



## Chapter Eleven

# CRIME WITHOUT PUNISHMENT: THE APPIN MINE DISASTER

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*It was a "gassy" mine. That was a common talking point about the Appin coalmine in NSW. It had been plagued with problems of methane gas build-up since it opened in 1962. For seventeen years the highly inflammable methane was kept more or less under control. Then on 24 July 1979 tragedy struck.*

It was just another working Tuesday for the men at Appin. One shift had ended, a new one begun—and one of the maintenance jobs that needed seeing to during that shift was an auxiliary exhaust fan which helped to suck the methane out of the network of tunnels hundreds of metres underground.

An electrician went down with a supervising "deputy" in charge of operations. The electrician found the trouble and fixed the problem. One last thing to do—test the fan. He threw the switch. The motor sparked. And the methane exploded. The fireball killed 14 men that day—including the electrician and the "deputy".

So who was to blame? The electrician? The supervising "deputy"? The mine managers? The government safety inspectors? The workers?

Those 14 men died—arguably as a result of a series of criminal acts and omissions. A judge who carried out a major inquiry into the explosion found that the law had indeed been violated, but recommended against any prosecutions.<sup>1</sup>

Explosions of this type are a recurrent feature of coalmining history and an elaborate body of regulations has been developed in an attempt to prevent them. These regulations are of two types: those designed to prevent the build-up of dangerous concentrations of gas and those designed to eliminate all sources of ignition. Violations of both types were associated with the Appin explosion.

## IGNITION

The major source of ventilation in the mine is an exhaust fan which draws air through the colliery tunnels. This is supplemented by auxiliary fans near the work faces. The auxiliary fans, as well as the mining machinery, are electrically operated and the sparks which they generate are thus potential ignition sources.<sup>2</sup>

Both starting and stopping such a fan involves the creation of a spark. For this reason the starter wiring is enclosed in a metal box at the rear of the fan. The box has a heavy hinged door which, when closed, is tightened down around the edges with 24 bolts which can only be turned with a special key. The fan is operated by stop and start buttons on the outside of the door. When properly bolted down, the door, and hence the whole box, is "flameproof". This means that even though the spark inside the box may ignite any methane gas which happens to be present, the flame will not be able to escape and ignite gas outside.

During the shift on which the explosion occurred, one of these auxiliary fans had apparently been giving trouble and an electrician had been asked to fix it. He had switched off the fan, opened the box and remedied the problem. He then apparently wished to check his work by running the fan, and rather than tightening down all 24 bolts, had merely closed the door and inserted one bolt, giving it only two turns. The box was thus not in a flameproof condition and it was the test start or stop in these circumstances which triggered the explosion.

Regulation 21 of the 7th Schedule to the *NSW Coal Mines Regulation Act 1912* provides that:

In any gassy place a flameproof enclosure shall not be opened when the voltage is switched on to any conductor or electrical

apparatus within the enclosure nor shall the voltage be switched on to any such conductor or apparatus while the enclosure remains open.

Clearly, then, the explosion was more immediately the result of an illegal act on the part of the electrician. He was not, however, alone in this. According to Judge Goran, who carried out the inquiry, the "deputy" in charge of operations underground during the shift on which the explosion occurred was present when the electrician carried out his task and must have condoned the violation.<sup>3</sup> Here are the judge's words:

I find myself constrained by the evidence to find that this was a flagrant breach of a safety regulation which must have occurred with . . . (the deputy's) knowledge, at least.<sup>4</sup>

The issue of prosecuting these men does not arise since they were both killed in the explosion. Liability for the violation is, however, more extensive. (In what follows all references are to the 1912 Act, in force at the time of the explosion. The *Coal Mines Regulation Act 1982* became operational in 1984, but the change does not affect the argument of this paper.) Section 56 of the *Coal Mines Regulation Act* provides as follows:

Every person who contravenes or does not comply with any of the general rules in this Act shall be guilty of an offence against this Act; and in the event of any contradiction of or non-compliance with any of the said general rules in the case of any mine to which this Act applies, by any person whomsoever, the owner, agent, and manager, shall each be guilty of an offence against this Act, unless he proves that he had taken all reasonable means, by publishing and to the best of his power enforcing the said rules as regulations for the working of the mine, to prevent such contravention or non-compliance.

