

# Introduction

This book is the outcome of both recent events and a long gestation. In November 2010, I was in Nelson on the South Island of New Zealand speaking at a conference organised by the New Zealand Ergonomics Society when an explosion occurred at the Pike River coal mine near Greymouth, about three and half hours driving time from Nelson. The explosion killed 29 miners – the people who actually mine as opposed to mine owners and operators who are also misleadingly referred to as ‘miners’ in the media. Those attending the conference were horrified, as were New Zealanders more generally and many people in Australia and elsewhere. Like other mining disasters in rich countries – and unlike the more frequent catastrophic mining incidents in Second and Third World countries – the incident was the subject of widespread international media coverage for around a fortnight.

For New Zealand, a small and beautiful country with a comparatively small mining industry, the incident remained central to the community, even in the context of the severe disruptions caused by recurring earthquakes affecting the city of Christchurch, which is also on the South Island. For the people of Greymouth, many of whom recalled earlier mine disasters in the region, to label the incident traumatic does not even begin to describe it. The families of the deceased miners organised themselves and demanded that the causes of the disaster be the subject of searching investigation. They wanted to know what the causes were and punishment for anyone found responsible. They also wanted measures to ensure that the lost lives and blighted families would not be in vain – measures to ensure that similar incidents did not occur in the future. The brutal reality was that a multiple-fatality mining incident occurred on average every 11-12 years in New Zealand, and not only did the Pike River disaster occur within this historical time frame, but the large number killed overwhelmed any notional improvement in fatality rates over the previous 20 years.

Within a short period of hope of rescuing miners being abandoned (a rescue team had flown from Queensland to assist after the explosion), the media began to report allegations of unsafe practices, questionable viability and poor regulatory oversight in relation to the mine. The New Zealand government responded swiftly, establishing a Royal Commission to examine the incident and mine safety more generally. Two of the three commissioners were experienced and knowledgeable in mine safety (one

was a former Chief Mines Inspector in Queensland) and the commission sifted a large body of documentation as well as taking evidence from a wide range of witnesses, interested parties and mine safety experts.

In March 2011 I was engaged by the New Zealand Department of Labour (the agency that included the mines inspectorate) to prepare three background reports on mine safety as part of its response to the disaster. My tasks were to review mine safety regulatory regimes in six countries (New Zealand and five comparators), to review recent developments in regulation and knowledge about mine hazards, and to analyse the findings of a mine safety review undertaken by the department between 2008-2009 (that is, just prior to the incident). This brief was sensible in the context of the event and was part of a broader range of reviews undertaken by the department.

As part of this process I examined 19 serious mine incidents in the five comparator countries between 1992 and 2010, identifying a number of patterns central to this book (although this book considers a wider selection of incidents). I had been giving thought to repeat causes of serious workplace incidents for some time based both on my own observations and the work of others such as Andrew Hopkins. The report for the New Zealand Department of Labour presented an opportunity to see if 'pattern causes' could be identified if one examined a number of incidents across a range of countries and jurisdictions.

In November 2012 the Royal Commission into the Pike River Mine Tragedy handed down its findings in a two-volume report that was damning of management of the mine right up to board level and was also highly critical of the regulatory regime in place at the time. It led to the unusual step of the New Zealand Prime Minister, John Key, apologising to the victims' families for failings on the government's part. The Royal Commission also provided direct impetus for a widespread criticism of the regulation of health and safety in New Zealand more generally, which was already under review.

For me the Royal Commission findings were of particular interest for many reasons, one being that they reaffirmed most – indeed almost all – of the 10 pattern causes identified in the second report I prepared for the New Zealand Department of Labour, including failures in risk assessment, management systems, ignored warning signals and failure to respond to concerns raised by supervisors, consultants and others. Shortly after the Royal Commission's findings were made public, I was appointed to an Expert Reference Group (ERG) to oversee the introduction of enhanced regulation as part of the New Zealand government's response to the disaster. Other appointees included a senior Queensland mine inspector, the Chief Mines Inspector of New Zealand, an OHS law expert, an emergency

management expert, a union safety officer and three industry representatives. This body met throughout 2013 to review and provide advice on the package of regulatory reforms developed in response to the Pike River disaster. As the ERG's deliberations were confidential, no reference is made to its decisions and processes in this book. However, the experience informed and broadened my general understanding of processes critical to this book. It helped me to understand the position and role of particular parties in the aftermath of a disaster.

