval Vessels' (January 1946) 28 *Journal of Industrial Hygiene and Toxicology* 9, exhibit A35 p 538.

for cement or slurry mixing; that the air in the engine room be changed five times per hour; and that asbestos dust in work areas be cleaned frequently using vacuum cleaners. The article concluded that the Dreessen standards were not applicable to ship building. It is apparent that the judge erred in the reference to vacuuming, and misconstrued Fleischer's point in relation to the applicability of the Dreessen standard. Nonetheless, the paper does not prove that in 1964 or 1965 the appellant would not have known of a material risk of injury to the deceased from exposure to asbestos dust.

- ***Third International Conference of Experts on Pneumoconiosis***[162]

  The judge found that this conference in 1950 disclosed real concern of the link between asbestos and cancer. The appellant submitted that this conclusion was misleading. I do not agree. The discussions at the conference reveal there was real concern about the possibility of such a link. In any event, the conference discussions do not prove that in 1964 or 1965 the appellant would not have known of a material risk of injury to the deceased from exposure to asbestos dust.

- ***McLaughlin papers***[163]

  The judge found that the McLaughlin papers in the Lancet in 1953 established that intermittent exposures to high doses of dust might be more dangerous than exposure to low concentrations over a long period, and that MACs were "problematic". The papers urged attention to ventilation, suppression of dust levels, and the provision of exhaust at the source. The appellant submits the articles were not concerned with asbestos specifically. While the articles were concerned with dust diseases generally, they clearly referred to asbestos dust in particular. Relevantly, McLaughlin identified cancer and chronic fibrosis as diseases caused by asbestos dust inhalation. They identified the need for ventilation, suppression of dust, including through the use of vacuum cleaners, and personal protection of the worker by use of respirators. I am satisfied that the judge did not misunderstand the effect of the McLaughlin papers. In any event, the McLaughlin papers do not prove that the appellant would not have known in 1964 or 1965 of a material risk of injury to the deceased from exposure to asbestos dust.

- ***Doll paper***[164]

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[162] International Labour Organisation, Third International Conference of Experts on Pneumoconiosis, 'Record of Proceedings' (Sydney, February-March 1950), exhibit R69 p 32.

[163] McLaughlin, 'The Prevention of the Dust Diseases' (1953) *The Lancet* 49, exhibit A35 p 657.

[164] Doll, 'Mortality from Lung Cancer in Asbestos Workers' (1955) 12 *British Journal of Industrial Medicine* 86, exhibit R69 p 59.

The judge found that the Doll paper of 1955 "reiterated" the link between asbestos and lung cancer, albeit clouded by the possibility that asbestosis mediated the cancer, and that the issue of dosage and duration remained an important factor. I accept that the judge erred in characterising the article as suggesting a link between "asbestos" and lung cancer. Nonetheless, the article was concerned with lung cancer concomitant with asbestos in workers who had worked with asbestos. It did not prove that in 1964 or 1965 the appellant would not have known of the material risk of injury to the deceased from exposure to asbestos dust.

- ***Jones paper***[165]

The judge found that the Jones paper in 1960 confirmed mesothelioma of the pleura was secondary to exposure to asbestos dust, although it still assumed the mediation of asbestosis. While the paper was not exclusively concerned with mesothelioma, the author did find that mesothelioma of the pleura was a hazard arising from the inhalation of asbestos dust. The paper certainly does not prove that the appellant would not have known in 1964 or 1965 of a material risk of injury to the deceased from exposure to asbestos dust.

- ***Johannesburg Pneumoconiosis Conference***[166]

The judge noted that C A Sleggs, in 1959, linked the inhalation of asbestos and mesothelioma without mediation. The appellant submitted that his Honour's characterisation of the Sleggs paper, as establishing a link between asbestos and mesothelioma not mediated by asbestosis, was inaccurate. But the characterisation is the appellant's, not his Honour's. In any event, the paper does not prove that the appellant would not have known in 1964 or 1965 of a material risk of injury to the deceased from exposure to asbestos dust.

- ***Wagner paper***[167]

The judge found that the Wagner paper from 1960 established conclusively the link between asbestos and mesothelioma. In my view, the appellant's submission that his Honour was wrong to say the article "conclusively" established a causal link between mesothelioma and asbestos is correct. The paper's finding was not conclusive. Nonetheless, it did point strongly to a causal relationship between

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[165] Jones, 'Complications of Asbestos' (1960) *British Medical Journal* 1345, exhibit A35 p 726.

[166] Sleggs, 'Clinical Aspects of Asbestosis in the Northern Cape' (1960) *Proceedings of the Pneumoconiosis Conference held at the University of Witwatersrand, Johannesburg 9-24 February 1959* 383, exhibit R69 p 87.

[167] Wagner et al, 'Diffuse Pleural Mesothelioma and Asbestos Exposure in the North Western Cape Province' (1960) 17 *British Journal of Industrial Medicine* 260, exhibit R69 p 95.

asbestos exposure and the contraction of mesothelioma. In any event, the paper did not prove that in 1964 or 1965 the appellant would not have known of a material risk of injury from exposure to asbestos dust to the deceased.

- ***McCaughey correspondence***[168]

  The judge found that the McCaughey correspondence to the British Medical Journal in 1962 reported cases that confirmed the link between exposure to asbestos and mesothelioma. In my view, the appellant's submission criticising the conclusion by the judge that the correspondence "confirmed" the link between asbestos and mesothelioma is an argument mired in semantics. The correspondence certainly pointed to a close association between mesothelioma and exposure to asbestos dust. What it did not do was prove that in 1964 or 1965 the appellant would not have known of a material risk of injury to the deceased from exposure to asbestos dust.

- ***Leathart and Sanderson article***[169]

  The judge found that the 1963 article by Leathart and Sanderson confirmed that asbestosis had not been eradicated by the introduction of the MACs, and that it might in fact be on the increase due to the growth of the insulating industry. His Honour found that the article reiterated calls for greater substitution of materials, automation, total enclosure, exhaust ventilation and the use of respirators. The paper does suggest that asbestosis was a potential issue for insulators as well as asbestos workers. It also refers to the occurrence of lung cancer amongst such workers. They go on to suggest that the MACs might be too high. While the article did note that the recommended precautions might be impracticable for laggers, nothing in the paper proves that in 1964 or 1965 the appellant would not have known of a material risk of injury to the deceased from exposure to asbestos dust.

242 In addition, the trial judge referred to the Selikoff paper, published in April 1964, which noted that the risk of contracting cancer from environmental exposure to asbestos had been long known, although the potential extent of the problem was only recognised recently. As the author observed, "The floating (asbestos) fibers do not respect job classifications. Thus, for example, insulation workers undoubtedly share their exposure with their workmates in other trades; intimate contact with asbestos is possible for electricians … (and others)."

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[168] McCaughey et al, 'Exposure to Asbestos Dust and Diffuse Pleural Mesotheliomas' (1962) *British Medical Journal* 1397, exhibit A35 p 813.

[169] Leathart and Sanderson, 'Some Observations on Asbestos' (1963) 6 *Annals of Occupational Hygiene* 65, exhibit A35 p 821.

