

An effective regulatory framework

Introduction

1. The health and safety regulatory framework for underground coal mines should be changed so that it is effective and consistent with best practice. This chapter considers the changes needed and how they should be achieved.

The general regulatory framework

Legislative hierarchy

2. New Zealand's health and safety regulatory framework is largely based on the British Robens model. At the apex is the Health and Safety in Employment Act 1992 (HSE Act), which imposes general duties and contemplates a supporting framework of regulations and guidance, including approved codes of practice and standards. The HSE Act repealed sector-specific legislation, including the Coal Mines Act 1979 and its associated regulations, leaving New Zealand with no health and safety legislation specific to coal mines. The legislation, however, allowed for more detailed regulations and approved codes of practice.

Regulations

3. Regulations are intended to elaborate on the duties in the HSE Act. The Robens report envisaged them covering general matters applicable to most forms of employment, particular types of hazard and particular industries.¹ They can impose duties on a wide range of people, including employers, employees, those who control places of work, and manufacturers and suppliers of equipment. Their scope can include registration, licensing and notification of use of plant and places of work, incident notification and investigation, certification of competence and recognition of training organisations. A breach of regulations is an offence.²

Approved codes of practice

4. Approved codes of practice are intended to provide guidance about how to fulfil duties. They can cover a wide range of matters, including work practices, characteristics for manufactured plant, protective equipment design and employee participation. Compliance with approved codes of practice is not mandatory, but the courts may have regard to relevant approved codes when determining whether the HSE Act has been breached.³

Other forms of guidance

5. Other guidance can include domestic, international and industry codes,⁴ Australian/New Zealand standards and overseas legislation. Certain categories, for example Australian/New Zealand standards, documents published by or by the authority of the New Zealand government and overseas legislation, may be incorporated by reference into, and thus form part of, regulations.⁵

Developing regulations and guidance

6. The governor-general makes regulations by order in council, on the recommendation of the appropriate minister. Approved codes of practice are prepared at the direction of and subject to the approval of the minister.⁶ In practice, the regulator should identify the need for regulations and approved codes of practice and, having sought ministerial approval, lead their drafting. Approval is not required for voluntary guidance, which may be developed by the Department of Labour (DOL) or others involved, preferably with departmental support.

The adequacy of the general supporting framework

7. A supporting framework of regulations and guidance, including codes of practice, is an essential element of the general duty-based regime. But the development of a framework in New Zealand has been unsatisfactory. In 1996 the parliamentary *Inquiry into the Administration of Occupational Safety and Health Policy* emphasised its importance. Some specific industries, including mining, required some prescription, and both employers and employees asked that more resources be put into the development of codes.⁷
8. Various regulations and approved codes of practice were then promulgated, but in the 2000s that largely ceased. In 2008 the National Occupational Health and Safety Advisory Committee (NOHSAC) expressed concern that 'the Robens model of performance-based legislation has not been fully implemented or supported in New Zealand'. There was a clear need for approved codes and guidance materials, but there had been a 'lack of commitment over the last decade to providing information to workplaces in line with the Robens model'. NOHSAC regarded it as 'imperative, therefore, that the full model of the Robens approach to OHS [occupational health and safety] regulation is implemented and appropriate codes of practice, and particularly guidance material, provided for workplaces immediately'.⁸
9. Contributing factors identified by NOHSAC included insufficient departmental resources, difficulties regarding the development of approved codes of practice, problems with removing outdated codes, and a lack of collaboration between the professional disciplines and government agencies.⁹

