SUPREME COURT OF QUEENSLAND

CITATION:	*Construction, Forestry, Mining & Energy Union v State of Queensland & Anor* [2004] QSC 181
PARTIES:	**CONSTRUCTION, FORESTRY, MINING & ENERGY UNION** (applicant) **v** **STATE OF QUEENSLAND** (first respondent) **ANGLO COAL (GRASSTREE MANAGEMENT) PTY LTD** ACN 078 099 313 (second respondent)
FILE NO/S:	BS 9823/03
DIVISION:	Trial Division
PROCEEDING:	Hearing
ORIGINATING COURT:	Supreme Court at Brisbane
DELIVERED ON:	18 June 2004
DELIVERED AT:	Brisbane
HEARING DATE:	30, 31 March, 1 April 2004
JUDGE:	McMurdo J
ORDER:	**That it will be declared that the two entrances from the surface of the respondent's Grasstree Underground mine are not escapeways within the meaning of and for the purposes of s 296(1) of the *Coal Mining Safety and Health Regulation* 2001, because they are not separated in a way that prevents a reasonably foreseeable event happening in one of the entrances affecting the ability of persons to escape through the other entrance.**
CATCHWORDS:	MINING LAW – STATUTORY REGULATION OF CONDUCT OF MINING OPERATIONS – REGULATION AS TO SAFETY OF MINES AND MACHINERY – PARTICULAR MATTERS – where mine design – where two trafficable entrances, input shaft and exhaust shaft (escapeways) – whether fire in input shaft is a reasonably foreseeable event – where protective equipment worn in the event of a fire – whether the ability of persons to escape through the other escapeway affected – whether the escapeways are adequately separated *Coal Mining Safety and Health Act* 1999 (Qld), s 6, s 7, s 21, s 25, s 37, s 38, Part 3 Division 2 and Division 3 s 39-s 47, s

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Coal Mining Safety and Health Regulation 2001, s 148, Schedule 2, Chapter 4, s 296, s 296(1), 297, 298, s 299

Crane v Gething & Ors (2000) 97 FCR 9, cited
Heyward v Gaming Commission of Western Australia (Supreme Court of Western Australia, 23 April 1999, McKechnie J), cited
Inglis v Moore & Ors (1979) 46 FLR 3, cited
Koufos v C. Czarnikow Ltd (The Herron II) [1969] 1 AC 350, cited
The Wagon Mound (No 2) Overseas Tankship (UK) Ltd v The Miller Steamship Co Pty Ltd and Another [1967] 1 AC 617, cited
Wyong Shire Council v Shirt (1980) 146 CLR 40, considered

COUNSEL: M D Hinson SC, with D R Kent, for the applicant
No appearance for the first respondent
H B Fraser QC, with P P McQuade, for the second respondent

SOLICITORS: Hall Payne Lawyers for the applicant
No appearance for the first respondent
Blake Dawson Waldron for the second respondent

[1] **McMURDO J:** The principal question in this case is whether the underground coal mine, which is operated by the second respondent, called the Grasstree Mine, complies with s 296(1) of the *Coal Mining Safety and Health Regulation* 2001 (Qld). The applicant, which according to the *Coal Mining Safety and Health Act* 1999 (Qld) ("the Act") is the Union having certain responsibilities concerning safety issues in coal mines, contends that it does not comply and seeks a declaration to that effect. The respondent denies non compliance, and alternatively argues that declaratory relief should be refused on discretionary grounds. The State of Queensland was originally joined but the applicant has discontinued against it.

The Mine

[2] The mine is located near Middlemount in central Queensland. It presently comprises some five kilometres of underground roadway which is connected to the surface by two vertical shafts. One shaft, described as the intake shaft, delivers fresh air from the surface to the mine. The other, described as the exhaust shaft, is fitted with exhaust fans drawing air from the mine. In this way air is drawn into the intake shaft, along the underground roadways and up through the exhaust shaft. Persons enter and leave the roadways usually through the intake shaft. But the exhaust shaft has a facility for transporting persons in the event of an emergency. There is a conveyance which can take up to ten people at a time and a round trip for that facility takes no longer than five minutes. The intake shaft is 6.1 metres in diameter and the exhaust shaft is 5.6 metres. Both shafts are fully concrete-lined, the concrete being at least 150 millimetres thick. Each shaft is approximately 280 metres deep and the distance between the two is approximately 200 metres via the underground roadways.

[3] Construction of the mine began in 2001. The mine is still in its developmental stages. Longwall mining will commence in 2006. At present, the mining of coal occurs through the driving of the roadways. Coal obtained during the developmental stage will account for approximately 10% of the total of approximately 55 million tonnes of the mine's extractable reserves.

[4] The Anglo Coal Australia group of companies, of which the respondent is a member, is funding the mining construction. Another member of that group, which is Anglo Coal (Capcoal Management) Pty Ltd, is the "coal mine operator" as notified to the Department of Natural Resources and Mines under s 21 of the Act. The respondent provides services to that company, including that of the day to day operation of the mine. The critical provision of the Regulation, which is s 296(1), imposes the relevant obligation on the "site senior executive", who according to s 25 of the Act, is the most senior officer employed by the "coal mine operator". But although the respondent is not the coal mine operator in the statutory sense, it accepts that it is a proper contradictor in these proceedings and that the declaration sought by the applicant would not lack utility for the non joinder of the coal mine operator.

The legislation

[5] The objects of the Act include the protection, safety and health of persons at coal mines and the maintenance of an acceptable level of risk of injury to any person resulting from coal mining operations: s 6. According to s 7, those objects are to be achieved by:

> "(a) imposing safety and health obligations on persons who operate coal mines or who may affect the safety or health of others at coal mines; and
> (b) providing for safety and health management systems at coal mines to manage risk effectively; and
> (c) making regulations and recognised standards for the coal mining industry to require and promote risk management and control;
> …"

[6] Safety and health obligations are imposed by sections 39 to 47. Certain obligations are imposed upon the coal mine operator by s 41, including that of ensuring that the risk to coal mine workers is at an acceptable level.[1] Section 42 imposes obligations on the site senior executive, the first of which is to ensure that the risk to persons from coal mining operations is at an acceptable level.[2] Whether a risk is of an acceptable level is affected by s 29 which is in these terms:

> "**29 What is an acceptable level of risk**
>
> (1) For risk to a person from coal mining operations to be at an **"acceptable level"**, the operations must be carried out so that the level of risk from the operations is—
>
> (a) within acceptable limits; and

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1 Section 41(1)(a)
2 Section 42(a)

(b) as low as reasonably achievable.