243 In short, I consider that the 13 publications, together with the Selikoff paper, by 1964 would have put the appellant, had it considered them, on notice that asbestos was a dangerous substance that posed a risk of injury, including mesothelioma, and death to persons exposed to the risk of inhalation of asbestos dust over some period not readily defined, that the risk could only be eliminated if levels of dust were minimal, and inhalation avoided. The means for doing so were ventilation, segregation, the use of respirators, dampening down, vacuum cleaning, enclosure and the use of exhaust fans. There was also some doubt as to the appropriateness of the MAC of five million particles per cubic foot of air, particularly in the context of ship building. They do not prove that in 1964 or 1965 the appellant did not know of a material risk of injury to the deceased from the asbestos dust to which he was exposed whilst in its employment.

244 Fourth, the appellant's reliance on the evidence relating to the contemporaneous NHMRC Standard of five mppcf is misplaced. The appellant submits that even if the Court rejected its criticisms of the trial judge's analysis of the documents, they were not matters which the appellant had reason to know or ought to have known, especially in light of the NHMRC Standard. Given this was the relevant maximum allowable concentration at the time, the appellant submits it could not have known that a lower exposure experienced by the deceased could have resulted in him contracting a "dust disease" as defined. But this proposition was answered by the Full Court in *BHP Billiton Ltd v Parker*[170] where Doyle CJ and White J said:[171]

> BHP knew, or should have known, exercising reasonable care, that although there were standards or guides relating to the exposure of workmen to asbestos dust and fibres, and although those guides indicated levels of exposure below which there was no appreciable risk of harm, those guides were guides only, and could not be considered as creating or establishing a "bright line" separating safe exposure from unsafe exposure.

245 While this finding of fact concerned the position at Whyalla in 1971 and 1972, it answers the appellant's proposition with equal force in relation to the position in 1964 or 1965. The NHMRC standard was no more than a guideline. It does not prove that exposure below that guideline could not cause a dust disease. Moreover to rebut the presumption on the basis of the standard, more than proof of the standard was required. Evidence was also required that:

- the appellant had investigated the intensity of the deceased's exposure to asbestos;
- the level of the deceased's exposure was less than the standard; and
- the appellant reasonably concluded on the basis of all of the material reasonably available to it that the deceased's exposure could not result in dust disease.

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[170] (2012) 113 SASR 206.
[171] (2012) 113 SASR 206 at 218 [23].

246 Fifth, the evidence of the investigation conducted by the South Australian Department of Public Health in 1968 and its conclusions, and the evidence of the appellant's response thereto,[172] cannot rebut the statutory presumption of knowledge on the part of the appellant in 1964 or 1965. The appellant cannot displace the presumption of knowledge on the part of its relevant officers and employees in 1964 or 1965 by reliance upon evidence that came into existence years later. In any event, the appellant's conduct in 1968, which is strong evidence of its state of knowledge at that time, in taking the remedial measures recommended by Dr Wilson, suggests it knew there was a risk posed to the health of those working in circumstances which exposed them to asbestos.

247 Accordingly, I do not consider the appellant rebutted the presumption on the evidence. The judge was correct to so find. I reject the appellant's submission to the contrary.

248 It follows that at trial the respondent established foreseeability. The appellant is presumed to have known that the deceased's exposure to asbestos dust in the course of his employment on the *Musgrave Range* could result in him contracting a "dust disease", as defined in the Act.

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[172] The evidence before the Court was that in 1968 the SA Department of Public Health conducted an investigation into working conditions at the Whyalla shipyard. The report appears to have followed some industrial disputation at the Whyalla shipyard by the members of the Sheet Metal Workers Union over concerns about the dangers of asbestos. This appears to have led to the Industrial Commission of South Australia referring the matter to the Department of Public Health. This resulted in the production of two memoranda. The first was composed by the resident inspector of the Department of Public Health at Whyalla, a Mr Turner. It is described as an asbestosis survey of Whyalla but appears to relate to the ship, the *Kanimbla.* This paper described the lagging of pipes, lagging and scraping of vessels covered with asbestos, the application of metal sheathing to lag pipes, and spraying asbestos liquid mixes as insulation. The second memorandum was a report by Dr K Wilson, of his site inspection during asbestos operations at the shipyards. Dr Wilson took samples and reported that the amounts of dust generated by work processes were so slight that it was considered impracticable to carry out any meaningful form of air sampling. Dr Wilson observed that the consequences of exposure to asbestos dust were asbestosis and mesothelioma. In addition, sufferers had been shown to have a higher risk of lung cancer. He observed that asbestosis was a load related disease as well as depending, for its rate of development, on asbestos fibre type. He referred to the NHMRC standard. He noted that the relationship between asbestos exposure and mesothelioma was not as clearly defined as was the case with asbestosis. He thought that the exposure of workers at Whyalla was minimal, with the exception of those employees engaged in spraying asbestos. He thought that in these circumstances the risk of mesothelioma was very slight. He thought it could be rendered negligible by the use of appropriate respirators, proper clothing used which should be vacuumed at the end of each shift and thoroughly laundered weekly, work areas vacuumed at the end of each shift, the dampening down of surfaces and the collection of debris, and scraping of surfaces of pipes as undertaken, and the replacement of compressed air riveters. He recommended the medical surveillance of all workers exposed to asbestos dust. The appellant issued a statement indicating that Dr Wilson's recommendations had largely been adopted, but all of them would be implemented. A press release from January 1969 emphasised that the sampling undertaken by Dr Wilson showed the amount of dust created in any process was so slight it was impractical to carry out air sampling. It reiterated parts of Dr Wilson's memorandum and stated that the company understood from his report that there was no significant health hazard posed to workers in the Whyalla shipyards working with or in the vicinity of asbestos.

249 This conclusion renders unnecessary consideration of whether the respondent proved on the balance of probabilities that the appellant knew or ought to have known of a risk of asbestos related disease to the deceased.

Breach of duty

250 The judge found that the appellant had breached its duty of care to the deceased. There were steps it could, and should have taken in order to alleviate the foreseeable risk of harm from exposure to asbestos dust. The judge found those steps were the provision of ventilation in the engine room during the fit-out, the spraying of asbestos by the laggers in the absence of other workers (segregation), the cutting and mixing of asbestos and preparation of the slurry on the wharf rather than in the engine room, the provision of respirators and appropriate clothing, the use of vacuum cleaners, and the wetting down of surfaces to reduce the risk of inhalation of asbestos dust. The appellant's failure to adopt these measures in 1964 or 1965 constituted the relevant breach of its duty of care.

251 In reaching this conclusion, the judge applied the so-called *Shirt* calculus. This is a reference to the reasons of Mason J in *Wyong Shire Council v Shirt:*[173]

> A risk of injury which is quite unlikely to occur, such as that which happened in *Bolton* v. *Stone*, may nevertheless be plainly foreseeable. Consequently, when we speak of a risk of injury as being "foreseeable" we are not making any statement as to the probability or improbability of its occurrence, save that we are implicitly asserting that the risk is not one that is far-fetched or fanciful. Although it is true to say that in many cases the greater the degree of probability of the occurrence of the risk the more readily it will be perceived to be a risk, it certainly does not follow that a risk which is unlikely to occur is not foreseeable.
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> 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.
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> The considerations to which I have referred indicate that a risk of injury which is remote in the sense that it is extremely unlikely to occur may nevertheless constitute a foreseeable risk. A risk which is not far-fetched or fanciful is real and therefore foreseeable. But, as we have seen, the existence of a foreseeable risk of injury does not in itself dispose of the question of breach of duty. The magnitude of the risk and its degree of probability remain to be considered with other relevant factors.
>
> (Footnotes omitted).

[173] (1980) 146 CLR 40 at 47-48.