This section imposes what is known as "vicarious liability" on senior company officials for the actions of their subordinates. It specifies, in other words, that senior mine managers and company

directors are liable to prosecution for the electrician's violation, unless they can show that they had used "all reasonable means" to enforce the rule concerned.

In his inquiry Judge Goran found evidence of widespread violations of the regulations covering electrical equipment in the mine:

I have already dealt with those flagrant breaches . . . (involving the opening of the flameproof box). I am certain that these were not isolated cases and that risks were taken although lip service was paid to safe practices.

He went on to list other breaches discovered during the investigation and concluded that they demonstrated a "general attitude of carelessness for regulation".<sup>5</sup> This view was echoed in a subsequent inquest into the deaths of the 14 miners in which the coroner found that "there existed in the mine an atmosphere of complacency confirmed by the evidence of breaches of proper standards of safety".<sup>6</sup> In the light of these findings it is obvious that top management had not used "all reasonable means" to enforce the rule which the electrician had breached. Management was therefore liable for his offence.

Following the publication of the Goran report, the Minister for Mines wrote to Judge Goran asking him specifically whether there were grounds for prosecution arising from his report. In his reply, which has never been made public, Judge Goran is known to have expressed a distaste for vicarious liability, apparently believing that, although the law clearly imposes vicarious liability on owners and managers, it ought not to do so. He thus chose to give expression to this personal view by recommending against prosecution.

The disinclination to make use of the vicarious liability provisions was shared by the Minister. In a speech to colliery owners about the proposed new *Coal Mines Regulation Act*, which retains the vicarious liability provisions of the 1912 Act, he sought to allay the fears of managers and owners with the following statement:

I have been unable to find out how often persons have been prosecuted under the vicarious liability provisions in the distant

past but I can say that in more recent times the provisions have not been called into use. I can see no reason why the position should change under the proposed new legislation.<sup>7</sup>

As far as the judge and the Minister are concerned, then, vicarious liability is a dead letter and colliery owners need have no fear of the law ever being enforced in this respect.

Although the owners and managers of the Appin colliery were not prosecuted for the electrician's violation of the safety regulation, it is clear that they could have been. Whether they could have been prosecuted for causing the deaths of the 14 workers is another matter. For such a prosecution to succeed it would be necessary to show "beyond reasonable doubt" that the electrician's act was the cause of the explosion. This was certainly Judge Goran's view. But the coroner was not so certain in his report. He canvassed an alternative possibility that a defective safety lamp had been the ignition source and found himself unable to decide positively between these two competing explanations.

Although the starter box theory was clearly the most likely on the evidence, the element of doubt which the coroner perceived makes it unlikely that a prosecution for manslaughter or some other form of criminal homicide would have succeeded. It remains the case, however, that the regulatory violation itself was prosecutable, regardless of whether it was the cause of the explosion.

### THE BUILD-UP OF GAS

How did the build-up of gas to dangerous levels in the Appin Mine occur? Air is drawn into the mine through one or more of the main tunnels. It is then made to follow a path which covers the mine by means of barriers located at strategic tunnel intersections. These barriers may be either solid walls constructed for the purpose, or woven fibreglass material known as "brattice", which is hung from the roof to the floor. The air finally makes its way out a return airway through the exhaust fan.

Coal is won from the mine by extending the tunnel system further into the coal seam. These extensions become dead-end tunnels for a time until cross or connecting tunnels are driven through. The

ventilation of dead-end tunnels poses a particular problem since air cannot be simply forced through them.

Various solutions are possible, the preferred one being the use of an auxiliary fan in the dead-end tunnel. The fan draws air to the tunnel mouth and into the main body of air circulating in the mine.

