HIGH COURT OF AUSTRALIA

GLEESON CJ,
GAUDRON, GUMMOW, HAYNE AND CALLINAN JJ

ZDENKO JOSIP SLIVAK & ANOR APPELLANTS

AND

LURGI (AUSTRALIA) PTY LTD & ANOR RESPONDENTS

Slivak v Lurgi (Australia) Pty Ltd
[2001] HCA 6
15 February 2001
A18/2000

ORDER

Appeal dismissed with costs.

On appeal from the Supreme Court of South Australia

Representation:

C J Kourakis QC with A L Tokley for the appellants (instructed by Moran & Partners)

R C White QC with A V Possingham for the first respondent (instructed by Kelly & Co)

No appearance for the second respondent

CATCHWORDS

Slivak v Lurgi (Australia) Pty Ltd

Workers' Compensation (SA) – Injury – Statutory duty – Workman injured by collapse of structure negligently erected by employer – Structure could not have collapsed if erected according to design – Whether designer in breach of s 24(2a)(a) of the *Occupational Health, Safety and Welfare Act* 1986 (SA) in failing to incorporate in the design elements to remove risks arising from negligent erection of structure.

Words and phrases – "so far as is reasonably practicable".

Occupational Health, Safety and Welfare Act 1986 (SA), ss 23, 24.
Workers Rehabilitation and Compensation Act 1986 (SA), s 54.

1 GLEESON CJ, GUMMOW AND HAYNE JJ. This is an appeal from a decision of the Full Court of the Supreme Court of South Australia (Doyle CJ, Bleby and Martin JJ), dismissing an appeal from a decision of Prior J. At both levels, the first appellant ("Mr Slivak") and second appellant ("Mrs Slivak") were unsuccessful. Mr Slivak pleaded negligence and breach of statutory duty against the respondents in respect of injuries received in an industrial accident in 1993. Mrs Slivak claimed damages under s 33 of the *Wrongs Act* 1936 (SA) for loss of consortium[1]. If successful, the appellants seek to have the appeal to the Full Court allowed, to have judgment entered for them and to have the matter referred to the trial judge for the assessment of damages.

The facts

2 On 20 February 1993, Mr Slivak was injured when he fell from a fume extraction system upon the construction of which he was working. The system was designed by the first respondent, Lurgi (Australia) Pty Ltd ("Lurgi"), and was being installed for the Broken Hill Proprietary Company Limited ("BHP"), pursuant to a contract between Lurgi and BHP. Under that contract, Lurgi accepted responsibility for the entire project, including a general responsibility to BHP for the safety of the works and for safe working conditions. It also provided that Lurgi could, with BHP's approval, subcontract any part of the contract works. The contract works involved the construction of a fume extraction and dust disposal facility and the relevant part was the design and erection of a substantial tower through which air would be drawn and, in the process, filtered.

3 At the time of the accident, Mr Slivak was employed by Lucon (Australia) Pty Ltd ("Lucon"). There was no evidence given at trial as to the exact relationship between Lucon and Lurgi, and the case was fought at trial on the footing that Lurgi had entered into a contract with Lucon for the performance by Lucon of part of the contract work. Nor does there appear to have been evidence led as to the scope or terms of the contract between Lurgi and Lucon. Doyle CJ commented that he was under the firm impression that "the trial proceeded on the basis that Lucon was a specialist subcontractor in respect of this work, and that it accepted responsibility for it as between Lucon and Lurgi"[2]. It is accepted that

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1 Section 33 gives to the wife an action for loss of consortium. At common law, the action lay only at the suit of the husband: *Wright v Cedzich* (1930) 43 CLR 493. The action is independent of any cause of action by the injured spouse against the defendant: *Curran v Young* (1965) 112 CLR 99.

2 (1999) 203 LSJS 318 at 320.

no action could have been maintained by the Slivaks against Lucon and that this was by reason of the provisions of s 54 of the *Workers Rehabilitation and Compensation Act* 1986 (SA). Section 54 provides that no liability attaches to an employer in respect of a compensable disability arising from employment unless there apply certain conditions which are not satisfied here. The employer has made worker's compensation payments to Mr Slivak. The litigation has been fought upon another issue, whether Mr Slivak's injuries were caused by defective design by Lurgi of the fume extraction system.

4 The second respondent is Lurgi's insurer. Lurgi joined it, apparently by third party notice, seeking indemnity from it should Lurgi be found liable to the Slivaks. The issues between it and Lurgi have been stood over pending determination of the issues between the Slivaks and Lurgi. The second respondent took no part in argument before this Court.

5 The tower forming the fume extraction system was some 25 metres in height. Air was to come in through its top, pass through a filter system, and flow out through a funnel at its bottom. The filter system was located at about 15 metres from the ground and comprised four "cell plates", each about 6 mm thick and of about one tonne in weight, set up in a 2 x 2 formation on a support structure. Each plate was perforated by elongated holes arranged in concentric circles about its centre through which the air would pass; it was stiffened by a series of concentric steel stiffeners of varying thickness and depth, and diagonal stiffeners at 45 degrees to the axis of the plate, adjacent to each of its corners. Each cell plate was manufactured on site, by employees of Lucon, by the welding together of two sub-plates.

6 The support structure comprised steel supports welded to the inside of the tower at an appropriate height and a "cross frame". This comprised two steel beams crossing at right angles, joining the centre of the north face of the structure to its south face, and its east face likewise to its west face. Each cell plate was to rest upon the steel supports on two adjacent sides and upon the cross frame on its other two sides. Three corners of each cell plate were cut off at a 45 degree angle 200 mm from the corner; there was left intact only the corner intended to lie nearest to a corner of the tower, that is, respectively at its northwest, northeast, southeast or southwest point. The design called for the cell plates to be welded to the support structure to fix them into place.

7 On 19 February 1993, two employees of Lucon, Mr Frost and Mr Lloyd, worked on the northwestern cell plate. They used a number of means to move it into position on the support structure and then Mr Frost tack-welded it to the support structure. On 20 February 1993, Mr Slivak and Mr Lloyd attempted to repeat the process with the southwestern cell plate. After making measurements, they determined that the cell plate needed to be moved about 25-30 mm in a

northerly direction before they welded it into position. At this time, Mr Lloyd checked the cell plate and found it was supported on all four sides, although he could not say by how much. To move it, they placed a scaffold plank in the space between the plate and one of the adjoining walls. Mr Slivak placed a timber bearer behind the plank as a fulcrum and Mr Lloyd put pressure on the plank to move the cell plate. As they did so, the plate suddenly fell and Mr Slivak and Mr Lloyd fell with it. Mr Slivak sustained severe injuries, including compound fractures of both legs.

8 The trial judge accepted expert evidence adduced by the appellants from a structural engineer, Mr Fowlie. He accepted Mr Fowlie's opinion that the cell plate could only have fallen if it had become unsupported on two adjoining edges and was bearing a load additional to its own weight. If this occurred, it would shift the centre of mass of the plate beyond the centre of support and would cause the plate to rotate about its axis. However, Mr Fowlie's evidence showed that, as designed, a cell plate could not have become unsupported on both sides. Each cell plate was designed to be 4700 mm (+0/-2 mm) (north-south) by 4210 mm (+0/-2 mm) (east-west). The area they were to span, between the steel supports and the cross frame, was designed to be 4647 mm (north-south) by 4167 mm (east-west). Each cell plate could overlap the steel support or the cross frame by a maximum of 40 mm, dictated by the location of stiffeners welded to the underside of the plate.

9 Mr Fowlie calculated that, had the cell plate been constructed to design (that is, measured 4700 mm by 4210 mm) and been located so as to overlap as far as possible its supports on two adjacent sides, then the minimum overlap of the cell plate on the opposite adjacent sides would have been 13 mm for the north or south side and 3 mm for the east or west side. Had the cell plate been constructed to tolerance within the design, at the smaller end of the permissible range, the minimum overlap on the opposite sides would have reduced to 11 mm on the north or south side and 1 mm on the east or west side. Although Mr Fowlie observed that vertical deflection of the plate could reduce the amount of overlap, the trial judge accepted a submission that this could properly be ignored. This was because, in cross-examination, Mr Fowlie had conceded that, as the cell plates were designed to support 7.5 tonnes in the finished structure without any vertical deflection, any deflection in fact existing at the time of the accident would have had no practical effect.

10 Site surveys prepared by Lurgi showed that the southwestern quadrant of the support structure had not been erected completely square. The diagonal dimensions across corners of the supporting steelwork were found to be 6263 mm (southwest to northeast) and 6223 mm (southeast to northwest). There was also outward bowing at the mid-length of the western support angle of 14 mm and of the southern support angle of 13 mm. The dimensions of the steel

plate were found to be 4700/4699 mm north to south (within design tolerance) and 4205/4207 mm east to west (outside design tolerance). The trial judge accepted Mr Fowlie's evidence that, on this information, and assuming one corner of the plate to be square, it was geometrically possible to position the cell plate so that full support was provided only to two adjacent sides. In this position, there would be a gap for the full length of the plate edge on a third side and minimal overlap of the plate and its supporting structure on the fourth side, and then only at the corners. These calculations did not include any horizontal deflection of the external wall of the structure as a result of the levering of the plate at the time of the accident. This would further have reduced the extent of any overlap to the fourth side.