An inadequate framework for underground mining

10. Reflecting those general concerns, the supporting framework for underground coal mining is inadequate:
 - there are sector-specific regulations, but they are not comprehensive and need revision;
 - there are no approved codes of practice; and
 - other guidance is insufficient. There are some Australian/New Zealand standards of relevance,¹⁰ but they are not tailored for the sector. The extractives industry association, MinEx Health and Safety Council, developed industry guidance, but lacked sufficient DOL support.
11. The effect on health and safety in underground coal mining is serious. Duty holders may not know the best method of complying with the HSE Act. Some may develop and use effective methods but others may not. Researching and developing those methods is a business cost and requires skill and resources that employers may lack.
12. Without approved codes of practice, DOL mining inspectors have occasionally consulted repealed legislation and overseas legislation, regulations and standards when ascertaining compliance with the HSE Act. The absence of these codes meant that DOL's investigation report relied heavily on overseas material.
13. This situation compares unfavourably with many overseas jurisdictions. DOL engaged Professor Michael Quinlan to review several of those, as part of a detailed submission supporting the development of an improved framework.¹¹ Most of the jurisdictions reviewed had detailed supporting regulations, codes of practice or guidance for major mining hazards. It was a common theme of submissions to the commission that the supporting framework needs revision.

The mining regulations

14. The Robens report expressly recommended regulations for particular industries including mining,¹² but from 1992, when the HSE Act came into force, until 1996 there were no sector-specific regulations. In 1996 a New Zealand review committee led by the Ministry of Commerce considered the recommendations of the Australian inquiry into the 1994 Queensland Moura No. 2 tragedy.¹³ It recommended a supporting framework addressing the risks

to employees arising from fires and explosions' and strengthening mine management through clearly defining responsibilities. The committee noted 'considerable consternation'¹⁴ about the lack of specific coal mining legislation:

To regard coal mining as being 'the same as any other industry', for the purposes of statute, is to ignore the findings of a number of Commissions of Inquiry and the historical fact that it has been, and continues to be, a potential source of multiple fatalities in a workplace. The uneven progress of the HSE (Mining Council) Regulations through the consultation process is due in no small part to the failure of various key agencies to understand the unique hazards and difficulties facing the industry and a readiness to interfere with the process of putting these regulations in place on the basis of undemonstrated pretext ...

The pursuit of deregulation in the context of underground coal mining would have a highly negative – indeed, potentially dangerous – effect on the industry. It has been tried, in fact it pre-existed the current regime in England and Europe during the 18th and 19th centuries when the victims of coal mine disasters were counted in their hundreds. Regulation of specific duties and functions for colliery management structure has been reiterated following colliery explosions time and time again. How often does it need to be said?¹⁵

15. Sector-specific regulations were introduced in the 1990s. The Health and Safety in Employment (Mining Administration) Regulations 1996 reinstated competency requirements that existed before the HSE Act came into force. The Health and Safety in Employment (Mining – Underground) Regulations 1999 addressed many, but not all, major hazards. In 2011, as a result of DOL's 2006–09 mining policy review, competency requirements for small mine management were increased.¹⁶ But problems remained.

All practicable steps

16. The 1999 regulations often repeat the 'all practicable steps' phrase used in the HSE Act. The all practicable steps test depends on the relevant circumstances, including the nature, severity and knowledge about potential harm and the cost of addressing that harm.¹⁷ Using that phrase in regulations maintains flexibility but can lead to ambiguity and imprecision.
17. For example, regulation 23 deals with outlets and requires employees to 'take all practicable steps to ensure that ... every mine or tunnel has suitable and sufficient outlets', having regard to a range of factors. Regulation 29 deals with measurement of air from fans and requires employers to take 'all practicable steps' to ensure that the quantity of air flow is measured and any recirculation prevented. These matters are critical to safety: an all practicable steps qualification is unacceptable.

Focus and scope

18. Some regulations have an inadequate focus or scope. For example, regulation 10 of the Health and Safety in Employment (Mining – Underground) Regulations 1999 requires notification to DOL of certain incidents or accidents, including fires. During commission hearings, there was dispute about whether fires include sparks, a source of ignition, and thus constitute a high-potential incident that could result in serious harm or catastrophe. The underlying issue is that the regulations should require notification of all high-potential incidents.
19. Regulation 4 of the Health and Safety in Employment (Prescribed Matters) Regulations 2003 prescribes the content of accident and serious harm registers that workplaces must keep.¹⁸ They must record any investigation, but the prescribed form only requires advice of whether an investigation was undertaken. If a summary or details of any investigation had to be included, then inspectors who review registers would be able to identify the central issues and assess the effectiveness of the investigation. The regulation is also unclear about whether employers are required to investigate all incidents and accidents.