(2) To decide whether risk is within acceptable limits and as low as reasonably achievable regard must be had to—

(a) the likelihood of injury or illness to a person rising out of the risk; and
(b) the severity of the injury or illness."

[7] Where a person owes an obligation to achieve that acceptable level of risk, such as the obligations prescribed by s 41 and s 42, s 37 and s 38 provide for how that obligation can be discharged. Section 37(1) provides that if a regulation prescribes a way of achieving an acceptable level of risk, a person may discharge the obligation in relation to the risk only by following the prescribed way. Section 38 provides that if there is no regulation (or recognised standard) prescribing a way to discharge a person's obligation, then the person must choose an appropriate way to do so, which must involve the taking of reasonable precautions and the exercise of proper diligence. So the evident intent is that in some circumstances, a duly made regulation will itself define what constitutes an acceptable level of risk, by defining what can and must be done to achieve it. In other cases, the person obliged to achieve an acceptable level of risk is left to choose what is appropriate, subject to requirements of reasonableness and proper diligence and to the condition (from s 29(1)(b)) that the level of risk from the operations is as low as reasonably achievable.

[8] Section 282 of the Act empowers the Governor-in-Council to make regulations, including a regulation about any matter mentioned in Schedule 2. The matters in Schedule 2 include "prohibiting anything, or prescribing anything, to achieve an acceptable level of risk",[3] and the specific matter of "exits in underground mines from workings to surface".[4] Pursuant to s 282, the C*oal Mining Safety and Health Regulation* 2001 has been made, of which Chapter 4 prescribes ways of achieving an acceptable level of risk at an underground mine in certain circumstances.[5] Part 9 of Chapter 4 provides for mine design, and Division 4 of that Part, comprising s 296 through s 299 of the Regulation, provides for "Escapeways and Refuges". The relevant provision in this case, which is s 296 of the Regulation, is thereby a regulation which prescribes a way of achieving an acceptable level of risk, so as to engage s 37 of the Act in relation to the site senior executive's obligation to ensure that the risk from coal mining operations is at an acceptable level. There is no challenge to the validity of s 296. Accordingly the discharge of the site senior executive's obligation requires his compliance with s 296 of the Regulation, irrespective of the executive's own judgment as to whether there is another appropriate way to achieve the same level of risk. Compliance with s 296, where it operates, is not excused by the design of the mine in a different way although another design might represent reasonable precaution and diligence. In circumstances in which regulations such as s 296 operate, the Governor-in-Council has exercised its power to decide what is an acceptable level of risk, by prescribing the way of achieving it.

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3 Clause 2 of Schedule 2
4 Clause 31 of Schedule 2
5 See s 148 of the Regulation

[9] Section 296(1) of the Regulation is in these terms:

> "**Escapeways**
>
> 296.(1) The site senior executive must ensure the mine has at least 2 trafficable entrances (**"escapeways"**) from the surface that are separated in a way that prevents any reasonably foreseeable event happening in 1 of the escapeways affecting the ability of persons to escape through the other escapeway."

The respective cases

[10] It is common ground that the two shafts at this mine are trafficable entrances and thereby "escapeways" for the purposes of this regulation. The applicant's case is that they are inadequately separated, because a reasonably foreseeable event happening in one of the escapeways, could affect the ability of persons to escape through the other escapeway. That event is a fire in the intake shaft, which the applicant argues is a reasonably foreseeable event. Its case is that a fire in the intake shaft would contaminate the air by producing smoke, reducing the oxygen content of the air and producing carbon monoxide, and that contaminated air would inevitably flow through the roadways and the exhaust shaft.

[11] The applicant does not argue that a fire in the intake shaft could itself spread through the roadways, let alone to the exhaust shaft. Nor does it seek to prove that a fire in the intake shaft could detrimentally affect an escape through the effects of smoke inhalation, oxygen deprivation or excessive carbon monoxide, as long as persons use the available mask and oxygen equipment. All persons entering an underground mine must be equipped with, and instructed in the use of protective equipment, which includes what is described as an oxygen "self-rescuer" and goggles. Persons going underground at this mine carry on their belts equipment which provides 25 minutes of oxygen and avoids the breathing of contaminated air. In addition, there are places in the roadways where boxes of replacement self-rescuers are kept, which can provide a further 50 minutes of oxygen supply.

[12] The applicant's case is that the use of this protective equipment has its own disadvantages in that it prevents communication between persons using the equipment with others in the mine or on the surface, and that the wearing of goggles affects visibility and adds to the disorientating effect of the use of the equipment.

[13] The applicant's complaint is that the design of this mine could make it necessary to wear the protective equipment for a longer period than would be necessary if the two shafts were separated properly. Its case is that a properly designed mine would have the two escapeways as intake shafts, with a third shaft (which need not be an escapeway) as the exhaust shaft. This would achieve what the arguments have described as an atmospheric separation between the two escapeways, because in the event of a fire in what is presently the intake shaft, the contaminated air would not flow to and through the other escapeway, but instead would flow to the exhaust shaft. Under this design, a fire in one escapeway would leave the other and much of the roadways leading to it with uncontaminated air. This would relieve persons from the necessity to wear their protective equipment during at least some, and perhaps all, of their escape through the roadways and to the surface. Thus on the applicant's case, the "ability to escape through the other escapeway" is relevantly

affected by the necessity to wear the protective equipment for all or some of the escape, and the failure to separate the escapeways by keeping the air from one escapeway from travelling to the other, has thereby failed to prevent an effect on the ability to escape.

[14] The applicant must then prove that a person's ability to escape, at least in some circumstances, would be affected by the use of the equipment compared with his or her ability to escape if not wearing that equipment. The applicant must further prove that there could be a fire in the intake shaft which would require the use of the protective equipment. And the applicant must prove that such a fire is a "reasonably foreseeable event" as that term is used in the regulation.

[15] The respondent's case is that the applicant cannot, and has not, proved any of those things. It contends that an ability to escape is not affected, in any substantial as distinct from negligible way, by the use of the protective equipment. It disputes that there is any real possibility of a fire in the intake shaft which would contaminate the air to an extent that the wearing of the protective equipment could have an impact. And it argues that if such a fire was a real possibility, nevertheless it is not a reasonably foreseeable event as that term is used in s 296.

