GUARDIANS OF MINE SAFETY

Worker Safety and Health Representatives in the NSW Mining Industry

Report commissioned by the Mining and Energy Union on behalf of the New South Wales Mine Workers Alliance. Research and report prepared by Emeritus Professor Michael Quinlan (UNSW, Sydney), Dr Heather Jackson (University of Newcastle), Phillip Brandie and Emeritus Professor David Walters (Cardiff University, UK)

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Mural at Cessnock Miners' Memorial called 'Waiting' – depicting community members waiting for news after an underground mining accident [photograph by research team]

Dedicated to the over four thousand miners killed in incidents in NSW mines, and the many more who suffered serious injuries/permanent impairment or dying or being permanently impaired by work-related diseases like silicosis and pneumoconiosis. The lessons of the past should be learned, re-learned and not forgotten so mines are made safer and healthier and no more families and friends have to grieve for loved ones

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Research and Report Authors

The team in undertaking this project and preparing this report were as follows:

Emeritus Professor Michael Quinlan B.Ec(hons), PhD University of Sydney, Fellow of Academy of Social Sciences in Australia has an international reputation as an OHS researcher with over 40 years' experience in OHS research, policy and practice and the author of numerous articles and a number of books including *Ten Pathways to Death and Disaster: Learning from fatal incidents in mines and other high hazard workplaces* (Federation Press, 2014). In addition to working on OHS projects for the World Health Organisation, European Union and International Labour Organisation Michael has been actively engaged in government inquiries and reports on OHS especially in the transport and mining industries. In 2004-5 he was one of three experts appointed to the NSW mine safety review chaired by Neville Wran, in 2006 he was appointed to the independent investigation into the Beaconsfield mine fatality (and subsequently prepared three independent audit reports on the mines inspectorate in 2010, 2012 and 2014), in 2011 he was appointed by the New Zealand Department to prepare reports on mine safety following the Pike River mine disaster (subsequently serving as an member of the Expert Reference Group overseeing legislative reforms and later as an expert member of the Extractive Industries Advisory Group). He was also part of the research team that prepared a report on worker representation in mine safety for the CFMEU (MEU) and subsequent reviews of miner representation in coal mining in five countries for the UK Institute of Occupational Safety and Health. He has also given regular talks/keynote addresses to mining industry and mine union conferences/training workshops. In 2023 he presented a series of industry workshops on Ten Pathways in Western Australia, part the WA Mine Inspectorates' annual road-show.

Dr Heather Jackson, PhD University of Newcastle, B. Ed Studies, University of Newcastle, B. App Sc in Occupational Therapy, University of Sydney, has worked in Mine Safety employed by the NSW Resources Regulator from 2009 to 2018. During this time, she managed the Mining Industry Assistance Unit, which was established at the request of the Mine Safety Advisory Council to develop and implement health management and Work Health and Safety management system education and guidance. The unit developed information and training on fatigue management, managing musculoskeletal disorders, how to develop and health management plan, human and organisational factors, and organisational safety culture. The unit also developed statutory training for safety and Health Representatives after the Work Health and Safety (Mines and Petroleum Sites) Act was enacted in 2013. Since completing her PhD on recurrent causes of occupational incidents in the NSW coal and metalliferous mining industry (based on an analysis of 51 fatal, serious injury, and high potential incidents) she has published two papers including *Pathways to single fatality and serious injury incidents in coal and metalliferous mining in NSW, Australia: Can we learn from multiple fatality incidents to prevent serious injury?* She also contributed a chapter, *Introduction to risk management and control models,* to an edited book for the Society for Mining, Metallurgy and Exploration *Mine Safety and Health Handbook: Approaches From the Field.*

David Walters BSc Hons; M.Med Sci; PhD, is an Emeritus Professor, in the School of Social Sciences at Cardiff University in the UK. He is an internationally recognised researcher with over 40 years' experience in research on the labour relations, regulation and management of

work health and safety in a host of sectors, different establishment sizes and countries, and at the European and global level. His work on health and safety regulation; labour inspection practices; the labour relations of work health and safety; supply chain influences and the effects of organisational size on work health and safety arrangements and outcomes is both authoritative and well-known and has attracted research funding from national and international agencies including the European Commission; the ILO; professional bodies; research councils; trade unions and Government departments. This extensive portfolio of research included leading the research team that prepared a report on worker representation in mine safety for the CFMEU (MEU) and the subsequent reviews of the representation of miners' interests in coal mining in five countries, funded and published by the UK Institute of Occupational Safety and Health (IOSH). He has also provided advice and expertise to several Government and other national-level inquiries into work health and safety issues. He has authored, co-authored and edited several books, including: W*ork and Health: 50 years of Regulatory Failure* (2022); *Lives in Peril: Profit or Safety in the Global Maritime Industry?* (2013); *Safety or Profit? International Studies in Governance, Change and the Work Environment* (2013); *Regulating Workplace Risks: A Comparative Study of Inspection Regimes in Times of Change (2011*); and Workplace Health and Safety: International Perspectives on Worker Representation (2009). Based on his research he has also written numerous papers that have appeared in peer-reviewed journals.

Phillip Brandie, B.OH&S University of Newcastle (1996) and Dip Injury Prevention & Injury Management (SafeWork NSW). Phillip commenced his working life as a Waterside Worker in 1974 on the Sydney waterfront before transferring to work in the port of Newcastle, NSW. After completing his degree in Occupational Health and Safety in 1996, he worked for the NSW branch of the Australian Manufacturing Workers Union as a Research Officer representing union matters in the Industrial Commission. Between 2001 and 2021, Phillip was employed by SafeWork NSW (then WorkCover), where he initially worked as a field inspector in the manufacturing sector, later transferring to the major investigations unit, where he investigated serious and fatal incidents.

Signalman's Chair and Winding Engine Signal Code Cobar Mining Museum [photograph by research team]

Chapter 1: Executive Summary and Recommendations

This report examines evidence of safety and health representation in the NSW mining industry in order to consider whether industry-level safety and health representatives and site safety and health representatives should be re-introduced into the metalliferous industry. In 1876 NSW became only the second jurisdiction in the world to introduce mineworker representatives (known as check inspectors) in coalmines. This regime was augmented with industry (full-time) representatives and the system continues to operate effectively to this day. Metalliferous miners campaigned for a similar regime from the 1880s and progressively secured similar legislative arrangements after 1900. However, in 2004, the industry level representative was removed, and in 2013, site safety and health representatives were replaced by more generic health and safety representatives (HSRs).

However, in the last five years, several reviews have urged that consideration be given to reintroducing the industry-level safety and health representative. As the legislation is currently under review, the NSW Mine Workers Alliance commissioned us to undertake a review of the evidence. This was drawing on four sets of evidence, namely a review of the evolution of the legislation, inquiries and associated debates; a review of evidence of previous research into site and industry level representatives in Australian coal mining; a detailed examination of incident data, serious incidents, and compliance and enforcement in NSW mining from 2004 onwards; and interviews/focus groups with just under 50 mineworkers, HSRS, SSHRs, ISHRs and union officials in five different mining districts in NSW.

The report provides a detailed account of the introduction and evolution of the check-inspector regime at both mine and district levels in NSW and other Australian jurisdictions, demonstrating the need for both positions given the vulnerability of mine check inspectors and mineworkers in fear of victimisation. The regime was initiated in NSW coalmines in 1876 - four years after, a similar law was enacted in the UK – and is by far the oldest surviving form of worker representation in health and safety in the world, and continues to operate effectively. Check inspectors are now known as site safety and health representatives (SSHRs) and industry safety and health representatives (ISHRs), respectively. The system spread to other colonies/states and metalliferous mining from the 1890s, following concerted and often long union campaigns. From its earliest days, the system was seen as an important and valuable contributor to mine safety, giving miners 'voice' and capacity to protect their health, safety and well-being, and was progressively strengthened during the 20th century. As Chapter 3 shows, the winding back of the regime (including abolition of 'district check inspectors' in NSW metalliferous mining and worker inspectors in Western Australia) was not due to evidence of their ineffectiveness but was associated with the introduction of Post-Robens Occupational Health and Safety (OHS) [1]legislation from the 1980s (ironically representation provisions in mining helped inspire more provisions in general OHS legislation) and later the push to harmonise OHS legislation in Australia from

[1] Note: OHS is used in general contexts and pre introduction of the Work Health and Safety (WHS) Act. WHS is used within the context of WHS legislation. Health and Safety (HS) is used in Chapter 6, as this was used by focus group participants when referring to Health and Safety committees.

2011. The latter is now under critical review by Safe Work Australia amidst a number of concerns, including problems of levelling down – never a good basis for OHS uniformity. Further, two recent reviews (Bills and NSW Legislative Council) specifically recommended consideration be given to re-introducing ISHRs (or their equivalent) into metalliferous mining. In short, these changes – which were not adopted in coal mining in NSW nor both coal and metalliferous mining in Queensland - lacked a compelling rationale and were a backward step by weakening worker representation in metalliferous mining in NSW.

Chapter 4 then examines a number of studies undertaken of representative provisions in coal mining in Queensland and NSW – the last just over a decade ago. This constitutes, prior to this report, the best available evidence on the SSHR and ISHR regime and found these were effective, representatives using their powers carefully and astutely, and their input focused on serious hazards, complementing and enhancing the activities of government inspectors. In key respects the system was found to represent world's best practice, certainly as far as mining was concerned, and arguably in the wider context of high-hazard industries.

Chapter 5 provides a detailed analysis of mine incidents, and compliance and enforcement in NSW since 2004. It found that the revitalisation of the Mine Safety Advisory Council (MSAC) and a more proactive approach to enforcement recommended by the Wran/Mclelland Review in 2005 – the last general inquiry into mine safety in NSW, and reinforced by the *Wilkinson Fatality Review*, did result in a number of positive changes. The *Digging Deeper* report, commissioned by MSAC following Wran/Mclelland, identified a number of significant problems, including worker fears and retribution against some raising 'uncomfortable' safety and health issues – a problem that this report clearly shows persists (see Chapter 6) if not has become worse in metalliferous mining. The available evidence indicates the proactivity of MSAC has weakened in recent years. Since the *Wilkinson Fatality Review*, the Regulator has substantially increased the number of proactive visits to mine sites associated with targeted assessments and compliance priority programs or campaigns. This practice continues, including a recent targeted assessment of contractor management in coal mining, which is valuable and should be extended to metalliferous mining if that isn't already the case. The consolidated reports detailing the Regulator's findings initially provided detailed and nuanced information on breaches – issues addressed by compliance notices being described – and critical control implementation. In the last 5 years, this information has become more generic. The data analysed in Chapter 5 demonstrates that serious problems exist in metalliferous mining, and in some areas, trends are less favourable than coal mining, particularly the serious injury rolling five-year rolling average frequency rate. That metalliferous mining is not conspicuously safer than coal mining is reinforced by the detailed examination of serious incidents in NSW mines between 2004 and 2024 using the Ten pathways model, where conspicuous failures in OHS management recur with a regularity that should have aroused considerable concern and more emphasis on understanding why critical controls are not being implemented or maintained. This point is reinforced further by over 40 high potential incidents (HPIs) forms that were completed by coal and metalliferous miners using a Ten pathways template/report form. Metalliferous mining consistently performed worse than coal mining with regard to the latent failures incorporated in the model. In sum, this review found that the Regulator has placed little focus on the role of worker representatives in achieving mine health and safety, a key objective of the WHS Act 2011.

Chapter 6 reports the findings of interviews and focus groups conducted with 48 respondents in metalliferous and coal mining (workers, health and safety representatives/HSRs, SSHRs, ISHRs and union officials) using 10 general questions. Metalliferous mine respondents were clear and uniform, pointing to serious hazards that were being poorly managed in their mine in considerable detail (which cannot be reproduced in this report in order to preserve their anonymity) and a fractured and generally ineffective system of worker representation (including mine safety committees) notwithstanding the best efforts of some if not many HSRs where significant issues could remain unresolved for long periods, even years. Relations/interactions with government inspectors were minimal and, with some notable exceptions, not conducive to trust – epitomised by the uniform response that HSRs interviewed indicated they could not recall being notified of a visit by inspectors (as required under WHS legislation except in the case of unannounced inspections). HSRs and workers both indicated they felt vulnerable, and even those prepared to stop jobs for safety reasons pointed to other workers being reassigned to different tasks after doing this (a finding identical to *Digging Deeper*) while several cases where HSRs were apparently sanctioned were identified. The climate of fear was palpable. Coal mining was not immune from fears, but the representative structures were seen to operate effectively, with ISHRs providing mentoring, support and intervention when needed – this avenue of itself was enough to resolve issues. At the same time, ISHRs did not interfere with the functioning of SSHRs (a finding identical to earlier research described in Chapter 4). Further, in sharp contrast to metalliferous mining, coal mining respondents pointed to a close, collaborative and constructive relationship with government inspectors.

One important and new finding was that the 2013 legislative reforms had led to the introduction of HSRs into coal mining (in addition to SSHRs and ISHRs), which was seen to have both formalised and enhanced representation with carefully negotiated representative structures and clear protocols to ensure SSHRs did not impede HSRs or overcomplicate issues. This finding is also important because metalliferous mining respondents saw a need for SSHRs as well as ISHRs because their coverage was limited to a particular workgroup, not the overall site. In coal mining, a growing trend to appointing mechanical SSHRs (alongside electrical and general SSHRs) was evident and accepted by management as a positive step, given the increased complexity of mining machinery with associated hazards like very high-pressure hydraulic hoses. The value of specialist mechanical safety representatives had been identified by Bills and warrants further consideration in terms of formal recognition in both coal and metalliferous mining. Another problem area identified in interviews was with regard to the under-reporting or ‘downgrading’ of serious incidents in mines. Again, some coal mining respondents referred to this criticism (backed by detailed examples), but was more severe and widespread amongst metalliferous miners (see also Chapter 5 on this issue). The stronger representative regime in coal mining most probably contributes to better outcomes regarding notification and in other areas like representative/worker involvement in risk assessment and incident investigation, where metalliferous miners pointed to significant shortcomings. Finally, one problem common to both coal mining and metalliferous mining was concerns that job safety analysis (JSAs), Take 5 and other worker-dependent risk assessment devices were being used on routine mining tasks where safe work or safe operating procedures (SWP/SOPs) should have been in place and used. This represents a serious concern that warrants further investigation and action by the Regulator.

Chapter 7 summarises a number of key findings of the report, integrating information from Chapters 3-5, including the interactions between different levels of representation and the existing training regime (including recommending an extended application of the excellent Learning from disaster program developed by the NSW Regulator). It also specifically addressed a number of arguments raised to oppose the extension of ISHRs to metalliferous mining, finding that these arguments fail to hold up to critical scrutiny based on the evidence.

Drawing on these findings, there is a strong, indeed powerful case for establishing the positions of both SSHR and ISHR in metalliferous mining in addition to HSRs. Equally, arguments raised against this measure do not stand up to scrutiny based on the evidence.

We have provided key recommendations and further findings that we believe warrant future investigation or action to address.

Key recommendations

ISHR related recommendations

1. The statutory position of Industry Safety and Health Representative (ISHR) (and a number of positions – at least two) should be re-established in metalliferous mining in NSW along similar lines and with the same powers and functions to those found in the coal mining sector. This report reinforces earlier suggestions by Bills and others in this regard. There are strong grounds for undertaking this measure, and the counter-arguments we examined are not persuasive on evidentiary or policy grounds. In particular, we found that the existing representative arrangements in metal mines are deficient, and HSRs often feel isolated and vulnerable, especially in a climate where fear of retribution is widespread. The ISHR provides the critical backup who cannot be intimidated because they are not employed by the mine. With coal as a guide, their presence is likely to build more constructive and closer relations with government inspectors.
2. Consideration should be given to changing the legislation to enable ISHRs in both metalliferous and coal mining to make unannounced inspections as necessary. Coal mining ISHRs already have this power and function in Queensland, and we believe this might help mitigate the fear factor that presently pervades the metalliferous mining industry, but which is also found to some degree in coal mining. This issue will be examined in more detail in the second stage of this project, where representative mechanisms are examined in other jurisdictions.
3. The salaries and associated costs of metalliferous ISHRs should be paid for by the unions (MEU and AWU or NSW Mine Workers Alliance as appropriate). This is different from prior arrangements in NSW and the situation in Queensland in metalliferous mining, but was the overwhelming opinion of those we interviewed in the course of the project. A major reason given for this was the need to ensure ISHRs were seen as genuinely independent and representing workers.
4. The NSW Government should provide annual funding to assist metalliferous ISHRs to run training updates and information sessions for SSHRs and HSRs. Similar programs operate for SSHRs in coal mining in both NSW and Queensland and are an important avenue for SSHRs to enhance their skills/knowledge and confidence in exercising their functions.

SSHR and HSR related recommendations

5. The position of site safety and health representative (SSHR) should be re-established in metalliferous mining, again along similar lines to those applying in coal and with the same powers and functions (as was also evident in metalliferous mine legislation prior

to 2013). The legislative comparison and evidence collected in the course of this report made it very clear that SSHRs have coverage and functionary powers quite distinct to HSRs and, as in coal, could act as a coordinating and support point for HSRs who are limited to a particular workgroup as well as undertaking regular mine inspections (the original and still pertinent part of their activity) and preparing reports. Our interviews/focus groups in coal mining indicated this three-tier approach (if ISHRs are included) has not resulted in over-complexity or confusion, with SSHRs leaving HSRs to carry out their activities but being a reference point if difficulties arise.

6. Consideration should be given to legislative recognition of mechanical and explosives SSHRs in metalliferous mining. In coal mining, legislative recognition should be given to mechanical SSHRs, consistent with the Bills' report and the evidence collected for this report.

MSAC and the NSW Resources Regulator

7. Both SSHRs and HSRs in metalliferous mining should receive dedicated and mine-specific training appropriate to the particular challenges of working in a high hazard industry and consistent with the proven quality of pedagogic methods employed in labour education. This should include the *Learning from Disasters* package. There should also be a focus on specific serious hazards in metalliferous mining, most notably inrush or inundation, ground or strata failure control, machinery fires, air quality (dust, lead exposure), explosives and heat exposure (see Chapters 5 and 6). These hazards should also form the subject of metalliferous mineworker inductions. This would be an extension of training already provided in the coal industry, noting that general WHS training is generally not fit-for-purpose in mining environments.

Further findings

These findings from our research may warrant further investigation or action by MSAC and/or the NSW Resources Regulator.

1. There is a strong cost/benefit case to be made for re-establishing ISHRs in metalliferous mining. Best estimates are that each serious injury and disease claim (of which there were over 2806 in the years cited in this report) costs over $120,000, and each fatality over $5m (see Chapter 3). If the presence of a single ISHR in metalliferous mining prevented only three serious injuries/hazard exposures or a single fatality in a year this would more than justify any costs associated with them (and note the report recommends these costs be largely paid for by unions, not government). What also needs to be considered is the immense human suffering of miners and their families and friends when a miner is impaired or killed at work. These consequences have been researched and are both profound, extend over years if not decades, and can have a severe impact severely on children. Any cost/benefit analysis that ignores this is deficient.
2. Some issues requiring more attention uncovered by this report were dust/lead exposure, the use of contractors, identifying and managing hazards associated with new technologies, and the failure to undertake or consult with regard to changes in work methods or staffing levels (especially in metalliferous mines, where consultation was construed as explaining changes to be done).
3. In the course of this report, a number of serious issues with regard to mine safety and health were identified. Further evidence of these and indeed other issues was uncovered but could not be reproduced in this report in order to protect our informants from identification. The last overarching and relatively comprehensive review of mine safety and health undertaken in NSW was the 2004-5 review, chaired by Neville Wran

and Jan McClelland. Since then, there have been several reviews but with a relatively focused and partial agenda. While the question of worker representation does not in our view require further investigation, there are grounds for – after 20 years – a more general review of mine safety and health in NSW. The recent double fatality at Cobar reinforces this recommendation for a wide-ranging review of mine health and safety, especially with regard to metalliferous mining.

4. There is evidence of widespread fear among mineworkers of being victimised for raising and pursuing OHS issues. Not all mines were described as problematic in this regard, but these appear to be a minority, and the climate of fear was especially pronounced in some mines. This was a problem for HSRs and workers more generally, which was stated in every interview and focus group we undertook. As Chapter 3 pointed out, problems of worker voice being heard are not new, were raised in the *Digging Deeper* reports, and have, at best, not abated in more recent times. These initiatives need to encompass both metalliferous and coal mining, with the problem appearing to be worst in metalliferous mines, especially amongst labour-hire/contractors and in weakly organised mines.
5. There is a need for industry-specific training for SSHRs in metalliferous mining in the principal hazards relevant to that sub-sector, including the storage, management and control of explosives. In the course of the project, a number of serious incidents were identified with regard to explosives.
6. Given evidence of the informality of HSR appointments, absence of training/accreditation, and gaps in coverage, there would be a benefit for the NSW Regulator to review HSR numbers and training/accreditation at all metalliferous mines in NSW.
7. HSRs in metalliferous mining are frequently not notified of inspections and their right to accompany the inspector on site visits is not facilitated. The Regulator may consider steps to promote HSR involvement in risk assessments and investigations; as well as reviewing circumstances where lack of worker voice contributed to serious incidents. Dissemination of consolidated targeted assessment and compliance inspection reports to HSRs/SSHRs for communication to workers in shift-start safety meetings (see Chapter 6) would be beneficial.
8. Workers report the widespread misapplication of personal hazard/risk identification tool and Job Safety Analysis (JSAs) et al instead of Safe Work Procedures/Safe Operating Procedures (SWPs/SOPs) in routine tasks in both coal mining and metalliferous mining. An audit of the current status and use of SWPs and JSAs in mines, and whether SWPs are to update (and the review/updating process) especially with regard to metalliferous mines, may be beneficial.
9. For reasons identified in this report as a follow-up to the *Wilkinson Fatality Review*, Ten pathways should be used as a self-audit tool by companies, as a guide to investigations into incidents, and as a tool for both ISHRs and SSHRs (which is already beginning to occur in Queensland), and as part of the enforcement/targeted assessment toolkit. This could be facilitated by the production of the guidance note explaining the pathways, how they align with both NSW regulatory requirements and sound mine safety and health management principle, and with self-audit tools and appropriate training/awareness raising.