Lack of support for a safety management system

20. The HSE Act requires potential and actual hazards to be systematically identified and assessed. Significant hazards must be eliminated, isolated or, failing that, minimised. The legislation does not prescribe how this should be done,

but in complex organisations and high-hazard industries a documented health and safety system is necessary. The mining regulations do not expressly require such a system.

21. DOL is developing a model health and safety management system for small mines, but all underground coal mines should have such a system.¹⁹

Scrutiny of mine design

22. Professor Quinlan noted that poor design, planning and technical flaws were causal factors in a number of mining incidents.²⁰ Similarly, Impac Services Ltd noted that research had illustrated the 'importance of planning and design ... Approximately 40% of fatal accidents were found to have their origins in decisions made prior to work starting.'²¹
23. Effective regulatory involvement in health and safety should start at an early stage. The HSE Act envisages this, but regulation 8 of the 1999 regulations only requires a health and safety inspector to be notified of an operation in which a mine is worked or a tunnel is made 14 days or more before mining starts.²² By then, design would have been finalised.

Safety cases

24. Submissions to the commission raised the introduction of safety cases. A safety case comprises a comprehensive suite of documentation showing that an operation is acceptably safe.²³ The safety case is assessed by a regulator, who approves the start or continuation of an operation. In New Zealand safety cases are used in the offshore petroleum industries²⁴ but overseas their use extends to a greater range of hazardous industries.
25. Safety-case documentation is extensive and can include the operational control arrangements, the hazard identification and management system, procedures for managing change, contractor management, competency, emergency arrangements, incident and accident investigation, communication and workforce consultation, auditing and quality assurance.
26. There were conflicting views about requiring safety cases in underground coal mines. The New Zealand Council of Trade Unions and the Amalgamated Engineering, Printing and Manufacturing Union supported partial safety cases, including regulatory approval.²⁵ The Construction, Forestry, Mining and Energy Union supported the Queensland approach,²⁶ which requires underground coal mines to have documented safety management systems, but stops short of requiring regulatory approval.
27. Solid Energy did not support safety cases. Because they have not been implemented elsewhere it sees risks in New Zealand 'going it alone.' It considers that the safety case will use departmental resources that could be better applied elsewhere.²⁷ DOL did not support safety cases. It preferred early disclosure of certain safety management documents for new underground mines and when there was a change of ownership. It considered these could be assessed but not approved.²⁸ Professor Quinlan suggested the selective use of a safety-case regime when mining conditions warrant it.
28. The commission is not convinced that, at this stage at least, safety cases should be mandatory. More research is needed about their efficacy and content in underground coal mining. The regulator would need significant resources and skills to scrutinise them, which it currently lacks. Immediately necessary are early notification of proposed mines, and operators providing, and the regulator reviewing, mine plans and core health and safety documents.

The penalty regime

29. Penalties must deter potential offenders and ensure that health and safety obligations are taken seriously. Dr Kathleen Callaghan stated that to do so the range of punishments must be sufficient to cause discomfort.²⁹

30. New Zealand has significantly lower maximum penalties than those in some comparable overseas jurisdictions. The penalty for the most serious health and safety offence is up to two years in prison and a fine of up to NZ\$500,000,³⁰ whereas in some Australian states serious health and safety offences carry penalties of up to AUD\$3 million for a corporation, AUD\$600,000 or five years' imprisonment for an officer or person conducting a business and AUD\$300,000 or five years' imprisonment for a worker.³¹
31. The possible introduction of an offence of corporate manslaughter was also raised with the commission. In 2008 the offence of corporate manslaughter was introduced in the United Kingdom.³² It allows prosecution of companies and organisations when serious management failures result in death, reflecting community outrage at serious health and safety failures by management.
32. The New Zealand regime should be reviewed. Increased penalties for companies should be considered, as should the introduction of an offence of corporate manslaughter.