11 The trial judge accepted Mr Fowlie's evidence that the loss of support to the cell plates could be attributed to the combination of some of the following factors:

> "* bowing of the southern and western walls of the structure, as constructed;
>
> * out of square of the southern quadrant of the cell plate support structure, as constructed;
>
> * smaller than documented size of the south-western cell plate, as constructed;
>
> * width of the shelf angle supports [spot] welded to the southern and western walls of the structure, as designed;
>
> * the extent of curtailment of the stiffeners to the under-side of the cell plate;
>
> * cut-offs to the corners of the cell plate, as designed;
>
> * flexibility of the cell plate, as designed;
>
> * the action of levering the cell plate into position, and the effect of this levering on the deflections of both the cell plate and the cell plate supporting wall."

12 In cross-examination, Mr Fowlie agreed that it would have been reasonable for the designer to suppose that the person constructing the structure would comply with the tolerances specified in the design and would have relied on adherence to them. Mr Fowlie also offered an opinion that additional supporting members could have been added to the supporting structure, running diagonally across the corners of the cell plate and that these would have

prevented the accident that occurred. He considered that they would not have affected the functioning of the cell plates as filters and would have cost between $400 and $500 per quadrant at the time of tender. There was some suggestion in the evidence that these members might have adversely affected the squaring up of the tower wall but the matter was not pursued to any conclusion.

13 The trial judge held that the action of pushing against the southern wall while manoeuvring the cell plate "moved the angle iron support outwards causing loss of support to the cell plate on that side"[3]. He found that the design of the cell plate meant that it theoretically should have been supported on all four sides, even with a maximum possible overlap of 40 mm on two of them. His Honour stated that he was satisfied by the evidence that[4]:

> "the cell plate support structure had not been constructed according to [Lurgi's] design. In particular, instead of the [internal] space measuring 4647 mm north-south, it measured 4650 [mm] on its eastern edge and 4658 [mm] on its western edge. The drawings also make plain that because of the bowing of the southern wall as constructed, its [internal] space was up to 21 mm more than design. Again the east-west dimension was not in accordance with design. It was up to 14 mm more than it should have been. As for the cell plate, whilst it was constructed as designed on the north-south dimension, it was up to 3 mm outside tolerance on the east-west dimension. All these facts taken together with the accepted evidence from Lloyd as to how the cell plate was manoeuvred in a northerly direction gives rise to the conclusion that the cell plate ceased to be supported on its southern edge. For the cell plate to fall it had to be unsupported on either its western or eastern edges as well. It could only have been placed in such a position because the cell plate support structure had not been constructed according to design. I so find. Sadly, the fact was that the cell plate support structure was constructed out of square. All of these circumstances clearly establish fault against Mr Slivak's employer. It failed to construct the cell plate support structure in accordance with the designer's specifications. The internal space was too large."

14 The trial judge accepted Lurgi's submission that the contractual rights existing between Lurgi and BHP did not establish that Lurgi was in occupation of the work being undertaken by Lucon. As a result, he held that none of the

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3 (1998) 200 LSJS 146 at 151.

4 (1998) 200 LSJS 146 at 152.

provisions of the *Occupational Health, Safety and Welfare Act* 1986 (SA) ("the Act") was attracted[5]. The trial judge rejected Mr Slivak's submission that Lurgi owed a non-delegable duty of care to Mr Slivak. He held that[6] "[t]he only duty readily identifiable owed by [Lurgi] to Mr Slivak was a duty to take reasonable care with respect to the design of the extraction system", and continued: "I am not persuaded that there was a failure to impose adequate construction tolerances as distinct from design tolerances. [Lurgi's] duty was not a duty to ensure that reasonable care for [Mr Slivak's] safety was taken in the course of the construction of the system designed by it. The designer was not under a duty to warn or supervise during construction."

15 The trial judge did not construe the Act as "imposing a duty somewhere in between the more stringent duty to ensure that reasonable care is taken and that of the common law, to take reasonable care" which he considered to be "an inherent consequence of some of [Mr Slivak's] submissions". He concluded that[7]:

> "Mr Slivak sustained his injuries as a result of an unsafe system of work, lack of proper supervision and a failure by his employer to carry into effect [Lurgi's] design and specifications for the construction of the extraction system. There is no proof that the design of the structure was itself defective. If the support structure and the cell plate had been constructed as designed the cell plate would not have fallen. It was reasonable for the designer to expect that the structure would be erected within the specified design tolerances. Had this occurred the accident would not have happened."

16 His Honour rejected submissions that Lurgi was under an obligation to warn Lucon about the need to adhere to the design specifications and to ensure that, at all relevant times, the fume extraction system was being constructed in accordance with those specifications. He also rejected the submission that it was incumbent upon Lurgi to anticipate a system of unsafe work and the method used by Mr Slivak and Mr Lloyd, to issue warnings and to be present to avoid such things occurring. He commented that these duties were incumbent upon Lucon, as Mr Slivak's employer. The actions of both Mr Slivak and Mrs Slivak were dismissed.

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5 (1998) 200 LSJS 146 at 154.

6 (1998) 200 LSJS 146 at 154.

7 (1998) 200 LSJS 146 at 154.

17 Before the Full Court, counsel for Mr Slivak submitted that Lurgi should have foreseen that the support structure and cell plates might not be constructed to specification and that, as a result, the overlap supporting the cell plates would become dangerously small. The submission went that (a) Lurgi should have included in the design features to ensure that the plate could not become unsupported, such as by adding additional support members, and (b) failure to do this constituted a breach of a statutory and common law duty of care.

The Act

18 It is convenient now to set out the relevant provisions of the Act as they stood at the time of the accident in 1993, but using the present tense. Part 3 (ss 19-25) is headed "General Provisions Relating to Occupational Health, Safety and Welfare". Sections 19, 21, 22, 23A, 24 and 24A impose duties, breach of which attracts a stated penalty. The appellants have relied in particular upon provisions in s 23 and s 24.

19 Section 23 states:

> "The occupier of a workplace shall ensure so far as is reasonably practicable –
>
> (a) that the workplace is maintained in a safe condition;
>
> and
>
> (b) that the means of access to and egress from the workplace are safe."

Sub-sections (1) and (2a) of s 24 provide:

> "(1) A person who designs, manufactures, imports or supplies any plant for use at work shall –
>
> (a) ensure so far as is reasonably practicable that the plant is designed and constructed so as to be safe –
>
> (i) when properly used and maintained;
>
> and
>
> (ii) when subjected to reasonably foreseeable forms of misuse;

(b) ensure so far as is reasonably practicable that the plant is designed and constructed so that people who might use, clean or maintain the plant are, in doing so, safe from injury and risks to health;

(c) take such steps to test or examine, or arrange for the testing or examination of, the plant as are reasonably necessary to ensure compliance with paragraphs *(a)* and *(b)*;

(d) ensure that the plant complies in all respects with prescribed requirements (if any) applicable to it;

and

(e) ensure so far as is reasonably practicable that adequate information about any conditions necessary to ensure the safe installation, use and maintenance of the plant is supplied with the plant.

Penalty: Division 2 fine.

…

(2a) Without derogating from the operation of subsections (1) and (2), where any structure is to be erected in the course of any work –

(a) the person who *designs* the structure must ensure so far as is reasonably practicable that the structure is designed so that the persons who are required to erect it are, in doing so, safe from injury and risks to health;

(b) any person who *manufactures* any materials to be used for the purposes of the structure must ensure so far as is reasonably practicable that the materials are manufactured so that the persons who are required to erect the structure are, in using, handling or otherwise dealing with the materials, safe from injury and risks to health;

(c) any person who *imports* or *supplies* any materials to be used for the purposes of the structure must ensure so far as is reasonably practicable that the materials are in such a state as to be safe to any person who must use, handle or otherwise deal with the materials;

and

(d) the person *undertaking the erection* of the structure must ensure so far as is reasonably practicable that the structure is safe during the course of its erection *and subsequent use*." (emphasis added)

20 Counsel for the appellants submitted to the Full Court that Lurgi was an occupier of the site upon which the tower was constructed and it was required by s 23 to ensure so far as reasonably practicable that the site was maintained in a safe condition. Counsel also relied upon s 24(2a)(a).