Use of the Protective Equipment

[16] Persons underground at this mine are instructed to use this protective equipment as soon as there is any indication of any fire. The applicant's Mr Vaccaneo is an Industry Safety and Health Representative, having such functions and powers as are set out in s 118 and s 119 of the Act. He has about 22 years experience in the coal mining industry and holds a qualification of Ventilation Officer which requires an Associate Diploma from the University of New South Wales. He said, and I accept, that underground mine workers are instructed to use their self-rescuers "at the first sign of smoke or by being instructed by their statutory officials in case they are picking up elevated levels of carbon monoxide rather than just smoke". So the use of this equipment does not depend upon the existence of a dangerous level of smoke or risk from oxygen deprivation or carbon monoxide. The equipment is used whilst there is any risk through the prospect of contamination of the air. He also says, and I accept, that if and when the person reaches air which he knows, or can be told, is uncontaminated air, the person is able to then safely remove the protective goggles and breathing equipment.

[17] According to Mr Vaccaneo then, at least in some circumstances the ability to escape from an underground mine such as this one could be affected by whether the air is contaminated throughout the mine and the escapeway, so that the protective equipment must be worn throughout the escape, compared with the protective equipment not having to be used at all, or only for some of the escape. He explained this by reference to diagrammatic representations of two designs of an underground mine. One represented a mine such as Grasstree, in which there is a grid of underground roadways with one intake shaft and one exhaust shaft. In that case, he said that contamination of the air by a certain fire in the intake shaft would contaminate all of the roadways and the exhaust shaft. The other design contained two intake shafts, each an escapeway, and an exhaust shaft. Under that design, each intake shaft would feed air to a roadway which, of course, links with other roadways in the grid. A fire in one intake shaft could contaminate the air in the roadway leading from that shaft, but the air in the roadway leading from the other intake

shaft would be uncontaminated until that point in the grid where the uncontaminated roadway merges with the contaminated roadway. Beyond that point of merger, this mix of air would flow through other roadways to the exhaust shaft. But no contaminated air would flow up-wind, so that the uncontaminated intake shaft and the roadways between it and the merger point would remain unaffected by the fire. Accordingly, if a person became aware of the fire whilst in the uncontaminated roadways, that person could escape without having to use the protective equipment. Alternatively, if that person had to escape from the contaminated roadways, whether from up-wind or down-wind of that merger point, then on reaching that point in the course of the escape to the unaffected intake shaft, the person would reach uncontaminated air and the equipment could be removed for the remainder of the escape.

[18] There is no challenge to Mr Vaccaneo's analysis of the differences in air flows according to which of these two designs is employed. But as I have mentioned there is a challenge to his evidence that the use, or more extended use, of the protective equipment detrimentally affects a person's ability to escape. So Mr Vaccaneo was cross examined as to the case of a person seeking to escape from the "contaminated" part of an underground mine, where there was a fire in one of two intake shafts, as follows:

> "Now, those persons, therefore, despite this design of the mine would don their self-rescuer? -- If they're in smoke, correct, or instructed by a statutory official, correct.
>
> And to the extent that donning the self-rescuer and seeing smoke might induce any sense of panic, then it might happen to those persons? -- Yes, they would certainly (be) more apprehensive then if they were normally mining coal, yes.
>
> And to the extent that visibility was affected for them by donning the self-rescuers, that would happen to persons there ---- ? – Correct.
>
> ---- in the same way that it would to persons in the similar position in the other diagram SV7, the bottom diagram, assuming the same volume of smoke, of course? -- Yes, the only difference being they'd have a relatively short distance to walk to get – to hopefully find uncontaminated air.
>
> But to the extent that donning the self-rescuer, wearing the goggles or breathing apparatus affects your ability to escape, it would affect the ability to escape in both cases? -- Yes, the only difference being the distance you have to travel in the scenarios would obviously make it a fairly large difference and how long you'd have to wear it and how long it would take you to escape."

[19] Like Mr Vaccaneo, Mr Dalliston is an Industry Safety and Health Representative for the applicant. He has held that position for 10 years and prior to that he worked in a number of underground mines in Queensland over a period of 20 years. According to his evidence also, the necessity to wear the protective equipment can have a detrimental effect on the ability to escape. The cross examination of Mr Dalliston included the following:

"Now, on the other hand, if there was one litre of dieseline in the intake shaft that caught fire, it would also contaminate all of the airways, wouldn't it, smoke from that, for the same reason? -- If there's enough smoke generated it would go out the return airway, yes.

But it would contaminate all of the roadways because the smoke would be divided through all the roadways and then out the out-take shaft, wouldn't it, of this mine? -- Yes.

You don't suggest that smoke would affect the ability of anyone escaping from one litre of dieseline? – One process of Grasstree mine, you have to don yourself the self-rescuer and that self-rescuer has goggles with it so, therefore, you've got something across your eyes, you've got a breathing apparatus in your mouth and then you're – you have to make your way to a place of safety.

Mmm? -- So straightway you have got a different circumstance of escaping than walking out in normal air and from the emergency exercises I've been on throughout this State for the last five years, we say people are affected by wearing goggles no matter how thick the smoke. The thicker the smoke, the more effect, but it does affect people.

You don't suggest, do you, that one litre of diesel in the intake shaft would affect the ability for the workers to escape? – The process for mine – their induction process is if there is a fire, an emergency, you must don a self-rescuer. I believe it would have to affect the worker because they have to put goggles on ----

Before escaping they would have to put their goggles on and the self-rescuer? -- Which means you breathe harder through a self-rescuer than normal ventilation and you have got something on which at least is going to affect some of your vision. You can still see, but have potential to fog up the and anything else as well.

Are you seriously suggesting that it would affect the ability of a worker to escape, Mr Dalliston? -- Yes."

Then when questioned by reference to two of Mr Vaccaneo's diagrams, each representing a mine with two intake shafts, he was cross examined as follows:

If a worker was working in the extreme top right-hand corner of either of those two plans, see that? -- Yes.

In the event of a fire as described in the intake shaft, then the worker according to that diagram would be breathing in contaminated air? -- That's right.

And would have to don the self-rescuer? -- Yes.

> And would, therefore, in that situation have the same effect of donning the self-rescuer and whatever follows from that, as the worker who has to don the self-rescuer in the case shown in the other document, SV7; correct? -- Yes, for that distance across the road compared with all that distance in the other one.
>
> The difference would be the distance to which the worker would have to wear the self-rescuer; correct? -- Yes.
>
> In fact, the training – this is the case that you're familiar with, is that in training the workers will don the self-rescuer at the first sign of smoke in the air? – Yes.
>
> And that's something that is very, very familiar to coalmining workers, isn't it? -- One would hope so.
>
> But it is, isn't it, Mr Dalliston? – Yes.
>
> And then they will keep them on until it is demonstrably clear to them they are in uncontaminated air, aren't they? -- Yes, safety."