252 Subsequently, the High Court has criticised the characterisation of this approach as a "calculus". In *State of New South Wales v Fahy*[174] Gummow and Hayne JJ said:[175]

> This approach to questions of breach of duty has come to be known as the "*Shirt* calculus". The description may be convenient but it may mislead. Reference to "calculus", "a certain way of performing mathematical investigations and resolutions", may wrongly be understood as requiring no more than a comparison between what it would have cost to avoid the particular injury that happened and the consequences of that injury. *Shirt* requires a more elaborate inquiry that does not focus only upon how the particular injury happened. It requires looking forward to identify what a reasonable person *would* have done, not backward to identify what would have avoided the injury.
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> In *Vairy v Wyong Shire Council*, it was explained why it is wrong to focus exclusively upon the way in which the particular injury of which a plaintiff complains came about. In *Vairy*, it was said that:
>
> > "[T]he apparent precision of investigations into what happened to the particular plaintiff must not be permitted to obscure the nature of the questions that are presented in connection with the inquiry into breach of duty. In particular, the examination of the causes of an accident that *has* happened cannot be equated with the examination that is to be undertaken when asking whether there was a breach of a duty of care which was a cause of the plaintiff's injuries. The inquiry into the causes of an accident is wholly retrospective. It seeks to identify what happened and why. The inquiry into breach, although made after the accident, must attempt to answer 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'."
>
> It is only if the examination of breach focuses upon "what a reasonable man *would* do by way of response to the risk" (emphasis added) that it is sensible to consider "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".
>
> (Footnotes omitted).

253 Notwithstanding this critique of the "*Shirt* calculus", I will utilise the term in order to make sense of the argument as it developed on appeal.

254 The appellant submitted that the judge fell into error in failing to find, in the context of considering the question of breach, that, on the evidence, there was no demonstrated need for any action on the part of the appellant in 1964 or 1965 to reduce exposure to asbestos on the *Musgrave Range*, and no basis for warning the deceased that he was at risk of contracting asbestosis, lung cancer and/or mesothelioma.

255 The appellant put the submission on the basis that the evidence did not establish that if the appellant had undertaken appropriate enquiry and

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[174] (2007) 232 CLR 486.
[175] (2007) 232 CLR 486 at 505-506 [57]-[58].

investigation in 1964 or 1965, it would have known the levels of asbestos dust to which the deceased was exposed posed a risk of injury which, applying the *Shirt* calculus, required the appellant to take the alleviating measures which the judge found should have been taken.

256 I reject this submission.

257 The operation of the presumption created by s 8(2) is not only relevant to the issue of foreseeability, but also to the issue of breach of duty. When undertaking the "*Shirt* calculus", the appellant is presumed to know in 1964 or 1965 that the deceased's exposure to asbestos dust could result in him suffering any or all of the conditions included in the definition of "dust disease" in s 3, including mesothelioma. The serious nature of the disease informs the *Shirt* calculus.

258 There was evidence before the judge that in 1964 or 1965 there were recognised measures available to the appellant designed to reduce the risk of inhalation of asbestos dust by persons working at Whyalla, which would have reduced that risk. Those measures were identified by the judge. They were ventilation, segregating the laggers' work from the work of the other trades, restricting cutting and mixing of the asbestos products to the wharf, the provision of respirators and appropriate clothing to all workers in the engine room during the ship building phase, dampening down, vacuuming the engine room and warning the workers of the hazard posed by exposure to asbestos dust. These measures would have involved comparatively modest expense.

259 In my view, a reasonable employer in 1964 or 1965, who knew of the risk that a person in the position of the deceased was exposed to the risk of contracting mesothelioma through the inhalation of asbestos dust in its workplace, would have taken those measures, identified by the judge, which were recognised at that time as being practical measures available to reduce the risk of inhalation of asbestos dust in the workplace.

260 In these circumstances, the appellant's failure to adopt these measures constituted a breach of its duty of care.

261 The appellant characterised the analytical approach taken by the judge as reasoning backwards from the 1968 SA Department of Health report which recommended certain steps be taken by the appellant in relation to its employees working with asbestos. However, the measures listed above were readily identifiable, and practical measures available in 1964, independently of any consideration of the events of 1968. It should be noted that the evidence of the workplace investigation conducted by the Department was entirely documentary. Caution about its findings and recommendations is called for in the absence of direct testimony about the circumstances in which it was organised and conducted. In my view, whatever the strength or otherwise of this critique, the criticism is premised upon the proposition that the evidence before the judge

failed to establish that the appellant knew or should have known in 1964 or 1965 that there was a relevant risk to the deceased which required it to act. For the reasons already explained, that premise is flawed. By reason of the operation of the statutory presumption established by s 8(2) the appellant knew at that time that the deceased's exposure to asbestos dust could result in him suffering from mesothelioma. That risk required the appellant to take such steps as were available and practical at that time to reduce the risk of the deceased inhaling asbestos dust while working on the *Musgrave Range.*

262 The appellant further submitted that the judge was unable to make a finding that the deceased was exposed to levels of asbestos dust in excess of the MAC recommended by the NHMRC Standard. Mr Livesey QC submitted there were three answers to this contention.

263 First, the appellant failed to prove that it was aware of the NHMRC MAC, and it did not prove that it conducted any testing which enabled it to determine whether or not there was compliance with the MAC in 1964 or 1965. Second, it was not necessary for the respondent to establish that the MAC was exceeded. As the majority said in *Parker:*[176]

> We do not accept BHP's submission that to establish breach of duty Mr Parker had to establish that the level of dust and fibres in the workplace atmosphere in fact exceeded the NHMRC Standard. Mr Parker has established that there was a reasonably foreseeable risk of injury in the circumstances, and that BHP failed to take measures, reasonably available to it, that would have eliminated or substantially reduced that risk. Subject to proof that the breach of duty caused his injury, Mr Parker's claim was made out.

264 Third, the MAC was nothing more than a guide. It did not create a "bright line" below which the appellant could safely expose persons in the class of the deceased.[177]

265 In my view, the respondent's submissions should be accepted.

266 I would also observe that the statutory presumption of foreseeability reduces the significance of industrial standards of the time. As the review of the literature shows, those standards were promulgated not long after the publication of some of the articles in which the connection between asbestos exposure and mesothelioma was discussed. The standards reflect an industrial compromise based on the different views of the significance of the connection. The standards may well have been different if premised on the foreseeability which must now be presumed.

267 The appellant further submitted that there were additional flaws in the findings by the judge in relation to the efficacy of the remedial steps which the Court found the appellant should have taken in order to satisfy its duty of care.

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[176] *BHP Billiton Ltd v Parker* (2012) 113 SASR 206 at 239 at [116].
[177] *BHP Billiton Ltd v Parker* (2012) 113 SASR 206 at 218 [23].

268 It criticised the trial judge's conclusions that ventilation ought to have been operative during the ship's fit-out, the laggers could have done their work in the absence of the other tradesmen, that the cutting and mixing could have been carried out on the wharf, that respirators and appropriate clothing could have been provided and their use enforced, that vacuum cleaners could have been used, and that wetting down could have been instituted.

269 I do not consider these criticisms justified.

270 The finding that mechanical ventilation should have been used in the engine room is supported by the evidence. The appellant submits that there was evidence that for some period while laggers were working in the engine room there was mechanical ventilation. I do not consider this is clear on the evidence, but in any event, his Honour was entitled to conclude that ventilation should have been provided at all times when the laggers were working in the engine room.