21 The Full Court (in which the reasons were given by Doyle CJ) rejected these submissions. Doyle CJ held that there was insufficient evidence that Lurgi had occupied the site. Of the submission respecting s 24(2a)(a) of the Act, Doyle CJ said[8]:

> "It is not clear to me what, if anything, that provision adds to the common law obligation to exercise the appropriate level of care and skill. To the extent that it replicates the common law obligation, my reasons for concluding that the design work was not negligent lead to the conclusion that the appellant cannot succeed on the basis of this provision. To the extent that this provision might add something more, I consider that it has not been shown that the design fails to ensure so far as reasonably practicable that the structure is designed so that persons who are required to erect it are safe from injury. Deciding what is reasonably practicable must involve balancing the likelihood of injury, and the severity of an injury that might ensue, against the availability of protective measures and their effectiveness and cost. The evidence in the present case is that the design was safe, and there is no evidence to suggest that the fabrication work and erection work was not to be carried out by a competent contractor. In my opinion the designer of the structure could reasonably expect that the extent to which the cell floor plate overlapped the supporting structures would be checked when the plate was put in position and before it was moved. That in itself does not excuse the designer from considering the risk of injury. While the conclusion that the design was itself safe is not necessarily the end of the matter, there is no evidence here to suggest a risk of injury that would have caused a designer to embark upon the further measures suggested by Mr Fowlie, bearing in mind the designer's reasonable expectation that fabrication and erection would be carried out by competent persons.

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8 (1999) 203 LSJS 318 at 325-326.

> I add, although it is hardly necessary, that as designer Lurgi was not responsible for the actual process by which the cell plate was put in position. The decision whether or not to use a crane and safety-slings was not a decision to be made by the designer. They were decisions to be made, on the spot, by Lucon."

Submissions in this Court

22 Before this Court, counsel for the appellants submitted that s 24(2a)(a) of the Act imposed a duty of care more extensive than that imposed by the common law and that the Full Court had erred in not analysing or defining the extent of that duty and in not expressing how it differed from the common law duty of care.

23 Counsel for the appellants also attacked the reasoning of the Full Court on several grounds. These were, first, that the Full Court had relied upon evidence of common practice but that the statutory standard of care is not limited by such evidence; and, secondly, that Doyle CJ had stated that the designer of a tower was entitled to rely on a reasonable expectation that fabrication and erection would be carried out by competent persons, whereas the risk that design tolerances would be exceeded during construction and the consequential risk of injury were foreseeable. It was also submitted that any reasonable expectation on the part of Lurgi that fabrication would be carried out by competent contractors was "irrelevant" and that it was not "a defence to an action for breach of the statutory duty to ensure safety that the immediate cause of the danger was the carelessness of another".

24 Submissions were made respecting the onus of proof. The appellants argued that the reasoning of the Full Court wrongly placed an onus upon a plaintiff to prove that a defendant designer did not do that which was reasonably practicable. It was said that Lurgi carried an evidential onus to rebut the evidence of Mr Fowlie adduced on behalf of Mr Slivak, showing that there was an apparently cost-effective precaution which eliminated the risk of serious injury and death. As Lurgi had not adduced any evidence to the contrary, so the argument went, it failed to discharge this onus.

25 The appellants contended that the statutory duty required the taking of "all reasonably practicable measures and precautions which can ensure safety". In the present case, this was said to require Lurgi to take reasonably practicable steps in respect of any reasonably foreseeable errors or variations from design that might be made by the builder of the structure it designed. In particular, it was urged that Lurgi ought to have set the tolerances in its design, or included additional elements in the design, or both, to guard against the possibility that the

tower would not be constructed or erected according to the design, so that these errors would not result in the falling of the cell plates.

26 However, there was no evidence adduced that the design tolerances were unreasonably small. Rather, there was a concurrent finding of fact, based upon Mr Fowlie's evidence and the tolerances being within the Australian Standard, that the design was not itself defective. In these circumstances, the appeal was pressed on the latter alternative, that Lurgi ought to have included the additional diagonal struts mentioned by Mr Fowlie.

The statutory duty

27 It is common ground that s 24(1)(a) (to which for present purposes s 24(2a)(a) is appendant) does more than impose a duty for which the sanction is a fine imposed in a prosecution for breach. These provisions are designed to protect, among others, persons in the position of Mr Slivak; the designer must ensure, so far as is reasonably practicable, that the structure is designed so that those required to erect the structure are, in doing so, safe from injury and risks to health. It is assumed that the legislature "intended" that persons injured as a result of non-observance of this duty have a good cause of action against the designer.

28 The authorities considered by McHugh and Gummow JJ in *Byrne v Australian Airlines Ltd*[9] show that what is involved is a matter of statutory construction, in the absence of an express conferral of a private cause of action[10]. Only State legislation is involved in this appeal so the particular considerations respecting matters inexplicitly "arising under" federal law, adverted to in *Byrne*[11], are not present here. However, in all these cases, the lack of specificity in the

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9 (1995) 185 CLR 410 at 457-462. See also at 424-426 per Brennan CJ, Dawson and Toohey JJ.

10 See Bennion, "Codifying the Tort of Breach of Statutory Duty", (1996) 17 *Statute Law Review* 192.

11 (1995) 185 CLR 410 at 458. See also the similar doubts expressed with respect to United States federal law in the judgments of Powell J in *Cannon v University of Chicago* 441 US 677 at 730-742, 745-747 (1979) and Scalia J in *Thompson v Thompson* 484 US 174 at 191-192 (1988). See further *Crimmins v Stevedoring Industry Finance Committee* (1999) 200 CLR 1 at 58-59 [157]-[158].

interpretative criteria applied brings with it what Scalia J has identified as the dangerous assumption[12]:

> "that, even with the utmost self-discipline, judges can prevent the implications they see from mirroring the policies they favor".

29 It was one thing to discern a positive implication in the efforts of the nineteenth century legislatures respecting private acts for the construction of public infrastructure, a matter adverted to in *Byrne*[13]. Likewise when the common law doctrines of common employment and contributory negligence flourished, to the prejudice of plaintiffs. While those considerations have largely passed into history, the impact of modern "outsourcing"[14] is not yet fully explored in the case law. Here, it is the abolition by South Australian legislation of what would have been Mr Slivak's common law rights which has enlivened the concededly successful search for a statutory norm of private liability.

30 What now has to be determined is the scope of that statutory duty and its application in this litigation. Section 24(2a) applies where "any structure is to be erected in the course of any work". The duty imposed upon designers of the structure by s 24(2a)(a) is only one of four duties imposed by sub-s (2a). Duties are imposed upon those who design the structure, who manufacture or import or supply materials and who erect the structure. Breach of any provision of s 24(1), to which s 24(2a) attaches, is punishable by a "Division 2 fine", which is defined by s 4(5) to mean a fine not exceeding $50,000. This is the second most severe fine which may be imposed under the Act.

31 The Act thus demarcates the activities of designing a structure, manufacturing materials to be used for its erection, importing or supplying any materials used "for the purposes of the structure" and undertaking the erection of the structure. Lucon, and not Lurgi, was the person undertaking the erection of the structure. For this reason, the pleaded allegations of negligence directed at Lurgi respecting the mode of work used in the erection of the tower are not pressed.

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12 *Thompson v Thompson* 484 US 174 at 192 (1988). See also Posner, "Economics, Politics, and the Reading of Statutes and the Constitution", (1982) 49 *The University of Chicago Law Review* 263 at 278-279; Chemerinsky, "Federal Jurisdiction", 3rd ed (1999), §6.3.3.

13 (1995) 185 CLR 410 at 459-460.

14 See *Puntoriero v Water Administration Ministerial Corporation* (1999) 199 CLR 575 at 583 [17], 588 [36], 612-615 [109]-[117].

32 Moreover, there is a difference in the scope of these statutory duties. The duty of a designer extends to "the persons who are required to erect" the structure so that they may do it "safe from injury and risks to health". The duty of a manufacturer extends to "the persons who are required to erect the structure" so that they are "in using, handling or otherwise dealing with the materials, safe from injury and risks to health". The duty of an importer or supplier of materials extends to "any person who must use, handle or otherwise deal with the materials", while the duty of the person undertaking the erection is to ensure so far as is reasonably practicable "that the structure is safe during the course of its erection *and subsequent use*" (emphasis added).

33 The range of duties laid out in s 24(2a) (which was inserted in 1990[15]) on the basis of tasks undertaken is in contrast to the allocation of duties in the adjacent sub-sections. These remain in a form substantially unchanged from the original text of the Act[16]. Section 24(1) imposes duties upon a person "who designs, manufactures, imports or supplies any plant" to which that sub-section applies, while s 24(2) imposes duties upon a person who "erects, installs or modifies any plant" to which that sub-section refers. Section 24(3) imposes duties upon a person "who manufactures, imports or supplies any substance for use at a workplace". The sub-sections serve to highlight the more precise division of duties in s 24(2a) and hence to elucidate the reach of that sub-section.

34 Sub-section (2a) divides and allocates in pars (a)-(d) duties between those who design a structure, those who manufacture any materials to be used for its "purposes", those who import or supply any materials to be used for its "purposes" and those who undertake its erection. The difference in the content of the duties and their different scope of operation suggests that the duty imposed upon designers is intended to be limited to matters of design. To deal with examples raised during argument, it would not be incumbent on a designer to guard against a supplier of material or an erector incorporating substandard or inferior materials when constructing the design. The supplier or erector or both would be in breach of their own duty under the relevant paragraphs of s 24(2a). The express imposition of liability upon those parties for such acts suggests there is not to be implied in par (a) of s 24(2a) an imposition upon the designer in respect of the same matters.