[20] The respondent read an affidavit sworn by Mr G J Rowan, who is the principal of a consultancy company specialising in emergency response in the coal mining industry. As requested by the respondent's solicitors, he prepared a report as to these questions:

1. How the equipment, infrastructure, processes, procedures and training schemes in place at the Grasstree mine will assist people to escape the mine via the exhaust shaft in the event of a fire in the intake shaft; and
2. Whether people will be able to escape the Grasstree mine via the exhaust shaft in the event of a fire in the intake shaft.

As to the first question, Mr Rowan's opinion is that the equipment etc. in place at the mine "appear comprehensive in nature and meet (or exceed) Queensland coal mining practices" and that "there do not appear to be any critical omissions or short-comings such as would render the evacuation of people via the exhaust airway shaft ineffective". Mr Rowan answered the second question as follows:

> "In providing this opinion, the following assumptions are made:
>
> (a) The fire exists within the confirms (*sic*) of the Intake Airway (downcast) Shaft No 1;
> (b) The perceptions of personal risk assumed by those persons underground would increase (in varying degrees) as soon as they become aware of the fire; and
> (c) The fire is of a size and/or severity sufficient to contaminant the mine with visible smoke and/or greater than the threshold levels of carbon monoxide.

> Given the above circumstances, the mineworkers underground at the time of the fire would be required to don their SCSRs. As a result, they will lose their ability to talk and communicate among themselves or to the surface. They may also experience impaired visibility with the associated risks of disorientation and an inability to locate people, designated escape-ways or emergency equipment.
>
> Nonetheless, in reviewing the emergency preparedness and response capabilities in place at any mine, it can be said that the evacuation systems, processes and controls in place exist in recognition that the presence of any emergency event will impact on the personnel underground at the time – and that they are installed specifically to minimise or eliminate those impacts.
>
> In this context and with the actioning of the recommendations, it is my opinion that the systems, equipment, infrastructure, processes, procedures and training schemes in place at the Grasstree mine will enable people to escape the mine via the exhaust shaft in the event of a fire in the intake shaft. This is not to say that, on a case-by-case basis, all personnel will always be successful in escaping an emergency event – be it a fire or otherwise. The variables are too numerous and the complexities of human behaviour too multifaceted to ever provide such assurances."

(His reference to "SCSRs" is to the protective goggles and breathing apparatus)

[21] Within that passage Mr Rowan described the difficulties caused by the use of the protective equipment. And earlier in his report, he discussed the issue of "Places of Safety" in these terms:

> "No designated *Places of Safety* which are independent of the surrounding atmosphere are yet installed underground. In cases of emergency evacuation, the provision of an area where personnel can stop, rest, re-orientate themselves, establish communication with the surface and change-over their SCSRs can often provide significant benefit. In the case where personnel are required to evacuate via a smoke and carbon monoxide contaminated Exhaust Airway (upcast) Shaft No 2, the benefits of having a Place of Safety to act as a staging point appear significant. I am advised that it is planned to install such a *Place of Safety* adjacent to the ballast bore-hole currently being installed once sufficient pit-bottom area development has been completed.
>
> A recommendation in relation to the above is set out in Appendix 2 (no 8)."

His relevant recommendation was:

> "That the provision of a Place of Safety adjacent to the ballast bore-hole (or other such bore-hole) such that fresh air, independent of the underground atmosphere, can be provided, be established as soon as

> practical. (*sic*) Such a Place of Safety to be equipped with communication and other appropriate equipment."

The applicant did not require Mr Rowan for cross examination, and there was no challenge to his evidence. Rather, the applicant relies upon Mr Rowan's evidence as supporting that of Mr Vaccaneo and Mr Dalliston that use of the protective equipment can in some ways make the escape more difficult. In my view, Mr Rowan's evidence does indeed support the evidence of the applicant's witnesses on that question. His ultimate conclusion that a person *could* escape through the exhaust shaft in the event of a fire in the intake shaft might not be disputed by Mr Vaccaneo or Mr Dalliston, who did not claim that any such escape would be impossible. But whether Mr Rowan's conclusion answers the question posed in this case by s 296(1) is considered below.

[22] Against this is the view of Associate Professor Cliff, who has some 14 years experience in: "researching and providing consultation relating to the management of hazards in underground coal mines, particularly spontaneous combustion, mine fires and explosions." When cross examined, he said that he did not believe that the use of the protective equipment would significantly affect a person's ability to escape. That opinion was expressed in these terms:

> "Okay. In your terms, as you understand it, does the donning of that equipment in itself present something of an impediment to people's ability to move and perceive as they otherwise could? -- I'm not an expert on escape. However, from my exposure to self-escape and those things in the coalmining industry in the last 15 years, I would say that wearing self-contained self-breathing apparatus by trained personnel does not significantly affect their ability to escape."

He added that he knew Mr Rowan and that he would defer to his opinion on the point. And as he had conceded, he had never worked in an underground mine.

[23] On this issue, I accept the evidence of Mr Vaccaneo and Mr Dalliston as to the potentially detrimental effects of wearing the protective equipment. In my view their evidence is well supported by Mr Rowan's evidence, whose report describes the resultant difficulties in lack of an ability to communicate, impaired vision, and disorientation and inability to locate people, the way out of the mine or emergency equipment. And Professor Cliff agreed that he would defer to Mr Rowan's view.

[24] From this evidence I conclude that the necessity to use the protective equipment could, in a particular case, have a substantial, rather than a negligible, effect on a person's ability to escape.

[25] The applicant's case thus relies upon an effect on the escape, not only through the escapeway itself, but within all or much of the roadway leading to it. Further, because the effect on an escape is by the use of the protective equipment, and no amount or kind of separation of the escapeways can avoid the presence of some contaminated air from a fire in the intake shaft, it seems difficult to see how s 296 could ever be complied with, according to the applicant's case. For example, a person working at the bottom of the intake shaft in which a fire occurs would have to use the equipment, even if that shaft was separated atmospherically and otherwise

from the other escapeway. His ability to escape, on the applicant's argument, would appear to be affected by that event of a fire in the intake shaft. If the logical consequence of the applicant's case is that no separation could be achieved which would prevent a fire in one shaft adversely affecting an escape, then the applicant's case should be rejected; compliance with s 296(1) would be impossible, unless the obligation to "ensure" is to be given some meaning other than its ordinary meaning of "make certain".[6]

[26] It is necessary then to consider the meaning of the expression "the ability of persons to escape through the other escapeway". The relevant ability is not simply the ability to escape – it is an ability to escape through that escapeway. This requires a consideration of the utility of the other escapeway as providing a means of escape, and the impact of an event in one escapeway upon that utility. The evident purpose of this provision is that an underground coal mine should have more than one egress, so that if one cannot be used, persons can escape through the other. To that end, it requires not only that there be more than one escapeway, but also that they be separated so that something occurring in one, affecting its utility as an escapeway, will not affect the utility of the other. The purpose of the requirement of separation is to preserve the utility of the alternative egress, and with this in mind, the expression "the ability of persons to escape through the other escapeway" can be understood to mean the utility of the other escapeway.