271 The finding that laggers could have done their work in the absence of other tradesmen was plainly open on the evidence that this subsequently occurred by 1969.[178]

272 The finding that cutting and mixing was performed in the engine room as well as on the wharf was supported by the evidence. I would reject the appellant's submission to the contrary.

273 The finding that respirators and clothes should have been provided, and their wearing enforced, did not depend on what occurred in 1968 as a result of the Department of Public Health investigation. There was evidence that these remedial measures were recognised and recommended for the prevention of the inhalation of asbestos fibres by those working with asbestos dust prior to 1964.

274 The finding that vacuum cleaners could have been used in 1964 or 1965 was open on a similar basis. The appellant's criticism of the trial judge's finding based on the fact that vacuum cleaners were subsequently used is not to the point. There was evidence that vacuum cleaning was an available and effective measure for suppressing asbestos dust prior to 1964.[179] While there was no evidence adduced as to the cost of vacuuming in 1964, I consider that if it was the appellant's case that the cost was prohibitive, it carried an evidentiary onus to adduce such evidence in these circumstances. Further, I do not accept the argument that there was no evidence as to how much less dusty conditions would have been if vacuum cleaners had been used. As far as the question of breach is concerned, it was necessary for the respondent to prove that in 1964 the use of vacuum cleaners was a recognised and available remedial measure. Whether the use of vacuum cleaners would have prevented the inhalation of asbestos dust in the case of the deceased is a question which can only be decided inferentially. I

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[178] Exhibit R68, letter 14 dated 21 January 1969, Douglas to Manager, Industrial Relations.
[179] McLaughlin, The Prevention of the Dust Diseases (1953), *The Lancet*, exhibit A35, p 660.

am not persuaded that the judge erred in drawing an inference adverse to the appellant. Its failure to provide vacuum cleaners prevented it from discharging its evidentiary onus of establishing that its breach had no effect or that the deceased would have contracted mesothelioma even if the duty had been performed.[180]

275 The finding that wetting down could have been instituted also was open on the evidence. Again, the judge's conclusion did not depend on what occurred in 1968. By 1964 there was evidence that wetting down was a recognised and effective measure for suppressing asbestos dust.

276 In summary, the evidence established that it was reasonably practicable for the appellant to implement, or more fully implement, a range of measures which would have substantially reduced the appellant's exposure to asbestos.

Causation

277 The judge found that the deceased's mesothelioma and mild asbestosis was caused or materially contributed to by the various breaches of the defendant's duty. He came to this conclusion in reliance upon the evidence of Professor Henderson. His Honour accepted Professor Henderson's evidence that all significant inhalations of asbestos made a significant contribution to the ultimate mesothelioma. His Honour found that causation was proved on the basis that the failure of the appellant to adopt the alleviating steps referred to above caused a significant load of inhalation of asbestos dust by the deceased in the course of his employment at Whyalla.

278 The appellant contended that the judge had erred in three ways in his approach to the issue of causation. First, on the basis that as the uncontested evidence was that the deceased's exposure to asbestos was overwhelmingly greater in Scotland than in Whyalla, the Court should have found the deceased would still have developed mesothelioma even if the Whyalla exposure had not occurred, or, at the very least, the respondent had failed to prove the converse. Second, the judge failed to distinguish between all the exposure to asbestos dust experienced by the deceased at Whyalla and that component of that exposure which resulted from the Court's finding of breach of duty on the part of the appellant. Third, the appellant submitted that the judge had misunderstood the evidence of Professor Henderson which was that all exposures contribute to the risk of contracting mesothelioma, not that they are all causative of the contraction of the disease.

279 The commencement point for the consideration of the issue of causation on this appeal is s 8(1) of the Act.

280 As I have explained, s 8(1) creates a presumption that the injured person's exposure to asbestos dust caused or contributed to the injured person's dust

[180] *BHP Billiton Pty Ltd v Parker* (2012) 113 SASR 206 at 239 [116]-[118].

disease where the injured person suffers or suffered from a dust disease and was exposed to asbestos dust in circumstances in which the exposure might have caused or contributed to the disease. Whether those two matters are established is a question of fact. As I have explained, I consider that where the plaintiff proves that the injured person suffers or suffered from a dust disease and was exposed to asbestos dust in circumstances in which the exposure created or gave rise to a risk of the injured person developing the dust disease, the presumption will arise.

281 In this matter, there was no dispute that the deceased suffered from a dust disease, namely mesothelioma and mild asbestosis. The judge found that he was exposed to asbestos dust.[181] In my view, that finding was not against the weight of the evidence. On the contrary, the evidence amply supported the judge's finding.

282 The judge also found that the exposure might have caused or contributed to the deceased's dust disease.[182] Importantly, I consider that this finding is supported by the evidence of Professor Henderson.

283 Before turning to the evidence more directly touching on the causation issue, it is useful to set out some matters of background.

284 There are various forms of asbestos. Crocidolite[183] and amosite[184] asbestos are amphibole forms of asbestos and are more substantially potent, on a fibre for fibre basis, in the causation of mesothelioma. Chrysotile,[185] or white asbestos, is less potent. Their relative potency is generally described as 30:15:1.[186]

285 Amphibole asbestos is generally used for lagging and insulation in ship building. In Whyalla, the deceased's greatest exposure was to amosite, but to a lesser extent he was exposed to chrysotile asbestos. The deceased was not exposed to crocidolite in Whyalla but was exposed to it in the course of his work in Scotland.

286 Professor Henderson gave evidence concerning the mechanical and chemical process by which the accumulation of asbestos fibres in the lungs causes mesothelioma. He testified that where there are multiple episodes of asbestos exposure and the person exposed inhales an increasing number of fibres on different occasions, that additional exposure contributes to the burden of asbestos fibres deposited in the lung and translocated to the pleura.

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[181] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [344].
[182] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [344].
[183] Crocidolite was mined at North West Cape and Wittenoom.
[184] Amosite was mined in the Transvaal in South Africa and in New South Wales.
[185] Chrysotile asbestos was mined at North West Cape in South Africa and Wittenoom in Western Australia.
[186] Report of Professor Henderson, January 2011 Appendix A, p 1.

287 Exposure to asbestos may lead to the formation of plaques which are generally located on the parietal layer which lines the pleural cavity of the chest. Plaques comprise a few layers of tough leathery, collagenist scarlike tissue. The tissue may become calcified. Plaques are caused by inflammation and become evident 20 or more years after first exposure to asbestos.

288 The visceral pleura or pleural membrane is a thin membrane that covers the lungs. Malignant mesothelioma is a cancer of the pleura or the abdominal cavity (the peritoneum).

289 The deceased was found by x-ray examination before his death to have pleural thickenings due to asbestos related plaques.

290 The deceased's mesothelioma was on the left pleura. A biopsy of the left pleura revealed a cellular malignant tumour with focal tumour necrosis. Professor Henderson concluded on the basis of the reports of the pathologists which he reviewed, and his own examination of slides made from tissue recovered from biopsies, that the deceased had a left pleural tumour which was a malignant mesothelioma, byphasic in type.

291 Professor Henderson's opinion, as set out in his reports and oral evidence, was that the deceased's exposure to asbestos at Whyalla was a cause of his mesothelioma. This opinion must be read in the context of his description of the pathogenesis of mesothelioma.