The path followed by the air is changed from time to time as the tunnel network is extended, and shortly prior to the Appin explosion, management decided to make such a change. In the shift prior to the explosion, preparations were made for the redirection of the air flow.

Detailed plans for the changeover had been worked out by senior management but these plans were not adequately communicated to the mine officials who supervised the work underground. The result was that these men were unaware of the importance of removing a particular brattice barrier—this became a critical blockage in the changed ventilation system. The changeover was actually effected—except for the brattice—a few minutes before the end of the pre-explosion shift. So, the deputy on the explosion shift went on duty believing that the new ventilation system was in operation. In fact, there was no ventilation at all at the mine face.

It is likely that the deputy discovered the dangerous build-up of gas and it is conceivable (but unlikely) that he realised the cause and removed the offending brattice.

Even if he did, the build-up of gas would already have been substantial and would probably not have been entirely dissipated by the time the explosion occurred more than 3 hours into the shift. Since all those in a position to know whether the brattice was in fact removed were killed in the explosion, the judge found himself unable to decide that failure to remove the brattice caused the build-up of gas. But on the evidence this was clearly the most likely explanation.

The company obviously felt that this was what had happened. **Judge Goran found that company officials were systematically lying** to him trying to convince him that clear instructions had been given to the deputy in the pre-explosion shift to remove the brattice and that the deputy was at fault in having failed to carry out these

instructions. Company officials also tried to convince the court that they had realised at the end of the shift that the brattice had not been removed and had instructed the incoming deputy to remove it immediately. The judge found, however, that the witnesses were lying to him in this matter as well, and that the incoming deputy had no idea of the true position.<sup>8</sup>

So the ventilation failure was caused by a failure of communication. Senior officials had planned the ventilation change but had not explained it adequately to those responsible for carrying it out. The mine's undermanagers, who did not participate in the planning meeting, were later given copies of the minutes of the meeting which detailed the particular jobs to be done but which did not explain the purpose behind these alterations. The deputies who were actually to oversee the changes received nothing at all in writing. Their orders were verbal—from undermanagers who, as we have just seen, were not themselves aware of the significance of the instructions they were giving. Here is the judge's analysis:

What I am stressing highlights an old problem, of course. There is always a tendency for those who issue instructions to believe that those who obey them are in as good a position as themselves in understanding the instructions. There was a grave communication problem at Appin even though it only came to the surface at odd occasions. It was good enough to believe that all persons concerned understood the changeover or the steps needed to bring it about.<sup>9</sup>

The judge went on to find that the mine management had shown a generally negligent attitude towards the ventilation changeover. He made two specific recommendations in this connection.

First, that the mine should appoint a ventilation officer whose prime concern would be to ensure adequate ventilation. Under the existing system, ventilation was just one of the many concerns of the deputy on duty and was unlikely to receive the same priority in his mind as production.

Second, as an elementary precaution, mining should cease during ventilation changeovers and should not recommence until the new system has been demonstrated to operate effectively.

Very probably, the company negligence in relation to the ventilation changeover was a key factor in the explosion. But was that negligence prosecutable? The statute which regulates coal-mining in NSW contains a large number of specific rules about how mines are to be run. Negligent behaviour of the type under discussion is not specifically prohibited by any of these rules. Thus the company is probably not guilty of any statutory offence.

There remains the possibility of prosecuting the company under the general criminal law for some form of "negligent homicide".

A possible precedent here is the prosecution of the Ford Motor Company in the US for "reckless homicide" after it produced a car with a known design defect which ultimately led to the death of several people.<sup>10</sup>

However, in the present case a prosecution for some form of criminal homicide or criminal negligence could not succeed. To succeed, it would be necessary to prove beyond reasonable doubt that the failure to remove the offending brattice was the cause of the fatal build-up of gas. While this was certainly the most likely explanation, we have already seen that the judge found himself unable to rule out that the deputy on duty in the explosion shift had in fact discovered the problem and removed the brattice and that the build-up of gas was caused by some other accidental failure of the ventilation system.