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15 Sub-section 24(2a) was inserted by s 9(a) of the *Occupational Health, Safety and Welfare Act Amendment Act* 1990 (SA), No 67 of 1990.

16 Sub-sections (1) and (2) of s 24 were modified by s 5 of the *Occupational Health, Safety and Welfare (Plant) Amendment Act* 1993 (SA), No 46 of 1993.

35 The same would follow in respect of the erection of a structure outside or otherwise not in accordance with its design. The imposition by par (d) of liability upon the person undertaking the erection of the structure suggests that the designer is not required by par (a) to anticipate errors or departures from design by the person undertaking the erection and to take steps to guard against it by modifying the design. The result of accepting submissions for the appellants would be to enlarge the scope of par (a) to cover the matters already dealt with in pars (b), (c) or (d). This would tend to distort the scheme of the Act and undermine its careful allocation of liabilities among the parties jointly responsible for the erection of a structure. It would also expose designers to criminal liability for a penalty of up to $50,000 in respect of matters not expressly mentioned in the statute. The court should be slow to interpret a law in a fashion which would impose criminal liability by a process of implication.

36 This conclusion is fortified by the text of par (a) itself. This requires "the person who designs the structure" to "ensure so far as is reasonably practicable that the structure is designed" so that those erecting it are "safe from injury and risks to health". It is not a duty to ensure that those erecting the structure are safe from injury and risks to health. This would approximate some form of non-delegable duty of care in respect of all aspects of the erection of a structure. More particularly, any feature or structure included in a design might not be, or be only incompletely, complied with during the course of a structure being built according to it. A builder might depart from a designed overlap of 1 mm by building the structure 2 mm wider than designed, or depart from a designed overlap of 2 mm by an error of 4 mm, or from a designed overlap of 3 mm by an error of 6 mm, and so on. In the statutory text, no means is provided to differentiate between those departures required to be anticipated by a designer and those which are not. Nor are cases construing the words of other statutes helpful. To attempt to build a superstructure sufficiently finely-tuned to be capable of distinguishing between such examples would build too much upon the words of the paragraph. The text of par (a) cannot bear the added weight that would be necessary to allow the distinctions contended for by counsel for the appellants.

37 The ordinary and natural meaning of the terms in par (a) of s 24(2a) is that they apply to a structure being built in accordance with the design. Thus, if, as designed, parts of a structure are incapable of bearing weight that the structure is intended to bear, or if, as designed, it is possible for parts of the structure to fall or break, or if the design is incapable of being built safely having regard to features of the location in which it is being built, then the design will be inadequate and the designer will have breached s 24(2a). The appellants stressed the presence of the term "must ensure". However, the requirement is one of ensuring safety "so far as is reasonably practicable". The requirement applies to

matters which are within the power of the designer to perform or check, such as ascertaining what use the structure will be put to, what loads it will experience when being built and the nature of the location in which it is to be erected. This is in contrast to the matters that would be forced within the ambit of this requirement were the submissions for the appellants accepted; for then a designer would be required to take account of factors outside the power of the designer to control, supervise or manage, such as the procedures to be adopted during construction.

Conclusions

38 This case then resolves to a determination of whether Lurgi's design was one such that those persons who were required to erect it in accordance with the design were safe from injury and risks to health. The evidence unquestionably shows that it was. Concurrent findings of fact establish that the cell plate would not have fallen if the structure had been constructed according to design and within tolerances; the cell plate could not have become unsupported on two adjacent edges. Mr Fowlie accepted this in cross-examination and nothing in the record disturbs this conclusion. Save for breaches in departing from the design, for which different parties were answerable under s 24(2a)(b), (c) or (d), the structure was safe and the accident would not have occurred.

39 Such a conclusion makes it unnecessary to consider the appellants' submissions as to onus of proof. We would, however, express our agreement with Callinan J's analysis of the authorities relied upon by the appellants and with his Honour's reasons for concluding that clear words would be needed to shift a burden of proof from a plaintiff to a defendant and that the words in s 24(2a)(a) would not be sufficient to do so.

40 We would dismiss this appeal with costs.

41 GAUDRON J. The appellants, Mr and Mrs Slivak, are husband and wife. Mr Slivak was seriously injured whilst working on the construction of an air filtration tower designed by the first respondent, Lurgi (Australia) Pty Ltd ("Lurgi"). He claims that he is entitled to damages against Lurgi by reason of its breach of the duty imposed on it by s 24(2a)(a) of the *Occupational Health, Safety and Welfare Act* 1986 (SA) ("the Act"). Mrs Slivak claims that she is entitled to damages for loss of consortium[17].

42 Section 24(2a) of the Act relevantly provides that:

> "... where any structure is to be erected in the course of any work–
>
> *(a)* the person who designs the structure must ensure so far as is reasonably practicable that the structure is designed so that the persons who are required to erect it are, in doing so, safe from injury and risks to health".

Breach of s 24(2a)(a) is an offence punishable by a fine[18].

43 The questions that now arise are whether s 24(2a)(a) confers a right of civil action and, if so, whether that provision was breached in the present case. Those questions arise on appeal from a decision of the Full Court of the Supreme Court of South Australia[19] upholding a decision of Prior J[20] rejecting the appellants' claims.

The facts and the evidence

44 As already indicated, Mr Slivak was injured whilst working on the construction of an air filtration tower. The tower was being constructed by Lucon (Australia) Pty Ltd ("Lucon") by whom Mr Slivak was employed. It is not in issue that Lucon was negligent in failing to construct the tower in accordance with the plans and specifications prepared by Lurgi and, also, in failing to provide a safe system of work. However, the appellants have no cause of action against Lucon[21]. Instead, they claim against Lurgi as the designer of the tower.

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17 See s 33(1) of the *Wrongs Act* 1936 (SA).

18 See s 58 of the Act.

19 (1999) 203 LSJS 318.

20 (1998) 200 LSJS 146.

21 Section 54 of the *Workers Rehabilitation and Compensation Act* 1986 (SA) provides that, subject to certain exceptions not herein relevant, "no liability attaches

(Footnote continues on next page)

45 The tower was a box-like structure approximately 8 metres wide by 8 metres deep and 25 metres high with a filter system inside. The filter system necessitated the placement of four steel cell plates approximately 15 metres above ground level. The steel cell plates were each approximately 4 metres wide by 4 metres long and about 1 tonne in weight. As designed, each cell plate was to be supported on two sides by angle iron welded to the inside walls of the tower and, on the other two sides, by steel beams or RSJs spanning the tower from north to south and east to west and crossing at right angles in the centre of the tower. Mr Slivak was injured whilst positioning one of the cell plates on its intended supports. The cell plate in question became unsupported on two sides and fell to the bottom of the tower.

46 It is not in issue that, had the cell plate in question and its support structure conformed to design or to the design tolerances specified by Lurgi, it would have been properly supported and would not have fallen. The design called for tolerances of plus or minus one millimetre for lengths of less than one metre and plus or minus two millimetres for lengths of one or more metres. Had the cell plate in question and the support structure been erected precisely in accordance with the design dimensions, there would have been a "minimum overlap ... [of] 13 [millimetres] and 3 [millimetres] respectively on the north or south and east or west sides of [each] cell plate."[22] And had they "been constructed to tolerance, but at the lower end of the tolerance range, the overlap on the two opposite adjacent sides would [have been] reduce[d] to 11 [millimetres] and 1 [millimetre] respectively."

47 At first instance, Mr Fowlie, a structural engineer, gave evidence on behalf of the appellants to the effect that, had additional diagonal steel supports been erected under each of the cell plates, those supports would have precluded dislodgment of the plates during construction. The evidence was that the total cost of those additional supports would have been approximately $2,000.

A right of civil action

48 The appeal was conducted in this Court, as it was at first instance and in the Full Court, on the assumption that s 24(2a)(a) of the Act confers a right of civil action. Although the question was not argued, that assumption is, in my view, correct.

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to an employer in respect of a compensable disability arising from employment by that employer except ... a liability under this Act".

22 (1998) 200 LSJS 146 at 148 per Prior J quoting a report by Mr Fowlie, a structural engineer.

49 As is clear from its long title, the Act is intended "to provide for the health, safety and welfare of persons at work". As a general rule, legislation which imposes duties with respect to the safety of others is construed as conferring a right of civil action unless a contrary intention appears. The rule and its rationale were explained by Dixon J in *O'Connor v S P Bray Ltd* in these terms:

> "In the absence of a contrary legislative intention, a duty imposed by statute to take measures for the safety of others seems to be regarded as involving a correlative private right, although the sanction is penal, because it protects an interest recognized by the general principles of the common law."[23]

50 The common law recognises an interest on the part of construction workers in the exercise of reasonable care and skill in the design of those structures upon which they work[24]. Section 24(2a)(a) of the Act protects that interest by supplementing the common law duty of care. In the absence of anything to indicate to the contrary, s 24(2a)(a) of the Act should, in my view, be construed as conferring a right of civil action in the event of breach.