292 Mesothelioma develops because of the interaction between the asbestos fibres and the mesothelial cells by way of secondary chemical messengers or free radicals which cause mutations of the mesothelial cells ultimately resulting in mesothelioma. Professor Henderson gave evidence that all exposures to asbestos dust will contribute to the total burden of asbestos fibres. Greater numbers of fibres will produce greater numbers of free radicals, increasing the probability that the free radicals will induce a mutational cascade by interacting with multiple mesothelial cells, which themselves undergo proliferation, over multiple generations. He described this as a substantial causal contribution. Professor Henderson's opinion was that: [187]

> The more fibres that are inhaled, when there are multiple episodes of asbestos exposure, the greater the number of fibres that will find their way to the pleura, and the greater the risk of the mesothelioma. So that there is a dose response relationship.

293 Professor Henderson's reasoning to his conclusion that the deceased's exposure to asbestos at Whyalla contributed to the contraction of mesothelioma may be summarised as follows:

1 The deceased was exposed to amosite at Whyalla which has a relatively high potency ratio for the contraction of mesothelioma.

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[187] T485/9-14.

2 Shipbuilding was one of the occupations, along with railway carriage and locomotive building, and the installation and maintenance of lagging or other insulation materials in buildings or industrial products, with the highest risk of mesothelioma.

3 Studies show that there is no apparent minimum threshold level of exposure for the causation of mesothelioma. There is no minimum threshold dose of inhaled asbestos below which there is no increase in the risk of mesothelioma.

4 The incidence and rate of contraction of mesothelioma continues to increase with increased cumulative exposure so that there continues to be a largely linear correlation between the contraction of the disease and the intensity and duration of exposure to asbestos.

5 Nonetheless to be causative exposure must occur within the latency period and that was the case with the deceased. In Australia the mean latency period is thought to be 37 years but it could be as long as 75 years. Professor Henderson adopted a minimum latency period of 10 years.

6 Other factors being equal, early exposures to asbestos are more significant for mesothelioma induction than later exposures.

7 Each increment of exposure within the latency period produces a corresponding increment in the incidence of mesothelioma, dependent upon the time of the exposure, its magnitude and the types of asbestos fibre involved.

8 There is evidence of genetic susceptibility to mesothelioma but it is unlikely that the deceased had an innate disposition to cancer development notwithstanding his earlier contracture of bowel cancer. In any event it would have been highly unlikely that the deceased would have contracted mesothelioma unless he was exposed to significant levels of asbestos above background levels.

9 Workers who work next to workers involved in lagging are exposed to less air borne asbestos fibres but are nonetheless exposed to fibre concentration substantially in excess of any concentrations found in the environment in background cases.

10 There was no doubt that either or both of the deceased's exposure to asbestos in the shipyards in Scotland and Whyalla were the cause, either together or independently, of his mesothelioma. The critical question is whether, notwithstanding the lesser exposure in Whyalla, it was, in itself, a cause or contributor to his mesothelioma.

> 11 The work in Scotland made the greatest proportional contribution to the development of the deceased's disease. Nonetheless on the evidence of the extent of the deceased's exposure to asbestos in Whyalla, it made a material, albeit substantially smaller, contribution to the deceased's contraction of mesothelioma. Professor Henderson estimated the contribution to be in the order of about five per cent, which he considered to be material. In Professor Henderson's opinion, a proportionate exposure of as low as two per cent was a material contributor to a mesothelioma contracted by the person so exposed within the latency period.[188]

294 Professor Henderson used a diagram to illustrate his opinion on the way in which the Whyalla exposure contributed to the contraction of mesothelioma by the deceased. The diagram was received into evidence and is reproduced below. Professor Henderson explained the model in these terms:

> It's a diagram which sets out in schematic form what I and my co-authors for the chapter, on our reading of the literature, considered to be a reasonably well accepted model for mesothelioma induction, whereby the process proceeds over many years in a multi-stage, multi-step model of carcinogenesis, similar to the multi-stage model for other carcinomas and tumours, and I think there is reasonable scientific evidence for the steps involved in that particular table. … I have carried out some investigations into some of the genetic steps involved in mesothelioma induction and it's a survey of the world literature dealing with the molecular pathology of mesothelioma … I've come to the understanding … the development of mesothelioma as set forth in this diagram on the basis of a number of observations, one it accounts for the long latency input, two, it accounts for why some people get mesothelioma when exposed to asbestos but others don't. It fits in with what we know about chromosomal and genetic aberrations and resistance to apoptosis. All of the things put out in that diagram do appear in literature published by other personnel, but the chapter itself in this particular book was written by Dr Hammar, myself, Professor Sonya Klebe and Ronald Dodson...[189]

295 Professor Henderson's evidence of the processes illustrated by the diagram is summarised in [92]-[100] of the reasons of the judge.[190] The essential elements of Professor Henderson's opinion are these:

(1) The diagram reflects what is known of the *pathogenesis* of mesothelioma.

(2) The pathogenesis commences with the interaction between inhaled amphibole asbestos fibres and the DNA of pleural cells.

(3) The interaction is mediated by reactive chemical messengers known as free radicals (ROS or RNS).

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[188] Report of Professor Henderson, 4 January 2011, p 14.
[189] T p 446, 447, "Pulmonary Pathology" Vol 2, 3rd Edition, Dail and Hammar 2008 Chapter 43.
[190] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [92]-[100].

(4) "Showers" of free radicals are created when macrophage cells attempt to clear the pleura of asbestos fibres by ingesting them but are unsuccessful because of the bio-persistence of those fibres.

(5) The free radicals so created interact almost immediately with the DNA of mesothelial cells in the vicinity.

(6) The quantity of fibres which are present determine the scale of reactive chemicals and the scale of DNA damage.

(7) Some of the mutations so caused are not prodromal, others are repaired, and yet others cause the death of the cell. Only those mutations which maintain the viability of the cells can play a part in the development of mesothelioma by their further exposure to free radicals which cause additional prodromal mutations.

(8) The contraction of mesothelioma is delayed or may even be avoided by the countering effect of bodily enzymes which repair the DNA damage caused by free radicals.

(9) Further exposure to free radicals caused by macrophage activity on fibres promotes the proliferation of mesothelioma cells with increasing resistance to apoptosis until a mutative clone of cells is formed.

(10) A final event precipitates the transition of those cells to a mesothelioma. The mesothelioma cells then divide and multiply independently of their function within the host body.

(11) Mesothelioma is generally contracted after something in the order of 120 generations of mesothelioma cells have been exposed to the process of progressive mutations. In the prodromal phase the mutated cells are renewed six to ten times each year. There may be between 180 to 300 generations of mutated cells produced before mesothelioma is contracted. It is that process which occurs in, and is the explanation for, the latency period.

(12) Such is the lifetime of generation of cells and the number of generations involved in the prodromal phase of the disease that to contract mesothelioma there must be present in the pleura multiple asbestos fibres, over time, generating multiple showers of free radicals which in their interaction with mesothelial continue to cause further mutations. The presence of a single fibre is insufficient.