[27] The utility of an escapeway can be affected not only by the physical and atmospheric condition of the area which is the escapeway itself, but also by the conditions of its nearby roadways, which must be used to reach the escapeway. In particular, the utility of an escapeway could be affected by the contamination of the air in the escapeway and in its approaches. For the purposes of s 296(1), the question of whether an event in one escapeway could affect the ability of persons to escape through the other is one of whether it could have a substantial, as distinct from a negligible, effect on the utility of the other escapeway. Accepting as I do the evidence of Mr Vaccaneo, Mr Dalliston and Mr Rowan as discussed above, the contamination of the air in the (exhaust) escapeway and its approaches could make it more difficult for persons to escape, and accordingly the contamination of that air could substantially affect the utility of the escapeway. It is not possible by atmospheric separation of the escapeways to prevent any use of the protective equipment; but it is possible to prevent any adverse effect on the benefit provided by the escapeway, i.e. its utility, by separating them in this way. The prevention of the flow of the air from one shaft to the other shaft is a means of separation in the relevant sense. The types of separation required by s 296(1) are indicated by what the Regulation requires that separation to achieve. A separation which was no more than a physical demarcation of the escapeways would not meet the evident purposes of this provision.

Reasonably foreseeable event

[28] The issue then is whether a fire which could contaminate the other shaft and its approaches, and thereby affect the ability of persons to escape through that shaft, is a reasonably foreseeable event which could occur in the intake shaft. The applicant's case is that a fire which would cause the air to be sufficiently contaminated to at least require the use of the protective equipment is reasonably

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6 cf *Hardy v St Vincents Hospital Toowoomba Qld* [2000] 2 Qd R 19

foreseeable. On its argument, the term "reasonably foreseeable event" has a meaning corresponding with that of a foreseeable risk in the sense in which that concept is used in identifying a duty of care at common law. The respondent argues that such a fire in the intake shaft is not reasonably foreseeable, either because the term used in this regulation does not have that common law meaning or because the prospect of such an event is not real but is far fetched or fanciful.

[29] Dr Cliff's report contains an extensive analysis of the possibilities and probabilities of a fire in the intake shaft in various circumstances. This was done by reference to a report described as a Risk Assessment Report by Professor Joy, who was also called in the respondent's case. Professor Joy's report was made in December 2002. He is the principal of a consultancy company specialising in risk assessment and he is also the Director of the Minerals, Industry, Safety and Health Centre at the University of Queensland. Dr Cliff is the Director of Research at the Centre.

[30] Professor Joy's report followed from his work in acting as a "facilitator" engaged by the Anglo Coal Group, for a review of risks relating to the design of this mine. As a facilitator, Professor Joy worked with a group of nine managerial and technical staff from the Grasstree Mine, including Mr Ryan the mine manager and several engineers and technicians, as well as the mine's safety and training co-ordinator. Professor Joy's task was to facilitate the discussion amongst these persons with a view to his preparing a report of their conclusions and recommendations. He explained that this process of risk assessment included the identification of hazards and any possible unwanted events, involving a discussion of energy sources, including any fuels and heat sources. The group sought to identify hazards and consequential risks before then assessing whether a potential event was an unacceptable risk. He explained the process in his affidavit in these terms:

> "The risk assessment process includes the identification of hazards (something that has the potential for harm) and any possible unwanted events involving those hazards. The identification of hazards was done by discussing energy sources in the system, including any fuels and heat sources. This approach is classic in risk assessment. The team identified potential unwanted events at or in the intake shaft based on the energies in or near the shaft. There will be fuel pods and machinery in the area, therefore there is potential for a fire in or near the shaft that might disrupt ventilation and affect escape. Whether the potential event is an unacceptable risk depends on the nature and effectiveness of the relevant controls."

[31] Specifically as to a fire in the intake shaft, he explained the effect of the group's review as follows:

> "22. The fire in the intake shaft is an event in the sense that we identified it using a risk assessment process. This does not, however, mean that the event is an unacceptable risk. The purpose of a risk assessment is to identify any potential unwanted event, whether the risk be acceptable or not, to ensure acceptability is discussed and reviewed. Importantly, as previously stated, the risk assessment was undertaken in the absence of planned or recommended controls.

> 23. There is no zero risk and the basis of most Duty of Care regulation in this country is management of risk to an acceptable level. The concept of ALARP, risk managed to a level that is "as low as reasonably practicable" is established in the early and key established principles of the Queensland Coal Mining Safety and Health Act and Regulations.
>
> 24. Therefore, the fire in the intake shaft is an event but the process has examined the relevant planned and recommended controls. The conclusion about the event, along with the others foreseen in the process, was that "no unreasonable risk would be assumed with a two-shaft pit design if the planned and recommended controls are applied in an effective manner."

[32] The group also made some calculations to represent the magnitude of various risks. This involved attributing a probability to the relevant "unwanted event occurring without any event specific controls", a probability to the event having a "sudden major impact on the underground operation" and a probability to the event creating "an unbreathable atmosphere underground". Professor Joy explained that the assessment of these probabilities, although of course expressed mathematically, involved a subjective process and that its purpose was "only to determine priority or the most important events to control". Table 2 to Professor Joy's report contains data for some 65 postulated events, listed in descending order of their assessed risk. Those events were divided into four groups according to their relative risk and all but 17 events fell within the fourth (or least likely) group. Those 17 events were then further analysed within Table 3 of the report, which contained discussion of the planned controls for managing the risk from each of those events and a discussion of the "acceptability of the residual risk" if those controls were correctly applied. One of those 17 events was a fire in a load of fuel, as it was lowered down the intake shaft in a container called a fuel pod. Another was a fire at the bottom of the shaft caused by the ignition of a dropped load of fuel. Within Table 3 of the report, and within the report's text under the heading "Conclusions", Professor Joy wrote of these events and of the "acceptability of (their) residual risk" that "the impact of a fuel pod fire in or near a shaft may necessitate a careful risk assessment of the design and use of the pod to derive final design specifications and operational guidelines."