The duty imposed by s 24(2a)(a) of the Act

51 The statutory duty imposed by s 24(2a)(a) of the Act differs from the common law duty of care in at least two important but related respects. The first significant difference between the statutory duty and the common law duty of care is that s 24(2a)(a) imposes a duty to ensure the safety of construction workers, not simply to prevent a foreseeable risk of injury to them. The statutory duty is a duty to protect against all risks to construction workers, if that is reasonably practicable. In the words of Lord Upjohn in *Nimmo v Alexander Cowan & Sons Ltd*, the duty is to make the structure "100 per cent safe (judged of course by a reasonable standard of care) if that is reasonably practicable and, if

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23 (1937) 56 CLR 464 at 478. See also *Australian Iron and Steel Ltd v Ryan* (1957) 97 CLR 89; *Sovar v Henry Lane Pty Ltd* (1967) 116 CLR 397; *John Pfeiffer Pty Ltd v Canny* (1981) 148 CLR 218; *Sutherland Shire Council v Heyman* (1985) 157 CLR 424 at 459 per Mason J, 482 per Brennan J; *Utah Construction & Engineering Pty Ltd v Pataky* [1966] AC 629 at 643 per Lord Guest delivering the judgment of the Board.

24 *Voli v Inglewood Shire Council* (1963) 110 CLR 74 at 85 per Windeyer J; *Florida Hotels Pty Ltd v Mayo* (1965) 113 CLR 588; *Clay v A J Crump & Sons Ltd* [1964] 1 QB 533.

it is not, to make it as safe so far as is reasonably practicable to a lower percentage"[25].

52 The second significant difference between the duty imposed by s 24(2a)(a) of the Act and the common law duty of care is closely related to the first. Once it is accepted that the statutory duty is to design a structure that is as safe as reasonably practicable for construction workers, it follows that the designer is required to incorporate safety features in the design to ensure the safety of those workers if those features are reasonably practicable. That imposes a much higher standard than the exercise of reasonable care in designing a structure.

53 The words "reasonably practicable" have, somewhat surprisingly, been the subject of much judicial consideration[26]. It is surprising because the words "reasonably practicable" are ordinary words bearing their ordinary meaning. And the question whether a measure is or is not reasonably practicable is one which requires no more than the making of a value judgment in the light of all the facts. Nevertheless, three general propositions are to be discerned from the decided cases:

- the phrase "reasonably practicable" means something narrower than "physically possible" or "feasible"[27];
- what is "reasonably practicable" is to be judged on the basis of what was known at the relevant time[28];

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25 [1968] AC 107 at 126. See also *Marshall v Gotham Co Ltd* [1954] AC 360 at 375 per Lord Tucker.

26 See, for example, *Ryan v Central Norseman Gold Corporation (No Liability)* (1964) 111 CLR 327 at 331, 332 per Windeyer J; *Coltness Iron Co v Sharp* [1938] AC 90; *Edwards v National Coal Board* [1949] 1 KB 704; *McCarthy v Coldair, Ltd* [1951] 2 TLR 1226; *Marshall v Gotham Co Ltd* [1954] AC 360; *Austin Rover Ltd v Inspector of Factories* [1990] 1 AC 619; *R v Behlen-Wickes Co* (1980) 4 Man R (2d) 119 (Manitoba CA); *Buchanans Foundry Ltd v Department of Labour* [1996] 3 NZLR 112; *Auckland City Council v NZ Fire Service* [1996] 1 NZLR 330.

27 See, for example, *Edwards v National Coal Board* [1949] 1 KB 704 at 712 per Asquith LJ; *Marshall v Gotham Co Ltd* [1954] AC 360 at 377 per Lord Keith of Avonholm; *Auckland City Council v NZ Fire Service* [1996] 1 NZLR 330 at 337-338 per Gallen J.

28 See, for example, *Edwards v National Coal Board* [1949] 1 KB 704 at 712 per Asquith LJ; *Marshall v Gotham Co Ltd* [1954] AC 360 at 370 per Lord Oaksey, 377 per Lord Keith of Avonholm; *Buchanans Foundry Ltd v Department of Labour* [1996] 3 NZLR 112 at 118 per Hansen J.

- to determine what is "reasonably practicable" it is necessary to balance the likelihood of the risk occurring against the cost, time and trouble necessary to avert that risk[29].

54 For present purposes, what is reasonably practicable has to be considered at the time the tower was designed. Moreover, when considering what is reasonably practicable for the purposes of s 24(2a)(a) of the Act, it is relevant to consider that, in the ordinary course, the designer of a structure will have little or no control with respect to the work practices or the workmanship of those who undertake its construction. And it is also relevant to consider what may reasonably be expected of those persons. However, as will later appear, these are not the sole considerations.

The decisions below

55 At first instance, Prior J rejected the appellants' claims based on s 24(2a)(a) of the Act because the cell plate would not have fallen if it and the support structure had been constructed as designed, and it "was reasonable for [Lurgi] to expect that the structure would be erected within the specified design tolerances."[30] In the Full Court, the appellants' claims were rejected for substantially the same reasons.

56 In the Full Court, it was held by Doyle CJ (with whom Bleby and Martin JJ agreed) that "there [was] no evidence ... to suggest a risk of injury that would have caused a designer to embark upon the further measures suggested by Mr Fowlie, bearing in mind the designer's reasonable expectation that fabrication and erection would be carried out by competent persons."[31] As earlier indicated, the measures suggested by Mr Fowlie were the addition of diagonal supports under the cell plates at a total cost of approximately $2,000.

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29 See, for example, *Coltness Iron Co v Sharp* [1938] AC 90 at 94 per Lord Atkin; *Edwards v National Coal Board* [1949] 1 KB 704 at 710 per Tucker LJ, 712 per Asquith LJ, 715 per Singleton LJ; *McCarthy v Coldair, Ltd* [1951] 2 TLR 1226 at 1228 per Denning LJ, 1230 per Hodson LJ; *Marshall v Gotham Co Ltd* [1954] AC 360 at 370 per Lord Oaksey, 373 per Lord Reid; *Austin Rover Ltd v Inspector of Factories* [1990] 1 AC 619 at 625 per Lord Goff of Chieveley, 635-636 per Lord Jauncey of Tullichettle; *Auckland City Council v NZ Fire Service* [1996] 1 NZLR 330 at 338 per Gallen J.

30 (1998) 200 LSJS 146 at 154.

31 (1999) 203 LSJS 318 at 326.

Grounds of appeal

57 The appellants contend, by their Notice of Appeal, that the Full Court erred in its construction of s 24(2a)(a) of the Act in three respects, namely, it:

> "(a) held that the phrase 'reasonably practicable' required the Court to take into account whether other competent designers would have included the design elements which would have prevented the injury;
>
> (b) held that the plaintiff carried the onus of proving that the design elements were reasonably practicable; and
>
> (c) failed to hold that the section imposed a more onerous duty on a designer than the common law duty in that even a small risk of injury was sufficient to require that the designer include design elements which were practicable."

Onus of proof

58 It is convenient to deal first with the question whether, as plaintiffs, the appellants bore the onus of proving breach of s 24(2a)(a) of the Act. In my view, they did. In this respect, I agree with the reasons of Callinan J but would add that the issues raised by a provision such as s 24(2a)(a) are such that it may take very little for the evidentiary burden to shift to the defendant[32]. Thus, for example, if a plaintiff establishes that there was an effective safety measure that could have been taken and that it was relatively simple and inexpensive, that may well be sufficient to impose on a defendant the evidentiary burden of establishing that, in the circumstances, that measure was not reasonably practicable.

Disposition of Appeal

59 In their first ground of appeal, the appellants contend that the Full Court erred in holding that it was required to take into account whether other competent designers would have included the design measures propounded by them at first instance. The Court did not hold that it was required to proceed in that way. Rather, it held that "there [was] no evidence ... to suggest a risk of injury that would have caused a designer to embark upon [those] further measures ... bearing in mind the designer's reasonable expectation that fabrication and erection would be carried out by competent persons."[33]

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32 See *Chugg v Pacific Dunlop Ltd* (1990) 170 CLR 249 at 260-261 per Dawson, Toohey and Gaudron JJ.

33 (1999) 203 LSJS 318 at 326.

60 Notwithstanding that the Full Court did not err in the manner set out in the appellants' first ground of appeal, the holding set out above does illustrate, as the appellants contend in their third ground of appeal, that the Full Court failed to acknowledge the difference between the duty imposed by s 24(2a)(a) of the Act and the common law duty of care. Indeed, so much is apparent from the statement in the judgment of Doyle CJ that "[i]t [was] not clear to [his Honour] what, if anything, [s 24(2a)(a)] adds to the common law obligation to exercise the appropriate level of care and skill."[34]

61 Once it is appreciated that the duty imposed by s 24(2a)(a) of the Act is to design a structure that is as safe for construction workers as is reasonably practicable, the critical considerations are whether there were features that could have been incorporated in the design for the benefit of those workers and whether their incorporation was reasonably practicable.