## THE TOLERANCE OF GAS

It is ironic that the most flagrant and continuous violations at Appin mine were those least directly implicated in the explosion. They concern the level of gas normally tolerated in the mine. The *Coal Mines Regulation Act*

prevents the switching on of the voltage to any electric machine before a competent person as described makes an examination for inflammable gas with a locked oil flame safety lamp of the place where the machine is to work. If gas is found on the lamp (*that is one and a quarter per cent or more being present*) in the place where the machine is to work the machine cannot enter, if already there can receive no power. Whilst the machine is

switched on the operator must carry out similar gas inspections at least every half hour.

If gas is detected on the lamp the person finding the gas must at once erect a danger fence and report the finding to the deputy of the district or senior official. The deputy must ensure that the power is off to the machine and that the trailing cable has been disconnected at the junction box. Thus, if coaling is taking place at the time of discovery of gas in such concentration it must stop<sup>11</sup> [emphasis added].

The limit of 1.25 per cent specified above was not, however, observed at Appin. Deputies routinely found gas levels up to "2 per cent plus" which would be regarded as dangerous, and "1.8 per cent was not abnormal".<sup>12</sup>

Moreover, government mines inspectors, who are supposed to make sure their safety regulations are observed, tolerated these violations. The Act specifies that in intake airways (i.e. upstream from the work area), the level of gas must be kept at even lower levels—below 0.25 per cent. Yet inspectors normally tolerated twice this figure on the grounds that it was "not practical" to enforce the 0.25 per cent figure in gassy collieries such as Appin.<sup>13</sup>

High levels of gas were regularly recorded at the work face at the end of the dead-end tunnels. This was because the auxiliary fans being used to ventilate these areas were not powerful enough. An inspector pointed this out on several visits over a period of months and each time the mine management promised to install a secondary fan. This was never done. The judge commented on this as follows:

One can never escape the inference that gas was tolerated in this mine unless it was believed to be dangerous . . . What was in fact allowed to happen was the growth of a philosophic attitude towards methane as a fact of life. It was a nuisance, it could hold up production in working places, but it was not a matter of great concern in standing places where the possibility of ignition was remote. The officials had their own view of when gas was permissible. It differed from the standard of the Act. Even Inspector Mould tolerated it.<sup>14</sup>

Violations in relation to the levels of gas tolerated in the mine were flagrant and routine. They provide, moreover, evidence of the general carelessness on the part of the management which, as we have already seen, was a prime cause of the explosion in any direct way. As regulatory offences they were eminently prosecutable and the judge clearly took a serious view of them as the following statements indicate.

I have already expressed deep concern at the tolerance allowed by the inspector of Appin's continual breach of statutory requirements relating to gas . . . Such a position is intolerable in any law-enforcement body, and no judge should hesitate to say so.<sup>15</sup>

And again,

there can be no support for any action which allows a body of inflammable gas to accumulate, whether there is a source of ignition present or apparently neither present nor likely.<sup>16</sup>

Why then did he not recommend the prosecution of company officials and indeed of mine inspectors? His reasons are not clearly spelt out, either in his confidential communication to the Minister or in his report. He did say at one point in his report, however, that he had given witnesses an undertaking that

the Inquiry was 'not a witch hunt', that any allocation of blame was a secondary consideration to finding out what really happened and what could be done to avoid such happenings in the future.<sup>17</sup>

Furthermore, about two of the men most involved in the failure to remove the critical brattice and who were also found to be lying to the court, the judge had this to say:

(They were really victims of a communications failure.) They were also victims of their own belief that they understood—either that or they were too proud to ask questions and so betray

their lack of knowledge. Both men were obviously hard working, willing servants. The importance of their work needed greater explanation for their benefit. It is important that they not be misjudged and that their failure should be put into correct perspective.<sup>18</sup>

It is clear from these comments that the judge felt a certain sympathy for those involved. Despite his finding of widespread illegality he apparently thought that after all was said and done the explosion was really an accident for which no one should be held responsible.