Chapter 2: Objectives, Methods and Ethics

Objectives

The objective of this project is to examine the site safety representative/HSR and industry safety representative regime in metalliferous and coal mining in order to provide evidence as to whether the regime presently operating in coal mining in NSW (and in both coal and metalliferous mining in Queensland) should be extended to (or more accurately reintroduced) in metalliferous mining in NSW. This issue is relevant to other Australian jurisdictions, including Western Australia and Tasmania (where a similar system previously operated), but the focus in this first report is on NSW, where the legislation is currently under review and where a number of reports have recommended consideration be given to reintroducing the previous regime.

The report was commissioned by the Mines and Energy Union with the support of the Australian Workers' Union. The research team consisted of three research academics with knowledge of mine safety and health (one formerly employed by the NSW Resources Regulator), worker representation, and a former experienced NSW Work Safe Inspector. The unions provided logistical support for the project, and the MEU funded the costs, but the report was prepared independently.

Methods

A mixed-methods study design, combining quantitative and qualitative methods, was employed to produce a robust set of findings. While quantitative methods are more readily replicated and therefore considered to be a reliable source of evidence, they are limited in what they can tell us about social processes contributing to the observed quantitative outcomes. These methods do not set out to achieve numerical representativeness in relation to the wider population. In the current study, quantitative methods were used to compare the number of safety incidents and compliance and enforcement actions between coal and metalliferous mining sectors presented in Chapter 5 and in the analysis of inspection records in the Queensland SSHR/ISHR study, which is referred to extensively in Chapter 4.

Qualitative methods are used to achieve a more detailed understanding of the experiences of a given population and the social processes that underlie the outcomes of interest, i.e., better health and safety performance. They are accepted social research methods in social sciences for addressing the "how" and "why", in this case, of health and safety outcomes of interest. The qualitative data provides contextual and in-depth insights into the observed performance. In the current study, qualitative data collection techniques employed were semi-structured individual and group interviews. While the sample was not representative of the wider population, participants were typical in terms of the range of occupations, ages, and years of experience of frontline workers in the mining industry.

A third broad methodological approach employed in mixed-methods study designs is an analysis of published and unpublished documentary information. This approach was used extensively to undertake a historical analysis of legislation presented in Chapter 2 and an analysis of incident investigation reports and regulatory compliance reports presented in Chapter 5. The methods employed in each approach are described in detail below.

First, a review of the legislation was conducted to explain the origins, content, purpose and evolution of the legislation in NSW, Queensland, Western Australia, Tasmania and Victoria from the 1870s (when the first laws were enacted in the UK and NSW) to the present day. This entailed reviewing the various acts of parliament, but also some bills and associated parliamentary debates, such as union and newspaper reports on the activities of mine safety and health representatives, for many years known as check inspectors (both mine-specific and those able to visit multiple mines in a district). For this, use was made of the expansive digitalised and searchable newspaper and document collection held by the National Library of Australia (known as Trove) using an array of search terms including 'check inspector' 'district check inspector', 'workmen inspector', 'worker representatives' and the like which yielded literally thousands of 'hits' that were then screened for relevant material. Trove is a valuable source, particularly for material prior to 1970. It was augmented by other searches to locate, for example, relevant Hansard reports of parliamentary proceedings. We were also able to draw on a number of government reports and inquiries that provided further insights into legislative developments and the assessment of worker representation mechanisms in mining. Finally, use was also made of the academic research literature (mostly published journal articles but also several PhDs), which examined relevant aspects of mine safety, including four that provided a detailed account of the origins and development of the check-inspector regime in coal and metalliferous mining in Australia (and parallel developments elsewhere). This information formed the basis of Chapter 3 of the project report, which provides important context for the review. It traces the development and evolution in coal mining and metalliferous mining separately and in each jurisdiction. This puts the NSW experience into wider context and also identifies important parallels, including the acknowledgement of the valuable role that check inspectors and their successors played in mine safety and health, as well as similar problems that were encountered, including worker fears of reporting and efforts at intimidation of check inspectors. This led not only to the strengthening of their powers and employer responsibilities with regard to their activities but also to the introduction of district check inspectors who were not subject to fears of dismissal for carrying out their tasks at a mine and who could offer support and mentor mine-site check inspectors. Importantly, Chapter 3 demonstrates that the winding back of the regime in some states and the removal of site and district mine representatives in NSW metalliferous mining (and worker inspectors in Western Australia) was not the result of any deficiency identified in their effectiveness but rather was the result of the introduction of post-Robens reforms to OHS legislation from the 1980s where mine specific safety laws were removed altogether or severely stripped back in some states, a measure reinforced by the national harmonisation of OHS laws from 2011. The short-sightedness of these reforms was highlighted by a number of serious mine incidents, including the Beaconsfield fatality/entrapment in Tasmania in 2006 and the Pike River mine disaster in New Zealand (which followed a similar path) in 2010. In the latter case, the major reforms to mine safety legislation that followed included the reintroduction of mine and district safety representatives.

A second source of evidence was drawn from academic research into the role and effectiveness of coal mine safety and health representatives undertaken in Queensland around 2011 and then again in NSW and Queensland several years later. The first report was commissioned by the MEU (then part of the CFMEU), while the second study was commissioned by the Institute of Occupational Safety and Health (IOSH) in the UK (a body representing OHS professionals), which entailed a five country study (Canada, Indonesia,

India, Australia and the UK) on miner representation/involvement in OHS. The studies involved a detailed analysis of over 1100 mine, industry and government inspectors' reports between the 1990s and 2011 in Queensland (for the first study), as well interviews, focus groups and training program observation, and document and legislative analysis (for both the first and second studies). Together with some additional reports and material, this information forms the basis of Chapter 4 of the report and provides comparative evidence for assessing the regime. In broad terms, the evidence suggests that both mine and industry safety and health representatives perform valuable and effective functions, with a particular focus on major hazards that could lead to serious injury and death, that are complementary to the inspection/enforcement activity of government mine inspectors. The studies found that mine workers and industry representatives use their powers to suspend operations sparingly, and that industry representatives are an important source of advice, support and mentoring for mine representatives, and the qualification and experience requirements of both are important in ensuring they are effective knowledge activists. The first study also identified a number of incidents where intervention by either mine or industry representatives prevented a potentially dangerous set of events from escalating.

Third, another set of data used in the report was serious incident reports and associated inspectoral and regulatory compliance and enforcement data. As background to this, a number of documents produced by the NSW Resources Regulator were reviewed from 2014 to the most recent available including annual reports, annual business activity reports, quarterly safety reports and consolidated targeted assessment/intervention and compliance priority reports, produced on completion of that program, from 2016 following the *Wilkinson Fatality Review* (referred to elsewhere) along with a number of other more specialised reports. In 2021, one of the team, Dr Heather Jackson, had completed a PhD thesis, which examined 51 serious incidents in metalliferous and coal mining in NSW since 2004. These incidents were analysed in detail based primarily, though not exclusively, on official investigation reports, using the Ten pathways model. For the purposes of this report, this information has been updated to include more recent incidents. This information forms the basis of Chapter 5, along with broader analysis of Regulator statistics and qualitative assessment program findings, and analysis of high potential incident (HPI) forms filled in by respondents interviewed for this project (also based on Ten pathways). At a number of points, the chapter highlights the role of worker voice in the reporting and investigation of incidents.

Fourth, the project team also undertook a series of interviews and focus group discussions with metalliferous and coal miners, SSHRs/HSRs, and officials in NSW at five different locations. In total, 48 miners (including a small number of union officials) participated in interviews, using a standard interview schedule to be found in Chapter 6, covering their experiences and views on mine health and safety and the role of representatives in particular. Each interview typically taking over an hour, while multiparty focus groups took rather longer. The interviews/focus groups were recorded and later analysed. In addition, each attendee was given an incident report form to complete on an incident they were familiar with that covered the 10 factors known to be repeatedly associated with serious injuries/fatalities. This form was also distributed to other miners willing to complete it. Another 15 forms were filled in by attendees at a coal mining SSHR conference held in November 2025 (the same ethics protocols applied as with focus groups). This information

forms the basis of Chapter 6 of the report, apart from the incident reports, which are reported in the notifications section of Chapter 5

Ethics

Miners and SSHRs/ISHRS/HSRs recruited for the project were identified by the unions (MEU and AWU) in each location visited. They were given a verbal explanation of the project and project aims (and provided with a statement on this to read), then asked if they were willing to participate and be recorded. Consistent with standard ethics protocols they were told that participation was voluntary, that the information provided would remain anonymous/confidential and that they could withdraw from the project at any time by simply contacting one of the lead researchers (whose contact details were provided on a separate piece of paper they retained after signing the consent form (with a separate signature required with regard to their willingness to be recorded). The research team was careful to indicate that no incident or information that might help to identify an individual would be included in the final report and that where the report referred to specific mines or incidents, this would only occur where that information was derived from publicly available sources (like inspectorate reports) and this would be made clear. The interview/focus group chapter was then circulated to key contacts with a request to check any quotes to ensure they did not reveal informants.

The research team was repeatedly made aware of mineworker concerns about potential retribution for raising OHS issues, something identified by prior research, and reports, and a survey conducted by MSAC and the Regulator. The MSAC survey had a low response rate, itself probably indicative of this issue, as this is a common challenge in surveying precarious/vulnerable workers. This made a cautious approach mandatory, and it was also very difficult to do a wider-ranging survey of mineworker opinions, especially in the timeframe, given the legislative review. While interviews/focus groups were overwhelmingly composed of union members, the views expressed were both germane to the project and essentially consistent with other reports and inquiries into mine safety, like *Digging Deeper*.

Report Structure

The remainder of the report is structured as follows. Chapter 3 traces the development and rationale for mineworker safety representatives both at mine and district/state levels in both coal mining and metalliferous mining from its beginnings in 1876 to 2025. It includes evidence on their activities and effectiveness in both sectors as well as associated policy debates. The chapter covers Australia because there are key lessons, parallels and similarities to be gained from considering all jurisdictions (some global comparisons are also made). The chapter deals with coal and metalliferous mining separately, although the parallels are striking. For those only interested in a particular jurisdiction like NSW, each is dealt with separately and is readily identifiable in the chapter. Chapter 4 reviews evidence on the role and effectiveness of SSHRs and ISHRs, drawing on a series of studies in Queensland and NSW, which were subsequently published in peer-reviewed academic journals, indicative of their quality. Indeed, research into coalmine safety and health representatives in Australia is amongst the most robust research on worker OHS representatives globally. This Australian research indicates the roles are effective and contribute significantly to OHS in mining. Chapter 5 provides a broad analysis of enforcement activities in NSW and a more detailed analysis of serious incidents in coal and metalliferous mining over a 20-year period since 2004. It indicates that a significant number

of serious incidents have occurred in both sectors, and (drawing on evidence from the Regulator) the vast majority of these incidents exhibit a recurrent pattern of failure based on the 10 pathways model. The chapter also examined over 40 serious/HPI incident reports prepared by respondents as part of fieldwork undertaken for this report. Again, these incidents indicate recurrent patterns of failure according to the 10 pathways model with overall scores being worse in metalliferous mining than in coal mining. Chapter 6 then reports on interviews/focus groups undertaken with 48 respondents in metalliferous and mining (including a small number of union officials but mainly workers, HSRs, SSHRs and ISHRs) based on 10 broad areas of investigation relevant to the role of representation in mine safety. This chapter presents substantial evidence in favour of extending (reinstituting) mine site and industry safety and health representatives in metalliferous mining based on the manifest failings of the existing system in metalliferous mining and the strong positive features of the coal mining regime (entirely consistent with findings of previous studies examined in Chapter 4). Chapter 7 draws the evidence together to make some general conclusions and also critically assesses a number of arguments raised to counter the introduction of an ISHR into metalliferous mining. Chapter 8 presents a series of recommendations drawn from evidence compiled in this report.

Part of miners' memorial wall for the Northern District NSW at Cessnock, recording mine fatalities from 1810 to present (photograph by research team)

Chapter 3: The development and rationale for mineworker safety and health representatives in Australia and current legislative requirements

Introduction and overview

Legislative provisions providing for coalminers to appoint and undertake inspections to safeguard their health and safety were introduced in the UK in 1872.[2] After a concerted union campaign similar measures were introduced in New South Wales in May 1876, and from the 1880s were adopted in New Zealand, and other Australian jurisdictions, beginning with Western Australia in 1895, followed by Queensland, Tasmania and Victoria over the next 20 or so years. Some Canadian provinces adopted similar measures also in response to the UK legislation. Increasingly, the system included both mine-site and district check inspectors (as these inspectors were popularly termed as well as in the legislation itself in some cases).[3] Widely used from the outset, early provisions contained a number of deficiencies including the liability of mine check-inspector to intimidation and an inadequate array of powers. As a result of concerted campaigns and in the wake of mine disasters (like Bulli, Mount Kembla, Mount Mulligan and Bellbird), these problems were slowly addressed. In particular, new laws gave formal recognition to the position of district check inspector able to inspect any mine, to support mine-site check inspectors, and with wide-ranging powers.[4] A similar system of workmen inspectors was introduced in France, Belgium and several other countries from the 1890s, and by the early 20th century, it is fair say the value of the scheme was widely acknowledged.[5]

The development was not confined to coalminers. Metalliferous miners were campaigning for similar provisions from the early 1880s. In NSW, mine-safety legislation began in coal mining (the first enactment in 1854, followed by further laws in 1862 and 1876) before the first legislation covering metalliferous miners was passed in the 1880s.[6] Separate bodies of coal and metal mining legislation were maintained and revised up to the present. This trajectory reflected the importance of coal mining in NSW in the 19th century while other colonies/states (Victoria, Queensland, Tasmania, Western Australia and South Australia), where metalliferous mining was relatively more significant followed a different path introducing laws that covered both metal and coal mining (like Queensland) but sometimes with separate coal mining provisions (as in the case of Western Australia) or introduced separate coal mining legislation later (as in the case of Victoria). A mine regulation bill

[2] Walters D, and Quinlan M, (2019) Representing workers on occupational safety and health: some lessons from a largely ignored history, *Industrial Relations Journal*, vol.50 no.4 399-414.
[3] Walters D, & Quinlan M, (2020) An International History of Coalminers' Actions to Voice Resistance to the Appropriation of their Safety and Health, 1870-1925, *Relations Industrielles*, 75(2): 376-399.
[4] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.
[5] Walters D, & Quinlan M, (2020) An International History of Coalminers' Actions to Voice Resistance to the Appropriation of their Safety and Health, 1870-1925, *Relations Industrielles*, 75(2): 376-399.
[6] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119 (November 2020): 33–60

introduced but not enacted in Queensland in 1879 included provisions for workmen inspectors (similar to the UK and NSW laws).[7] In some colonies/states, like Tasmania, campaigns for check inspectors were primarily conducted by metal miners' unions. In other states like NSW, metal miners' union led campaigns for check inspectors with Broken Hill being particularly active in this regard, securing provisions under the 1901 Act (further amended in 1945). By 1925, all Australian states had enacted check/workmen inspector provisions in metalliferous mining (a similar regime was introduced in the UK, if not elsewhere). As with coal mining, provisions were introduced or improved in the wake of mine disasters like the 1912 Mount Lyell mine disaster in Tasmania (with 42 killed, the fourth worst mine disaster in Australian history), as well as the high incidence of disease.[8] In Queensland, separate coal mining legislation was introduced following the 1921 Mount Mulligan mine disaster (with 75 killed in the third worst mine disaster in Australian history after Mount Kembla and Bulli) in recognition of the hazards specific to coal mining and the significance of the industry. Thereafter, Queensland maintained separate coal and metal mine safety legislation like NSW, both entailing mineworker inspectors (site and district). The dual system applied in NSW until recently.

These miner inspector provisions represented the first legislatively empowered worker safety and health representatives in the world. In the UK and NSW this was a full century before this principle was adopted with regard to workers more generally, as in what has been termed post-Robens occupational health and safety (OHS) legislation in the UK, Australia and other countries (and enshrined as a core element in ILO Convention 155 – the principle convention of OHS). In the early 1970s a committee chaired by Lord Robens (chair of the UK National Coal Board 1961-1971) prepared a report on rationalising and updating the existing patchwork of OHS laws into a single over-arching piece of legislation including general duty provisions and risk-management principles which served as a model for legislation not only in the UK but Australia, Canada and many other countries. Coming from the coal industry Robens was well aware of the check inspectors provisions and the Robens Committee made direct references to this:

> *Since 1872 coalminers have had a statutory right to appoint representatives to inspect mines on their behalf, and the Mines and Quarries Act 1954 extended this right to all employees in mines and quarries. Representatives are appointed through trade unions, and they have a right to carry out inspections at least once a month and to investigate accidents and dangerous occurrences. In 1970 Workmen's representatives made over 5500 inspections of coal mines and over 300 inspections of quarries. We found evidence of very close cooperation between mine managers, the Mines Inspectorate and workmen's inspectors. These arrangements as well as arrangements for joint safety committees at mine, area and national level, are obviously highly valued within the industry. Somewhat similar provisions for the appointment of worker safety representatives (as well as joint safety committees), is contained in Swedish legislation and the arrangements*

[7] Brisbane *Week* 7 June 1879.

[8] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119 (November 2020): 33–60

appear to be valued for their practical contribution to cooperation on safety matters at the shopfloor level.[9]

The Robens report influenced the introduction of employee health and safety representative (HSR) provisions in post-Robens legislation in many counties including Australia as indicated. Even so, the separate mine representative regime retained in the UK and Australia's major mining states was arguably superior in some respects, especially in the context of a high-hazard industry. The UK regime ended with the collapse of coal mining but continues to operate in NSW (making it the oldest surviving system of statutory worker representation in OHS in the world), Queensland and New Zealand.

As OHS regulation remains primarily a state and territory responsibility. This chapter will examine the history of these provisions in each jurisdiction and the current regulatory requirements. This helps understand why the provisions were introduced, their contribution and ongoing relevance, and why they lapsed in some jurisdictions. While there were a number of reasons for the latter, the irrelevance or ineffectiveness of these provisions was not one of them. The primary reason was a desire to 'harmonise' mine safety legislation with general OHS legislation when this was reformed according to the post-Robens model from the 1990s – the first general OHS legislation to also contain health and safety representative (HSRs) provisions. This was reinforced by a further harmonisation push with model OHS legislation from 2013. In some cases, like Tasmania (and New Zealand), mine-specific legislation was repealed altogether, with a few residual provisions incorporated into OHS legislation. This harmonisation push failed to appreciate that as a high hazard industry mining required specific preventative measures (for example with regard to reporting incidents known to lead to serious impairment and fatalities), more stringent OHS management regimes (introduced in the wake of mine disasters like those at Moura (three), North Parkes and Gretley), and legislatively empowered site and district check inspectors (renamed safety and health representatives). Unlike HSR provisions in general OHS legislation, the latter were experienced, qualified and trained to address high hazard and single fatality risks (as well as being able to address other OHS issues). Three jurisdictions appreciated this to varying degrees. Queensland maintained separate metalliferous and coalmine safety legislation, though introducing a number of measures that more closely aligned it with post-Robens OHS legislation (including the introduction of general duty provisions). New South Wales and Western Australia (the other two big mining jurisdictions) retained separate mine safety legislation/regulations but placed them under the broader rubric of their general OHS laws. However, while the strong representative provisions developed in coal mining were retained, those applying to metalliferous mining were progressively diluted as part of the 'harmonisation' logic, initially by regulations in 2000 and then entirely replaced by general OHS HSR provisions in 2013. In Western Australia, a similar process occurred, with the removal of worker inspector provisions (notwithstanding endorsement of their role by the Kenner Review) as part of the 'harmonisation' logic, although mine HSRs had some particular powers (like the power to require a risk assessment be undertaken under the 2022 regulations).[10]

[9] Cited in Kenner, S. J. (2009), *Review of the Mine Safety and Inspection Act 1994*, Report to Western Australian Minister for Mines and Petroleum, Perth, 301-302.
[10] Western Australia, Work Health and Safety (Mines) Regulation, 2022

At the other extreme, Tasmania, Victoria and South Australia (all with smaller but significant mining activities) subsumed mining into OHS legislation as part of the harmonisation process. The short-sightedness and failure to understand why mining required specific regulation, including strong worker representative provisions, was starkly revealed in the wake of the 2006 Beaconsfield mine fatality/entrapment and the 2010 Pike River Mine Disaster (29 Killed). Following this, New Zealand reintroduced stringent mine safety legislation with strong representative provisions modelled on NSW and Queensland. In Tasmania, mine specific regulations were introduced following Beaconsfield (especially 2009 and 2012), but these only partly remedied the regulatory gaps and largely ignored representative provisions. Despite the need for urgent change in the legislative framework identified by an audit of the Mines Inspectorate in 2014, deliberations on revising the legislation dragged out and are still unresolved at the time of writing. Further, the tranche of further reforms being considered do not include strengthening representation provisions. Victoria relied on mine-specific provisions in the model OHS legislation which are rather basic compared to the more comprehensive legislation found in NSW, Queensland and Western Australia. A fatality/serious injury incident at a Ballarat mine in 2024 where a contractor was using a mining method (air-legging) over which both workers and the company's safety manager had expressed concerns prior to the event should have resulted in an independent review of the adequacy of the existing legislation and the regulator, but hasn't.[11]

As a matter of background information, it should be noted that the mine safety regulator in Queensland, NSW and Western Australia is funded from an industry levy. In Queensland a levy is imposed on a sliding scale (according to size) on all mines (coal and metalliferous) and quarries. The rates are 0 to 5 workers - no levy payable; 6 to 10 workers - $128 per worker per year; 11 to 19 workers - $512 per worker per year; 20 to 99 workers - $959 per worker per year; and over 99 workers - $1279 per worker per year. The sliding scale accommodates the limited resources of smaller mines and quarries with no levy being payable in very small operation. Fees collected by the levy fund safety and health services including safety and health inspections and audits; investigation of mine/quarry and explosives accidents; provision of safety and health advice; collection and maintenance of mine employee health records; dissemination of mining and explosives safety and health standards; research, development and training in mining and explosives safety and health; provision of emergency services; and collection and reporting of safety and health statistics. A similar approach (or proportion of royalties) has been advocated in other jurisdictions notably Tasmania, where regulatory resourcing/under-staffing has been a recurring issue.[12]

The remainder of this chapter is divided into four subsections. Subsection 2 considers the history and current regulatory requirements with regard to coal mining in each state. Subsection 3 considers the history and current regulatory requirements with regard to metalliferous mining in each state. Subsection 4 draws the key findings together.