62 In this case, there were safety features that could have been incorporated in the design of the tower, and those features were relatively simple and inexpensive. Moreover, they would have been effective. That being so, it may well be that the evidentiary burden shifted to Lurgi to establish that those measures were not reasonably practicable because, for example, it could not reasonably have anticipated the possibility that, in the construction of the tower, there might be a departure from the specified dimensions and tolerances to the extent necessary for a cell plate to become dislodged. However, that is not a matter that should now be explored.

63 The Full Court erred in its failure to appreciate the extent of the duty imposed by s 24(2a)(a) of the Act. The question whether there was a breach of that duty is, as already indicated, a matter for judgment having regard to all the facts. Those facts were not fully explored in argument in this Court. Moreover, as a general rule, the question whether there was a breach of duty is not one that is appropriately asked of a final appellate court. That question raises no point of legal principle and as the answer depends on the facts of the case, it can have no real value as a precedent. Accordingly, although the appeal should be allowed with costs, the matter should be remitted to the Full Court to be determined in accordance with law. The costs of the earlier proceedings in the Full Court should abide the further decision of that Court.

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34 (1999) 203 LSJS 318 at 325.

CALLINAN J.

The Issue

64 This is another case[35] in which an injured worker, denied recourse by legislation[36] to damages at common law against his employer, sought unsuccessfully, to recover damages against a third party in the Supreme Court of South Australia. It is not part of this Court's duty, in determining the appeal, to question a legislative policy which may have had the effect of allowing employers to be less vigilant about the safety of their employees than they might otherwise be, if they faced the possibility of an award of damages against them, or higher insurance premiums by reason of the availability of such damages.

65 Sub-section 24(2a)(a) of the *Occupational Health, Safety and Welfare Act* 1986 (SA) ("the Act") provides as follows:

> "(2a) Without derogating from the operation of subsections (1) and (2), where any structure is to be erected in the course of any work-
>
> (a) the person who designs the structure must ensure so far as is reasonably practicable that the structure is designed so that the persons who are required to erect it are, in doing so, safe from injury and risks to health;"

66 The questions in this case were: whether the first respondent, Lurgi (Australia) Pty Ltd ("Lurgi"), designed a structure negligently; alternatively, whether, as designer of the structure it was in breach of the Act by not making proper provision, and if it was, what provision, for the possibility of departure by the erector from the specifications for the design and the erection of the structure; whether the designer bore the onus in civil proceedings under the Act of proving compliance with it; and, whether, in any event, in the absence of contradictory expert evidence from Lurgi, Mr Slivak had proved a case against Lurgi.

67 There were other issues[37] in the case some of which are no longer relevant, and others which would have to be referred to the Supreme Court if the appeal

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35 *Modbury Triangle Shopping Centre Pty Ltd v Anzil* (2000) 75 ALJR 164; 176 ALR 411.

36 Section 54(1) of the *Workers Rehabilitation and Compensation Act* 1986 (SA) abolishing causes of action by employees against employers for damages for personal injuries.

37 Damages and the claim of Lurgi against the second respondent, Lurgi's insurer, for indemnity. The second respondent took no part in the appeal.

were to succeed. The case was conducted in the Courts below by the parties, and I think, correctly so, having regard to the structure of the Act and the second reading speech[38] that the sub-section not only operates as a penal provision, but also creates a statutory cause of action.

The Trial

68 On 20 February 1993, the first appellant, Mr Slivak, sustained serious injuries in an accident at work. He and his wife sued Lurgi for damages. Lurgi was the designer of a floor fume extraction system for erection by Mr Slivak's employer at the Whyalla blast furnace of the Broken Hill Proprietary Company Limited (BHP).

69 The case was tried by Prior J. Lurgi denied liability. It contended that the design was adequate, as were the erection procedures that it had also specified, and that, had Mr Slivak's employer, Lucon Pty Ltd, constructed the system in accordance with those erection procedures, Mr Slivak would not have been injured.

70 The fume extraction system was some 25 metres in height. It was designed to enable air to enter the top of the structure, to pass through a filter system and to emerge from a funnel at the base. The filtering system of four cell plates, each about one tonne in weight, set up in a formation of two by two was to be fitted about 15 metres above the natural level of the ground. The cell plates

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38 The Hon R J Gregory (Minister of Occupational Health and Safety) relevantly said of the situation on 8 November 1990:

> " Duties of Care Under the Act
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> This Bill contains provisions which seek to expand the general duty of care in a number of areas …
>
> Section 24 of the Act currently places duties on designers of plant for use in the workplace. Many workplace health and safety problems also arise from the design of buildings and structures. The Government believes it necessary to place duties on designers of buildings which are to be used as workplaces, to ensure that people who work in, on or around the workplace, are safe from injury and risk to health. Similarly, the owners of buildings used as workplaces must take their share of the responsibility for maintaining the workplace in a safe condition. It is also appropriate that the designers of structures should ensure that their designs minimise risk for those required to erect the structure. The proposed amendments to sections 23 and 24 of the Act will give effect to one of the main objects of the Act - to eliminate risks at their source - by solving long-term health and safety problems at the design stage." South Australia, House of Assembly, *Parliamentary Debates* (Hansard), 8 November 1990 at 1691-1692.

were supported, before being welded, by a cross frame. The cell plates were about 6mm in thickness and were perforated.

71 Mr Slivak and a co-worker Mr David Lloyd gave evidence of the circumstances of the accident. Mr Lloyd said that he and another worker, Mr Frost, had previously used a chain block attached to the western wall of the tower surrounding the cell plate and the cell plate itself, a dog and wedge, and a scaffold plank as a lever, to adjust the alignment of the north-western cell plate. An hydraulic mechanism, a porta-power, which may be placed between two surfaces and hydraulically expanded, was also used. Once the cell plate was in position, Mr Frost tack-welded it to the support frame.

72 On the following morning, Mr Lloyd joined Mr Slivak in an attempt to repeat, with the south-western plate, the procedure that he had followed with Mr Frost the day before.

73 Mr Lloyd said in evidence that the second plate needed to be moved 25 - 30mm in a northerly direction. To do this he and Mr Slivak put a scaffold plank in the space. Mr Slivak then placed a timber bearer behind the plank to provide a fulcrum so that Mr Lloyd could apply pressure to the plank to move the cell plate. He said that the cell plate moved suddenly inwards, and dropped downwards so that it no longer provided support. Mr Slivak fell, and was consequently seriously injured.

74 At the time of the trial Mr Slivak relied upon the evidence of a structural engineer, Mr Fowlie, whose opinions were based upon contemporaneous statements from Mr Slivak and witnesses to the accident, the construction and site survey drawings, and the specifications for the erection procedure prepared and issued by Lurgi. There was no challenge to the reliability or relevance of these materials by Lurgi.

75 In evidence Mr Fowlie made comments on the dimensions of the structure which he described in detail. Each cell plate, he said, was designed to be continuously supported on each of its edges by steel work supports, either directly attached to the external wall of the filter structure on two adjacent sides, or by cross frames spanning the mid-lengths of opposite sides of the filter structure on the other two adjacent sides. Each plate was to be welded, on site in position, once it had been located and aligned on the supporting steelwork. Each cell plate was constructed from two sub-plates site-welded together before erection. Connexion of the sub-plates was to be effected by welding, on the ground, to a common steel stiffening plate.

76 Mr Fowlie pointed out that cut-offs were provided at all but the external corners of each cell plate. He then made these comments[39]:

> "The clear theoretical internal dimensions between the internal edges of the supports to each of the cell plates are therefore calculated to be 4647mm (N-S) x 4167mm (E-W). From these, it can be deduced that, *if both the support structure and the cell plate had been constructed in exact accordance with the dimensional requirements given on the engineering drawings and allowing for the maximum 40mm overlap of the cell plate on the support structure on two adjacent sides* (governed by the extent of stiffeners welded to the underside of the cell plate) *and assuming the edges of the cell plate were parallel to the external walls of the filter structure and no deflection of the plate under its own self weight, the minimum overlap on the two opposite adjacent sides would be 13mm and 3mm respectively on the north or south and east or west sides of the cell plate. Had the cell plate been constructed to tolerance, but at the lower end of the tolerance range, the overlap on the two opposite adjacent sides would reduce to 11mm and 1mm respectively*. This theoretical position is confirmed on drawing 001-L003/A prepared by Lurgi on 5 March 1993. Vertical deflection of the plate under its self weight would cause a 'dishing' of the plate which would reduce the above theoretical overlaps.
>
> *Had this theoretical condition, in fact, been realised, the south-western cell plate may not have become dislodged from its supporting steelwork*." (emphasis added)

77 Mr Fowlie concluded that the south-western cell plate fell as a result of the loss of its support along two of its adjacent edges. He said that the loss of support could be attributed to a number of factors, in combination, pointing out that not all of those factors would have to apply simultaneously for support to be lost. The factors that he identified were[40]:

> "• bowing of the southern and western walls of the structure, as constructed;
>
> • out of square of the southern quadrant of the cell plate support structure, as constructed;
>
> • smaller than documented size of the south-western cell plate, as constructed;

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39 *Slivak v Lurgi (Aust) Pty Ltd* (1998) 200 LSJS 146 at 148.