296 The following passage from one of Professor Henderson's reports explains why he concluded that the Whyalla exposure was sufficient to make a material contribution to the deceased's contraction of mesothelioma:[191]

> It is also worth pointing out that 2% of *risk* in this context does not refer to speculative or theoretical risk: i.e., 'relative risk' (RR) is no artificial construct: it represents the actual number of cases of the disease in question in those exposed to the factor in question, as opposed to the occurrence of the same disease process in control subjects (i.e., unexposed subjects). In fact, *'rate ratio'* would be a far better expression, but *relative risk* is well-entrenched in the literature. The point that I am driving at is that *risk* as expressed in general represents the possible/probable occurrence of an event B when the postulated causal factor A is present or operative. That risk may or may not eventuate: if I walk across a road, there is a risk that I will be run down by an automobile that I haven't seen; if I walk unharmed to the other side, the risk simply did not eventuate: it only existed temporarily as unrealised risk when I first started to cross the road, and it then collapsed. <u>But the risk in cases of mesothelioma has come home in the form of the actual occurrence of the event (mesothelioma), for which a cause-and-effect relationship between asbestos (especially amphibole) inhalation and the much later development is essentially beyond doubt or dispute.</u>
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> (Underlining added)

297 The appellant did not call a medical expert to contradict the evidence of Professor Henderson.

298 The judge dealt with the appellant's contention that Professor Henderson's opinion was limited to exacerbation of risk and not causation in the following passages:[192]

> [98] The cross-examination of Professor Henderson introduced the question of whether additional fibres increased "risk" or actually contributed to the requisite load for triggering the fatal disease. This gave rise to an issue of what Professor Henderson meant irrespective of wording. I have no doubt, given a close examination of all his testimony, that Professor Henderson meant causation not risk. The defendant in contending he meant risk relied on various passages which were ambiguous and yet it failed in my opinion to confront Professor Henderson with the issue.[193] That was however finally resolved.[194] The whole point of Exhibit A37 makes it clear that Professor Henderson was not describing risk. Nevertheless it was also his opinion that exposure to asbestos could be expressed in terms of risk of contracting mesothelioma. The two are not incompatible until the cancer actually occurs. He stated:[195]
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> … once you have an additional exposure one cannot argue that that exposure with fibres resident in the pleura is not generating the same sort of reactive chemicals as the earlier exposures by way of an incremental effect upon them and somehow can be quarantined from the effects of those earlier exposures. The point is that all exposures contribute – all exposures will contribute to the total burden of asbestos

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[191] Report of Professor Henderson, 4 January 2011, p 14.
[192] *Hamilton v BHP Billiton Ltd* [2012] SADC 25 [98]-[100].
[193] T 10, 511, 524.
[194] T 532, 537.
[195] T 477, also T 514.

> fibres. The greater the number of fibres, the greater number of the free radicals, the greater the probability those free radicals will induce this mutational cascade interacting with multiple mesothelial cells ultimately over multiple generations. … each exposure or inhalation of asbestos within a latency interval … would contribute towards the development of these chemical messages that we've been describing.
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> …
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> [100] Professor Henderson said the diagram Exhibit A37 was an attempt to provide a simplified explanation of the cause of mesothelioma. To achieve explanatory value he had to engage in over simplification of what is a complex series of events.[196] Each inhalation is not to the point rather periods of exposure are. Also mesothelial cells are motile and move around the pleural cavity adding to the occasions of interacting with oxygen species from deposited asbestos fibres. There was no way of knowing the number of lineal consequences of a series of mutational events in a mesothelioma. What was to his mind significant was a continual situation of free radicals caused by the asbestos inducing mutational cascades interacting with multiple mesothelial cells over multiple generations.[197] The number of needed mutations was unknown. That is the number of products at the end of the chain depicted in the diagram.[198] Nor did this evidence propose every fibre inhaled contributes to mesothelioma. Some of the asbestos fibres inhaled are exhaled, some deposited in the airways and only a small portion translocated to the pleura. But a significant period of exposure and inhalation clearly contributed.[199]

299 The appellant's contentions that Professor Henderson's evidence did not support a conclusion that the deceased's exposure to asbestos in Whyalla was not causative should be rejected. The judge has correctly understood Professor Henderson's evidence which is to the following effect. In the prodromal phase, that is before the mutated cells become a mesothelioma, the inhalation of asbestos fibres can be said only to increase the risk of contraction of the disease by increasing the frequency and extent of the showers of free radicals which ultimately cause a mesothelioma through cellular mutation. However, if mesothelioma is contracted, asbestos fibres which have caused prodromal mutations have played a causative part in its contraction. Once the mesothelioma has been contracted, the involvement of an asbestos fibre in the production of free radicals which have caused prodromal mutations is causative. The only remaining question is whether the number and distribution of fibres inhaled from a particular source is such as to allow the conclusion that free radicals generated by those fibres played a part in causing the relevant mutations. Professor Henderson testified that his opinion that the deceased's exposure at Whyalla was a significant proportional contribution to the causation of his mesothelioma, meant to convey that there was a "causal contribution effect that is more than undetectably, small, minimal, trivial or immeasurable".

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[196] T 479, 482.
[197] T 479.
[198] T 480.
[199] T 484.

300 It is clear, on the evidence as a whole, that Professor Henderson's opinion was that the asbestos inhaled by exposure like that of the deceased's at Whyalla was sufficient to play a causative role in the model of carcinogenesis which he described.

301 Even if the appellant's contention that Professor Henderson's opinion was that the Whyalla exposure created an increased risk, but was not proved to be, on the balance of probabilities, causative, were accepted, his evidence would be sufficient to invoke the presumption in s 8(1). It is a sufficient evidentiary basis for a finding that the Whyalla exposure might have caused or contributed to the deceased's mesothelioma because his evidence was that the exposure gave rise to the possibility of the deceased developing mesothelioma.

302 I reject the appellant's submission that the respondent failed to prove that the negligent dust exposure might have caused the deceased's mesothelioma and accordingly s 8(1) did not come into play. Given the finding of breach of duty, and Professor Henderson's evidence about the pathogensis of mesothelioma and the effect of cumulative exposures, I am satisfied on the evidence that the asbestos dust to which the deceased was negligently exposed might have caused his mesothelioma. The absence of evidence that might quantify the extent to which the adoption of the alleviating measures might have reduced that exposure does not gainsay the fact of material exposure resulting from the breach.

303 Accordingly, the respondent had established that the deceased's exposure to asbestos dust at Whyalla, resulting from the appellant's breach of duty, caused or contributed to his dust disease unless the appellant proved to the contrary.

304 The appellant contended that the relationship between the inhalation of asbestos dust and the development of mesothelioma is the result of random events which can be expressed in terms of risk or mathematical probability only. On any view, the balance of mathematical probability was overwhelmingly in favour of the risk to which the Scottish exposure gave rise rather than the risk to which the Whyalla exposure gave rise (and, *a fortiori*, to which the negligent Whyalla exposure gave rise). The appellant contended that the mathematical probabilities were sufficiently preponderant so as to discharge any onus borne by the appellant that the likelihood is that the Whyalla exposure (let alone the negligent Whyalla exposure) did not cause or contribute to the development of the deceased's mesothelioma. The appellant also sought to rely on the evidence of Mr Rogers, which was rejected by the judge, which it said showed no actual risk to the deceased from the level of his exposure. Accordingly, it submitted, the statutory presumption is rebutted.

305 I do not accept this submission.

306 The evidentiary burden which the appellant bore was to prove on the balance of probabilities that the negligent Whyalla exposure was not a causal

factor in the deceased developing mesothelioma. In *Amaca Pty Ltd v Ellis*[200] the High Court emphasised the converse proposition, in the context where it was not concerned with rebutting a statutory presumption, by reference to the well known passage in the speech of Lord Reid in *Bonnington Castings Ltd v Wardlaw*[201]:[202]

> The issue in *Bonnington Castings* was whether exposure to silica dust from poorly maintained equipment caused or contributed to the pursuer's pneumoconiosis, when other (and much larger) quantities of silica dust were produced by other activities at the pursuer's workplace. Those other activities were conducted without breach of duty. As Lord Reid rightly pointed out, the question in the case was not what was the most probable source of the pursuer's disease: dust from one source or the other. The question was whether dust from the poorly maintained equipment was a cause of his disease when the medical evidence was that pneumoconiosis is caused by a gradual accumulation of silica particles inhaled over a period of years.