[11] *ABC News* 15 March 2024. https://www.abc.net.au/news/2024-03-15/miners-call-for-stronger-regulations-ballarat-gold-mine-fatality/103588606

[12] Quinlan, M. (2014) *Third Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart.

The development of legislation, main features and operations: Coal mining

New South Wales

Coalminers in the Hunter Valley were taking multi-mine coordinated action from the early 1850s, and efforts to form a union are known from 1860 onwards with a series of failed attempts until success in 1870 (today part of the Mining and Energy Union or MEU), followed by similar efforts on the Southern and Western coalfields. Almost immediately after its formation and the year before the UK workmen inspector provisions were introduced in 1872, the Hunter Valley union began campaigning for these provisions in NSW. In December 1871, a meeting of Hunter Valley colliery delegates at Lambton demanded that the Coal Fields Regulation Bill, then before parliament, include provisions for miners 'to appoint, and if need be pay for a check inspector of coalmines.'[13] In June 1872, a deputation presented a petition signed by 850 miners pointing to defects in the 1862 legislation, including the absence of rules on known hazards and the inability of the examiner or inspectors to stop any dangerous, defective or badly ventilated place, and calling for new legislation. As part of this the petition called for 'persons' working in any colliery being allowed to appoint a person, at their own expense, to be designated a Check Inspector, would tend greatly to the preservation of health, and life, as such -person could openly call the attention of the Government Inspector to any deficient -place, and give evidence in any case without any fear of losing his employment.[14] After being rebuffed, coalminers resumed their agitation a year later with another deputation, which resulted in a bill being introduced into parliament that included provisions for coalminers to appoint their own check inspectors, but this bill failed to be enacted.[15] The union had sought a conference with coal owners who had expressed opposition to both provisions relating to ventilation and check inspectors.[16] The miners renewed their agitation in March 1875 when another bill went before parliament, including further deputations, district-wide meetings of delegates and individual lodges complaining about the quality of ventilation.[17]

Their campaign contributed significantly to the passage of the *Coal Mines Regulation Act* (39 Victoria No.31) in May 1876, which replaced the 1862 Act and entailed the most significant piece of mine safety legislation to that date. The Act extended general rules on mine working, including requiring ground support and prohibiting entry to unsupported areas except for exploring (i.e., surveying) and repairs. There were more extensive provisions (ss19-21) relating to payment by weight and check-weigh-men (appointed and paid by miners to safeguard their interests). Section 22 provided a mechanism for miners to secure unpaid wages before a court of petty sessions while s23 prohibited the payment of wages in a public house. Section 24 required examiners or inspectors to inspect collieries at least once every eight weeks. Importantly, s30 empowered miners to appoint two of their number to conduct (at their own expense) inspections of the mine at least once a month and make a report to be recorded in a book held at the mine. This mirrored a provision in the 1872 UK *Coal Mines Regulation Act,* which was the first provision in OHS legislation giving workers some input into safeguarding their workplace.

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[13] *Newcastle Chronicle,* 23 December 1871

[14] *Newcastle Chronicle* 22 June 1872.

[15] *Sydney Morning Herald* 5 July 1873; and *Newcastle Chronicle* 2 and 6 December 1873.

[16] *Newcastle Chronicle* 16 December 1873 and 3 January 1874.

[17] *Sydney Morning Herald* 18 March 1875; *Miners Advocate* 28 April 1875 and 9 June 1875.

Check inspectors were rapidly appointed at a number of mines and began undertaking regular inspections and preparing reports that focused on the most serious coal mining hazards, including ventilation. These inspection reports were tabled at regular lodge meetings with many reproduced in local newspapers like the *Newcastle Morning Herald*. The latter practice continued well into the 20th century, such that there are many thousands of reports of these inspections in Trove collection of Australian newspapers.[18] As will be shown later, the focus on hazards that could seriously maim or kill miners continued to be the focus of such activities and, indeed, remains the case as confirmed by more recent research.[19] In October 1876, the Hunter Valley Coalminers Mutual Protective Association required that all lodge secretaries furnish the General Secretary with a full report from check inspectors on the state of their mines 'to be inserted in a book kept for that purpose'.[20] The appointment of check inspectors spread to other districts like Lithgow by 1878 and the Southern NSW coalfields in the 1880s.[21] At the same time, a number of limitations in the legislation became apparent in terms of the scope of check inspectors powers and their capacity to undertake their functions, with instances of managers challenging the legitimacy of their appointment or outright intimidation/victimisation of those taking on the role, which had a chilling effect on the willingness of others to serve. The provisions only permitted the appointment of working miners at that mine, thereby excluding experienced miners from other mines, union officials with considerable mining knowledge/experience, or even mining engineers from undertaking the role. This situation has been replicated in the current 2013 mining legislation as it applies to metalliferous mines. This meant those undertaking the task, which might entail criticising management decisions, risked retribution, and instances indeed occurred.[22] To cite but one example in 1886, the union referred the suspension of check inspectors at the Greta colliery to parliament.[23]This limitation was not confined to NSW but also applied to the UK and indeed every other jurisdiction (including metalliferous miners) that had copied this model from the UK.

By the mid-1880s, the union was pressing for specific district check-inspector provisions in the legislation, although it appears senior officials, most commonly the union president, were operating in this role without legislative mandate.[24] The need for more stringent legislation, including greater powers for check inspectors were starkly revealed in evidence following the Bulli mine disaster in 1887, where 81 men and boys died in an explosion that wiped out the male side of several families, left over 50 children fatherless and blighted the community,

[18] This source is important because the records of individual lodges have often not survived though district union records have which regularly refer to these activities.

[19] Walters, D. Quinlan, M. Johnstone, R. & Wadsworth, E. (2016), Cooperation or resistance? Representing workers' health and safety in a hazardous industry, *Industrial Relations Journal* 47:4, 379–395; Walters, D. Johnston, R. Quinlan, M. & Wadsworth, E. (2016) Safeguarding Workers: A Study of Health and Safety Representatives in the Queensland Coal mining Industry, 1990-2013, *Relations Industrielles*, 71-3, 418-441; Walters, D. Quinlan, M. Johnstone R. & Wadsworth, E. (2019) Representing miners in arrangements for health and safety in coalmines: A study of current practice, *Economic and Industrial Democracy*, 40(4): 976-996.

[20] E165-28 Hunter Valley Coalminers Mutual Protective Association Minutes, 5 October 1876.

[21] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[22] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[23] *Newcastle Morning Herald* 15 September 1886.

[24] See for example *Newcastle Morning Herald* 2 July 1885.

notwithstanding large donations raised in the aftermath. This was then the worst mine disaster in Australian history (only to be displaced to second place by another South Coast disaster at Mount Kembla in 1902, where 96 men and boys died). Bulli occurred shortly after another disaster at Lithgow, where seven (including the manager) died, and was followed by other smaller disasters like 11 killed at the Borehole/Glebe Colliery in the Hunter Valley in 1889. Again, reform was belated, even though in 1887 the UK legislation had been amended to increase the scope of their inspections/facilitation of check-inspector activities and required copies of their reports to be sent to the district mine inspector. The NSW *Coal Mines Regulation Act* introduced in September 1896 contained few references to check inspectors, notably Rule 41 referring to the penalty for interfering in their activities. Section 26 (VIII) with regard to coronial inquests stated:

> Any relative of any person whose death may have been caused by the explosion or accident with respect to which the inquest is being held, and the owner, agent, or manager of the mine in which the explosion or accident occurred, and any person appointed by the order in writing of the majority of the workmen employed at the said mine, shall be at liberty to attend and examine any witness, either in person or by his counsel, solicitor, or agent.

This provision not only gave families a right to representation at coronial inquests but also workmen at the mine, and was not limited to those at the mine. In essence, it provided an option for experienced union officials, including informal district check inspectors, to take a role in inquest proceedings. Indeed, this became an important role for district check inspectors in both coal and metalliferous mining. This was important both in terms of giving families a voice (very few were in a financial position to afford to appoint their own representation) and also enabling union input into uncovering the causes of fatalities and influencing coronial recommendations with regard to this. These remain important up to the present, and the value to families has been attested to by contemporary research.[25] While the Act was ambiguous Hunter Valley lodges sought legal advice on their power to appoint district check inspectors under the 1896 Act, and by January 1897 if not before district check inspectors were being appointed on the South Coast, though not without challenge.[26]

The ongoing limitations of even this legislation were soon evident by a string of further disasters at the Stockton Colliery (nine killed, December 1896), Dudley Colliery (15 killed, 1898) and Mount Kembla Colliery (96 killed, 1902), not to mention a number of near-misses or serendipitous circumstances that could have easily increased the toll. The Northern, Southern and Western Districts of the coalminers unions pressed for more stringent legislation but were, as had occurred after Bulli, largely stymied by powerful coal-owner interests in parliament. This occurred notwithstanding clear evidence of check inspector intimidation and unwillingness of others to stand in the lead-up to the Mount Kembla Mine disaster (again, there was similar evidence prior to the 1887 Bulli disaster). During the Royal Commission into the Mount Kembla disaster, asked by one of the Commissioners if he could

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[25] Quinlan, M. Matthews, L. Bohle, P. & Fitzpatrick, S. (2015) Employer and Union Responses to Traumatic Death at Work: Evidence from Australia, *New Zealand Journal of Employment Relations*, 40(3):1-23; Matthews, L. Quinlan, M. Fitzpatrick, S. Bohle, P. & Ngo, M. (2016) Bereaved Families and the Coronial Response to Traumatic Workplace Fatalities: Organizational Perspectives, *Death Studies*, 40(3):191-200.

[26] *Newcastle Morning Herald* 31 December 1896; *Sydney Morning Herald* 11 January 1897; *Illawarra Mercury* 12 January 1897.

refer matters to the check inspectors and government inspectors, miner and Mount Kembla Lodge delegate James Silcock was asked if he could refer matters to the check inspectors and government inspectors. Silcock told the Commission 'you can do a lot of things if you want to get the sack', a view that was reinforced by a number of other witnesses giving evidence.[27] No major legislative reforms flowed from the Royal Commission which as with Bulli distributed the blame in a way that let the company largely off the hook.

The 1912 *Coal Mines Regulation Act* confined itself to reproducing the 1896 Act provisions. In 1923, an explosion at the Bellbird colliery in the Hunter Valley killed 21 miners. This was another instance where warning signals had been ignored including (but not limited to) a check-inspector's report that had warned of dangerous levels of coal dust prior to the explosion. Check inspectors played an active role in the rescue/recovery efforts, the coronial inquest and joint meetings with management and government inspectors to consider re-opening the mine.[28] Unlike Bulli and Mount Kembla, the Bellbird disaster had a tangible effect. Amendments to the *Coal Mines Regulation Act* in 1926 made specific reference to 'check inspectors' and gave them rights to investigate serious incidents (Section 36(2)), involvement in sanitation (Rule 43), certifying the eyesight of shot-firers, and to view inspector's reports (Section 28). Another indication of the check inspector's importance was their inclusion in the legislation's key definitions section. In April 1941, the *Coal Mines Regulation (Amendment) Act* (No. 16, 1941) underwent further significant amendments, strengthening the role of check inspectors. Importantly, this legislation made specific reference to district check inspectors. Amended Rule 35(z)(ii) provided:

> In the case of any mine in which two persons have not been appointed in accordance with the foregoing provisions of this general rule and a majority of the employees at which mine are entitled to vote generally in the election of the person holding the office of district check inspector, the person holding such office shall have the same rights and obligations as a check inspector appointed under the provisions of this general rule.

The *Coal Mines Regulation (Amendment) Act* 1947 s54 Rule 39. (1) introduced new wording to the general rule: — Rule 39. (1) The majority of the persons employed in or about a mine may from time to time appoint in the manner hereinafter provided two of their number or any two persons who are practical miners and one of whom is the holder of at least a third-class certificate of competency or of service under this Act to inspect the mine at their own cost, and the persons so appointed shall be allowed from time to time on giving reasonable notice to the manager, accompanied, if the owner, agent, or manager of the mine thinks fit, by himself or one or more officers of the mine, to go at any time to every part of the mine, and to inspect the shafts, levels, planes, working-places, return air-ways, ventilating apparatus, old workings, and machinery, and also to examine the plan and section of the mine as provided by section thirty-five of this Act. Provided that such inspection shall not be conducted so as to impede or obstruct the working. The finding on any day …… condition from danger to safety, health and property… (as amended in 1941). The new section 36A of The *Coal Mines Regulation (Amendment) Act 1960* required the owner/manager to report 'certain occurrences' (high potential incidents) to the check inspector of the district. In 1972,

[27] Walters and Quinlan, Voice and resistance, 513-31
[28] *Maitland Mercury*, 23 September 1923; *Sydney Morning Herald*, 1 May 1924.

the Coal Mines Regulation Amendment Act included the ‘District check inspector’ and ‘Electrical check inspector in the key definitions of this amendment Act.

By 1982, the *Coal Mines Regulation Act* contained a separate division relating to check inspectors (Sections 71–84), dealing with their powers to undertake inspections, their election, assistance to be afforded to them, their reports and hazard reporting. Sections 77–79 dealt with the election and powers of district check inspectors, and Sections 80–84 with electrical check inspector (a qualified electrician and member of the then Electrical Trades Union). The need for the latter perhaps reinforced by the 1979 Appin mine disaster (14 died) where an explosion/fire was widely attributed to an inadequately sealed fuse box. These provisions were incorporated into the *Coal Mine Health and Safety Act* 2002, a major legislative revision introducing risk assessment, management systems and targeting mass-fatality hazards following the Gretley mine disaster in 1996 (four killed by inrush) and North Parkes disaster in 1999 (four killed by an air-blast). As part of the national effort to harmonise OHS legislation with the adoption of model WHS legislation in 2013 the NSW Government introduced the *Work Health and Safety (Mine) Act*. Following lobbying by the MEU and in recognition of the particular hazards of coal mining exemplified by the Pike River mine disaster (specifically referred to in parliament) the Act contained a separate set of provisions on work representation in coal mining that replicated previous provisions, including retaining district check inspectors (now retitled Industry Safety and Health Representatives or ISHR) and electrical safety and health representatives. Addressing parliament, Minister Chris Hartcher observed:

> The high-risk nature of coal mining has warranted special attention by governments and mining operators. Underground coalmines are inherently hazardous workplaces because of the potential explosive atmospheres associated with methane. The bill ensures that the existing coalmine-specific worker representative arrangements are maintained. These arrangements are consistent with Queensland—the other key coal jurisdiction—and the recommendations from the Pike River royal commission report. Industry safety and health representatives, and site-specific safety and health representatives will supplement existing work health and safety worker representatives. The key coalmining stakeholders, the NSW Minerals Council and the Construction, Forestry, Mining and Energy Union [CFMEU], Mining and Energy Division, are in agreement on the coal-specific worker representatives. This scheme is a re-alignment of the "check inspector" scheme under the Coal Mine Health and Safety Act. It enables a practical framework for the concurrent operation of worker representation, consultation and participation schemes under both the bill and the Work Health and Safety Act. The coalmine specific safety and health representatives have all the powers and functions of health and safety representatives under the Work Health and Safety Act. The bill provides for the Minster to appoint industry safety and health representatives. The industry safety and health representatives will be able to enter and inspect a workplace at a coalmine. Additionally, they will be able to review the content and implementation of a coalmine safety management system, participate in an investigation of an event, occurrence or notifiable incident, and assist in the training of other representatives.[29]

[29] NSW Legislative Assembly 23 May 2013.

Under current legislation, workers' representatives in NSW are required to have 3 years of experience as a coal miner and to undergo substantial training. The SSHR course of training is required to be of five days' duration, and the content is to be approved by the Chief Inspector. SSHRs are elected by workers at the mine according to a procedure agreed to by the mine operator, the union(s) that represent workers and the majority of workers at the mine. Elections are run by the involved union or if more than one, the union specified. If agreement cannot be reached, the election is run as directed by the Chief Inspector. In NSW, there is also provision for an electrical SHR. District check inspectors are now known as Industry Health and Safety Representatives (ISHR) who are (usually full-time), experienced, well-qualified and union nominated inspectors with wide-ranging powers of entry and inspection. They also have powers to stop dangerous work in relation to the mines within the areas they cover. ISHRs are required to hold qualifications to be a deputy or open cut examiner. ISHRs are nominated by the MEU and appointed by the minister. A person eligible for appointment must be a WHS entry permit holder and hold the qualifications as prescribed by the regulations. Salary, travel and other costs of the ISHRs are paid for by the MEU, although the NSW government does contribute to the regime annually. There are four ISHRs altogether, plus the South-Western District provides two relief ISHRs – one for the Western area and one for the Southern area – to cover extended leave/absence. NSW ISHRs receive an annual salary plus a car, overnight subsistence and other benefits paid for by their respective district. These salaries, like those in other jurisdictions, are aligned with a generally flat salary structure in the MEU for officers, irrespective of the seniority of positions held. In NSW in 2025, the annual cost of the MEU's ISHR program was $1,405,292.57, including wages, travel, resources, and training. In addition, in NSW, the MEU contributes annually over $50,000 to maintain the skills of SSHRs/ESHRs through safety seminars and training days.

Western Australia

In Western Australia, following a campaign for check inspectors by the Collie Miners Association campaign a provision (similar to other jurisdictions), section 37 (collieries part) of the 1895 *Mines Regulation Act (59 Victoria No.37)* provided that:

> The persons employed in a mine may, at their own cost, appoint two of their number to inspect the mine, and the persons so appointed shall be allowed once at least in every month to go to every part thereof, and to inspect the shafts, levels, planes, working places, return air-ways, ventilating apparatus, old workings, and machinery; and the manager (who may if he thinks fit accompany them) and all persons in the mine shall afford every facility for such inspection, and the persons so appointed shall record the result of such inspection in a book kept at the mine for the purpose, and the report shall be signed by the persons inspecting.