An effective supporting regulatory framework for underground coal mining

33. An effective supporting regulatory framework for underground coal mining is required. Mining regulations should be reviewed and approved codes of practice and guidance issued and periodically reviewed. Comprehensive coverage of major underground coal mining hazards is vital. Decisions are needed about whether regulation, approved codes of practice, other guidance or a combination are appropriate for any particular hazard. Professor Quinlan preferred major hazards to be addressed in regulations because guidance is not forceful enough.³³
34. As the Robens report recommended, drawing up regulations requires the best available expertise from independent organisations and industry.³⁴ The commission considers there should be a single focus expert task force whose members include health and safety experts, and mining industry, regulator and worker health and safety representatives, supported by technical experts such as ventilation and geotechnical engineers. The task force should be separate from the 2012 ministerial task force carrying out a broad review of health and safety.
35. Adopting, with amendment, relevant parts of the Queensland and New South Wales underground coal mining frameworks, which are more developed than New Zealand's, would save significant time.
36. Some urgent and obvious changes could be included in new approved codes of practice, to be later replaced by regulation. This would provide early guidance to the industry, workers and the regulator.

Changes for the task force to consider urgently

37. The commission has identified specific changes it suggests the expert task force should consider urgently. No doubt the task force will identify more.³⁵ They include:
 - the removal of the 'all practicable steps' qualification from the mandatory provisions of the regulations, including those relating to ingress and egress;
 - the provision of better health and safety information by the employer to the regulator, including notification of all high-potential incidents;
 - requiring employers to have a comprehensive and auditable health and safety management system;
 - mandating the statutory positions necessary to ensure healthy and safe mining (including a statutory mine manager and ventilation officer), and identifying their key functions and the relevant qualifications, competencies and training;
 - defining standards for ventilation control devices, such as stoppings;

- defining the requirements for underground gas monitoring systems;
 - prohibiting the placement of main fans underground and requiring them to be protected against explosions and other hazards, in accordance with the most appropriate international standards;
 - clarifying the restricted zone within which electrical equipment requires protection; and
 - updating electrical safety requirements in the light of new technology.
38. Other recommendations relating to health and safety laws, regulations or approved codes of practice are detailed in other parts of this report: Chapter 27, 'Strengthening the Crown minerals regime'; Chapter 28, 'Improving corporate governance'; Chapter 29, 'Improving management leadership'; Chapter 30, 'Worker participation'; Chapter 31, 'Qualifications, training and competence'; Chapter 32, 'Improving the emergency response'; and Chapter 33, 'Improving emergency equipment and facilities'.
39. A more detailed list for the expert task force to consider follows:

TOPIC	TO BE CONSIDERED
All practicable steps test	Its use in regulations can cause ambiguity, lacks precision and should be minimised.
Electrical hazards	Technology advances need to be better accommodated and regulated.
	The nature of the restricted zone needs clarification. The extent to which electrical equipment may be placed in coal measures, and the necessary protections, require addressing.
Emergency equipment and facilities	Emergency equipment, including self-rescuers and compressed air breathing apparatus (CABA), should be required at suitable places and spacings underground.
	Changeover or refuge stations should be defined and required.
	The need for at least two means of ingress and egress must be stated more clearly.
	The means of ingress and egress must accommodate workers, rescue personnel and equipment.
	The mine should also accommodate swift sealing and emergency inertisation.
	Emergency navigational aids to egresses, self-escape facilities and equipment should be mandatory.
Emergency response	There should be comprehensive operator emergency response management plans addressing: <ul style="list-style-type: none"> • the facilities and training required to enable and support self-rescue and rescue; • how atmospheric conditions will be monitored following an emergency; and • emergency mine sealing and inertisation, including airlocks and docking stations.