307 For the reasons set out above, I do not consider the evidence proves that the Whyalla exposure was not a cause of the deceased's dust disease.

308 That proposition informs consideration of whether the appellant rebutted the presumption of causation. I do not consider the evidence proves that the Whyalla exposure, including the negligent Whyalla exposure, was not a cause of the deceased's dust disease. In my view, the uncontested evidence of Professor Henderson prevented the appellant from discharging the evidentiary burden it bore in rebutting the statutory presumption in s 8(1).

309 For the reasons discussed earlier, the proposition that all asbestos exposure will contribute causally to the ultimate development of mesothelioma is not inconsistent with the proposition that not every asbestos fibre inhaled by the deceased necessarily contributed to his development of mesothelioma. On the evidence, it is likely that some of the asbestos fibres the deceased inhaled were exhaled, some deposited in the airways, and only a small portion translocated to the pleura. But the aetiology of mesothelioma, as explained in the evidence of Professor Henderson referred to above, leads to two important conclusions. First, the probability of developing mesothelioma will be influenced by the number of fibres inhaled, during a relevant period, interacting with mesothelial cells over multiple periods of time. Accordingly, the greater the number of fibres which are inhaled, the greater the probability of developing mesothelioma. Second, as a result, you cannot exclude the negligent Whyalla exposure as having contributed in a relevant causal sense, to the development of the deceased's mesothelioma, unless the evidence positively establishes that the exposure was so insignificant as to satisfy the *de minimus* principle. Proof that the Scottish exposure was preponderantly more extensive than the negligent Whyalla exposure, does not attract the *de minimus* principle in the case of the

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[200] (2010) 240 CLR 111.
[201] [1956] AC 613 at 621.
[202] (2010) 240 CLR 111 at 136 [67].

deceased. The evidence of Professor Henderson was that the exposure was material.

310 I do not accept that the evidence of Mr Rogers contradicts his opinion. In my view, it was beyond the expertise of Mr Rogers, as an occupational hygienist, to contradict Professor Henderson's evidence on this topic. Mr Rogers' evidence amounted to a retrospective estimate of the relative exposure of the deceased to asbestos fibres in the course of his work in Scotland and in Whyalla. The analysis involved various assumptions about exposure frequency and duration which rendered the evidence problematic. Like the judge, I harbour real reservations as to the confidence the finder of fact could have in relation to the accuracy of this analysis. In any event, I am not satisfied that it provides a basis upon which this Court should find that the judge was in error in failing to find that the extent of the Scottish exposure was so great that the Court should dismiss as insignificant the proposition that the negligent Whyalla exposure, could not have contributed to the development of the deceased's mesothelioma. After all, as Heydon J observed in *Amaca Pty Ltd v Booth*[203] mesothelioma can be caused by very brief intense exposures. This observation is in accord with the evidence at trial of Professor Henderson.[204]

311 Accordingly, I find that the statutory presumption in favour of causation was not rebutted.

312 This conclusion renders unnecessary consideration of whether the respondent proved on the balance of probabilities that the negligent Whyalla exposure caused or contributed to the development of the deceased's mesothelioma or mild asbestosis.

Cross-appeal

313 The respondent[205] brings a cross-appeal against the award of $115,000 for pain, suffering and loss of amenities.

314 The respondent submits that it is appropriate for this Court to review the prevailing level of damages awards made in South Australia in mesothelioma cases, having regard to awards made interstate. On this basis, she submits that the award is manifestly inadequate.

315 The appellant submits that the cross-appeal should be dismissed. The appellant submits that the trial judge's award is in line with awards of general damages in comparable cases in this State and which at trial the respondent accepted as the benchmark, having regard to the award of $100,000 for general damages made in *Ewins v BHP Billiton Ltd*.[206] It submits that the Court would be

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[203] (2011) 246 CLR 36 at 191.

[204] Professor Henderson's report, 19 September 2007, at p 11-12.

[205] For the sake of convenience, I will refer to the cross-appellant as the respondent and the respondent to the cross-appeal as the appellant.

[206] (2005) 91 SASR 303.

wrong in principle to have regard to comparable awards. If, on the other hand, the Court is to do so, it should confine its consideration to awards by this Court and not to the awards of the superior courts of other jurisdictions, and especially not the awards of inferior courts or tribunals of other jurisdictions.

316 In *Ewins v BHP Billiton Ltd*,[207] this Court accepted the general proposition that an award of damages must be made having regard to the general level of damages awarded in this State, citing *Packer v Cameron*.[208] However, Doyle CJ noted that the level of awards in other states is not irrelevant.[209] His Honour referred to the Full Court's judgment in *Chakravarti v Advertiser Newspapers Ltd*,[210] which held that the level of damages awarded for defamation should be increased, having regard to the level of awards in other states. While Doyle CJ in *Ewins* nonetheless found that the general level of awards in South Australia must be his primary guide in fixing an award of damages for pain, suffering and loss of amenities in that case, which was a mesothelioma case, that was on the basis that he was hearing the claim at first instance. As the former Chief Justice observed, it is the function of the Full Court, and not of a single judge, to decide whether the general level of damages should be increased, having regard to approaches taken in other courts or states, citing *Chakravarti*.[211]

317 There is no principle that the general level of awards of damages should be consistent between jurisdictions. Nonetheless, an award of damages for pain, suffering and loss of amenities differs from an award of damages for loss of earning capacity. There is less reason to place differing monetary values on the experience of injured persons in different jurisdictions based on wage levels, earning power, or property values. It is appropriate to have regard to awards in other jurisdictions to ensure that, in giving weight to current general ideas of fairness and moderation, there is not a glaring inconsistency between the value courts in this State place on an injured person's pain and suffering compared to the value placed on a comparable experience in other jurisdictions.

318 In my view, it is appropriate this Court undertakes such a review. I reject the appellant's submission to the contrary. While the High Court in *Planet Fisheries Pty Ltd v La Rosa*[212] disapproved of tariffs in the assessment of damages for personal injury and emphasised the need to focus on the circumstances of the particular plaintiff, *Chakravarti* establishes that where the Full Court is considering the adequacy of a particular award, it is permissible to have regard to comparable awards in other jurisdictions to determine whether the Full Court should increase the award under review to indicate to the courts of this State an appropriate level of damages.

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[207] (2005) 91 SASR 303.
[208] (1989) 54 SASR 246 at 250-251.
[209] (2005) 91 SASR 303 at 310-311 [63].
[210] (1998) 72 SASR 361.
[211] (2005) 91 SASR 303 at 312 [71].
[212] (1968) 119 CLR 118.

319 In *Lowes v Amaca Pty Ltd*,[213] Corboy J of the Supreme Court of Western Australia undertook a review of recent awards of damages for pain and suffering for mesothelioma claims by that Court, the Dust Diseases Tribunal of New South Wales and the ACT Supreme Court. The awards made by the Supreme Court of Western Australia over the ten years preceding that judgment ranged from $130,000 to $180,000. The awards made by the Dust Diseases Tribunal of New South Wales over the preceding two years ranged from $250,000 to $290,000. In *Parkinson v Lend Lease Securities and Investments Pty Ltd*,[214] the ACT Supreme Court made an award of general damages of $300,000.