Section 12 (General Part) of the same Act gave miner's a right to inspect, if they considered conditions unsafe and gave the manager 24-hour notice. In 1902, following extended debate, the *Coal Mines Regulation Act* (1&2 Edward VII No. 25) replaced the 1895 Act. Under its regulations, rule 50 enabled persons at a mine to appoint, at their own expense, two of their number or any persons who were practical miners (but not mining engineers) to conduct inspections at least once a month. Written reports of inspections were to be kept in a book and if identifying any apprehended danger sent to the local government mines

inspector forthwith.[30] Similar to the NSW *Coal Mines Regulation Act* 1896, Rule 52 prohibited management interference in the appointment of check inspectors and check-weighmen. Rule 7 gave miners the right of withdrawal if apprehending danger due to the presence of flammable gases. Found in the laws of other jurisdictions like NSW, the right to withdraw from apprehended danger became a key principle of mine safety, although exercising this right could prove difficult in practice as the Pike River mine disaster amply demonstrated.[31]

Following a prolonged struggle also involving metalliferous miners (see next subsection for detail) in 1915, the *Mines Regulation Act* was amended to provide for workmen-inspectors (with at least five years' mining experience) elected by those employed "in the mines in the several mining districts" and subject to approval by the Minister. However, this legislation appears to have been confined to metalliferous mining, requiring an amendment in 1928 to extend it to coal mining. In introducing the Bill, the Minister indicated the 1915 legislation had resulted in the smoother operation of mines and the government would provide funding but not a full-time appointment 'at present.'[32] Like metalliferous mining, they were entitled workmen inspectors (along the lines of the European model), and the position appears to have become permanent. The provision for elected workmen inspectors were incorporated/retained in the 1946 *Coal Mines Regulation Act*. In Collie's election to the position, which required a third-class certificate of competency, the election was often contested with multiple nominees and a subsequent election.[33] As elsewhere, the Collie district workmen inspectors undertook regular mine inspections, attended coronial inquests and contributed to debates about the adequacy of regulation. Further, like their colleagues in the eastern states, they (and their work) became highly respected within the mining and wider community. Amongst other things, this was exemplified by obituaries like the Collie Mail's report of 'popular mine inspector' Bernard McCabe suffering a fatal seizure aged 46 in March 1950.[34]

Queensland

In Queensland, as noted earlier, provision for workmen inspectors was included in a mines regulation bill introduced in 1879, but did not pass despite pressure from the member for Bundamba representing the West Moreton coalfields.[35] The first mines regulation statute was enacted in 1881. After several failed attempts, Ipswich coalmines west of Brisbane established a permanent union in 1886 with Thomas Glassey (blacklisted Scottish union activist) as its founding secretary. By 1898 Glassey, now an MLA, was advocating that check inspector provisions like those in NSW be included in a mining bill then before parliament.[36] Glassey again pressed the issue as a member of the Royal Commission into the 1900 Torbanlea mine disaster (five killed). The union too continued to agitate, including a deputation to the minister for mines in 1906. The 1910 *Mines Regulation Act* (1 Geo V 24) empowered miners to elect persons to carry out inspections on their behalf; to view the

[30] *Kalgoorlie Miner* 25 March 1902; *Western Mail*, 15 February 1902.
[31] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney
[32] *Kalgoorlie Miner* 30 November 1928 and 7 December 1928.
[33] See *West Australian* 18 May 1950.
[34] *Collie Mail* 30 March 1950.
[35] Queensland Parliamentary Debates (Hansard) Legislative Assembly 9 September 1879.
[36] *Queensland Times*, 1 December 1898.

mine's record book (section 9(4)); to inspect the scene of accidents (section 28(2)); to be notified by the mining warden of any inquiry into fatal accidents at the mine (section 31(2)); as well as to be notified of any special rules and lodge objections to them (sub-sections 51(2), (3) and (5)). Amendments in 1916 improved check inspectors' access to materials (*Mines Regulation Act Amendment Act*, 1916) followed by further changes in 1920 empowering them to take weekly temperature readings. A 1921 amending Act specified that check inspectors had to be elected and could be removed from office by a two-thirds majority in a ballot.[37]

On 19 July 1921, an explosion at the Mount Mulligan coalmine in North Queensland killed 75 miners (all those underground). Charles Kilpatrick (see below), a Legislative Council member and district check inspector was one of three appointed to the Royal Commission that found neither government nor check-inspections had identified excessive coal dust, and mishandling/storage of explosives was the most likely source of ignition. The latter problem had been raised by miner's representatives during a prior inspection at the mine. The union had also previously called for more stringent regulation.[38] A key outcome of the Royal Commission was recognition that coal mining involved distinctive hazards leading to the separate Coal Mines Act 1925. Section 70 of the Act gave miners' inspectors the power to suspend operations (Commonwealth of Australia, 1927). But appointment was still restricted to practical working miners at the mine.

There was no provision for district check inspector but as in NSW the Queensland Collieries Employees Union responded to limitations with purely mine-based check inspectors by appointing experienced miners and senior union officials as district check inspectors. The first was David Gledson (elected union secretary in 1908 and with a mine managers' certificate) in 1911, who was succeeded long-term union president Charles Kilpatrick. Both undertook regular mine inspections and prepared reports with Kilpatrick's visits extending to central and north Queensland mines. They also represented the union in enquiries into serious mine incidents such as a fire at the Redbank colliery in November 1919 (three miners were injured). Kilpatrick testified that he had visited the mine a day prior to the incident and noting an ignition with no evidence of gas had issued a warning because the circumstances were similar to those where another miner had been burned.[39] In 1922, Kilpatrick and two managers jointly inspected the City Colliery following a complaint over ventilation by miners. As result, a new fan was installed. Check inspectors also prepared detailed reports for biannual meetings of the Queensland union, identifying OHS trends and issues requiring attention. It was not until 1938 that a new section (70A) provided for district check inspectors, notwithstanding clear evidence of the valuable role they played.[40] As in NSW district check inspectors became highly respected members of the mine safety regime and the communities they interacted with, undertaking regular inspections, doing joint

[37] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[38] Royal Commission appointed to Inquire into and Report upon the Recent Disaster at Mount Mulligan Coal Mine, and also into the Methods of Mining carried on at such Mine, and, further, to make such Recommendations as may tend to Prevent the Recurrence of Accidents of a like nature (1922) Brisbane, QLD, Australia: Government Printer.

[39] *Daily Standard*, 20 January 1920.

[40] For evidence of the associated parliamentary debate see *Courier Mail* 8 September 1928 and *Brisbane Telegraph* 20 September 1938.

inspections with government inspectors (including following serious incidents like the Collinsville State mine outburst in 1954 (seven killed) and others, contributing to inquests, mine safety inquiries and legislative reviews and representing miners on government mine safety advisory bodies.

As in NSW a major revision of mine safety legislation was undertaken from the late 1990s in the wake of an explosion at the Moura No.2 mine (11 killed) along with two earlier disasters in the district (13 killed at Kianga in 1975 and 12 killed at Moura No.4 in 1986), to better prevent mass-fatalities and also align mine safety legislation more closely with post-Robens legislation. The *Coal Mining Safety and Health Act 1999 (Qld)* ss108-124 gave industry safety and health representatives the power to visit any mine within their region to conduct safety inspections, review documents, and order a cessation of work if they judge workers to be in imminent danger.

More recently, the MEU and its ISHRs played a conspicuous role in pressing for government inquiries garnering expert evidence (from the USA) and remedial interventions (including better and more localised screening following the re-identification of pneumoconiosis (black lung) helping to turn a conspicuous failure in medical/regulatory oversight into world's best practice.[41] The Board of Inquiry into the 2020 Grosvenor mine explosion endorsed the important role of safety representatives as well as the challenges posed by labour hire arrangements in this regard (see also Chapter 5). In 2023, this was followed up by a report by the Transport and Resources Committee Queensland, which examined participatory mechanisms and other issues considered by the BOI. It made specific reference to the BOI findings:

> The BOI found that Industry Safety and Health Representatives (ISHRs) have an important role in maintaining safety and health at coal mines. ISHRs are appointed by MEU under section 109 of the CMSH Act, which provides that the union may, after a ballot of its members, appoint up to three ISHRs. The ISHR supports coal miner worker rights in the workplace including the right to be consulted, to participate in joint OH&S committees, receive information, and inspect workplaces, accidents and incidents. Evidence indicates that this type of participatory arrangement is associated with improved health and safety practices and lower rates of injuries. The BOI found that the ISHR role is additional to, and ideally complementary with, that of the SSHR.
>
> The ISHR functions and powers are provided in Part 8 of the CMSH Act. The functions of an ISHR are:
>
> (a) to inspect coal mines to assess whether the level of risk to the safety and health of coal mine workers is at an acceptable level;
>
> (b) to review procedures in place at coal mines to control the risk to safety and health of coalmine workers so that it is at an acceptable level;

[41] Coal Workers' Pneumoconiosis Select Committee (2017), Black lung White Lies: Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland, Queensland Parliament, Brisbane.

(c) to detect unsafe practices and conditions at coal mines and to take action to ensure the risk to the safety and health of coal mine workers is at an acceptable level;

(d) to participate in investigations into serious accidents and high potential incidents and other matters related to safety or health at coal mines;

(e) to investigate complaints from coal mine workers regarding safety or health at coal mines;

(f) to help in relation to initiatives to improve safety or health at coal mines.

ISHR powers include inquiries, inspections, examination of documents, requiring SSEs to provide reasonable help in the exercise of ISHR powers, and issuing directives. The BOI found that the existing model for appointment of ISHRs is the best available, in that it provides the opportunity for organised labour to participate democratically in the appointment process. It also guarantees that industry representatives are independent of both government and management at coal mines. Additionally, the BOI found that the ISHR function is best carried out where a cooperative arrangement exists between it and the SSHR. A 2016 study of Queensland coal mine safety representatives found that while SSHRs are focussed generally on preventing the recurrence of an incident, ISHRs are more concerned with the wider implications of the incident and investigation process.[42]

The committee's own investigations identified a number of challenges that mine-site representatives had to deal with, including that, notwithstanding company rhetoric of safety first and zero harm objectives, production was prioritised over safety:

A recurring theme in worker representative submissions is that while industry may espouse safety first principles, coal mines sometimes depart from established safety procedures in order to maximise production. This is attributed to a workplace culture driven by production, and corporate structures of coal mine operators, which impair the ability of mine managers to ultimately control the allocation of that site's resources. Mr Andrew Iwers, a coal mine worker who is employed as a SSHR, provided multiple examples of ways that coal production is prioritised on mine sites.89 These examples included: a deterioration in the general state of haul roads when coal mine workers who would normally operate water trucks or graders are redeployed to operate production machinery; and supervisors knowingly ignoring or contravening standard operating procedures to ensure continuity of production rates. Mr Iwers submitted that these instances tend to occur in the lead-up to the end of month and towards the end of the year, when production targets have to be met.

The potential for corporate structures to impact the safety risk of individual mines sites was observed in Chapter 6 of the BOI Part One Report. This potential was noted by the Mine Managers Association of Australia (MMAA) in its submission that:

> In many instances the SSE has no real control over the resources, those being dictated by corporate headquarters and the UMM, in some instances, has been

[42] Transport and Resources Committee,(2023) *Inquiry into coal mining industry safety*. Report No. 29, 57th Parliament, Queensland, Brisbane, 21.

relegated to that of a compliance manager and not even on the actual, as opposed to unofficial, management structure at the mine. This we perceive as a major concern as that type of structure could lead to a significant incident.

While MMMA also submit that 'no substantial or hard evidence has ever been produced to verify the claims that the production of coal is priority and that safety takes a lower priority'91 the committee heard from individual coal mine workers who advised that mine managers exert significant pressure on statutory safety officials to ensure that production is not impeded. Mr Scott Leggett told the committee during a public hearing that:

If you guys go out on to a mine site you will see big signs that say 'Zero harm' and 'Safety first'—all that type of stuff. That is told to us daily. Is it a reality? No. Production will always come in front of safety. Does it mean that they are going to send you down into a pit that is on fire? No, but it is the culture that is driven. That is my firm belief. I see it; I get to live and breathe it. My job is compliance. My job is to go out and find unsafe stuff and make it safe and inspect areas before coalmine workers go in there. I know the pressure I get, and it is not week to week; it is day to day, hour to hour.

Mr Andrew Iwers submitted:

The use of KPI's such as "time to first coal" are used as an indicator of efficiency within the production process, yet this comes at the cost of compliance with risk management process and controls to ensure safety, such as not carrying out safety checks on vehicles prior to starting work each shift, as [coal mine workers] are encouraged to do them once they start production.

A 2019 survey of 1,010 Queensland coal mine workers (comprising both union and non-union members) undertaken by the MEU found that 80% of those surveyed indicated that their biggest safety concern was companies valuing production over safety.[43]

Other problems identified in the report by worker representatives and others making submissions, included under-reporting of incidents to minimise incident statistics, the resourcing/capacity/effectiveness of the regulator, the quality of supervision and effects of the increased use contractors/labour hire, notably the association with a higher incidence of serious incidents and their greater vulnerability to/fear of reprisal/victimisation for raising problems.[44] It is worth noting in passing that many of these issues were also raised in the NSW *Digging Deeper* reports referred to elsewhere in this chapter. Overall, a key finding of the Queensland parliamentary committee was that 'ISHRs and SSHRS are the 'eyes on the ground' when it comes to safety and coal mine operators and the union should ensure that the participation of these personnel in the study is appropriately resourced, facilitated, and protected.'[45]

[43] Transport and Resources Committee,(2023) *Inquiry into coal mining industry safety*. Report No. 29, 57th Parliament, Queensland, Brisbane, 25-26.
[44] Transport and Resources Committee,(2023) *Inquiry into coal mining industry safety*. Report No. 29, 57th Parliament, Queensland, Brisbane, 30-31, 36-42, 45-52.
[45] Transport and Resources Committee,(2023) *Inquiry into coal mining industry safety*. Report No. 29, 57th Parliament, Queensland, Brisbane, 55.

The Committee made a number of recommendations. With regard to the regulator (RSHQ) it recommended 'RSHQ takes steps, through the consultative process provided by CMSHAC, to include a component in the generic induction for coal mine workers (Recognised standard 11: Training in Coal Mines) on the roles of the Industry Safety and Health Representative and Site Safety and Health Representative, so as to promote awareness of the functions of each' (recommendation 20). Recommendation 32 was that RSHQ takes steps to amend the Coal Mining Safety and Health Regulation 2017 (Qld), schedule 1B 'Site safety and health representative election process', clause 13(6), to require the returning officer for a ballot in respect of the election of an SSHR to give notice of the result of the ballot to the ISHRs.' Recommendation 38 was urged the regulatory 'takes steps, through the consultative process provided by the Coal Mining Safety and Health Advisory Council to include information about the importance and nature of the role of SSHRs in the generic induction for coal mine workers, Recognised standard 11: Training in coal mines.' Recommendation 31 was that the existing methods of appointing ISHRs be retained, while recommendation 33 urged 'ISHRs take a more proactive role in cultivating mutually beneficial relationships with SSHRs.' Recommendation 39 and 40 dealt with industry support for SSHRs. Recommendation 39 was that 'Coal mines use their work order system to schedule and record the completion of an SSHR inspection to assist with incorporating the inspection activity into the mine's weekly plan, and to demonstrate management support for the SSHR function.' Recommendation 40 urged that 'Industry Site Senior Executives consider whether it would be advantageous to make the SSHR role at their mine a full-time position.' Recommendation 22 addressed bonus systems commonly viewed to undermine safety, urging that industry 'reviews its production and safety bonus structures and make any necessary changes to ensure that those structures do not inadvertently discourage the reporting of safety incidents or injuries.' There were also a series of recommendations with regard to labour hire and reprisals affecting mine companies, labour hire firms and the regulator (Recommendation 21, 23-26).[46]

As in NSW, considerable attention is devoted to training SSHRs. In Queensland the MEU ISHRs runs an annual five day course for SSHRs which serves as a refresher/update course for SSHRs including lectures by experts and regulators and interactive sessions/workshops (though all sessions tend to involve interaction). Like NSW industry health and safety representatives (ISHR) who are (usually full-time), experienced, well-qualified and union nominated inspectors with wide-ranging powers of entry and inspection as well as powers to stop dangerous work in relation to the mines within the areas they cover. ISHRs are required to hold qualifications to be a deputy or open cut examiners, while SSHRs are required to have three years of mining experience. In addition to formal training, in both jurisdictions, ISHRs support and mentor SSHRs. As in NSW, the salary and other costs of ISHRs are paid by the MEU, as are the costs of running the SSHR training week (including the expenses of some expert speakers). Prior to 2012 the Queensland government paid an annual sum of $24,000 to ISHRs for training and development purposes but this was suspended by the Campbell-Newman government and never reinstituted. At the time of writing, the establishment is four ISHRs with provision for a relief ISHR if an ISHR is on extended leave. The salary is $222,000 plus car, overnight expenses (travel costs can be around $10,000 per year given the size of the state) and benefits.

[46] Transport and Resources Committee,(2023) *Inquiry into coal mining industry safety*. Report No. 29, 57th Parliament, Queensland, Brisbane, 67-68.

The MEU also pays the considerable costs (including expenses of expert speakers and some overseas union officials) of a running a global OHS conference. The first was held in Cairns in February 2024, focusing on dust diseases, with another to be held on the Sunshine Coast in February 2026.

Victoria

In Victoria, the 1909 *Coal Mines Regulation Act* borrowed from NSW legislation and earlier colonial laws regulating metalliferous mines. Rule 56 required,

> The persons employed in a mine may from time to time appoint two of their number to inspect the mine at their workmen's own cost and notice of the inspection shall be sent to the mining manager within twenty-four hours of such inspection, and the persons so appointed shall be allowed once at least in every month, accompanied, if the owner or manager of the mine thinks fit, by himself or one or more officers of the mine, to go to every part of the mine, and to inspect the shafts, levels, planes, working places, return air-ways, ventilating apparatus, old workings. Every facility shall be afforded by the owner and manager and all persons in the mine for the purpose of the inspection, and the persons appointed shall forthwith make a true report of the result of the inspection, and that report shall be recorded in a book to be kept at the mine by the mining manager for the purpose, and shall be signed by the persons who made the inspection, and if the report states the existence or apprehended existence of any danger the owner or manager shall forthwith cause a true copy of the report to be sent to the inspector of the district.

The Victorian coalminers union viewed the 24-hour notice requirement as a serious limitation enabling managers to temporarily remedy ventilation or other issues during inspections, but it was retained in the 1915 *Coal Mines Regulation Act* 1915. The union referred check inspector reports on ventilation at the Wonthaggi State Mine to the manager and mine inspector and urged Labor representatives in parliament to secure compensation for dust diseases. The Victorian union (now part of the Miners' Federation) combined campaigns over ventilation and removal of the 24-hour notice requirement with calls for regulatory recognition of district check inspectors including a deputation to the Minister for Mines in February 1920.[47] While the minister promised to present legislation to parliament, nothing happened notwithstanding a series of fires, fatalities and serious 'near miss' incidents. In July 1923 check inspectors withdrew miners after two men were injured in a gas explosion and another strike occurred when management refused to allow check inspectors to accompany a mine inspector, the union ultimately taking the case before an industrial tribunal.[48] Despite further concerns over ventilation, the 1928 *Coal Mines Regulation Act* repeated the earlier provisions (including 24-hour notice). Four miners died at Wonthaggi in 1931, but it was only in the wake of the 1937 explosion/fire (where 13 died) that legislation

[47] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[48] Age 10 July 1923 and 8 December 1825; Weekly Times 12 June 1925.

was amended in 1941 to establish a district check-inspector position and remove the 24-hour notice requirement.[49]

Tasmania

Mine safety laws in Tasmania covered both coal and metalliferous mining though with separate coal mining provisions as in the Mining Act 1905. Section 23 of the Mining Act Amendment Act 1911 empowered miners at a mine to elect two of their number (practical miners with 5 years of experience) to undertake inspections monthly (or sooner if conditions were considered unsafe) after giving 'reasonable notice', compile a report included in the mine's records and forwarded to the inspector in cases of apprehended danger. Interference with the appointment/activities of workmen-inspectors was prohibited. Following the 1912 Mount Lyell mine disaster (see below) the *Mines and Work Regulation Act 1915* enabled miners to elect persons outside the mine.

As noted in the next section on metalliferous mining, all mine safety legislation was repealed as part of the introduction post-Robens style OHS legislation, the only remnant being provisions on the position of Chief Mines Inspector included in the general OHS law - *Workplace Health and Safety Act*, 1995. This Act incorporated provisions for both health and safety committees and representatives (HSRs), similar to other jurisdictions (slightly amended in 2002). The Chief Mines Inspector oversaw a small mines inspectorate within the general OHS regulator (Worksafe Tasmania) but a number of mine inspectors chose not to move across to this when the mine-specific legislation was repealed or retired shortly thereafter. By the time of the 2006 Beaconsfield mine fatality/entrapment, the Chief Mines Inspector was the only qualified mining engineer within this unit, some other inspectors had limited mines' experience, and the unit was under-resourced. Further, while the Beaconsfield mine had a safety committee, this proved short-lived and ineffective, and had opposed the appointment of formal HSRs at the mine (the absence of HSRs was probably not confined to that mine).[50] As with a fatality at the Cornwall colliery in 2000 there were warning signals and voiced worker concerns prior to the incident raising serious questions as to whether these incidents might have been prevented had effective miner representation been on site and had the inspectorate been better resourced.[51] In the aftermath of the Beaconsfield incident, and following coronial recommendations, to address the absence of any knowledge of coal mining within the inspectorate, and representation problems already alluded to, an arrangement was made for a NSW ISHR to visit and inspect the Cornwall Colliery on an annual basis. These visits were seen as very valuable by the Tasmanian mines inspectorate, giving confidence that safety issues were being managed and problems addressed. This included the identification of several significant hazards, notably the location

[49] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[50] Quinlan, M. (2009), *Report on OHS management at the Beaconsfield Joint Venture Gold Mine, Tasmania up to and including the time of the rock fall incident at the 925 level of the mine that occurred at around 9.23pm, resulting in the death of Larry Paul Knight and the entrapment of Todd Andrew Russell and Brant George Webb* (expert report prepared for Greg Melick SC, Independent Investigator appointed by the Tasmanian Government), 30 August 2007.