TOPIC	TO BE CONSIDERED
	Operator emergency management plans should be compatible with CIMS, the co-ordinated incident management system used by New Zealand's emergency services.
	Operator emergency management plans should be provided to the Mines Rescue Service (MRS), the regulator and other relevant emergency services.
	Emergency response should be tested internally and subject to training exercises involving external agencies.
Roles, expertise and competency	Roles important to health and safety should be mandatory.
	Minimum competencies should be provided and/or reassessed for all important health and safety roles.
	The level of training and supervision required for new and inexperienced workers should be clarified.
Gas monitoring	Underground atmospheric monitoring requirements need defining and strengthening.
Governance	The statutory responsibilities of directors for health and safety should be reviewed.
Health and safety management systems	<p>Documented health and safety management systems should be expressly required. Documentation and the corresponding systems should:</p> <ul style="list-style-type: none"> • cover key risk areas such as mine ventilation, spontaneous combustion, gas management, methane drainage, strata control, training, employee and contractor oversight and emergency response; • cover or integrate with the health and safety systems of contractors; • provide for change management; and • be reviewed when there is significant change in mine plans or operations.
	Key health and safety management system documentation should be provided to and scrutinised by the regulator at an early stage and when there are substantial changes, including of ownership.
	Health and safety management systems should be regularly audited and reviewed.

TOPIC	TO BE CONSIDERED
<p>Incident and accident notification and investigation</p>	<p>All high-potential incidents must be notified.</p> <p>Whether incidents and accidents must be investigated by the operator or employer should be clarified.</p> <p>Sufficient detail of incident and accidents and their investigation should be more readily available to regulators.</p>
<p>Methane control, monitoring and drainage</p>	<p>The requirements for monitoring and managing methane need better definition and strengthening.</p> <p>Methane drainage, including pre-drainage, should be required in appropriate circumstances.</p>
<p>Management</p>	<p>The health and safety roles and responsibilities of the mine manager should be defined and strengthened.</p>
<p>Mine plans</p>	<p>The minimum requirements for the content of mine plans, including those showing stoppings and ventilation, should be reviewed. Plans should be certified by a registered surveyor, and be made available to inspectors and the MRS on a regular basis.</p>
<p>Spontaneous combustion</p>	<p>Regular testing and monitoring should be required.</p>
<p>Strata control</p>	<p>Strata management plans should be required.</p>
<p>Ventilation</p>	<p>The notification requirements for uncontrolled accumulations of flammable or noxious gas need strengthening.</p> <p>A ventilation officer, responsible for key aspects of the ventilation system, should be required.</p> <p>Placement of main fans underground in coal mines must be prohibited.</p> <p>Explosion protection should be required for main fans.</p> <p>Design and construction standards for ventilation control devices, such as stoppings and overcasts, are required.</p>
<p>Withdrawal of workers when gas present or ventilation fails</p>	<p>The requirements to withdraw workers from a mine following a ventilation failure or uncontrolled accumulation of flammable or noxious gas need strengthening.</p>

TOPIC	TO BE CONSIDERED
Worker participation	Employers should have to make available to all workers, without request, the results of monitoring of workplace conditions that affect health and safety.
	Workers should be involved in the development of health and safety management systems, principal hazard plans and safe operating procedures that bear on their health and safety.
	All underground coal mines should be required to have a documented worker participation health and safety scheme.
	Contractors should have similar rights to employees to participate in processes to improve health and safety in the workplace.
	The functions and powers of health and safety representatives should include inspections and stopping activities when there is immediate danger of serious harm.
	Area inspectors appointed and paid for by unions representing coal mine workers should be introduced with the power to stop activities when there is immediate danger of serious harm.

Figure 26.1: Considerations for the expert task force

Recommendation 2:

An effective regulatory framework for underground coal mining should be established urgently.