40 (1998) 200 LSJS 146 at 150-151.

- width of the shelf angle supports shop [sic] welded to the southern and western walls of the structure, as designed;
- the extent of curtailment of the stiffeners to the under-side of the cell plate;
- cut-offs to the corners of the cell plate, as designed;
- flexibility of the cell plate, as designed;
- the action of levering the cell plate into position, and the effect of this levering on the deflections of both the cell plate and the cell plate supporting wall."

Mr Fowlie concluded that these factors, together with the shift in the centre of mass due to the presence of Mr Slivak and Mr Lloyd on the plate, would have caused an eccentricity between the amended centre of mass and the centre of the support system to develop, resulting in the rotation of the plate on its support points, and causing the plate and those working on it to fall.

78 He said that in view of the small margins for the successful alignment of the cell plates on their supports as set out in the engineering drawings and apparently confirmed by site survey measurements taken after the incident, a "straightforward, inexpensive preventative measure to preclude dislodgment of the plates during the alignment and welding operations might have been the inclusion of additional supporting members, located diagonally across the corners of, and connected to, the documented cell plate support steelwork.[41]"

79 Prior J found that the cell plate fell because it ceased to be supported on at least two adjacent sides. The evidence did not however explain precisely how the cell plate came to be in that position. His Honour accepted that it was the action of pushing against the southern wall which moved the angle iron support outwards causing loss of support to the cell plate on that side, and that both Mr Slivak and Mr Lloyd must have overlooked that the cell plate was not supported, or only marginally supported, on either its eastern or western side.

80 His Honour also found that had the cell plate and its support structure been constructed according to design and, the cell plate so placed in the support structure that on two adjacent sides the maximum possible overlap of 40mm was used, the cell plate would still have been supported on each of the two opposite sides. The cell plate support structure had not been constructed according to Lurgi's design. In particular, instead of the space measuring 4647mm north-

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41 (1998) 200 LSJS 146 at 151.

south, it measured 4650mm on its eastern edge and 4658mm on its western edge. Furthermore, because of the bowing of the southern wall as constructed, the space there was up to 21mm more than design. Again the east-west dimension was not in accordance with design. It was up to 14mm more than it should have been. As for the cell plate, whilst it was constructed as designed on the north-south axis, it was up to 3mm beyond tolerance on the east-west one. For the cell plate to fall it had to be unsupported on either its western or eastern edges as well. "*It could only have been placed in such a position because the cell plate support structure had not been constructed according to design…* All of these matters clearly establish fault [on the part of Mr Slivak's employer]."[42] Prior J summed up his conclusions which were clearly open on the evidence in this passage[43]:

> " Mr Slivak sustained his injuries as a result of an unsafe system of work, lack of proper supervision and a failure by his employer to carry into effect the defendant's design and specifications for the construction of the extraction system. There is no proof that the design of the structure was itself defective. If the support structure and the cell plate had been constructed as designed the cell plate would not have fallen. It was reasonable for the designer to expect that the structure would be erected within the specified design tolerances. Had this occurred the accident would not have happened."

81 Mr Slivak's action was accordingly dismissed.

The Appeal to the Full Court

82 Mr Slivak's appeal to the Full Court[44] (Doyle CJ, Bleby and Martin JJ) was unanimously dismissed.

83 Doyle CJ (with whom Bleby and Martin JJ agreed) referred to the submission of Mr Slivak that was repeated in this Court; that Lurgi should have foreseen that the support structure and plate might not be constructed to specification; and that it should have been designed with greater tolerance than it was in anticipation of the possibility of human error in the construction or execution of the works. There was a further and related submission by Mr Slivak, that on the expert evidence of Mr Fowlie, and in the absence of any expert evidence to the contrary, Prior J was bound to hold for Mr Slivak. Doyle

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42 (1998) 200 LSJS 146 at 152 (emphasis added).

43 (1998) 200 LSJS 146 at 154.

44 (1999) 203 LSJS 318.

CJ in his reasons for judgment set out the high point for Mr Slivak of Mr Fowlie's evidence which I also will quote[45]:

> "Q. When someone is designing a structure such as this, is it prudent for the designer to take into account tolerances which might be reasonably expected in constructing the structure.
>
> A. In my opinion it would be reasonable.
>
> Q. Would you have considered that a prudent designer would have allowed greater than a possible one millimetre overlap each as constructed, to allow for reasonable variances in construction.
>
> A. That would seem to be the prudent thing to do.
>
> Q. Is it expected in the industry that something will always be constructed exactly as designed.
>
> A. No, there will always be tolerances in construction. And they can be over or under the design set out on the drawings.
>
> Q. The position as or from the drawings prepared after the incident, does it appear to you if those drawings are correct that there had been a variation between what was designed and what was constructed.
>
> A. That's correct.
>
> Q. Were those variations within a range of reasonable variations in your view.
>
> A. I think, in my opinion, the variations are getting towards the outer end of what would be reasonable.
>
> Q. Is that possibility something that a prudent designer should take into account in your opinion.
>
> A. The prudent designer, in my opinion, should recognise that there are tolerances associated with construction."

Doyle CJ was of the opinion that the evidence fell short of what was required to establish Mr Slivak's case. Indeed, and as his Honour pointed out, such cogency

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45 (1999) 203 LSJS 318 at 323-324.

as that evidence possessed was somewhat weakened by the following exchanges in cross-examination[46].

> "Q. Did it seem to you, from those construction drawings, that the designer required very close adherence to the measurements contained in the drawings.
>
> A. In my opinion he would have relied on adherence to them, yes.
>
> Q. Where he, I assume it's a he, had provided for tolerances as to certain measurements in the construction that he would expect the structure to be erected and completed within those tolerances.
>
> A. In my opinion, particularly where tolerances had been specified, he would have relied on those.
>
> Q. And it would be reasonable for him to suppose that the person constructing it would comply with those specified tolerances, assuming tolerances have been given.
>
> A. In those areas where tolerances had been specified it would have been reasonable to assume that."

84 Doyle CJ accordingly agreed with the trial judge, that Mr Slivak had failed to make out a case in negligence. Although Doyle CJ proceeded to give separate specific consideration to sub-s 24(2a)(a) of the Act, his Honour doubted that it added anything to Lurgi's obligations at common law. In any event, his Honour was of the opinion that it had not been shown that Lurgi had failed to ensure, so far as reasonably practicable, that the structure was so designed that persons who were required to erect it were safe from injury.

The Appeal to this Court

85 Mr Slivak's notice of appeal was not confined to the statutory cause of action and the evidentiary points taken in support of it. Even a slight risk or chance of injury was sufficient, Mr Slivak submitted, to require that the designer "include [such safety] design elements which were practicable".

86 Mr Slivak's case in negligence was, in my opinion, bound to fail. Some of the matters relevant to that issue are also relevant to the issue of breach of statutory duty. In a sense it is true that nothing is more foreseeable than human

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46 (1999) 203 LSJS 318 at 324-325.

error, but foreseeability[47] is not enough to sheet home liability under that head. Furthermore, it may well be asked, how much error should have been foreseen and anticipated by a careful designer. Should an architect specify a component of an additional ten percent of cement in a concrete wall panel on the basis that a contractor might negligently or wilfully omit some of that ingredient? Is ten percent, or five, or fifteen, the right tolerance? The fact that design measurements do themselves descend to millimetres is in my opinion, itself a clear indication that precision is intended, important, and requiring of strict adherence. The primary judge and the Full Court were therefore right to dismiss Mr Slivak's case in negligence.

87 I turn to Mr Slivak's submission made in this Court in reliance on the statutory cause of action. I would accept that the sub-section certainly does impose a higher duty upon a designer than the common law. The words "must ensure" produce that consequence[48]. However the statutory duty is still not an absolute one. What the designer must do is to ensure that the safety of erectors is protected "so far as is reasonably practicable".

88 The phrase "reasonably practicable" has been construed in the United Kingdom. In *Marshall v Gotham Co Ltd*[49] Lord Oaksey said: "what is 'reasonably practicable' depends upon a consideration whether the time, trouble and expense of the precautions suggested are disproportionate to the risk involved."[50]

89 Lord Reid put the matter this way[51]:

> " … I do not find it helpful to consider whether this statutory duty is in every case the same as an employer's common law duty. I think it enough

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47 McHugh, "Neighbourhood, Proximity and Reliance", in Finn (ed), *Essays on Torts* (1989) 5, at 17. See in particular the author's discussion of the speech of Lord Wilberforce in *Anns v Merton London Borough Council* [1978] AC 728 at 751-752. See also *Modbury Triangle Shopping Centre Pty Ltd v Anzil* (2000) 75 ALJR 164 at 166 [8]-[10] per Callinan J; 176 ALR 411 at 413-414.