320 The particulars of the cases reviewed by Corboy J were:[215]

(a) *Easther v Amaca Pty Ltd (Formerly James Hardie & Coy Pty Ltd):*[216] a 67 year old plaintiff with mesothelioma: general damages $130,000; loss of life expectancy $15,000;

(b) *McGilvray v Amaca Pty Ltd (Formerly James Hardie & Coy Pty Ltd):*[217] a 54 year old plaintiff with mesothelioma; general damages $160,000: loss of life expectancy $15,000;

(c) *Misiani v Welshpool Engineering Pty Ltd (in liq):*[218] a 54 year old plaintiff with mesothelioma; general damages $150,000: loss of life expectancy $15,000;

(d) *Ellis, Executor of the Estate of Paul Steven Cotton (Dec) v The State of South Australia*:[219] a 43 year old plaintiff with lung cancer: general damages $150,000; loss of life expectancy $15,000;

(e) *Hannell v Amaca Pty Ltd*:[220] a 64 year old plaintiff with mesothelioma: general damages $180,000; loss of life expectancy $15,000;

(f) *Kirkpatrick v Babcock Australia Pty Ltd***:**[221] a 61 year old plaintiff having an illness of approximately 2½ years duration and uncertain prognosis; treatment included a thoracotomy, a pleurectomy, chemotherapy and radiotherapy; general damages, $250,000;

(g) *Mooney v Amaca Pty Ltd*:[222] a 59 year old plaintiff having endured symptoms for 4½ years; treatment included chemotherapy; general damages, $290,000;

(h) *Roberts v Amaca Pty Ltd***:**[223] a 64 year old plaintiff was 64 years having endured symptoms for 4 to 5½ years; treatment included chemotherapy; general damages, $275,000;

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213 [2011] WASC 287.
214 (2010) 4 ACTLR 213.
215 [2011] WASC 287 at [815]-[818].
216 [2001] WASC 328.
217 [2001] WASC 345.
218 [2003] WASC 263.
219 [2006] WASC 270.
220 [2006] WASC 310.
221 [2009] NSWDDT 4.
222 [2009] NSWDDT 23.

(i) *Booth v Amaca Pty Ltd & Anor*:[224] a 70 year old plaintiff having endured symptoms for approximately two years; no history of surgical or other medical intervention referred to in the judgment; general damages, $250,000;

(j) *Parkinson v Lend Lease Securities and Investments Pty Ltd*:[225] a 72 year old plaintiff having endured symptoms for approximately six years; surgical intervention and radiation and chemotherapy; general damages, $300,000;

(k) *Wall v Cooper*:[226] pain syndrome suffered after leg wound became infected and skin grafting broke down. Severe and excruciating pain not abating with time. Plaintiff forced to cease work and left with a 'very limited existence' and dependence upon on heavy doses of morphine based painkillers. $450,000 for general damages.[227]

321 Since this cross-appeal was argued, the New South Wales Dust Diseases Tribunal has delivered judgment in *Perez v The State of New South Wales*.[228] The Tribunal made an award of general damages in the sum of $290,000 to the plaintiff. The Tribunal found that the 78 year old plaintiff suffered from mesothelioma, the symptoms of which had first manifested in May 2012. The plaintiff had been treated with radiation, pleural taps, pleurodesis and chemotherapy. The Tribunal found he had suffered considerable pain, with two prolonged periods of hospitalisation, and chemotherapy with its usual side effects. At the time judgment was delivered, the plaintiff had a life expectancy of six months.

322 In considering whether the level of damages awarded in this instance is manifestly inadequate, I accept the submission of the appellant that it is appropriate to confine a consideration of what constitutes an appropriate award, determined by reference to current general ideas of fairness and moderation, to comparable awards of damages for terminal disease, including, but not limited to, mesothelioma. Consideration of awards of general damages for other serious injury is likely to prove unhelpful as a relevant comparator, particular where they might involve awards for injuries which might leave the plaintiff with the prospect of many decades of life with a serious and incapacitating disability.

323 I would reject, however, the appellant's submission that the Court, in undertaking a review of damages awards in other jurisdictions, should ignore decisions of inferior courts or tribunals, such as the Dust Diseases Tribunal of New South Wales. While it is the case that those awards have not, for some years, been subject to appeal to the New South Wales Court of Appeal, that is a factor to be weighed by this Court in considering the appropriateness of the level of awards for mesothelioma in this State.

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223 [2009] NSWDDT 28.
224 [2010] NSWDDT 8.
225 (2010) 4 ACTLR 213.
226 (2006) 43 SR (WA) 69.
227 Appeal dismissed: *Wall v Cooper* [2008] WASCA 53.
228 [2013] NSWDDT 1.

324 It is nearly eight years since *Ewins* was decided. In *Amaca Pty Ltd v King*,[229] the Victorian Court of Appeal, citing with approval the judgment of our Full Court in *Joyce v Pioneer Tourist Coaches Pty Ltd*,[230] noted that, insomuch as contemporary society pays and receives vastly greater amounts of remuneration than a generation ago (even allowing for inflation), and speaks of the importance of the quality of life to an extent not before contemplated, it cannot be doubted that modern society places a higher value on the loss of enjoyment of life and the compensation of pain and suffering than was then the case in the past.

325 In *Amaca Pty Ltd v King*,[231] the Victorian Court of Appeal, in a mesothelioma case, dismissed an appeal against a jury verdict of $730,000 for pain and suffering and loss of enjoyment of life on the ground that it was manifestly excessive. It did so after reviewing awards in that State and other jurisdictions.[232]

326 I note that in *Perez v The State of New South Wales*,[233] the New South Wales Dust Diseases Tribunal rejected the plaintiff's submission that in awarding general damages it should have regard to the jury's verdict in *Amaca Pty Ltd v King*.[234]

327 There do not appear to have been any recently reported awards of damages for mesothelioma in Queensland, Tasmania or the Northern Territory.

328 In my view, having considered damages awarded in other cases involving mesothelioma over the past decade or so, I do not consider that the award made in *Ewins* any longer represents a fair and moderate award of damages for cases of the kind that the circumstances of this case involve.

329 As I have noted, the deceased was born in 1940. He was diagnosed with mild asbestosis in 2005. In October 2006 he commenced to suffer from breathlessness. The judge found that Christmas 2006 was a bad time. His general activities and regimes came to an end. The diagnosis of mesothelioma was made in February 2007. This was distressing. He was in great pain for the last months of his life. He endured these afflictions stoically. He died in August 2007.

330 In my view, the award of $115,000 is manifestly inadequate. I would increase the award to $190,000. I consider such an award to be proportionate to the injury suffered by the deceased. In reaching this consideration I am influenced by the disparity between the level of award of damages under this

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[229] [2011] VSCA 447 at [177].
[230] [1969] SASR 501 at 503.
[231] [2011] VSCA 447.
[232] [2011] VSCA 447 at [175]-[179].
[233] [2013] NSWDDT 1 at [10].
[234] [2011] VSCA 447.

head, reflected in *Ewins*, and the level of awards in mesothelioma cases in other jurisdictions. This Court should adjust the level of awards for mesothelioma cases in this State.

331 I would hear the parties further as to the consequences of my decision on the award of interest.

Conclusion

332 I would dismiss the appeal.

333 I would allow the cross-appeal. I would set aside the award of damages for pain, suffering and the loss of amenities and, in lieu thereof, enter an award under that head of $190,000.

334 I would hear the parties further as to interest and the terms of final orders.