- The government should establish an expert task force to carry out the work. Its members should include health and safety experts and industry, regulator and worker health and safety representatives, supported by specialist technical experts.
- The expert task force should be separate from the ministerial task force that is reviewing whether New Zealand's entire health and safety system is fit for purpose.
- The expert task force should consult the Queensland and New South Wales frameworks as best practice.
- In the interests of time, the expert task force should consider the immediate development of approved codes of practice, to be replaced by regulation where appropriate.
- The expert task force should consider addressing urgently the specific issues identified by the commission including:
 - the removal of the 'all practicable steps' qualification from the mandatory provisions of the regulations, including those relating to ingress and egress;
 - the provision of better health and safety information by the employer to the regulator, including notification of all high-potential incidents;

- requiring employers to have a comprehensive and auditable health and safety management system;
- mandating the statutory positions necessary to ensure healthy and safe mining (including a statutory mine manager and ventilation officer), and identifying their key functions and the relevant qualifications, competencies and training;
- defining standards for ventilation control devices, such as stoppings;
- defining the requirements of underground gas monitoring systems;
- prohibiting the placement of main fans underground and requiring them to be protected against explosions and other hazards, in accordance with the most appropriate international standards;
- clarifying the restricted zone within which electrical equipment requires protection; and
- updating electrical safety requirements in the light of new technology.

ENDNOTES

¹ Lord Robens (Chairman), Committee on Safety and Health at Work, *Safety and Health at Work: Report of the Committee 1970–72, 1972*, HMSO, 1972, p. 43, para. 136.

² Health and Safety in Employment Act 1992, ss 22, 23(1), 50(1)(c).

³ *Ibid.*, ss 29(1), 20(9).

⁴ For example, International Labour Organisation, *Code of Practice on Safety and Health in Underground Coalmines, 2006* and the MinEx Health and Safety Council, *Industry Code of Practice: Underground Mining and Tunnelling*, October 2009, MINEX0005.

⁵ Health and Safety in Employment Act 1992, s 23(2)–(3).

⁶ *Ibid.*, ss 21, 20.

⁷ Labour Committee, *Inquiry into the Administration of Occupational Safety and Health Policy: Report of the Labour Committee, 1996*, DOL0010010023/5, p. 9, para. 3.1.

⁸ Neil Pearce, Evan Dryson, Philippa Gander, John Langley and Mark Wagstaffe, *Review of the Key Characteristics that Determine the Efficacy of OHS Instruments: Report to the Minister of Labour, 2008*, p. 17, http://ohsnetnz.org.nz/documents/Review_of_the_key_characteristics_that_determine_the_efficacy_of_OHS_instruments-2.pdf

⁹ *Ibid.*

¹⁰ For example, Standards Australia and Standards New Zealand, *Risk Management – Principles and Guidelines (AS/NZS ISO 31000:2009)*, 20 November 2009; Standards Australia and Standards New Zealand, *Occupational Health and Safety Management Systems – Specification with Guidance for Use (AS/NZS 4801:2001)*, 15 November 2001; and Standards Australia and Standards New Zealand, *Occupational Health and Safety Management Systems – General Guidelines on Principles, Systems and Supporting Techniques (AS/NZS 4804:2001)*, 15 November 2001.

¹¹ Michael Quinlan, *Analysis Report: Reviewing Evidence to Assess Whether the Conclusions & Recommendations of the 2006–2009 Mine Safety Review are Still Relevant and Changes in the Regulatory Framework the Royal Commission Might Consider*, DOL4000010003/17, para. 36.

¹² Lord Robens (Chairman), *Safety and Health at Work*, p. 43, para. 136.

¹³ Ministry of Commerce, *Mining Inspection Group, Review of the Recommendations from the Wardens Inquiry into the Accident at Moura No 2 Mine, Queensland on Sunday August 7 1994, 1996*, EXH0003.

¹⁴ *Ibid.*, p. 17.