At the same time, this book has had a far longer gestation. Its origins stretch back 25 years. I came to Pike River not as a mine safety expert but as an OHS expert who knew something of mine safety. In the mid-1980s, through research connections with the Miners' Federation in Queensland (now the CFMEU), I became acquainted with the union's activities on safety, and with its then secretary Andrew Vickers (now national secretary) and district and mine site check inspectors, most notably Matt Best. Check inspectors were essentially union-appointed safety officers located at each mine (in the case of site inspectors) or full-time officers (like Matt) covering multiple mines in a region. I was given complete access to the union's records in Ipswich and began to look at the records and investigations relating to mine disasters. This provided the spark for asking whether there were historical lessons to be learned from these events and why such disasters continue to occur. I began to draft a paper and presented some preliminary findings to a conference on OHS convened by Claire Williams at Flinders University in 1986. However, shortly after this, competing work demands took over and this research lapsed.

In 2004-2005, having returned to Sydney to take up a position at the University of New South Wales in 1994, I was appointed as an OHS expert to a New South Wales mine safety review chaired by former State Premier Neville Wran. This review covered both metalliferous and coal mining and considered a wide range of issues. A year later in 2006 I was appointed to the independent investigation headed by Greg Melick into the fatal rockfall and entrapment of two miners at the Beaconsfield gold mine in northern Tasmania. My particular task was to focus on the management of OHS at the mine and determine if any deficiencies in this regard contributed to the incident. I also examined the activities of the mine inspectorate. The report I prepared (as an OHS expert) and the report of the geotechnical expert (Scott Marisett) appointed to the investigation were included as appendices to the main investigation report. Both the mine and the relevant union had an opportunity to read and comment on my report prior to it being finalised.

In important ways Beaconsfield represented a unique opportunity for me to gain insights into mine safety, the investigation process and how

regulation works in practice. For example, the investigation team included a senior mines inspector from New South Wales, so I became acquainted with the writing of notices requesting information, the conduct and recording of interviews and how particular lines of inquiry were pursued. I was appointed as a Workplace Standards Tasmania inspector for the duration of the investigation, which again provided additional insights. As a researcher it represented unparalleled access. Under the Tasmanian legislation (by no means unique) investigators may require the company or others, such as consultants, to supply all documents and records deemed to be relevant (in this case literally thousands of documents, including 13GB of emails alone) and interview all parties (duly recorded and transcribed) who may have knowledge or be involved in the incident. This process includes repeated or follow-up interviews as new information comes to light. Further, in the course of interviews all questions posed by investigators to an interviewee must be answered. If this could involve self-incrimination, the party involved can obtain protection from the verbal evidence given being used in subsequent court proceedings. In addition to its findings related to the incident, the investigation identified a number of critical limitations in existing legislation affecting risk assessment, the reporting of serious events, the time-limit on prosecutions and who could be prosecuted.

As is the case with these things, I gained valuable insights from my involvement in both the New South Wales mine safety review and the Beaconsfield investigation. I had also by this time (2003-2007) undertaken a federally funded (Australian Research Council) study of OHS inspectorates in Australia, focusing on the shift from prescriptive to process standards in OHS regulation, with Richard Johnstone. This project added to my understanding of the regulatory apparatus. As part of this research we conducted detailed interviews with more than 100 current and former OHS inspectors as well as middle-ranking and senior inspectorate managers in four State jurisdictions (Tasmania, Queensland, Victoria and Western Australia). We accompanied inspectors on 120 'typical' workplace visits covering a wide range of industries. We were also given extensive access to inspectorate documents. This combination of information provided insights into the activities of inspectors, how they viewed their role, and their relationship to government (including governments of different political persuasions), employers, unions and workers. For example, we gained insights into the complexity of the inspection process, the iterative and often lengthy process of investigation and the nuanced shift in OHS regulation whereby the introduction of process standards had not led to the abandonment of prescriptive standards especially in high hazard industries like construction or major hazard facilities.