48 cf the reasoning of Pincus and Davies JJA and Ambrose J in *Hardy v St Vincent's Hospital Toowoomba Ltd* [2000] 2 QdR 19 at 21.

49 [1954] AC 360.

50 [1954] AC 360 at 370.

51 [1954] AC 360 at 373.

> to say that if a precaution is practicable it must be taken unless in the whole circumstances that would be unreasonable."

Any structure that can be designed to be erected and to function properly, and in an absolutely safe manner may be described as being capable of being designed as a matter of practicability. But the test is not one of mere practicality: it is one of "reasonable practicability". The reference to disproportionality and risk, by Lord Oaksey, and to what might be unreasonable in the whole circumstances by Lord Reid, involves, and in my respectful opinion, rightly so, the importation of notions of expense, time and trouble, and some evaluation by the designer of the extent to which a reasonable fabricator and erector might or might not depart from the design and erection procedures.

90 With respect to expense and trouble the evidence was one way. Provisions for a greater tolerance to reduce the risk of injury could readily have been made at an additional expense in construction of a few hundred dollars for each cell plate. But those are matters which operate as much in Lurgi's favour as they do in favour of Mr Slivak. The cost would not have been a cost to the designer but to the erector. The small cost of precise compliance, or the provision of greater tolerances, meant that the erector had no incentive by way of cost cutting to err on the side of reduced tolerances. Accordingly it would not have been unreasonable for the designer to take the view that the fabricator and erector would be unlikely, in order to save money, to reduce the tolerances to the point of creating a serious risk to the safety of the workmen.

91 In my opinion, by designing a structure and the procedure for its erection, with tolerances within reasonable bounds, and which the expert accepted, if constructed in accordance with the designs would work satisfactorily, and could be constructed safely, Lurgi did comply with the Act. By so doing, the designer, as opposed to the erector did ensure, so far as was reasonably practicable, the safety of Mr Slivak. Reasonable practicability does not contemplate or require infallibility. A designer is entitled to expect, and indeed assume, that its specifications will be adhered to closely, indeed even minutely, when tolerances descending to millimetres and the safety and welfare of workers are involved. In short, not only matters of time, expense and trouble, but also what may reasonably be expected of others are relevant matters. How the erector may reasonably be expected to act is simply one of the circumstances to be taken into account in determining whether in all of the circumstances, the designer has ensured the safety of workers undertaking the erection, so far as is reasonably practicable.

92 Mr Slivak also argued that Lurgi bore the onus of showing that it had complied with the Act. He invited the Court to adopt the decision, and reasoning of the majority, of the House of Lords (Lords Guest, Upjohn and Pearson; Lords

Reid and Wilberforce dissenting) in *Nimmo v Alexander Cowan & Sons Ltd*[52] and *Kingshott v Goodyear Tyre & Rubber Co Australia Ltd (No 2)*[53] (Kirby P and Priestley JA; McHugh JA dissenting on this point), in which it was held that the employer carried the onus of proving compliance with the provision.

93 In *Nimmo*, Lord Guest, who was in the majority, was influenced by the fact that the statutory provision there was enacted by Parliament in the knowledge that judicial opinion current at that time favoured the view that the onus of proof lay upon the employer[54]: That had certainly been the trend of authority in the United Kingdom until that time but that those authorities had not escaped criticism as his Lordship himself observed[55].

94 Lord Upjohn referred in *Nimmo* to a policy consideration, that he could not believe that Parliament intended to impose upon an injured worker, or, if deceased, his or her next of kin, the obligation to prove with particularity the manner in which the employer should have employed reasonably practicable means to make and keep the workplace safe[56]. An underlying consideration was that the proof of a negative will usually be much more difficult than the proof of an affirmative. There will often be, and I think that there is in this instance, a problem about reliance upon a policy consideration as an aid to the resolution of a legal problem[57]. Whatever may have been the position in the United Kingdom in 1968, it might be an unsafe assumption to make in this country, at this time, that the resources, whether provided by the plaintiff, his or her union, or entrepreneurial plaintiffs' lawyers who today frequently act on a speculative basis, that might be deployed in litigation by a plaintiff, would not be as substantial and potent as those available to a defendant. It would be an equally invalid assumption to make that all or most defendants, would surely have the means to defend cases brought against them adequately. I would think that there would, in this country, be many small and perhaps struggling firms of employers, professional draftsmen, architects and engineers to whom litigation, or insurance in respect of it, would be a considerable financial burden.

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52 [1968] AC 107.

53 (1987) 8 NSWLR 707.

54 [1968] AC 107 at 123.

55 See Lord Tucker in *Marshall v Gotham Co Ltd* [1954] AC 360 at 374.

56 [1968] AC 107 at 125.

57 cf McHugh JA in *Kingshott* (1987) 8 NSWLR 707 at 730: "[C]onsiderations …of policy are based on assumptions which the daily experience of [the] Court[s] falsifies."

95 Lord Pearson[58] in *Nimmo* adverted to a consideration which I think persuasive, that if legislatures intend to impose the burden of proof on defendants all doubt may be resolved by using unambiguous expressions to that effect. Nonetheless his Lordship there on balance thought that countervailing considerations should prevail and was of the opinion that the defendant did bear the onus. For myself, I would prefer the dissenting opinions of Lords Reid and Wilberforce, the former of whom said[59]:

> " I get no assistance in this case from any general presumption that a person is not required to prove a negative or that a person is required to prove facts peculiarly within his own knowledge. I do not lay any stress on the fact that, if the appellant is right, the defender would have to prove a negative - that it was not reasonably practicable to make the place safe. And I do not think that the question whether this was reasonably practicable is a matter peculiarly within the knowledge of the defender - an expert witness for the pursuer should be just as well able to deal with this as the defender."

The Court of Appeal of New South Wales in *Kingshott* followed *Nimmo* but the latter may well, I think, be taken to have been effectively overruled by this Court in *Chugg v Pacific Dunlop Ltd*[60], even though that case was a case of a prosecution and not a civil action.

96 I would respectfully agree with what Brennan J[61] said in *Chugg*:

> "I do not rest this conclusion [that the defendant does not bear the onus] on the consideration that the Act provides only a criminal sanction for a contravention of s 21(1). When, on its true construction, a statute confers on an individual a right to damages for breach of a statutory duty, the measure of the duty does not change with the character of the proceedings taken to enforce it. If, on a prosecution, proof which excludes a qualification of a duty is necessary to establish the offence, then, in a civil claim, proof which does not exclude the qualification fails to prove a breach of the duty. And if that breach of the duty be not proved, the common law remedy of damages is not available: *Nimmo v*

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58 [1968] AC 107 at 137 and 138.

59 [1968] AC 107 at 118.

60 (1990) 170 CLR 249.

61 (1990) 170 CLR 249 at 252-253.

Alexander Cowan & Sons Ltd[62]; *R v Hunt*[63]. The principle is stated in the majority judgment in *Waugh v Kippen*[64]:

> 'the process of construction must yield for all purposes a definitive statement of the incidence of an obligation imposed on the employer. The legislature cannot speak with a forked tongue. Although the standard of proof applicable to criminal proceedings for a breach of the obligation will differ from that applicable to civil proceedings and the law may provide specific defences by way of answer to a prosecution which have no relevance to civil proceedings (as in *Sovar v Henry Lane Pty Ltd*[65]), the elements that make up the obligation will be the same in each case. For example, in the present case one could not conclude in favour of an objective criterion of the likelihood of a risk of injury in the context of a criminal proceeding and a subjective criterion for the purposes of a civil action.'"

97 Only Deane J seemed disposed in favour of the approach of the majority in the House of Lords in *Nimmo*[66]. The other members of this Court, Dawson, Toohey and Gaudron JJ, made no express reference to the question whether a civil action required any different approach to the onus of proof of a breach of such a section from the approach to be taken on a prosecution, although their Honours did refer[67] to the speech of Lord Reid in *Nimmo*[68] and to the dissenting opinion of McHugh JA in *Kingshott*[69] without any expression of disagreement with them. I should also mention that Lurgi did not argue that anything other

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62 [1968] AC 107 at 115 and 134.

63 [1987] AC 352 at 383.

64 (1986) 160 CLR 156 at 165.

65 (1967) 116 CLR 397.

66 (1990) 170 CLR 249 at 253.

67 (1990) 170 CLR 249 at 259.

68 [1968] AC 107 at 115.

69 (1987) 8 NSWLR 707 at 727-731.

than the civil standard of proof applied even though proof of the elements of an offence of a penal kind would be needed to establish Mr Slivak's case[70].

98 In my opinion Mr Slivak in this case bore the onus of proof and failed to discharge it. Nothing turned therefore on the non-production by Lurgi of any expert evidence on its behalf.

99 For these reasons I would dismiss the appeal with costs.

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70 *Briginshaw v Briginshaw* (1938) 60 CLR 336; *Rejfek v McElroy* (1965) 112 CLR 517; *Neat Holdings Pty Ltd v Karajan Holdings Pty Ltd* (1992) 67 ALJR 170; 110 ALR 449.