[33] Professor Joy's Table 2 postulates other events which would involve a fire in the intake shaft but were within his (least likely) fourth group.

[34] Accordingly, Dr Cliff discussed the prospects or otherwise of a fire in the intake shaft from the ignition of fuel contained in or spilt from a fuel pod. He also assessed some of the matters within Professor Joy's fourth group. But the postulated events involving the fuel pods were described by Dr Cliff as the "worst case scenarios".

[35] All bulk fuel is transported to the underground of this mine by fuel pods lowered through the intake shaft. From the evidence of the mine manager, Mr Ryan, it appears that in the further development of this mine, these fuel pods will not be used but the diesel will be transported down a designated bore-hole. According to his affidavit (sworn on 22 March 2004), this change was expected to be in place "by approximately June 2004". (Although since reserving judgment, I have had no

indication that this has occurred. Therefore I assume that the design of and activities at this mine remain as they are discussed in the evidence.) Still it is plain that the respondent considers that it is unnecessary to change the system for transporting fuel to ensure an appropriate separation of the escapeways. Fuel is transported via these pods approximately twice per week. The transportation of them within the shaft takes less than two minutes. Preparation at the surface involves one person placing the fuel pod into the conveyance on a rail mounted flat topped trailer. The conveyance with the trailer and fuel pod is then lowered to the seam level where it is met and removed by another person who withdraws the trailer and pod. According to Mr Ryan, the pod is closely monitored throughout its journey "and hence a response to an emergency no matter how remote a possibility would be virtually instantaneous". The pods have two distinct walls so that in the event of damage to the outer wall, the inner wall will remain intact. In the event that the inner wall is damaged, the void between the walls is capable of containing the contents of the pod. There is a fire suppression system which is automatically activated by the fuel reaching a certain temperature in the pod. The capacity of a pod is 2000 litres. The fuel pods are stored underground, no closer than 25 metres from the bottom of the intake shaft.

[36] According to Dr Cliff's evidence, 2000 litres of fuel burning within the pod would take some 280 minutes to completely combust. He calculated that the smoke generated by such a fire would still enable persons underground to see as far as 50 metres. He compared this with his threshold of a visibility of 10 metres, which he adopted because in his view it would allow the underground workforce to view such things as the walls and ceiling of the roadways and the reflective droppers on the walls of the roadways. Accordingly, he said that such a fire would not affect a person's ability to escape, at least insofar as any effect on visibility is concerned. He then compared the carbon monoxide levels which would be produced from such a fire within the fuel pod and concluded that they would be less than the levels necessary to produce any apparent effect on persons making their escape. He concluded that the oxygen levels from such a fire "would still be sufficient to allow people to breathe (albeit with some discomfort) even if, for some reason, the personal protective equipment worn by underground personnel were somehow to completely fail". He thereby concluded that a fire, involving 2000 litres of diesel fuel burning within the fuel pod, would not adversely affect the ability of persons to exit the mine via the exhaust shaft. I accept his evidence as to the impacts of such a fire upon the air in the mine, through a certain level of smoke, carbon monoxide and oxygen deprivation. However, I do not accept his conclusion that such a fire would not materially affect the ability of persons to escape through the exhaust shaft. This is because he reached that conclusion in his report without reference to the detrimental effect of having to use the protective equipment, and I have rejected his oral evidence as to the effect of having to use the equipment, and accepted the evidence of Mr Vaccaneo, Mr Dalliston and Mr Rowan on that point.

[37] But Dr Cliff then adds that such a fire is not a reasonably foreseeable event. He reasoned as follows:

> "Of course, the above worst case scenario assumes that there is a source of ignition for such a fire within the vicinity of the pod. In addition, the above worst case scenario assumed that the automatic fire suppression system on the fuel pod fails to activate and that the fire hoses and/or extinguishers at the top and bottom of the intake

> airway shaft are not used to extinguish the fuel pod fire. In my opinion, this chain of events is not reasonably foreseeable. If the fire suppression systems are activated, the worst case scenario fire in the fuel pod would be extinguished in a matter of seconds."

I accept the evidence contained within the last sentence of that passage. For the moment, I leave open the question of whether it is correct to say that such a chain of events is not reasonably foreseeable.

[38] The second of his worst case scenarios was that the contents of a fuel pod would spill and would fall into the sump at the bottom of the intake shaft and would burn there. The greater surface area of 2000 litres of fuel within the sump, compared with that fuel within the pod, would result in the fuel completely combusting in 21 minutes, according to Dr Cliff. However, there is a pump in the sump which if it operates, would remove some of the fuel resulting in a fire in the sump taking no longer than 10 minutes. Even then, this assumes that action is not taken to suppress the fire as well as that there is some source of ignition in close proximity to the sump. He says, and I accept, that such a fire in the sump could create a plume of smoke sufficient to restrict visibility to less than his 10 metre threshold. However, he says that because the protective equipment provides an alternative source of oxygen for 25 minutes, and the maximum life of such a fire is 21 minutes (as I accept), there is no adverse effect on the ability to escape, because the workforce could put on the protective equipment and wait for the smoke to pass. I reject that conclusion, again, for the reason that it disregards the detrimental effect of having to wear the protective equipment.

[39] One reason given by Dr Cliff for rejecting either of these scenarios as reasonably foreseeable is the improbability which he attributes to the chance of there being any source of ignition. There are no electrical motors within the shaft. As I have mentioned, the shafts are fully concrete lined. I accept Mr Ryan's evidence that the infrastructure in the shafts is not flammable, except for the high voltage electrical cable attached to the shaft wall. I accept the evidence of Mr Ryan and Dr Cliff that if the cable was pierced, the power to the cable should be cut off almost instantaneously by a circuit breaker so that sparking would occur only for a millisecond. I also accept Dr Cliff's opinion that what he describes as "frictional ignition" is not a reasonably foreseeable possibility.

[40] Dr Cliff admits of the possibility of cutting or welding producing a source of ignition but he then refers to Mr Ryan's evidence that the required procedures at the mine, if followed, would result in no welding taking place in or around the intake shaft while fuels were being transported or if there was any flammable material, including fuels, in or around the intake shaft. Dr Cliff would also concede that the carrying by persons of unauthorised items into the mine would have the potential to provide sources of ignition. But again, he says that ignition from this "contraband" source, like ignition from welding in the vicinity of flammable material, is able to be excluded as not reasonably foreseeable because procedures must be followed by those working in the mine which, if followed, would eliminate those possibilities.