### SOME FURTHER COMMENTS

The mines inspectors are, after all, employed by the government and would appear to have no vested interest in allowing safety violations. However, over time they undergo the process of "co-optation" to which those who work in regulatory agencies are so often prone.<sup>19</sup> When confronted with a problem such as excessive gas they have a choice. One option is to stop the mining until the problem is rectified, with the consequent loss of thousands of dollars of company profit and the loss of workers' productivity bonuses. Such a choice would generally be opposed by management and workers alike. Alternatively they may request management to do something about the problem but allow mining to continue, knowing very well that the chances are minimal that any particular violation will lead to death or injury. The pressure to choose the latter course is overwhelming and since such situations arise routinely on mine inspections a pattern of non-enforcement develops.

This pattern of non-enforcement emerged clearly in the prosecution in 1981 of two mining company officials by Mines Department inspectors, for offences which occurred some time after the Appin disaster. The charges concerned the use of electrical welding equipment in a gassy place without adequate safety precautions (*The Picton Post*, 29 January 1981). The welding was carried out in haste to "ensure that production could get underway when the Easter holiday ended", according to the men's counsel. The court

was told that "someone with a grudge", presumably a mine worker, had written to the Minister and made allegations about the lack of safety in the mine. Defence counsel said he could remember no similar prosecution in the past and drew the obvious inference that the mines inspectors were prosecuting in the present case only because of the promptings of the complainant and because of the criticism to which they had been subjected following the Appin disaster. The magistrate took a serious view of the offences, however, and convicted and fined the defendants noting that they had obviously been routinely violating the safety regulations with impunity.

The co-optation of safety inspectors to company viewpoints is not confined to the coalmining industry. The safety officer of the AMWSU has given dramatic evidence to a government inquiry of just how far this process of co-optation has gone in some contexts.<sup>20</sup>

He says that a government inspector once refused to listen to complaints by union safety officials on the grounds that to do so "would cause him to appear biased". Another inspector refused to comply with a union request that a safety inspection be carried out on the grounds that he did not "do deals" with unions. Inspectors have also on several occasions refused to give union officials copies of reports dealing with health and safety hazards at establishments which have been inspected unless they have written permission from the companies concerned.

As these instances make clear, the co-optation of safety inspectors to company viewpoints seriously undermines their capacity to enforce the law. Given the reluctance of the authorities to prosecute the offenders at Appin, could not other organisations, such as unions or citizens' groups, or indeed individuals, take it on themselves to enforce the law? There are insuperable legal obstacles to such a course of action. In the first place, according to the *Coal Mines Regulation Act*, prosecutions must be launched within six months of the event in question or of the submission of a judicial report or the conclusion of an inquest. This time limit has long since elapsed and a criminal prosecution is therefore now impossible. But even if this were not the case, the Act is written in such a way as to prevent the possibility of outside prosecutions. Section 72 of the Act effectively prohibits the prosecution of owners and

managers except by an inspector or with the consent of the Minister. Thus unions would not have been able to initiate prosecutions. In the view of the Minister of the day this provision is designed to "prevent any frivolous or vexatious proceedings being instituted".<sup>21</sup> But the effect is to ensure that the government policy of non-enforcement cannot be circumvented.

The only remaining avenue by which Australian Iron and Steel might be made to account for its violations at Appin is civil action for damages brought by the miners or their survivors. Several such actions were started, but were settled out of court and the outcome is unknown.

It is obvious from the foregoing that the failure to prosecute following the Appin explosion is part of a general pattern of non-enforcement. Indeed the annual reports for the two years immediately before the explosion reveal not a single prosecution undertaken by the coalmines inspectorate. Interestingly, however, there were five prosecutions initiated by management against workers for offences such as riding on coal conveyor belts.<sup>22</sup>

These prosecutions are indicative of an attitude which is very general throughout the coalmining industry that it is not the companies but the workers who are really responsible for the failure to observe safety regulations. What is at work here is the well-known response of "blaming the victim" for his or her misfortune. (Other examples of this are blaming the unemployed for their failure to find work and blaming the rape victim for putting herself in situations where she might be raped.)