[51] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

of the major ventilation fan directly opposite the mine entrance and a build-up of coal dust in and around conveyer belts, increasing the risk of a fire/explosion.[52]

The development of legislation, main features and operations: Metalliferous mining

New South Wales

In NSW, metalliferous mining was carried out in widely dispersed locations, but by far the single most important prior to 1960 was mining of globally significant silver, lead and zinc reserves at Broken Hill in the far west of the state, where mining activity expanded dramatically in the 1880s. Broken Hill miners rapidly unionised, forming a branch of the Amalgamated Miners Association in 1886, and union organisation spread to others working in connection with the mines like carriers, boilermakers and engineers, as well as other workers in the town like bakers and printers. Serious safety and health concerns at Broken Hill were being debated in parliament by the late 1880s, with the union pressing for more stringent legislation including check inspector provisions. In September 1896 at the union's behest the district's legislative representatives pressed for check-inspector provisions like those in coal mining legislation.[53] The Member for Sturt, W. J. Ferguson, told parliament that miners should have inspectors they selected and had confidence in. This pressure finally led to the introduction of General Rule 6 of the 1901 *Mines Inspection Act* that permitted miners to withdraw in situations of apprehended danger and the right to appoint at their own expense "two competent persons" to inspect the mine after giving 24 hours' notice and to prepare a report to the manager who, if it indicated danger, must forward it to the government mines inspector. The rule afforded no avenue for routine inspections as in coal mining (which also enhanced their confidence and expertise). The Barrier branch of the AMA sent deputations to the Minister pressing him to facilitate a process so check inspectors could "report unsafe conditions." Like coalminers, the union initiated district check inspectors, and election to this position became hotly contested. In May 1910 Broken Hill South miners called for check inspectors to have the "same privileges" as government inspectors. By January 1911, the Barrier Daily Truth the combination of the shortage of skilled miners and the '"wholesome dread of adverse reports by the workers check inspectors' had affected a sharp decline in fatalities.[54] As in coal mining, there were challenges. In 1911 Junction North Manager Thomas Palmer escaped conviction for obstructing an inspection when it was held the check inspectors' appointment was not legal. Nonetheless, the mine was subject to regular inspections by check inspectors after that, including reporting a 'creep' at the 900ft level in 1913. The title, "district check inspector" is not given in the Mines Inspection legislation, but this may be because references to 'districts' and 'district inspectors' were omitted in the Mines Inspection (Amendment) Act, 1962. The

[52] These and other changes were noted in the independent audits. Quinlan, M. (2010) *Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart; Quinlan, M. (2012) *Second Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart; Quinlan, M. (2014) *Third Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart.

[53] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119 (November 2020): 33–60

[54] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:38.

way the provisions on the appointment or functions of check inspectors are written suggests that check inspectors were not persons employed at the mine.

As in coal mining the Broken Hill press reported check inspectors mine inspections (and their tabling at union meetings), and other activities such as attending serious incidents and coronial inquests on a regular, if not comprehensive basis, into the 1950s and beyond (when newspaper reporting practices changed), amounting to thousands of reports. The district check-inspector, as they were commonly known, in particular was able to influence safety considerations and legislation. For example, in 1916, at the inquest into the suffocation of Archibald McIntyre (married with three children) in the open-cut of BHP's mine, Samuel Deed stated "the fatality was directly due to the fact that there was no legislation making compulsory the use of gratings over chutes utilised in filling trucks." This persuaded the coronial jury, which found the fatality would have been prevented had a grating been used. When another miner (Robert Roberts) died in similar circumstances two months later, the AMA castigated both the mine manager and mine inspector for wilful neglect in ignoring both the jury's and the check inspector's recommendations and demanded the government dismiss the mines inspector. The union's district check inspector also undertook joint inspections with officials from other unions, notably the Federated Engine Drivers and Firemen's Government with regard to surface winch-drivers, winders and similar devices.[55] In assessing potentially dangerous areas, check inspectors could place themselves at risk with J. J. O'Reilly being seriously injured by a rockfall at the Junction mine in 1918, and assistant check inspector Jack Coad succumbing to lead poisoning in 1921.

Particularly in the decade from 1910, health concerns sparked several inquiries, including a Royal Commission on Mining at Broken Hill (1914) that found a high incidence of pneumonia and tuberculosis. Check-inspector activities were referred to during Commission proceedings, almost always favourably. Miner Frederick Rankin testified he had not seen government inspectors very often and would like to see four more check inspectors, as those presently available were only able to get to particular work-spaces every four to five weeks. The few critical comments came almost exclusively from mine-owners, with the Broken Hill Proprietary Company's mine manager/legal counsel E. J. Horwood castigating their union connections and alleging check inspectors went underground on "fishing expeditions" that had little to do with safety. The Royal Commission accepted the AMA's claims on working conditions were founded on safety and hygiene considerations and was sympathetic to its attempts to address occupational disease issues. The majority of Commissioners rejected miner representative George Kerr's proposal "that four workmen's inspectors should be appointed by the Miners' Association, and be paid by the government, and that prosecution of breaches of the rules of the mines could be undertaken by the Government and workers' inspectors." This, and the failure of the government to implement recommendations (on grounds of the outbreak of war), aggravated an already tense situation. In January 1916, miners struck and secured a 44-hour week, which was confirmed by the Commonwealth Arbitration Court principally on health grounds following intervention by the acting Prime Minister. During the struggle, the AMA's paid check-inspector "genial" Sam Deed told Adelaide meetings the miners' campaign was about health not wealth. Nonetheless, disease-hazards (including coverage under workers' compensation legislation remained unaddressed, resulting in further political mobilisation, a Board of Trade

[55] *Barrier Miner*, 2 October 1924; 31 October 1924.

inquiry and, ultimately, a prolonged but successful strike (May 1919 to November 1920). This strike placed such a strain on the union that it was forced to temporarily stand down paid officials, including check inspectors.[56]

Part of the miners' memorial wall at Broken Hill (photograph by research team October 2025)

There is evidence of the activism of check inspectors, especially at Broken Hill, but also elsewhere in NSW, throughout the 20th century, including regular inspection of mines, accompanying ministerial inspections, and pursuing particular issues like dermatitis in mines, pressing for improved working conditions, and requiring medical examinations of miners in hot places.[57] District check inspectors took an active interest in research on exposure to and prevention of dust and other diseases, monitoring and commenting on both findings and recommendations.[58] The legislation did not require the owner or manager to report 'silicosis, pneumoconiosis or any other pathological condition of the pulmonary organs' until a new subsection of section 43 was included in the 1967 amendment of the Mines Inspection legislation. Joint inspections with government inspectors were also conducted, like checking temperatures at various mines in the district in November 1948.[59] On occasion, as in June 1953, joint inspections resulted in a halt to work in a particular section being ordered.[60] They also conducted regular inspections of the Australian Blue Metal Company's quarries.[61] Check inspectors attended coronial inquests, both as

[56] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:40.
[57] See for example *Barrier Miner* 23 January 1943, 1 September 1951; *Barrier Daily Truth* 9 September 1943, 4 June 1948, 5 March 1952.
[58] See for example *Barrier Daily Truth* 1 August 1947.
[59] *Barrier Daily Truth* 18 November 1948.
[60] See for example *Barrier Daily Truth* 24 June 1953.
[61] See for example *Barrier Daily Truth* 1 March 1948.

observers and informally representing the interests of the miners' families as well as giving evidence based on their own subsequent investigation and expert knowledge. In April 1949, check-inspector W O'Connell gave substantial evidence pertaining to a double-fatality at the Broken Hill North mine including providing three possible explanations of how the fall had occurred.[62] There was also a degree of collaboration and exchange with their coal mining counterparts. In 1946, for example, O'Connell visited the coalfields, inspecting a number of mines.[63]

Beyond Broken Hill (which was covered by a branch of the Coal Miners Federation), the AWU had coverage of miners. Visiting Cobar in August 1935 NSW AWU president Chris Dalton reported the miners had requested that a check-inspector be appointed at the mines.[64] The AWU had sought companies to pay for check inspectors, but this could become a bargaining chip during industrial disputation. In November 1945, during a dispute at Captains' Flat mine, the company threatened to withdraw payment to check inspectors although ultimately this was not carried out.[65] However, following a fall in metal prices a decade later, the position was lost notwithstanding a series of fatalities at the mine and only restored following a union/company conference in 1959.[66]

The *Mines Inspection (Amendment) Act* 1945 gave formal recognition to check inspectors not employed by the mine (i.e., district check inspectors). It amended s55 Rule 6 (b), appearing to draw on *Coal Mines Regulation Act* removed 'two competent persons' and insert 'not being mining engineers, who are practical miners, to inspect the mine at their own cost and either or both of the persons so appointed shall be allowed, at any time while men are working below ground, accompanied by an official of the mine, to go to every part of the mine and to inspect the shafts, levels, drives, cross-cuts, stopes, winzes, raises, old workings, and machinery.' Further Section 43 Notifying accidents (a) was amended to insert a new subsection: '(2A) After an explosion or accident in or about any mine, whether above or below ground, the manager shall permit a representative of the persons employed in or about the mine, who shall be one of the persons so employed, and a check-inspector to make an inspection of the place where the explosion or accident occurred as soon as such inspection can safely be made. Such inspection shall be made in company with an inspector, if one is available. Such representative and check-inspector shall, before leaving the mine, report in a book to be kept at the mine for the purpose the result of their inspection.' The *Mines Inspection (Amendment) Act* 1978 further amended section 55 (6) (b) to remove the 'not being mining engineers' exclusion.

In 1994 the General Rules were moved into a regulation, with the relevant provisions being:

> *S 41 Plans to be furnished* (5): The owner or general manager of any mine shall, on the request of a check-inspector, produce to the check-inspector at the office of the mine during an inspection of the mine the plan deposited therein pursuant to the requirements of this section. The check-inspector shall be entitled to examine such plan but shall not take away from the mine any copy thereof. Any owner, general manager or check inspector who contravenes the provisions of this subsection shall

[62] *Barrier Daily Truth* 31 March and 2 April 1949.
[63] *Barrier Daily Truth* 10 September 1946.
[64] *Australian Worker* 7 August 1935.
[65] *Australian Worker* 14, 21 November 1945.
[66] *Tribune* 26 August 1959.

be guilty of an offence against this Act. 47B Inspection of serious accident or dangerous incidents: After a serious incident the manager must "permit a check-inspector to make an inspection of the place where the accident or incident occurred as soon as the inspection can safely be made. Mines Inspection General Rules 1994 *Check Inspectors* 12. (1) The persons who work at a mine may elect from time to time one or two persons ("Check Inspectors") to conduct inspections at the mine (at the cost and on behalf of the persons who work at the mine) and to report any hazards which may be found. (2) A person elected as a Check Inspector must have practical experience and training in the mining industry relevant to the mining operations being conducted at the mine. (3) The manager of the mine must provide the means for a Check Inspector to make an inspection. (4) A Check Inspector may be accompanied by another person who possesses relevant skills to assist the Check Inspector. (5) On receipt of a report by a Check Inspector of a perceived hazard, the manager of a mine must take measures to resolve the matter and take any necessary corrective action. (6) The manager must send a copy of a Check Inspector's report of a perceived hazard to an inspector within 24 hours after receiving the report. (7) An inspector who receives a copy of such a report must investigate the report at the earliest practicable time.

The *Mines Inspection Amendment Act* 1998 No 69 amended the General Inspection Rule (1994) with regard to the involvement of employee representatives or check inspectors in investigations of serious incidents:

> 47B Inspection of serious accident or dangerous incident site (1) After a serious accident or dangerous incident occurs, the general manager of the mine concerned must permit: a representative of the persons employed at the mine (who is to be one of the persons so employed), or a check inspector, to make an inspection of the place where the accident or incident occurred as soon as the inspection can safely be made. Maximum penalty: 10 penalty units. (2) The inspection is to be made in company with an inspector if an inspector is available. (3) Before leaving the mine, the representative or check inspector is to report the result of the inspection in a book to be kept at the mine for the purpose.

It is worth noting here that the reference to employee representatives refers to site/mine-based representatives while check inspectors implies district check inspectors, each with separate functions and roles similar to the distinction between mine and industry check inspectors (later termed safety and health representatives) in coal mining. This distinction in terminology (i.e. the reference to employee representatives in metalliferous mine legislation) emerged in 1945 text of the legislation well before the 1998 amendment.

Under the *Mines Inspection General Rules* 2000 the following applied to employee representatives and check inspectors:

> 15 *Appointment and functions of employee representatives or check inspectors* (1) The persons who work at a mine may elect one or two persons (employee representatives or check inspectors) to conduct inspections at the mine, on behalf of the persons who work at the mine, and to report any hazards that may be found. (2) The term of office of an employee representative or check inspector is two years. (3) An election is to be held: (a) on a date determined by the persons employed at the

> mine, or (b) if no date is determined, on any date that may be determined by the Chief Inspector. (4) A person elected as an employee representative or check inspector must have practical experience and training in the mining industry relevant to the mining operations being conducted at the mine. (5) The general manager of the mine must provide the means for an employee representative or check inspector to make an inspection. (6) An employee representative or check inspector may be accompanied by another person who possesses relevant skills to assist the employee representative or check inspector. (7) After making an inspection at a mine, an employee representative or check inspector must report any perceived hazard to either the general manager or the production manager of the mine. (8) On receipt of a report from an employee representative or check inspector, the general manager or the production manager who receives the report must: (a) send a copy of the report to an inspector within 24 hours after receiving it, and (b) take measures to resolve the matter including the taking of any necessary corrective action. (9) An inspector who receives a copy of a report must investigate the report at the earliest practicable time. (10) The owner or general manager of a mine, or any person acting in a supervisory capacity at a mine, must not: (a) dismiss an employee of the mine, or (b) injure an employee in his or her employment, or (c) alter the position of an employee to the employee's prejudice, or (d) threaten to do any of these things, in retaliation for the employee being, having been, proposing to become, at any time having proposed to become, or undertaking his or her functions as, an employee representative or check inspector. (11) In proceedings for a contravention of subclause (10), if all the facts constituting the contravention other than the reason for the defendants' action are proved, the onus of proving that the dismissal, injury, alteration or threat was not in retaliation for the action specified in the charge lies on the defendant. (12) If a person is found guilty by a court of contravening subclause (10), the court may order: (a) the person to pay the employee a specified sum by way of reimbursement for the salary or wages lost by the employee, and (b) that the employee be reinstated to his or her usual position or a similar position. (13) Such a person must give effect to an order of the court under subclause (12).

Changes made under the *Mines Health and Safety Act* 2004 marked a pivotal turning point in representative provisions. Negotiations about the legislative changes had been prolonged especially in relation to three issues, namely the use of the title "site check inspector", the adoption of the district check inspector model from other mining sectors, and the specification of maximum hours of work in the legislation. Addressing the Legislative Council, Minister Henry Tsang indicated that the title 'site check inspector' would be retained in recognition of its history and role in mine safety but the provisions relating to it would be 'more closely modelled on the OHS representatives in the Occupational Health and Safety Act 2000.'[67] Tsang went on to state:

> In the final analysis, they do not have significant powers or functions beyond those available to OHS representatives. The main area of difference is that they retain an emphasis on inspection in recognition of their traditional role. In terms of district check inspectors, all of industry in this State, including the mining industry, has people available who can substantively fulfil an industry representative role. This is

[67] NSW Legislative Council Hansard 8 October 2004
http://bulletin/prod/parlment/hansart.nsf/V3Key/LC20040921038

through authorised representatives under the *Occupational Health and Safety Act* 2000. For this reason, the decision was taken to continue with authorised representatives, rather than introduce a new entity in the form of district check inspectors. This is also consistent with the longstanding arrangement in New South Wales that the *Occupational Health and Safety Act* is the centrepiece legislation in this area.[68]

In short, site representatives were to be aligned to those of OHS HSRs, while the position of district check-inspector was effectively abolished. The provisions were:

> *Mines Health and Safety Act 2004 Subdivision 1 Site check inspectors* **138** *Site check inspectors* (1) For the purpose of enabling inspections to be carried out at a mine, on behalf of the persons at work at the mine, an individual may be elected as a site check inspector for the mine. (2) More than one person may be elected as a site check inspector if the operator agrees or the Chief Inspector so directs. **139** *Trigger for election* An election of a site check inspector for a mine must be held if one or more positions are vacant and: (a) a person employed in or about the mine requests in writing that an election be held, or (b) the Chief Inspector directs that an election be held. **140** *Conduct of election of site check inspectors* (1) An election for a site check inspector for a mine may be conducted: (a) if there is only one involved union in relation to the mine—by that involved union, or (b) if there is more than one involved union and all the involved unions are in agreement that a specified one of those unions should conduct the election—by that specified union, or (c) if there is no involved union in relation to the mine or agreement cannot be reached under paragraph (b)—by a person authorised by the Chief Inspector to conduct elections under this section. (2) A person may be a candidate in the election if and only if the person is employed at the mine. (3) Subject to the regulations, all individuals employed in or about the mine are entitled to vote in the election. (4) Where there is only one candidate for the election, that person is taken to have been elected. (5) The election must be conducted in a manner that is consistent with recognised democratic principles. (6) Where a person is elected as a site check inspector for a mine, the involved union or other person authorised under subsection (1) to conduct the election must, as soon as practicable after the person has been so elected, inform the Chief Inspector and the operator of the mine. (7) As soon as practicable after being so informed, the operator of the mine must cause a notice, that the person so elected is a site check inspector for the mine, to be displayed in a prominent place at the mine, that will allow all of the persons working in or about the mine to be notified of the election. *Maximum penalty: 10 penalty units.* **141** *Term of office* Subject to section 142, a site check inspector for a mine holds office for 2 years after the date on which the site check inspector was elected but is eligible to be elected for further terms of office. **142** *Vacation of office of site check* **inspector** (1) A person ceases to be a site check inspector for a mine if: (a) the person resigns as a site check inspector, or (b) the person ceases to be employed in or about the mine, or (c) the person's term of office expires without the person having been elected to be a site check inspector for the mine for a further term. (2) A person may resign as a site check inspector for a mine: (a) if the person was last elected as a

[68] NSW Legislative Council Hansard 8 October 2004
http://bulletin/prod/parlment/hansart.nsf/V3Key/LC20040921038

site check inspector in an election conducted by an involved union in relation to the mine—by notice in writing delivered to the involved union that nominated the person as a candidate in the election, or (b) in any case—by notice in writing delivered to the operator of the mine. (3) If a person has resigned as a site check inspector for a mine: (a) if subsection (2) (a) applies—the involved union to which the notice of resignation was delivered, or (b) in any other case—the operator of the mine, must notify the persons employed at or about the mine, and, in a case to which subsection (2) (a) applies, the operator of the mine, of the resignation. (4) If a person has ceased to be a site check inspector for a mine because of subsection (1) (b), the person must notify the following persons in writing that the person has ceased to be a site check inspector for that mine: (a) the persons employed at or about the mine, (b) the operator of the mine, (c) if the person was last elected as a site check inspector in an election conducted by an involved union in relation to the mine—the involved union that nominated the person as a candidate in the election.
143 *Notification of election* A person elected as a site check inspector for a mine must: (a) notify the operator of the mine of the person's election, and (b) give to the operator the person's address and telephone number (including any mobile telephone number). Maximum penalty: 5 penalty units.

144 *Functions of site check inspectors***:** The functions of a site check inspector for a mine are as follows: (a) to keep under review the measures taken to ensure the health, safety and welfare of persons at the mine, including procedures to control risks, (b) to investigate any matter that may be a risk to health and safety at the mine, (c) to attempt to resolve such matters but, if unable to do so, to request an investigation into those matters by an inspector for that purpose, (d) (Repealed) (e) to be an observer during the presentation of any formal report made by a government official to the operator of a mine, or to a contractor who does work at a mine, about an work health and safety matter related to work at the mine, (f) at the request of an employee at the mine, to accompany the employee during any interview or discussion with an employer or the operator of the mine about any work health and safety issue, (g) to be an observer during any formal in-house investigation of a notifiable incident within the meaning of Division 1 of Part 7, (h) to assist in the development of arrangements for recording workplace hazards and accidents and to promote improved workplace health and safety, (i) to make recommendations on the training of employees in relation to health and safety, (j) to participate in consultation that the operator, or any contractor who does work at the mine, is required to undertake with a site check inspector under this Act or the regulations, (k) to inspect the mine to assess the level of risk to which employees are exposed, including inspecting documents and plans relating to health, safety and welfare that are required to be kept at the mine by this Act or the regulations or by the *Work Health and Safety Act 2011* or the regulations under that Act, (l) any other functions prescribed by the regulations. s 144: Am 2011 No 67, Sch 4.19 [28]–[30].
145 *Training of site check inspectors* (1) A site check inspector for a mine must undertake a course of training relating to work health and safety that is accredited by the Minister for the purposes of this section. (2) The operator of a mine must permit a site check inspector for the mine to take any time off work, without loss of remuneration or other entitlements that is necessary to undertake the training. s 145: Am 2011 No 67, Sch 4.19 [31]. **146** *Duties of operators in relation to site check*

inspectors The operator of a mine must: (a) on being requested to do so by a site check inspector for the mine, consult with a site check inspector on the implementation of any changes at the mine that may affect the health or safety of persons at work at the mine, and (b) permit a site check inspector to make any inspection of the mine that a site check inspector is entitled to make under this Act and to accompany an investigator during any investigation at the mine by the investigator, and (c) if there is no health and safety committee (established under the *Work Health and Safety Act 2011*) in respect of the operator's employees at the mine—on being requested to do so by a site check inspector, consult with a site check inspector concerning the development, implementation and review of measures to ensure the health or safety of persons at work at the mine, and (d) permit a site check inspector to be present at any interview at which a site check inspector is entitled to be present under this Act, and (e) provide a site check inspector with access to any information to which a site check inspector is entitled to have access in accordance with this Act and to which access has been requested, and (f) provide a site check inspector with reasonable time, during normal working hours, to exercise the functions of a site check inspector without loss of remuneration or other entitlements, and (g) provide a site check inspector with access to any facilities that are: (i) prescribed for the purposes of this paragraph, or (ii) necessary for the purposes of exercising the powers of a site check inspector. Maximum penalty: 100 penalty units. s 146: Am 2011 No 67, Sch 4.19 [32] [33].