[41] It is then necessary to assess whether either of these scenarios involving the burning of all or some of the contents of the fuel pod is a reasonably foreseeable event. From the respective arguments, this is a question of mixed law and fact. It is partly a legal question because the parties disagree on whether the term "reasonably

foreseeable" is used in the sense in which a risk is described as foreseeable or reasonably foreseeable for purposes of determining if a common law duty of care is owed in a particular case.

[42] The applicant submits that a reasonably foreseeable event is a reference to an event which is reasonably foreseeable in the sense explained in *Wyong Shire Council v Shirt* (1980) 146 CLR 40 in the judgment of Mason J at 47:

> "A risk of injury which is quite unlikely to occur, such as that which happened in *Bolton v Stone* [1951] AC 850, 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."

As appears from his Honour's reference (at 44-46) to *Koufos v C Czarnikow Ltd* [1969] 1 AC 350 and *The Wagon Mound (No 2)* [1967] 1 AC 617, a risk could be real, as distinct from fanciful or far-fetched, although it was "infinitesimal" and one likely to occur "once in so many thousand years".

[43] Dr Cliff's report reveals some instruction on the meaning of "reasonably foreseeable event", where he states that he has used the phrase "not reasonably foreseeable" as meaning "practically impossible or far-fetched". Nevertheless, if Dr Cliff was using that expression in a *Wyong Shire Council* sense, his views are not determinative.

[44] Is either scenario involving the ignition of fuel within or spilt from the fuel pod, an event having a real chance of occurrence? I accept Dr Cliff's evidence that, in either case, the events could occur only through a combination of several human and/or mechanical failures. For example, a fire in spilt fuel could result only from an error which caused the spillage, in combination with an error in the presence of a source of ignition such as the performance of welding work contrary to the instruction that welding should not occur during the transportation of fuel or near inflammable material. However, accidents do occur through a coincidence of faults or failures, as Dr Cliff recognised in his reference to what he described as the "Swiss cheese model" which he said in his oral evidence was a:

> "Model that people use for catastrophic events, we do allow for individual slices to line up, but I think in the case the fuel pod, a significant number of slices would have to fail, so that's why we regard the probability as being low."

[45] Realistically, he conceded the possibility that a prescribed procedure or safety mechanism could fail, although it had not previously failed. And Dr Cliff's reference to the "probability as being low" indicates that he would see some real prospect of this scenario occurring, although he would see fit to disregard it because of its very low probability.

[46] Professor Joy and his group saw fit to postulate certain events including these two scenarios involving fuel. Apparently they considered the scenarios, as at least worthy of discussion and analysis as to the effectiveness of the controls and the "acceptability of the residual risk" from the use of those controls. Professor Joy's report did not conclude in terms which dismissed any real chance of the occurrence of such a fire. Rather, it commented upon the *acceptability* of the risk, which indicated a judgment as to whether the proposed control mechanisms would be a reasonable response to something which was a recognised possibility. Similarly, Mr Ryan's evidence as to the instructions given to personnel in relation to welding and contraband items indicates the perception of the mine's management that at least absent appropriate procedures and directions, there is a real risk that events such as these could occur. The respondent has itself identified the real possibility of, for example, an accidental fire from the burning of the fuel being conveyed through the intake shaft, and accordingly it has put in place apparently extensive mechanisms and procedures in order to avoid such an occurrence. The event remains a real possibility unless those mechanisms and procedures could be regarded as incapable of failure through human error. Those various mechanisms and procedures might represent a response to a foreseeable risk which the common law would regard as sufficient to discharge a duty of care. But the present factual question is whether they are such as to put paid to any real chance of the event occurring. In my view they do not, and whilst the prospects of the occurrence of either of these "worst case" scenarios might be extremely small, it remains the case that through a combination of human errors, there is some real chance of their occurrence. It follows that if the applicant's submissions as to what is meant by "reasonably foreseeable event" are accepted, then either scenario is such an event for the purposes of s 296(1) because there is a real, as distinct from fanciful, chance of it occurring. I should add that one of the safety mechanisms which Dr Cliff sees as material, insofar as the scenario of a fire in the sump is concerned, is that fuel could be pumped from the sump with the result that the fire would burn for less than 10 minutes. However, such a fire could still require the use of the protective equipment in escaping from this mine as it is presently constructed, where that equipment would not be required if the two escape ways were atmospherically separated.

[47] The respondent argues that it would be wrong to give the term "reasonably foreseeable event" its meaning according to *Wyong Shire Council*. It correctly contends that the expression must be construed in the context of this Act and the Regulation and that it should not be readily concluded that the Governor-in-Council intended to employ a body of case law on what constitutes a foreseeable risk which is relevant in another context, which is the imposition of a liability at common law. Under this statutory regime, the purpose of provisions such as s 296 of the Regulation is to keep risk from coal mining operations to an acceptable level, rather than to attempt to eliminate any risk. The respondent argues that to interpret "reasonably foreseeable event" as an event with any real, as distinct from a fanciful, chance of occurrence could have the result of requiring far more than is necessary to reduce any relevant risk to an acceptable level.

[48] As already discussed, the Act permits regulations to be made which prescribe a way of achieving an acceptable level of risk, in which case the obligation to achieve that acceptable level can be performed only in that way: s 37. Because it permits the Governor-in-Council to prescribe steps or practices of general application, it is likely that a regulation could require of an individual mine more than that which

would be necessary to achieve an acceptable level of risk, if the operator of that mine was able to choose an appropriate way to perform its obligation. Accordingly, the fact that the applicant's interpretation of s 296(1) could require, in an individual case, more than is necessary to achieve an acceptable level of risk does not necessarily demonstrate that the interpretation is incorrect. Rather, the fact that the regulation requires more than is reasonably necessary in an individual case could reflect a preference for certainty and for the avoidance of dangerous conditions from an erroneous judgment by the mine operator about whether the mine does represent an acceptable risk.

[49] The first stated object of the Act is to protect the safety and health of persons at coal mines or who may be affected by coal mining operations. In the context of this legislative scheme, s 296(1), as the applicant would have it interpreted, would not produce some disproportionately burdensome obligation for the design of an underground mine. It does not seem inappropriate for this scheme to require the escapeways to be separated so that a fire in one escapeway, of which there was some real prospect (although it was very unlikely to occur), would not detrimentally affect the work of the other escapeway. On the other hand, if a reasonably foreseeable event in this context must be something which is more probable than an event having some real chance of occurrence, then those concerned with the compliance with this regulation would have to assess the relative probabilities of a real possibility, and the respondent's submissions do not reveal where the line would be drawn. In addition, once such an event must be more than a real, as distinct from fanciful, possibility, the operation of this regulation in a particular case could be less demanding than the common law duty of care or that which might be required to yield an acceptable level of risk as that term is explained by s 29 of the Act. Further, the respondent's case did not attempt to show that, upon the applicant's interpretation of "reasonably foreseeable event", the regulation could not be complied with in this case or in any other case, or that compliance would involve some disproportionate cost. Indeed, from the evidence in the applicant's case, I find that there is no other underground coal mine in Queensland which has but two escapeways constituted by the air intake and air exhaust shafts.