This attitude of company management is also, perhaps more surprisingly, the attitude of government: in an article in the miners' journal *Common Cause* the Minister wrote at considerable length about the need for workers to observe safety regulations for their own sakes (*Common Cause*, 28 January 1981). Most surprisingly, the tendency to blame the workers is exhibited by mine union officials. Almost every issue of *Common Cause* carries articles by union safety officers urging miners to be more safety conscious and implicitly blaming the workers themselves for many of the accidents which befall them.

There seems little doubt that miners are prone to cut corners in relation to safety matters, and to this extent their behaviour

can be seen as a contributory factor in certain accidents. Miners are paid a wage plus a productivity bonus which depends on how much coal is produced. Safety regulations which slow production or which require the temporary cessation of mining thus work to the miners' economic disadvantage. The companies have so structured the situation that miners have a vested interest in ignoring safety regulations when they interfere with production. It is clearly up to governments to legislate against this situation. A worker's safety should not be at the expense of his income. Indeed, workers should be entitled to refuse to work in situations where safety regulations are being violated, and to continue drawing the highest possible pay while the problem is being rectified. It is quite inconsistent to exhort miners to be more careful while at the same time subjecting them to economic pressures to cut corners.

Since this article was first published certain changes have occurred in the regulation of coalmines. First, the mines inspectorate was moved in 1982 from the old Department of Mineral Resources and Development to the Department of Industrial Relations. The record of prosecutions has not improved, however. In the year to 30 June 1983 there was only one prosecution initiated by the inspectorate, that of an electric mechanic. He was fined \$30 on each of two offences.

Second, the *Coal Mines Regulation Act* 1982 came into force along with a totally redrafted set of regulations in 1984. It is too early to evaluate this legislative change but it unlikely to affect the pattern of non-enforcement. It is abundantly clear that the problem is not so much a matter of inadequacies in the law, although there are certainly plenty of these<sup>23</sup>, but rather the total lack of enthusiasm on the part of the authorities for enforcing existing law.

## Notes

1. Goran, AJ (1980), *Report on the Appin Explosion*, unpublished, NSW Department of Industrial Relations, Sydney.
2. Ibid, 105.
3. Ibid, 77.
4. Ibid, 107.
5. Ibid, 176-7.

## STAINS ON A WHITE COLLAR

6. Hiatt, J (1980), Transcript of Findings of Coronial Inquiry of 19 December 1980, at Campbelltown Court House.
7. Mulock, R (1981), "The NSW Government's Proposed Legislation to Replace the Coal Mines Regulation Act, 1912", *The Australian Coal Miner*, June.
8. Goran, op cit supra note 1, 73-76.
9. Ibid, 78.
10. Schmitt, M (1979), "Beyond Product Liability: the Legal, Social and Ethical Problems Facing the Automobile Industry in Producing Safe Products", *Journal of Urban Law*, 56, 1021-1050; Clark, G (1979) "Corporate Homicide: A New Assault on Corporate Decision Making" *Notre Dame Lawyer*, 54, 911-924.
11. Goran, op cit supra note 1, 45.
12. Ibid, 55.
13. Ibid, 87-88.
14. Ibid, 87.
15. Ibid, 172.
16. Ibid, 47.
17. Ibid, 77.
18. Ibid, 79.
19. Carson, W G (1970), "White Collar Crime and The Enforcement of Factory Legislation", *British Journal of Criminology*, 10, 383-398.
20. AMWSU & FEDFA (1980), Submission to NSW Government Inquiry into Occupational Health and Safety (the Williams Inquiry), AMWSU, Sydney.
21. Murlock, op cit supra note 7.
22. Department of Mineral Resources and Development (1979), *Annual Report*, Government Printer, Sydney, 55-56.
23. Hopkins, A and Parnell, N (1984), "Why Coal Mines Safety Regulations Are Not Enforced", *International Journal of the Sociology of Law*, 12, 179-94.