147 *Duties of contractors in relation to site check inspectors* A contractor carrying out work at a mine must: (a) on being requested to do so by a site check inspector for the mine, consult with a site check inspector on the implementation of changes at any mine at which employees of the contractor perform work for the contractor, being changes that may affect the health or safety at work of the employees, and (b) permit a site check inspector to make any inspection of the mine that a site check inspector is entitled to make under this Act, and to accompany an investigator during any investigation at the mine by the investigator, and (c) if there is no health and safety committee (established under the *Work Health and Safety Act 2011*) in respect of the contractor's employees at the mine—on being requested to do so by a site check inspector, consult with a site check inspector concerning the development, implementation and review of measures to ensure the health or safety at work of those employees, and (d) permit a site check inspector to be present at any interview at which a site check inspector is entitled to be present under this Act, and (e) provide a site check inspector with access to any information to which a site check inspector is entitled to have access in accordance with this Act and to which access has been requested, and (f) if a site check inspector is an employee of the contractor, provide the site check inspector with reasonable time, during normal working hours, to exercise the functions of a site check inspector, without loss of remuneration or other entitlements. Maximum penalty: 100 penalty units. s 147: Am 2011 No 67, Sch 4.19 [34] [35].

148 *Assistance to site check inspectors:* The operator of a mine and all other persons at the mine must afford every facility and assistance to a site check inspector for the purposes of an inspection of the mine by a site check inspector. Maximum penalty: 100 penalty units. **149** *Reports by site check inspectors* (1): After

making an inspection at a mine, a site check inspector must report any perceived hazard to the operator of the mine. Maximum penalty: 20 penalty units. (2) On receipt of a report from a site check inspector, the operator must: (a) send a copy of the report to a government official within 24 hours after receiving it, and (b) take measures to resolve the matter including the taking of any necessary corrective action. Maximum penalty: 20 penalty units. (3) A government official who receives a copy of a report must investigate the report at the earliest practicable time.

Consistent with the minister's statement, the legislative provisions aligned with the NSW OHS Act. While Tsang acknowledged the long and critical role of the check inspectors and indicated he had consulted with unions on the matter, the shift was primarily driven by a desire to align the role to be more in keeping with general OHS legislation, which in NSW was now the overarching legislation with mine specific legislation operating within the broader rubric. The desire to align mine safety legislation with post-Robens OHS legislation had proved a powerful influence in other jurisdictions like Victoria, Tasmania, South Australia and New Zealand – a number of which repealed much if not all mine safety legislation. As the report has already noted, later events like Beaconsfield and Pike River demonstrated that this desire for consistency and alignment overlooked the particularly hazardous nature of mining and the need for legislation that recognised this and contained significant rights for mineworker involvement. Following the Pike River mine disaster, New Zealand reintroduced stringent mine safety legislation covering both coal and metalliferous mining modelled on NSW and Queensland mine safety legislation (adjudged to be world's best practice) including the re-introduction of check inspectors and with a district check inspector appointed.[69]

While NSW retained its mine safety legislation in metalliferous mining, unlike coal, there were significant changes to the check-inspector positions to align them with general OHS legislation and to remove the position of district check-inspector. This represented a serious misreading of the history of mine safety and the role of check inspectors in addressing serious hazards and the need for district check inspectors who have an overarching role and are not subject to fear of intimidation or victimisation. It should also be noted that safety and health representatives under the general OHS legislation only represent a workgroup, while site check inspectors (or later in the 2013 mining legislation), site safety and health representatives represent the whole mine. This represents a move away from the traditional focus on major hazards affecting the whole mine towards issues confined to a workgroup. Further, district check inspectors are not the equivalent of authorised officers (union officials), the former are required to have both expertise and experience in mining and with statutory powers not held by the latter. At the time of the change (2004-5), Neville Wran and Jan McClelland chaired a review into mine safety in NSW that considered both coal and metalliferous mining, but its consideration of check inspectors was limited to coal. The report recommended follow-up research on a number of areas including contractors, the impact of bonus/incentive schemes, and worker involvement mechanisms. A team led by independent consultant Andrea Shaw undertook significant research into coal, metalliferous mining and quarries, including focus groups, workshops and interviews with managers, workers and safety representatives/check inspectors (noting the different regimes now operating). Echoing a theme raised throughout this chapter, the *Digging Deeper* report identified

[69] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

significant shortcomings in adequate recognition of participatory mechanisms including subtle and not so subtle intimidation. For example, the report noted with a typical quote:

> A frequent criticism was that workers and worker representatives who raise issues are marginalised, sometimes in quite subtle ways. For some people this has the effect of making them more strident in their criticism. Others keep observing but stop participating when management clearly doesn't want to hear bad news. Either reaction is detrimental to effective consultation.
>
> You do get input into procedures and risk assessments, but you don't get invited back if you are too negative (operator, transitional).[70]

Concerns about worker representation and involvement identified in the *Digging Deeper* report were not addressed. Rather the process of harmonising mine and general OHS legislation was reinforced with the introduction of national model OHS laws, notably the introduction and subsequent passage of the *Work Health and Safety (Mines) Act* in 2013.[71] Unlike coal mining (see above), where separate provisions on worker representatives were retained, metalliferous mining was merged into the general provisions on worker health and safety representatives in the model OHS (or Workplace Health and Safety as it was now termed) legislation. This move failed to recognise both the history of metalliferous mining, including the activities of check inspectors, relatively recent multiple fatality incidents (notably the air-blast at North Parkes in 1999), and particularly hazardous nature of the industry (certainly comparable to coal mining), which is demonstrated in Chapter 5 which examines a series of serious incidents in metalliferous mining in NSW. The change also failed to identify important differences in the role and focus of HSRs in the high hazard industry of mining. While HSRs represented a particular workgroup SSHRs covered the entire mine, including contractors, their five day training was specific to mining (while that of HSRs was commonly more generic) and carrying out regular inspections was more central to their role as it had been historically. Nor did the legislation acknowledge important differences between an ISHR and an authorised official. These included powers of access, powers to make reports, carry out investigation and suspend operations in dangerous situations. Unlike authorised persons (typically a union organiser) ISHRs have specialist knowledge of OHS in mining, meaning their inspections would carry more weight and they can (and do according to research evidence) mentor site representatives and lift the level of OHS/WHS knowledge within the union and the mines they inspect.[72]

In 2020, Kym Bills undertook an independent statutory review of the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* that examined if briefly the representative provisions.[73] The bulk of attention in the report (and the discussion paper that preceded the

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[70] Organisations were categorised as proactive, transitional or reactive in their approach to OHS. Shaw Idea (2007a) *Digging Deeper: Wran Consultancy Project No 1*, Vol 1 Commissioned by Mine Safety Advisory Council, NSW Department of Primary Industries, Sydney, 208.

[71] This overarching objective was made explicit by Minister Chris Hartcher in introducing the Bill into parliament. NSW Legislative Assembly Hansard 23 May 2013.

[72] Walters D, and Quinlan M, (2019) Voice and resistance — Coal Miners' struggles to represent their health and safety interests in Australia and New Zealand 1871-1925, *Economic and Labour Relations Review* 30(4): 513-31.

[73] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney, 62-65

review) focused on coal mining, with a recommendation (7) to empower MSHRs to undertake investigations as was the case with ISHRs. In drawing more general observations, the review observed:

> The AWU proposed that ISHRs be available to all mines as this would enhance safety outcomes in the metalliferous and extractives sector by providing for this independent representation of workers and play an important role in supporting and supplementing the work of inspectors from the regulator. One respondent to the Review's online survey wrote "Legislation can be difficult to understand. A plain English guide could prove useful. More ISHRs may assist in helping Mine Operators achieve compliance." Based on submissions and the preponderance of evidence in mining and other high-risk settings, the Reviewer considers that having more worker representatives committed to health and safety outcomes is generally better than less… Having ISHRs available to provide health and safety advice in relation to non-coal mines may have merit in some circumstances. Anecdotally this may already be occurring in some parts of the State on an informal basis but the Review did not have sufficient evidence to make a recommendation along these lines. However, an amendment to the legislation to enable appointment of eligible persons as additional ISHRs beyond the four that must be nominated by the CFMMEU would provide the flexibility for a Minister to appoint additional ISHRs nominated by the CFMMEU or otherwise. For eligibility, all appointees should be required to satisfy normal NSW probity checks to ensure that there are no serious conflicts of interest or issues with corruption or other criminality. To enable appointees to have non-coal roles would require additional amendment of the other sections within Part 5, Division 2 of the WHS (MPS) Act. Before any serious consideration of such an amendment, a study of the potential costs and benefits should be undertaken and the advice of the MSAC sought.[74]

[74] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney, 64

Another part of the miners' memorial wall at Broken Hill (photograph by research team October 2025)

The Bills review identified some (not all) of the important contributions that ISHRs can perform – others include their capacity to visit mines without effective site representation or where there were fears of victimisation in raising safety issues (see *Digging Deeper*) and to mentor site representatives. Nonetheless, Bills recommended that the 'Minister should seek additional evidence of costs and benefits and obtain MSAC advice before proposing amendments to extend ISHR roles beyond coal in Part 5, Division 2 of the WHS (MPS) Act.'[75] A logical follow-up would have been to commission more detailed research on the issue, especially in the light of evidence of the value of the system in coal mining (which Bills cited) and points made above. This does not seem to have occurred and nor were the earlier *Digging Deeper* findings re-examined. The current report tries to fill this gap and thereby better inform policy. Rather than seeking additional research (it seems) in a cost/benefit judgement in December 2021 the MSAC resolved there was insufficient evidence to expand the ISHR role to the non-coal mining sector. In its 2021-22 annual report the MSAC stated it had 'agreed to write to the Minister advising MSAC does not agree to extending industry safety and health representative roles to non-coal mines, noting three members did not support this decision (recommendation 8)'[76] The three members opposing the measure or the interests they represented were not identified. It is worth noting three members are not

[75] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney, 65

[76] *Annual Report Mine Safety Advisory Council 2021-2022*, NSW Resources Regulator, 9.

even close to a majority of the MSAC membership. Nor is there reference to a cost-benefit analysis on the value of the change being conducted.

It would therefore be interesting to know how this judgement was made. Injury, death and disease impose a significant financial burden on the mining industry and the Australian community more generally. In 2012 Safe Work Australia estimated that the value of a year free of injury for a worker in the mining industry was $97,053 and in 2014 the Commonwealth Office of Best Practice Regulation estimated that the value of an avoided workplace fatality was $4.14m.[77] Based on inflation the corresponding figures in 2025 would be $127,139 and $5.23m respectively. In 2020-21, there were 2806 serious injury and disease claims in the Australian mining industry with an incidence of 11.2 claims per thousand workers.[78] Even using these historical and conservative cost figures, assuming a salary/associated cost of around $350,000 per annum for one ISHR, if the presence of one ISHR in metalliferous mining contributed to preventing a single fatality or three less serious injuries or reduced hazard exposures amongst workers at a single mine in a year then the overall net saving to the community would be substantial. As discussed in chapter 4, inspection reports and other evidence show that SSHRs and ISHRs typically focus their attention on serious risks, and they do this on a regular basis. Further, if the ISHR was paid through the industry levy or by the union (as is the case in coal mining) no cost would be borne by the community whereas research indicates that notwithstanding workers' compensation schemes the bulk of costs associated with workplace death, injury and disease are not borne by industry but by the community including families (and particularly so in the case of self-employed workers/contractors).[79] To this must be added the immense human and social costs on the community, especially fellow workers and most importantly family members, which include long-term mental health deficits and financial and emotional impacts in children, which has been documented by Australian research that included mineworkers amongst those surveyed.[80] It is critical that such assessments should be incorporated into any cost/benefit analysis undertaken in this area. It is also worth noting in this regard that when a member of the MEU is killed at work, the union makes a payment of $200,000 to the family in addition to offering legal support. This payment is made

[77] Cited in NSW Resources Regulator (2017) *Mine safety performance report 2015-2016*, Department of Planning and Environment, Sydney, 9

[78] https://www.safeworkaustralia.gov.au/sites/default/files/2023-01/key_whs_stats_2022_17jan2023.pdf

[79] Quinlan, M., Fitzpatrick, S. J., Matthews, L. R., Ngo, M., & Bohle, P. (2015) Administering the cost of death: Organisational perspectives on workers' compensation and common law claims following traumatic death at work in Australia, *International Journal of Law and Psychiatry*. 38:8-17; Matthews, L. Quinlan, M. Jessup, G. Bohle, P. (2022) Hidden costs, hidden lives: Financial effects of fatal work injuries on families, *The Economic and Labour Relations Review*, 33(3): 586-609.

[80] For some of the publications based on a large federally funded research project on the impact of workplace death see Quinlan, M., Fitzpatrick, S. J., Matthews, L. R., Ngo, M., & Bohle, P. (2015) Administering the cost of death: Organisational perspectives on workers' compensation and common law claims following traumatic death at work in Australia, *International Journal of Law and Psychiatry*. 38:8-17; Ngo, M. Matthews, L. Quinlan, M. & Bohle, P. (2019): Information needs of bereaved families following fatal work incidents, *Death Studies*, DOI: 10.1080/07481187.2019.1586792; Matthews, L. Johnstone, R. Quinlan, M. Rawling-Way, O. and Bohle, P. (2019) Work Fatalities, Bereaved Families and the Enforcement of OHS Legislation, *Journal of Industrial Relations*, 61(5): 637-56; Matthews LR, Quinlan MG and Bohle P (2019) Posttraumatic Stress Disorder, Depression, and Prolonged Grief Disorder in Families Bereaved by a Traumatic Workplace Death: The Need for Satisfactory Information and Support. *Frontiers of Psychiatry* 10:609. doi: 10.3389/fpsyt.2019.00609; Matthews, L. Quinlan, M. Jessup, G. Bohle, P. (2022) Hidden costs, hidden lives: Financial effects of fatal work injuries on families, *The Economic and Labour Relations Review*, 33(3): 586-609.

expeditiously and is in addition to any workers' compensation payments or other financial payments (and the time-consuming administrative processes these often entail) and enables the family to better navigate the immediate impact (loss of earnings, funeral expenses and the like) of the death at an extremely stressful time.

In December 2023 the Portfolio Committee No.2 of the NSW Legislative Council committee released a report on *Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales* recommended that the government consider expanding the role of ISHR under the *Work Health and Safety (Mines and Petroleum Sites) Act* to metalliferous mine sites.[81] As part of the Inquiry, the Committee visited the Cadia mine in Orange and evidence given to the committee as well as its own observations, are telling with regard to worker involvement and clearly underpinned its recommendation. The Committee interviewed Jack Ayoub, an AWU NSW branch organiser, who referred to challenges to organising members at the mine.

In response to questions put to him, Mr Ayoub said that the AWU had about 100 members working at the Cadia mine, a figure of less than roughly 10% of the workforce. Mr Ayoub went further to state in relation to Cadia mine: 'We have put a lot of resources into trying to unionise that workplace—and particularly around safety. But the company has been very sophisticated at keeping us out, and some of our powers aren't sufficient to get in the door.[82]

This statement indicates that hostility to union presence, at least at some mines, remains an issue in the industry and one relevant to considerations of the need for industry-level safety representatives. After considering this and other submissions regarding OHS in metalliferous mining (including resourcing of the inspectorate), the Committee observed:

> Committee comment 2.136 "The committee is concerned at reports by the AWU that Cadia Mine has restricted its attempts to gain access to the workers at the mine.
>
> 2.137 The committee acknowledges the measures in place at Cadia Mine to protect workers from metals and dust, which are vital in such a hazardous working environment. Given evidence discussed throughout this chapter about dust emission events at the mine, the committee suggests that the Government consider expanding the role of industry safety health representatives (ISHRs) outlined in the Workplace Health and Safety (Mines & Petroleum Sites) Act 2013 to metalliferous mine sites.[83]

In March 2024, the NSW government response to the Portfolio Committee report supported its recommendation that the government consider expanding the role of ISHR under the *Work Health and Safety (Mines and Petroleum Sites) Act* to metalliferous mine sites. The

[81] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales,* Legislative Council of NSW, Sydney, December 2023, x.
[82] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales,* Legislative Council of NSW, Sydney, December 2023, 50.
[83] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales,* Legislative Council of NSW, Sydney, December 2023, 51.

response indicated MSAC would be asked to give updated advice to the government. [84] As described below in Queensland, the regulatory framework on representation analogous to coal mining was retained in metalliferous mining. It is to Queensland that attention now turns.

Queensland

In Queensland, coal and more especially metalliferous expanded significantly from the late 1860s, but the first mine safety legislation was not introduced until 1881 and this law didn't cover all mines. As in Broken Hill, there were a significant number of fatalities and serious injuries, even in particular mining districts like Charters Towers.[85] Provisions for workmen inspectors similar to those in NSW coal mining had been incorporated in an 1879 mine regulation bill and another in 1889, but neither was enacted. Unions had pressed for these provisions as essential, given mineworkers fears of victimisation and concerns with the competence and impartiality of government mine inspectors, and this became part of the Labor platform in mining districts like Mount Morgan and then at the colony/state level. A study of Queensland miner attitudes to safety in the late 19th century by Stoodley observed:

There were many cases of managers' neglect of safety precautions, but as a witness before the 1897 Royal Commission on Mining pointed out, it took a strong minded man to set up his judgment in opposition to that of the manager, and very few would do it. He was reminded that the law required men to report any dangers to the manager, but he claimed that they would still run the risk of dismissal. He quoted his own experience in reporting defective gear, the manager had insisted that it was perfectly safe and warned him that if he did not think it good enough someone else could soon be found who would use it.[86]

The Amalgamated Workers Association (later part of the Australian Workers Union - AWU) supported the push by coalminers' unions for check inspectors in 1910, both being covered by the same mine regulation legislation. Sections 9, 28, 31 and 51) of the 1910 *Mines Regulation Act* empowered miners to appoint two of their number to undertake inspections applied to metalliferous miners. However, as elsewhere, implementing the system in districts like Mount Morgan proved difficult, due to fears of victimisation, with the union resolving to amend its rules so members would be compelled to appoint check inspectors and for monthly inspections to be carried out at each mine. A management witness told the Cloncurry Industrial Court that in the absence of miners appointing check inspectors, union organisers were permitted to enter the Mount Elliott mine but not to talk to or interact with the men.[87]

Unlike coal mining and Broken Hill, where unions paid for district check inspectors, the AWU favoured adoption of a Continental-European model adopted in France and Belgium of

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[84] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales*: NSW Government Response, March 2024, Sydney, 5.

[85] See for example D. Menghetti, "Mine and Town: Health and Safety on Charters Towers" (paper presented to International Mining History Conference, Melbourne, August 1985).

[86] J. Stoodley, "Queensland Miners' Attitudes towards the Need for Safety Regulations in the Late Nineteenth Century," *Labour History*, no. 14 (May 1968): 28–29.