[50] The respondent also relied upon the terms of s 298 of the Regulation as supporting its interpretation of s 296. Section 298(1) provides as follows:

> "298.(1) The site senior executive must ensure—
>
> (a) at least 1 of the escapeways at the mine mentioned in section 296(1) is—
>
> (i) an intake airway; and
>
> (ii) designated as the primary escapeway; and
>
> (iii) separated, as far as practicable, from all other roadways by a separation stopping that is antistatic, fire resistant and of substantial construction providing for minimal leakage; and
>
> (iv) as far as practicable, free from the risk of fire; and
>
> (b) fire fighting equipment is located on, or near, any equipment installed in the primary escapeway."

According to the respondent's submission, the effect of the applicant's case is that the obligation imposed by s 296(1) "is only capable of being discharged by having

three trafficable entrances, two of which are intake airway shafts (which) is contrary to the plain wording of s 296 and s 298 which expressly contemplate mines with two trafficable entrances, only one of which is an intake airway designed as the primary escapeway". Clearly if there are but two escapeways, they cannot be atmospherically separated if one is an intake airway and the other is an exhaust airway. It is also clear from s 298(1) that at least one of the escapeways must be an intake airway. But it does not follow that the second of two escapeways must be an exhaust airway. Nor does it follow that an exhaust airway must be one of the escapeways, because it need not be a trafficable entrance. There could be but two escapeways, each an intake airway, with a third shaft being an exhaust airway. Section 298(1) requires at least one of the escapeways to be designated as the primary escapeway. But that escapeway must be *an* intake airway, and need not be *the* intake airway.

[51] A fire in the intake shaft, according to either of these worst case scenarios, is in my view a reasonably foreseeable event, and in either case, it could contaminate the airways throughout this mine and its exhaust airway, at least to the extent of requiring the protective equipment to be worn at all times by a person who was escaping until that person was safe at the surface. That has the potential to substantially, rather than negligibly, affect the utility of the escapeway, although it is possible to prevent that effect by ensuring that the contaminated air of one escapeway is not passed on to the other. In my conclusion, the two entrances at this mine are not separated as required by s 296(1).

Declaratory relief

[52] The respondent submits that no declaration should be made, because it would reflect findings upon contentious factual matters constituting the elements of a contravention of the Act, which by s 34 provides for penalties for the failure to discharge a safety and health obligation, for which the applicant cites *Crane v Gething & Ors* (2000) 97 FCR 9 at 20-23; *Inglis v Moore & Ors* (1979) 46 FLR 3 at 6-8, 13-14, and *Heyward v Gaming Commission of Western Australia* (Supreme Court of Western Australia, 23 April 1999, McKechnie J). But as the respondent concedes, this is but a discretionary consideration. In the circumstances of this case, in my view, it does not provide a sufficient reason for refusing declaratory relief. Firstly, there is no proceeding whereby any person is being prosecuted in relation to this complaint as to the design of this mine. Secondly, the relevant obligation appears to be upon the site senior executive and neither that person, nor his employer, is a party to these proceedings. Thirdly, although the declaration would speak of an existing contravention, it would have utility in establishing what separation is required to remedy the existing default in the design of this mine.

[53] The respondent has also pointed to some history of the Union's complaint as indicating some lack of utility in this declaration which is sought. On 9 October 2003 a directive was issued pursuant to s 119(1)(f) and s 167 of the Act by the Industry Safety & Health Representative to suspend the operations at the mine on the basis of non-compliance with s 296(1). That directive was withdrawn by an inspector pursuant to s 174(5)(a), and the Union has not sought to challenge the inspector's decision. However, the fact that the Union has not taken that course, but instead has sought to have the question determined in this court, is not a basis for refusing declaratory relief. Subject to an appeal, the respondent, which has the

effective operation of this mine would be expected to act according to the obligations as declared.

[54] Lastly, the respondent submits that the declaration sought by the originating application is too broad, because it refers to any foreseeable event and not the specific fire events pleaded in paragraphs 22 and 23 of the statement of claim. It submits that the declaration sought is too broad and that it would deprive the respondent of the opportunity to avoid a continuing contravention by removing the possibility of that event rather than by some further separation of the escapeways. In my view a declaration should be made in the terms sought by the originating application.

[55] The applicant had the onus of proving that the two shafts in this mine were not separated according to the regulation. That required the applicant to prove that there was at least one reasonably foreseeable effect which could have the consequence described in the regulation, which the applicant has done by my findings in respect of a fire involving the burning of fuel being transported through the intake shaft. It was unnecessary for the applicant to prove that any other scenario, involving a fire in this shaft, was also a reasonably foreseeable event and capable of the relevant consequence for an escape, and nor is it necessary for this judgment to determine whether that is proved upon the present evidence. This judgment involves no finding one way or the other as to those other scenarios. Not only is it unnecessary to do so, but the relative inattention to those matters in the evidence gives the impression that findings about them could be seen by one side or the other as unfair. Dr Cliff did opine on whether certain other scenarios were reasonably foreseeable, but as I have concluded that the 'worst case' scenarios are reasonably foreseeable, contrary to his opinion, I am left with the impression that he has not been instructed on the meaning of that term as I have interpreted it, and nor has he considered the potential affect of a fire through the necessity to use the protective equipment. Therefore his evidence would allow me to conclude that there were not other relevant events; but the rejection of that evidence would not prove that there were. A declaration should not be made if it has no utility. But it is beyond the proper scope of these proceedings for the court to attempt some comprehensive advice to the respondent as to in what circumstances the mine would remain non compliant with the regulation, or as to the various means by which compliance might be achieved. That is properly for the consideration of the respondent (or the mine operator), according to the findings of fact and conclusions of law within this judgment.

[56] A declaration in the terms sought by the applicant has utility, because the parties have been in dispute as to whether this mine has escapeways as required by law, which is the question resolved by this declaration. There is utility in the relief granted although it will not answer *every* question as to the design of this mine and compliance with s 296(1), which might be anticipated to arise as construction of the mine proceeds.