¹⁵ *Ibid.*

¹⁶ Health and Safety in Employment (Mining Administration) Regulations 1996, reg 11, amended on 13 January 2011 by Health and Safety in Employment (Mining Administration) Amendment Regulations 2010, reg 4(1).

¹⁷ Health and Safety in Employment Act 1992, s 2A.

¹⁸ That requirement is imposed by s 25(1)–(1B) of the Health and Safety in Employment Act 1992 and applies to all workplaces.

¹⁹ In July 1994 a code of practice that supported a hazard management approach was promulgated but it was not tailored to underground coal mines: Department of Labour, Occupational Safety and Health Service, *Managing Hazards to Prevent Major Industrial Accidents, 2004*, <http://www.osh.dol.govt.nz/order/catalogue/pdf/hazardac.pdf>

²⁰ Michael Quinlan, *Survey Report Reviewing Evidence from High Hazard Incidents and Matters Related to Regulation in Underground Mining*, DOL4000010002/11–14, paras 40–47.

²¹ Impac Services Ltd, *Submission by Impac Services Ltd to Phase 4 of the Pike River Royal Commission*, IMP0001/10.

²² In some cases the timeframe is shorter: Health and Safety in Employment (Mining – Underground) Regulations 1999, reg 8.

²³ Tim Kelly, *A Systematic Approach to Safety Case Management (SAE Technical Paper 2004-01-1779)*, 2004, SAE International.

²⁴ The regulations are currently being reviewed: Department of Labour, *Review of the Health and Safety in Employment (Petroleum Exploration and Extraction) Regulations 1999: Discussion Paper, 2012*, <http://www.dol.govt.nz/consultation/petroleum-regulations/petroleum-regs-discussion.pdf>

²⁵ New Zealand Council of Trade Unions, *Submission on Phase 4 Issues on Behalf of New Zealand Council of Trade Unions Te Kauae Kaimahi*, 16 March 2012, NZCTU0001/11–12; New Zealand Amalgamated Engineering, Printing and Manufacturing Union, *Final Submissions of the New Zealand Amalgamated Engineering, Printing and Manufacturing Union*, 26 March 2012, EPMU0035/5.

²⁶ Construction, Forestry, Mining and Energy Union, *Submission on Behalf of the Construction, Forestry, Mining and Energy Union in Respect of Phase Four: Policy Aspects*, 30 March 2012, CFMEU0041/11, para. 21.5.

²⁷ Solid Energy New Zealand Ltd, *Final Submissions to the Royal Commission on the Pike River Coal Mine Tragedy*, SOL545717/70, para. 21.73.

²⁸ Department of Labour, *Phase Four Paper*, 16 March 2012, DOL4000010005/57, para. 243 and DOL4000010005/23, para. 86.

²⁹ Kathleen Callaghan, *witness statement*, 23 March 2012, FAM0058/29, para. 3.17; New Zealand Council of Trade Unions, *Submission*, NZCTU0001/36–37, para. 14(a)–(d).

³⁰ Health and Safety in Employment Act 1992, s 49.

³¹ See Queensland's Work Health and Safety Act 2011, Division 5, Offences and Penalties. The act does not apply to coal mining, which is subject to the Coal Mining Safety and Health Act 1999, pt 3, s 34. The Coal Mining Safety and Health Act 1999 has lesser penalties than the Work Health and Safety Act 2011, but they are still higher than those in New Zealand.

³² The Corporate Manslaughter and Corporate Homicide Act 2007, which came into force on 6 April 2008.

³³ Michael Quinlan, *Analysis Report*, DOL4000010003/24–25; Department of Labour, *Phase Four Paper*, 16 March 2012, DOL4000010005/54, para. 229.

³⁴ Lord Robens (Chairman), *Safety and Health at Work*, p. 49, para 159.

³⁵ DOL has identified many areas of concern: Department of Labour, Phase Four Paper, 16 March 2012, DOL4000010005/31–33, para. 125.