[87] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:42.

workmen's inspectors who were elected by unions but paid for by government.[88] Supported by several other unions with members in mining (notably the Federated Engine Drivers and Firemen's Association or FEDFA) became the AWU's policy plank in Queensland (and indeed nationally), being pursued in ministerial deputations in Mount Morgan, Charters Towers and elsewhere.[89] This model appealed to the AWU whose membership extended well beyond mining (including pastoral workers, construction labourers and many other occupations). The 1916 *Mines Regulation Amendment Act* secured the AWU's objective of workmen inspectors, as well as providing other important revisions. The Act improved miners' access to inspection reports (s 3 revising s 9 of the 1910–12 Act) and provided for government payment of what were designated "miners' inspectors" who were removable by the minister (s 5 revisions s 11). In effect, miners' inspectors became departmental officers although they were appointed in elections conducted by the union. Unions were also empowered to appoint representatives to wardens' inquiries held in response to safety incidents (s 14 amending s 31). Like the UK coalminers unions, in Australia rejected this approach, insisting on paying their district check inspectors because they believed the actual and perceived independence of such officials and the confidence amongst miners that they are working in their interests.[90]

By the passage of the 1916 Act regular inspections of mines had become the norm along with involvement in investigations/inquiries and coronial inquests (indeed the latter was a legislative requirement). The union pushed for an expansion of paid district check inspectors. In July 1917, when the Minister for Mines visited central Queensland, he was informed the government mines inspector strongly supported their appointment and there "were many little incidents even in the company's favour, and the appointment of a permanent check-inspector would carry more weight than the temporary check-inspector." At the union's 1924 annual conference delegates requesting the Mount Morgan check-inspector's salary be increased were told district check-inspector's salaries were paid by the government.[91]

The roll-out of check inspectors remained challenging in some locations, like Mount Isa. Penrose notes that in 1935, the '*Workers Weekly* described the conditions in the mine as "treacherous". Even though there had been two fatal accidents since the mine opened, "the workers have no check-inspector".'[92] However, prior to 1935 there was a district check-inspector visiting the mine. In 1931 Labor member for Flinders J Mullan, complained bitterly that amendments to the *Mines Regulation Act* had abolished check inspectors, undermining efforts to combat disease that ravaged miners.[93] In 1932, the AWU had persuaded the government to appoint a check inspector for the central and northern region with an AWU

[88] For a discussion of these systems see Walters D, & Quinlan M, (2020) An International History of Coalminers' Actions to Voice Resistance to the Appropriation of their Safety and Health, 1870-1925, *Relations Industrielles*, 75(2): 376-399.
[89] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:43.
[90] Walters D, and Quinlan M, (2019) Representing workers on occupational safety and health: some lessons from a largely ignored history, *Industrial Relations Journal*, vol.50 no.4 399-414.
[91] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:43.
[92] Penrose, B. (1993) The Communist Party and Trade Union Work in Queensland in the Third period: 1928-1935, PhD Thesis, University of Queensland, St Lucia, 188.
[93] *Worker* 16 September 1931.

member ballot to select the appointee.[94] As a result, Jack Real, an AWU district check inspector, was nonetheless visiting the town, conducting inspections and representing miners in coronial inquests by 1934 if not before.[95] Real continued these activities into the early 1950s.[96] In 1954, a Mount Isa Mines miner Jim Obrien, was appointed to replace Real as the Australian Workers' Union check inspector for the north-western mining areas, which also included Charters Towers.[97]

The role of check inspectors was periodically endorsed in the press and elsewhere including parliament. During a debate on the Mines Regulation Bill in 1958, member for Warrego John Dufficy stated:

> I do not claim to be an expert on mining or safety measures in mines but at one time in my early life I had the duty of assisting a mines check inspector to go through mines to see whether the safety regulations were carried out. That was an excellent provision whereby check inspectors were appointed by the union, and their wages paid by the Government. In essence they were employees of the union, which gave them a degree of freedom from direction by the employer and gave employees a great measure of protection.[98]

With regard to the current situation the *Mines Act* 1999, the principle legislation covering non-coal mining and quarries, provides for both site safety and health representatives and district worker representatives.[99] There are extensive provisions on both, especially the latter and the most basic ones will only be identified here. Section 108 deals the nomination and appointment of district workers' representatives providing that (1) The Minister may appoint up to 4 persons to be district workers' representatives from nominees for the positions. (2) The term of office of a district workers' representative must not be more than 4 years.(3) An industrial organisation with members in the mining industry may nominate individuals to be district workers' representatives. (4) The Minister is to appoint, from the persons nominated, persons who satisfy the Minister they— (a) have appropriate competencies and adequate experience to perform the functions of a district workers' representative; and (b) are in a position to adequately represent the safety and health interests of a majority of workers. (5) A district workers' representative is appointed under this Act and not under the Public Sector Act 2022.

Unlike coal mining s109 provides that the funding of district workers' representative is provided by the government (1) A district workers' representative is entitled to the remuneration and allowances decided by the Minister.(2) The representative holds office on the conditions not provided by this Act decided by the Minister. Other provisions include 110 Termination of appointment (1) The Minister may end the appointment of a district workers' representative by notice if the Minister considers the representative is not performing the representative's functions satisfactorily. (2) The notice must contain the Minister's reasons for ending the appointment of the district workers' representative. 111 Appointment after termination (1) If a person's appointment as district workers' representative is ended by the

[94] *Townsville Daily Bulletin* 13 October 1932.
[95] *Townsville Daily Bulletin* 9 November 1934, 18 November 1939.
[96] See for example the *Worker* 1 June 1953.
[97] *Mount Isa Mail* 3 December 1954.
[98] Queensland Parliamentary Debates (Hansard) Legislative Assembly 27 March 1958, 2086.
[99] *Queensland Mines* Act, 1990.

Minister, the Minister may appoint another person to be district workers' representative. (2) However, the Minister must not appoint another person to be a district workers' representative unless—(a) the time for filing an appeal under part 13, division 1 has ended; or (b) if an appeal against the Minister's decision has been filed, an Industrial Magistrates Court has confirmed the Minister's decision to end the appointment of the district workers' representative. (3) The provisions of this division about nomination and appointment apply to the appointment. 112 Filling of temporary vacancy If a person is temporarily unable to perform the functions of a district workers' representative, the Minister may appoint a substitute in the way and for the term the Minister considers appropriate.

113 *Persons not to pretend to be district workers' representatives if not appointed*. A person not appointed as a district workers' representative must not pretend to be a district workers' representative. 114 District workers' representative restricted to safety and health purposes A district workers' representative must not perform a function or exercise a power of a district workers' representative under this Act for a purpose other than a safety and health purpose. 115 Functions of district workers' representatives (1) A district workers' representative has the following functions—(a) to help, represent and advise workers on matters relating to safety and health; (b) to inspect mines to assess whether the level of risk to the safety and health of workers is at an acceptable level; (c) to participate in inspections by inspectors and inspection officers; (d) to participate in investigations into serious accidents and high potential incidents and other matters related to safety or health at mines; (e) to investigate complaints from workers regarding safety or health at mines; (f) to help in relation to initiatives to improve safety or health at mines. The following persons may accompany the district workers' representative during an inspection—(a) the site senior executive or a person representing the site senior executive; (b) a site safety and health representative or a person representing the site safety and health representative. (3) A district workers' representative who makes an inspection of the mine must—(a) make a written report on the inspection; and (b) give a copy of the report to the site senior executive and send a copy to an inspector; and (c) if the inspection indicates the existence or possible existence of danger, immediately notify the site senior executive or the responsible supervisor.

116 Powers of district workers' representatives (1) A district workers' representative has the following powers—(a) to make inquiries about the operations of mines relevant to the safety or health of workers; (b) to enter any part of a mine at any time to carry out the representative's functions; (c) to examine any documents relevant to safety and health held by persons with obligations under this Act, if the representative has reason to believe the documents contain information required to assess whether procedures are in place at a mine to achieve an acceptable level of risk to workers; (d) to examine safety and health management system documents, including standard work instructions and training records; (e) to copy a document mentioned in paragraph (c) or (d); (f) to require the site senior executive for a mine to give the representative within a stated reasonable period and by a stated reasonable way, including, for example, by email, a copy of a document mentioned in paragraph (c) or (d); (g) to require the person in control or temporarily in control of a mine to give the representative reasonable help in a stated reasonable way in the exercise of a power under any of paragraphs (a) to (f); (h) to issue a directive under section

160(2)(a). (2) A person in control or temporarily in control of a mine required to help the district workers' representative under subsection (1)(g) must comply with the requirement, unless the person has a reasonable excuse. (3) If a district workers' representative asks a person to give access to a document to enable the representative to examine the document under subsection (1)(c) or (d), or to copy the document under subsection (1)(e), the person must give access to the document as soon as reasonably practicable after being asked, unless the person has a reasonable excuse. 117 District workers' representative not to unnecessarily impede production A district workers' representative must not unnecessarily impede production at a mine when exercising the representative's powers, or performing the representative's functions. 118 Inadequate or ineffective safety and health management systems (1) If a district workers' representative believes a safety and health management system is inadequate or ineffective, the representative must advise the site senior executive stating the reasons for the representative's belief. If the district workers' representative is not satisfied the site senior executive is taking the action necessary to make the safety and health management system adequate and effective, the representative must advise an inspector. (3) The inspector must investigate the matter and report the results of the investigation in the mine record.

119 Identity cards (1) The CEO must give each district workers' representative an identity card. (2) The identity card must— (a) contain a recent photograph of the representative; and (b) be signed by the representative; and (c) identify the person as a district workers' representative under this Act. 120 Failure to return identity card A person who ceases to be a district workers' representative must return the person's identity card to the CEO as soon as practicable, but within 21 days, after ceasing to be a district workers' representative, unless the person has a reasonable excuse. 121 Production or display of identity card (1) A district workers' representative may exercise a power in relation to another person only if the representative—(a) first produces the representative's identity card for the other person's inspection; or (b) has the identity card displayed so it is clearly visible to the other person. However, if for any reason it is not practicable to comply with subsection (1) before exercising the power, the district workers' representative must produce the identity card for the other person's inspection at the first reasonable opportunity.

Unlike coal mining, the costs of district workers' representatives are borne by the Queensland government, and this was also the case with the workmen inspectors' regime, which operated in Western Australia for much of the 20th century until 2013 when it was removed as part of the harmonisation of OHS legislation.

Western Australia

In Western Australia, large discoveries of gold in the 1890s sparked the rapid development of mining, especially on the Eastern Goldfields (Kalgoorlie, Boulder and Coolgardie) that was associated with a steeply growing toll of fatalities, serious injuries and disease, including the 1897 Mount Charlotte mine disaster (six killed). Provisions for workmen inspectors in the 1895 legislation discussed earlier were restricted to coalminers, but metal miners unions pressed for similar provisions. The Kalgoorlie miners' union used the 1904 Royal Commission into Ventilation and Sanitation in Mines to urge the appointment of check

inspectors like those operating in coal mining. Subsequently, the Commission recommended:

> *In view of the importance of ventilation and good sanitary conditions in and about mines to the health of the men employed, it seems to us reasonable that they should themselves have facilities for inspection and report in metalliferous mines in the same way as they have in the collieries. To make the check inspectors office of the most value they should be permanently engaged in the larger centres, and not merely employees of the mine told off to go round from time to time, though this might be necessary in smaller places. We are of opinion that they should be appointed and removed by the, recognised associations of miners of each district, subject to approval by the Minister for Mines, who should, however, possess full power to dismiss them if he thinks fit; that they should be paid by the associations with the aid of a subsidy from the State, and that they should report through the inspectors of mines.*[100]

Following further agitation s16) of the 1906 *Mines Regulation Act* included a more limited provision covering metalliferous miners, which harkened back to earlier statutes elsewhere:

> The majority of persons employed in any mine may, at their own cost, once in every month, or oftener if they think fit, appoint two of their number or any two practical working-miners, not being mining engineers, to inspect the mine, and the persons so appointed shall be allowed, once at least in every month, accompanied, if the owner, agent, or manager of the mine thinks fit, by himself or one or more officers of the mine, to go to every part of the mine and to inspect the shafts, levels, planes, working places, return air-ways, ventilating apparatus, old workings, and machinery. Every facility shall be afforded by the owner, agent, or manager, and all persons in the mine for the purpose of inspection, and the persons appointed shall forthwith make a true report of the result of the inspection, and that report shall be recorded in the Record Book and shall be signed by the persons who make the inspection, and if the report states the existence or apprehended existence of any danger they shall forthwith cause a true copy of the report to be sent to the inspector.[101]

As elsewhere, implementing this provision was problematic due to fears those taking on the post would be victimised, with Labor parliamentarians arguing union secretaries should be able to act in the role in 1909. The State Mining Engineer observed miners had “more confidence in men picked from among themselves” than government inspectors. A Bill to address these issues in 1912-13, which was rebuffed by a mine-owner, influenced Legislative Council, but in 1915 a state Labor government amended the *Mines Regulation Act* to provide for workmen-inspectors (with at least five years’ mining experience) elected by those employed “in the mines in the several mining districts” and subject to approval by the Minister. In justifying these changes detailed reference was made to the toll of death,

[100] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:45.
[101] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:45.

injury and serious incidents in metalliferous mines, and comparisons drawn with statistics for Broken Hill.[102]

The 1915 legislation opened the option for district-based workmen-inspectors less susceptible to intimidation. Reflecting a more Continental-European approach s 7 of the Act designated workmen-inspectors as a third category of inspector (the other two being special and district government inspectors) subject to ministerial direction. The minister determined the number of days per week they could spend on activities (which varied from mine to mine) and could remove a workmen-inspector from office. Under s 11 they were empowered to make inspections to determine compliance with the Act, to include their reports in the mine record book, and make inquiries and interview witnesses to "accidents." Significantly, under s 11(d) workmen-inspectors could, with the approval of a government inspector, initiate prosecutions. Interfering with or obstructing their appointment or activities was an offence (maximum penalty £50). Proposals to give them additional discretionary powers had to be abandoned. Further, requirements that they be British subjects were inserted by a conservative-dominated Legislative Council. As in other jurisdictions parliamentary debates repeatedly referred to their pivotal role in enabling miners to raise OHS issues without fear of retribution.[103] Chakraborti argues that the Act gave workmen-inspectors' powers superior to those bestowed on health and safety representatives under Western Australia's current (2018) OHS legislation and contributed to a significant reduction in the incidence of fatalities, which fell from 2.49 per 1,000 workers in 1903 to 1.49 in 1918.[104]

As elsewhere, workmen inspectors undertook regular inspections of mines in their districts (compiling reports then tabled at union meetings), attended coronial inquests and funerals, and contributed their knowledge to assessing hazards and revising regulatory standards.[105] Miners in districts without a workmen's inspector lobbied for their appointment.[106] The AWU also pressed for the appointment of check inspectors, when during the Great Depression the government failed to fill vacant district government mine inspector positions, arguing this was a more cost-efficient option.[107] The AWU also sought to include health and safety provisions in industrial awards covering the mining industry. In 1939, the proposed Mining Award included provisions on the supply of drinking water, controlling dust in dry crushing plants and with regard to ventilation check inspectors and a workmens' representative to be present when temperatures were taken (who were to be paid for by the company).[108]

The position of workmen's inspector was retained in the *Mines Regulation Act* 1946. As in other jurisdictions, the role of workmen-inspectors periodically came up during inquiries and legislative reviews, including a major legislative overhaul in 1994. Provisions were still in force when the *Mines Safety and Inspection Act* 1994[109] were amended in 2006 and post the

[102] *Westralian Worker* 15 October 1915.
[103] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:47.
[104] S. Chakraborti, "The Influence of Safety and Health Representatives in the Western Australian Mining Industries" (PhD thesis, Curtin University, 2018), 41.
[105] See for example *Westralian Worker* 21 August 1925, 20 January 1950, 17 February 1950.
[106] *Norseman Esperance* News 22 September 1950.
[107] *Westralian Worker* 13 October 1932.
[108] *Westralian Worker* 10 March 1939.
[109] Western Australia *Mines Safety and Inspection Act,* 1994

Kenner Review of 2009.[110] At this time, s19 provided that 'Employee's inspectors are to be appointed following their election in accordance with the regulations by a majority of persons who are employed at the mines in the regions designated for the purpose by the State mining engineer and who exercise their vote. (2) To be eligible for appointment as an employee's inspector, a person must hold a certificate of competency as an underground supervisor or, in relation to underground coal mines, a deputy and have been engaged in general practical underground mining work as a working miner for not less than 5 years, but the State mining engineer may, in respect of a particular sector of the mining industry or a particular region of the State and in special circumstances, accept the eligibility of persons with lesser qualifications or experience. (3) Every employee's inspector is to be appointed for a term of not more than 4 years and employed on such terms and conditions as are determined by the Minister after consultation with the Minister for Public Sector Management.(4) An employee's inspector is eligible for reappointment following re-election.(5) An employee's inspector may be removed from office by the Minister on the grounds of misconduct, neglect of duty or incompetence.' Under s20, the Mines Minister could also appoint eligible persons to be assistant inspectors of mines (to be person had to have served not less than 12 years in total as an employee's inspector or a workmen's inspector. In essence these provisions were similar to those found in NSW and Queensland.

Under s21(2) 'An employee's inspector or an assistant inspector may, for the purposes of this Act —(a) exercise any of the powers conferred on a district inspector by subsection (1) except for those conferred by paragraphs (m) and (n) of that subsection; (b) with the authority of the State mining engineer, initiate and conduct prosecutions of persons for offences under this Act; (c) if a district inspector so directs, obtain written statements from potential witnesses, and appear at inquiries held regarding mining accidents, and at inquests and call and examine witnesses and cross-examine witnesses. (3) In exercising any power under this Act, an inspector or an assistant inspector may be accompanied by any other person whose assistance the inspector or assistant inspector considers necessary…" In s23 the Act also required liaison between employee's inspectors and safety and health representatives. Under subsection '(1) An employee's inspector who performs any function with respect to safety and health matters at a mine must liaise with the safety and health representative (if any) and the safety and health committee (if any) at the mine. (1a) In subsection (1) —"the safety and health representative" — (a) if there is more than one safety and health representative for the mine, means any such representative who has functions relevant to the matters concerned; and (b) includes a safety and health representative elected for a group of employees pursuant to a scheme under section 55A if any member of the group works at the mine. Subsection (2) also empowered the employee's inspector to report to a trade union on matters concerning safety factors and the safety of working conditions at a mine if a member of that trade union is employed at the mine and the subject matter of the report concerns the member or the member's work at the mine.

Section 51 identified the functions of safety and health representatives as: (1) The functions of a safety and health representative are, in the interests of safety and health at the mine for which the representative was elected — (a) to inspect the mine, or any part of the mine — (i) at such times as are agreed with the manager of the mine; or (ii) where the representative

[110] Kenner, S. J. (2009), *Review of the Mine Safety and Inspection Act 1994*, Report to Western Australian Minister for Mines and Petroleum, Perth.

has not inspected the mine, or that part of the mine, in the preceding 30 days, at any time upon giving reasonable notice to the manager; and (b) in the event of an accident, a dangerous occurrence, or a risk of imminent and serious injury to, or imminent and serious harm to the health of, any person, immediately to carry out an appropriate investigation in respect of the matter; and (c) to keep informed as to the safety and health information provided by the manager of the mine or an employer in accordance with this Act and liaise as necessary with the department and other public sector and private bodies; And (d) immediately to report to the employer concerned and to the manager of the mine any hazard or potential hazard to which any person is, or might be, exposed at the mine that comes to the representative's notice; and (e) where there is a safety and health committee for the mine, to refer to that committee any matters that the representative thinks the safety and health committee should consider; and (f) to consult and cooperate with the manager of the mine and employers on all matters relating to the safety or health of persons at the mine; and (g) to liaise with the employees, employers, and employee's inspectors in accordance with section 25, regarding matters concerning the safety or health of persons at the mine. (2) A safety and health representative for a mine has such powers as are necessary for the carrying out of the representative's functions under this Part and in particular, but without limiting the generality of the preceding statement, may, where requested to do so by an inspector, accompany an inspector while the inspector is carrying out, at the mine, any of the inspector's functions under this Act. (3) A safety and health representative incurs no civil liability arising from the representative's performance of, or failure to perform, in good faith any function of a safety and health representative under this Act. (4) If a scheme has been established under section 55A, the references in this section to "the mine" and "a mine" include (a) if the scheme applies to more than one mine, each mine to which the scheme applies; and (b) if under the scheme a safety and health representative is elected for a group of employees, each mine or part of a mine at which any member of the group works. Sections 54-56 dealt with the election of SHRs while s57 specified their term to be two years and the conditions under which their term ended.

The Kenner (2009) review[111] of the *Mines Safety and Inspection Act* recommended that the position of employee's inspector be retained (with the same qualifications) though as an appointed, not elected position, and retitled Employees Mining Officer (or something like) with all the powers of government appointed inspectors (i.e., removing the omissions in the 1994 Act). It was recommended that the role be refocused on supporting HSRs, especially in the areas of risk management principles and procedures. Kenner also recommended that the position of assistant inspector be abolished. The employee inspector position appears to have been abolished, not due to any particular criticism of it, but as part of the national harmonisation of workplace health and safety legislation from 2013, where mining was integrated into WHS law, although a separate set of mine safety regulation was retained and revised in 2022. The 2022 Regulation included provisions on the election, powers and training of mining HSRs (sections 18-22), granting access to lead and asbestos registers as well as requiring the mine operator to provide them with copies of any regulatory notice issue and the mine record.[112] Part 10 on managing risks also required the mine operator to comply with a representative request to review a control measure.

[111] Kenner was a member of the Western Australian Industrial Relations Commission and chair of the Coal Industry Tribunal of Western Australia.

[112] Western Australia, *Work Health and Safety (Mines) Regulation*, 2022

Tasmania

Coal mining began in Tasmania in the 1830s and grew from the 1850s, but metalliferous mining became more important following gold discoveries in Northern Tasmania and significant tin, lead and silver discoveries in the 1880s, especially on the island's west-coast. Mine safety legislation was first enacted in 1881, but a concerted campaign for check inspectors only began two decades later, pointing to regimes operating in Broken Hill and Western Australia, and arguing worker elected check inspectors would increase miners' confidence and relieve pressures on government inspectors. In 1911, the *Mining Act* was amended with section 23 enabling the majority of members in an underground mine to appoint, at their own cost, two miners with at least five years' experience to inspect any part of the mine, its machinery and workings once a month or more often if they were considered unsafe, and to inspect the mine's report book. A written copy of their report was to be provided to the mine-owner or manager and forwarded to the district mine inspector if it referred to apprehended danger. Interference in check inspector elections or activities was also prohibited.

Echoing arguments elsewhere, the AMA's Zeehan branch was dissatisfied with the amendment, believing that tying appointments to the mine made those elected too vulnerable to victimisation. At the west coast's large North Mount Lyell mine, General Manager Robert Sticht and Mine Manager Russell Murray continued to resist the union's push for improving hazardous conditions, and both used disparaging terms to describe miners – like the "usual derelicts" and "very low life." Mount Lyell's high fatality rate had been singled out during the union campaign for check inspectors but even as ballots proceeded at other mines, Sticht delayed their appointment in defiance of the legislation until the Board of Directors intervened. Stitch had resisted efforts to deal with dust-hazards (like water-spraying drills) or improved ground support, in June 1912, standing down the entire workforce for a "breach of discipline" after they walked out when a miner was killed in rockfall – the 16th fatality at the mine and the fifth rockfall-related fatality at the mine. With masterful understatement, the *Age* reported the mine was plagued with "misfortune" after another three miners were killed by a rockfall in September 1912. In early October, the check inspectors were refused permission to inspect the workings, and the miners struck, expressing grave fears about safety. Their concerns centred on working areas, but focus was placed on the single means of egress, which was raised both at a meeting of miners and by the two check inspectors when they eventually inspected the mine on 8 October. The dangers of a single egress had been well known since the 1862 Hartley Colliery (UK), when the collapse of an engine beam blocked a shaft, resulting in the death of 204 miners. It was prohibited by laws in other states, like the NSW *Coal Mines Regulation Act* 1902. The AMA had raised the issue with government mines inspector C. H. Curtain in June 1912, four months prior to the disaster. The check inspectors' egress-concerns influenced a mine inspector, who amended his telegrammed report to the Chief Inspector. Russell Murray, however, denied there was a danger (and continued to do so at the Royal Commission). The miners resumed work while the union sought government action over safety and the role and powers of workmen-inspectors.[113]

[113] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History,* Number 119:49-50.

On Saturday 12 October, a fire 700 feet underground trapped many miners. A number ultimately escaped, but 42 died of carbon monoxide poisoning. In the aftermath of the disaster, the Labor opposition accused the Tasmanian government of manifest failings. The subsequent Royal Commission heard evidence of thwarted efforts by check inspectors to raise safety concerns at the mine, including egress, before the fire. Evidence of failings by government inspectors that gave an ironic twist to the Chief Inspector's earlier discomfort with check inspectors was skated over. The Royal Commission findings concentrated on the fire (and the failure to recognise this risk) rather than the well-signalled inadequacy of escape ways. Drawing on company records, Schulze argued the company's lawyers managed to manipulate the evidence in ways that minimised management's culpability.[114] The Royal Commission recommendations largely followed those suggested by the Chief Mines Inspector, with legislative changes that all but ignored the role of workmen-inspectors. The *Mines and Work Regulation Act* 1915 prohibited single-shaft egress in coalmines and amended the workmen-inspector provision so miners could appoint "other persons" with at least five years' mining experience. Passed during a short-lived Labor administration, this Act provided support for district inspectors, reducing the opportunity for their intimidation by mine managers. As a sop to mine-owners, a new subclause made it an offence for check inspectors to undertake inspections for other than a bona fide purpose.

In essence, Tasmania had opted for the coal mining model rather than Continental-European model of government-paid workmen-inspectors. These provisions survived until all mining legislation was repealed as part of the post-Robens rationalisation of OHS legislation. Mining was entirely incorporated under general OHS legislation, the only mining-specific provisions being those pertaining to the Chief Mines Inspector. The short-sightedness of this was made manifest by a series of serious incidents, but most notably by the independent investigation and coronial inquest that followed the 2006 Beaconsfield mine fatality/entrapment, and a series of the biennial audits of the mines inspectorate which had been recommended by the coroner and were undertaken in 2010, 2012, 2014 and 2016-17.[115] Some significant changes that followed Beaconsfield included the mine being placed under what effectively amounted to a safety case regime when it re-opened and additional resourcing for the inspectorate, including the appointment of a second mining engineering qualified inspector. This amounted to a definite improvement but as the independent audits found, attracting and retaining sufficient suitably qualified and experienced mine inspectors remained a challenge. These challenges continued after the audits and required the current Chief Mines Inspector to appoint his predecessor on a series of contracts (albeit mutually acceptable to both) and to arrange for experienced Western Australian mine inspectors to visit and undertake some activities in the state (again valuable but not an alternative to addressing insufficient resources). Further, with only one coalmine, the inspectorate lacks anyone with expertise on the hazards specific to this type of mining and is reliant on periodic

[114] P. Schulze, "The North Mount Lyell Disaster: A Miscarriage of Justice," *Journal of Australasian Mining History*, no. 9 (2011): 94–116.

[115] Quinlan, M. (2010) *First Audit of Mine Safety Unit and Office of Chief Mines Inspector Workplace Standards Tasmania*, Worksafe Tasmania, Hobart; Quinlan, M. (2012) *Second Audit of Mine Safety Unit and Office of Chief Mines Inspector Workplace Standards Tasmania*, Worksafe Tasmania, Hobart; Quinlan, M. (2014) *Third Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart; Rowan, G (2017) Audit of the Office of Chief Inspector of Mines Tasmania, Workplace Standards Tasmania, Hobart.

visits from persons with that expertise on the mainland (including the NSW ISHR just referred to and the recently appointed Vice President of the MEU, Steve Smyth).

The independent audits addressed a number of serious deficiencies identified by the Beaconsfield Inquiry and Coronial Inquest, including inadequacies in mine-specific regulatory requirements, worker representation, and the need for closer collaboration of site representatives with inspectors. For example, the 2016-17 review states that 'site workers representatives should be consulted whenever an inspector attends any site.'[116] Another significant issue has been the almost glacial progress towards deficiencies in legislative requirements relevant to mining. A Legislative Council Select Committee undertook an inquiry into mine safety regulation and reported in 2009 confirmed the chronic understaffing of the inspectorate but large framed its conclusions and recommendations in terms of slightly extending requirements for the mining industry but still very much within the rubric and philosophy of post-Robens OHS legislation. While reference was made to District Workmens' Inspectors the report quoted extensively from industry/employers and regulatory witnesses who emphasised the importance of OHS management systems and saw a limited role for unions (mainly safety awareness), and opposed worker inspections and concluded:

Unions have an important role in the promotion and awareness of safety in the mining industry, but do not have a role as a regulator of the industry or as mine site inspectors.[117]

Some mine-specific safety and health requirements were introduced with the *Workplace Health and Safety Amendment (Mine Safety) Act* 2010 to operate in conjunction with the *Workplace Health and Safety Act* and the Workplace Health and Safety Amendment (Mine Safety) Regulations 2011. This legislation placed more stringent and detailed requirements on mine operators in terms of management systems, risk assessment, management structures, managerial responsibilities/qualifications and consultation. The hazard-specific regulations were designed to ensure that basic standards were met and reinforce the effectiveness of systems in relation to well-known hazards (such as poor ventilation and rock falls). The key changes made included that mine operators must develop, implement, maintain and review a documented health and safety management system to protect the health and safety of mine workers and other persons who may be exposed to risks arising from mining operations. For underground mines, where 10,000 hours or more per month are worked at a mine, the site senior officer must also have risk management training, or relevant experience, meeting the requirements of the Chief Inspector of Mines and a university mining engineering degree or equivalent qualification (if there is no person appointed with mining engineering qualifications to assist the site senior officer).

It required mine operators to develop, implement, maintain and review a documented health and safety management system to protect the health and safety of mine workers and other persons who may be exposed to risks arising from mining operations. The health and safety management system must include documentation of the management structure for the mine; major hazard management plans required by the regulations; risk management processes and procedures; an emergency response plan; provision for the review and improvement of

[116] Rowan, G (2017) Audit of the Office of Chief Inspector of Mines Tasmania, Workplace Standards Tasmania, Hobart, 25

[117] Legislative Council Select Committee (2009) Mining Industry Regulation, Parliament of Tasmania, Hobart.

the health and safety management system; a fitness-for-work program and a health surveillance program. The legislation/regulation also includes more detailed requirements with regard to risk management and major hazard plans. With regard to risk management existing regulatory requirements (clauses 17-19 of *Workplace Health and Safety Regulations, 1998*) are supplemented by provisions explaining the concept of systematic risk management; a requirement to consider the skills mix necessary to undertake the various steps in the risk management process and to ensure the process is led by a competent person; and a requirement to keep a written record of all risk assessments required by the regulations. Similarly, the provisions pertaining to major hazard management plan indicates this is required where a non-negligible risk of multiple or repeat fatalities arising from a hazard is identified in the hazard identification/risk assessment process; if required by an inspector (subject to similar criteria); or where required by a regulation relating to a specific hazard (inrush and flooding, airborne dust, powered mobile plant, and electricity). Finally, the requirements with regard to systems/major hazard plans are augmented by hazard specific regulations dealing with ground control and geotechnical considerations (including seismicity); Inrush and flooding; shafts and winding equipment; atmosphere, airborne dust and ventilation; vehicles and powered mobile plant; and electricity. Taken as whole, the revised regulatory regime in Tasmania clearly targeted deficiencies revealed by the Cornwall Colliery, Renison and Beaconsfield mine incidents in terms of providing more detailed requirements with regard to safety management systems/major hazard plans (including accountabilities), risk assessment (including documenting the process), and reinstituting hazard specific regulations (to address well known hazards and require the reporting/notification of incidents, events or information pertaining to these hazards). In 2012, the *Mine Work Health and Safety (Supplementary Requirements) Regulation* was introduced, which included more detailed requirements on risk assessment, the preparation of major hazard plans and OHS management system requirements.[118] The *Mine Work Health and Safety (Supplementary Requirements) Regulation2025* further amended requirements with regard to OHS management systems.

These changes were an important step to improving mine safety regulation in Tasmania, but in line with the 2009 Legislative Council report did not appreciably strengthen the role of worker representation despite positive references to mainland experiences with check inspectors in most of the audits. Overall, Tasmania still fell well short of having adequate mine safety and health legislation, something noted in both 2012 and more especially the 2014 audit, which pointed to the dire lessons of the Pike River Mine Disaster, where New Zealand had followed a similar path to Tasmania in repealing most mine safety regulations as part of the Post-Robens OHS reforms. In New Zealand it was recognised that even small mining jurisdictions required comprehensive mine safety legislation, including significantly stronger mechanisms for miner representatives. By 2013, New Zealand had introduced a comprehensive legislative package modelled on NSW and Queensland, which were seen as world's best practice in this area. The author of the 2010, 2012 and 2014 audits had direct knowledge of the lessons to be drawn from New Zealand, having prepared reports on mine safety for the NZ Department of Labour following the disaster, being a member of the Expert Reference Group that oversaw the legislative package that followed after the Royal Commission had tabled its findings and then serving as a research expert on the Extractives

[118] *Mine Work Health and Safety (Supplementary Requirements) Regulation 2012* https://www.legislation.tas.gov.au/view/whole/html/inforce/2020-12-13/sr-2012-134

Industry Advisory Group that monitoring implementation of the legislative and mine safety (2014-2020). The 2014 audit identified a number of serious deficiencies with regard to the Tasmanian regulatory framework when compared to New Zealand, notably:

- the degree to which the nature and content of major hazard plans are specified
- the absence of requirements with regard to certified competencies of key personnel working in mines
- gaps in prescriptive requirements relating to known hazards, including those pertaining to coal mining
- much weaker provisions relating to the role of worker representatives
- less prescription/guidance with regard to emergency/rescue procedures
- failure to require independent auditing of mine safety systems to help ensure these systems are robust and working as designed

This was not exhaustive. The New Zealand regime also contained significantly more comprehensive and robust provisions with regard to the certification/accreditation, training and examination of managers, shotfirers and other specialist tasks. With regard to worker representation mechanisms, the 2014 Audit observed:

> *Another area where Tasmania compares unfavourably to 'best practice' jurisdictions is with regard to worker involvement mechanisms. In NSW and Queensland, mine safety legislation (especially that relating to coal mining) establishes both industry and site safety representatives with powers of inspection, rights to information and to take action in situations of immediate danger that are beyond those found in the Work Health and Safety Act. For example, these representatives (who are experienced miners and receive both training and annual updates) undertake regular inspections, file reports that become part of the mine record book, and have access to the inspection reports of government inspectors (indeed reports are exchanged between both parties by email). These arrangements are longstanding and were introduced in recognition that given the serious hazards mineworkers encountered they required meaningful mechanisms to protect their safety.*[119]

The principle that workers in high hazard industries deserve greater participatory and rights to safeguard themselves has been extended to other high hazard industries like offshore oil production. During the course of the audit a number of concerns were raised with regard to current site safety representatives in mines, including an inability to access training at some mines because the representatives were not duly appointed under the legislation. Duly appointed, trained and empowered safety representatives are more likely to have the confidence of mineworkers, including allaying their concerns on occasion. The increasing use of contract mining operations also raised concerns in this regard. Another issue was the absence of shared access of representatives (including unions) to electronic copies of incident and inspection reports. The latter issue was raised in the 2012 audit, and given that

[119] Indeed the arrangements have existed at one time in almost all states, including Tasmania, where legislation was proposed in the aftermath of the Mount Lyell mine disaster in 1912.

this already occurs in Queensland indicates the practice is entirely workable and beneficial to all concerned (and the model for a regulatory infrastructure to secure this already exists). Previous audits noted that the situation with regard to worker involvement in safety and health had improved since 2006, but the situation still seems far from optimal. The audit recommends that serious consideration be given to following the New Zealand approach of introducing industry and site safety and health representatives in the mining industry, modelled on those currently operating in NSW and Queensland.[120]

Victoria

Metalliferous mining expanded rapidly in Victoria following large gold discoveries in the early 1850s, and the colony was the second (after NSW) to introduce mine safety legislation in 1873. As in Western Australia, the check inspector provisions granted to coalminers in 1909 did not extend to metalliferous miners. Metalliferous miners' unions had campaigned on the issue for some years, but the 1912 Mount Lyell mine disaster resonated strongly in Victoria. The Victorian Amalgamated Mine Employees Association (AMEA) sent a deputation to the Minister for Mines urging amended legislation to enable the appointment of check inspectors, stating that 12,362 members had met with serious accidents in the past six years. In September 1912, a Bendigo miners' deputation told the Minister that more frequent inspections via check inspectors would minimise risks that cost the union's accident fund £80–90 per fortnight for "petty" injuries. A Bill extending check inspectors to metalliferous mining was stalled by the state's upper house (Legislative Council) in December 1912. In the meantime, the union implemented a check inspector system in districts like Daylesford and Ballarat in conjunction with safety campaigns, one requiring two operators for drilling machines as in Broken Hill. In February 1914, the *Mines Amendment Act* (r 50) extended workmen inspector provisions in the 1909 *Coal Mines Regulation Act*, empowering metalliferous miners to appoint two practical working-miners from their number to conduct monthly inspections after giving 24 hours' notice and to notify the mines inspector of any apprehended dangers. Interference in their appointment and activities was prohibited. The union remained dissatisfied. The union's 1914 annual conference renewed calls for union-appointed district check inspectors while simultaneously labelling government mine inspection as a farce.

Responding to the Minister for Mines' contention that check inspectors would interfere with government inspectors, AMEA branch official T. Hewitt argued "inspectors want interfering with in the passage of so many miners to eternity by miner's complaint and 'accidents.'" This was not hyperbole. A 1907 report prepared by Dr Walter Summons found that in the Bendigo district alone, 1,402 miners had died of miners' phthisis and another 272 in "accidents" between 1875 and 1906.110 The silicosis and other disease-related death toll of metalliferous miners in Victoria (and elsewhere) between 1870 and 1920 probably represents Australia's worst industrial disaster.[121] Another union deputation (in April 1914) asked the Minister for Mines for eight check inspectors to be appointed to enforce mine "regulations in respect to ventilation, sanitation, and the suppression of dust to be more stringently enforced", and raised the problem with mines being "massaged" once 24 hours'

[120] Quinlan, M. (2014) *Third Audit of Mine Safety Unit and Office of Chief Mines Inspector, Tasmania*, Worksafe Tasmania, Hobart, 46-47.

[121] B. Penrose, "The State and Gold Miners' Health in Victoria, 1870–1910," *Labour History*, no. 101 (November 2011): 35–52.

notice was given. Once again, their concerns were rebuffed, with statements that check inspectors would interfere with the entirely adequate work of government inspectors. Within days of this ministerial pronouncement, seven miners died in an explosion at the Hustler Extended mine near Bendigo. Expressing sympathy for the widows and children of those killed, the union's executive reiterated the need for check inspectors, arguing they would have discovered if detonators were being stored contrary to regulations. As in other states, another factor in the union push for union-appointed district check inspectors was the lack of check inspectors in non-union mines and victimisation fears amongst those elected in unionised mines where they were employed, even when the union was present. The union continued campaigning via parliamentary questions/proposals and securing candidate commitments, as well as repeated deputations to the Minister for Mines.In January 1919, a joint deputation to the Minister for Mines by the AMEA and Coal and Shale Employees' Federation (now the MEU) urged stricter regulations to prevent/minimise miners' phthisis (tuberculosis) and the removal of the 24 hours' notice requirement. Mine-owner interests fiercely resisted the measure, and Victoria lagged other states in terms of political mobilisation by Labor, only securing three short-lived minority Labor governments between 1924 and 1929.[122]

Things did not significantly improve for metalliferous miners after this time. In 1937, Bendigo miners convinced the AWU to send a deputation to the Minister requesting that air testing for dust be made mandatory in all mines and that a check inspector be appointed to the district.[123] This apparently failed, so a year later, the secretary 'was directed to approach the Minister of Mines with a view to having the regulations altered so that this Union may provide check inspectors.'[124] A month later (August 1938), the union was told the request for the appointment of check inspectors could not be met as the Department did not have the money to make any additional staff appointments.[125]

Like a number of other states, Victoria ultimately repealed much of its mine safety legislation and merged mining under the harmonised model workplace health and safety legislation, relying on residual mine provisions in the model legislation.[126] These are relatively spare and do not include worker representation requirements like those found in NSW or Queensland.

South Australia

South Australia was the last state to regulate. Section 12 of the *Mines and Work Inspection Act* 1920 empowered miners to appoint two of their number to conduct inspections after notifying the manager. There were also clauses on management-facilitation, reporting, "apprehended-danger", and workers' compensation coverage similar to other states. In 1925, the Royal Commission on Plumbism recommended the appointment of check inspectors at the Port Pirie smelter, which processed lead from the Broken Hill mines.[127]

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[122] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:52-54.
[123] *Australian Worker* 21 July 1937.
[124] *Australian Worker* 20 July 1938.
[125] *Australian Worker* 17 August 1938.
[126] https://www.worksafe.vic.gov.au/safe-working-environment-mines
[127] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119:54-55.

Concluding Observations

The creation of miner check inspectors/workmen inspectors was pioneered in coal mining initiated by NSW in 1876. Although the 1876 provision mirrored that of the UK, its introduction was based on a local struggle by the coalminers' union, not simply copying of British legislation. The NSW provision served as a model for other Australian colonies/states, but in each case these changes were adopted and revised/improved following campaigns. The coal mining provisions were sought by metalliferous miners, and for much the same reason, the need to more effectively deal with the serious hazards miners faced and to give miners some say or direct input into safeguarding their health, safety and wellbeing. Over the course of the 19th and 20th century the system was revised to deal with significant issues, including the vulnerability of site-based check inspectors to victimisation. In both sectors, it became apparent that district check inspectors were necessary to overcome this problem and provide a more overarching input into mine safety at the district and state levels. Legislative recognition of this was ultimately secured while union involvement remained critical in terms of supporting both. In coal and metalliferous mining, historical records attest to the value of mine and district level appointments as knowledge activists enabling miners to better safeguard their health, safety and wellbeing, and to ensure legislation was enforced. One significant difference between district check inspectors in coal mining and their equivalent in most metalliferous mining jurisdictions (often termed workmens' inspectors) was that in coal mining the MEU paid their salaries, while in metalliferous (except Broken Hill) they were paid for by the government. The latter arrangement was, as history showed on various occasions, more vulnerable to the whims of governments and changing budget circumstances. This became a factor in the demise of these positions in some states.

In metalliferous mining, the provision for workmens' inspectors/district check inspectors disappeared from regulatory requirements in the late 1990s and early 2000s. The primary reason for this was not manifest failings in this system, but rather it was associated with a rationalised of OHS legislation associated with the post-Robens reforms whereby mine-safety legislation was either entirely repealed/supplanted (as in Tasmania and Victoria and New Zealand) or made subordinate to or an adjunct of general OHS legislation which included provisions for employee (later worker) health and safety representatives. To a large degree, this was done without formal explanation or justification, but it seems on the grounds of uniformity/consistency. The manifest limitations of removing mine-specific legislation, including worker inspector provisions was starkly revealed by the 2006 Beaconsfield mine fatality/entrapment in Tasmania and the 2010 Pike River mine disaster in New Zealand. In both these jurisdictions, it was necessary to reintroduce mine-specific legislation that addressed the particular hazards of mining and the potential for multiple fatality events, including the stronger worker representation. It might be suggested that the HSR requirements in general workplace health and safety legislation (WHS, the designation adopted under Australian model legislation) asserted that, special representative mechanisms in mining that had long predated this were no longer necessary and, further, the functions of district/full-time mineworker inspectors could be undertaken by union officials who had rights of entry to the workplace. However, even ignoring the restrictions

placed on union-officials rights of entry (like those imposed by the Howard government[128]), this contention is based on a fundamental misunderstanding of both the historical and contemporary role of these representatives. Both mine-site and district miner representatives originated from the need to address serious fatality risks (injury and disease) in mines, and that has remained the key focus of their activities, even though they can and do address other issues like routine injuries and psychosocial hazards. In other words, the role addressed the needs specific to a high-hazard industry, and the both mine-site and district/general miners' inspectors had the experience and qualifications to do this, and the regulatory requirements specific to principal hazards and other fatality/serious impairment risks in mining. In contrast, the HSR provisions in general WHS legislation and the principal or general duties in that legislation address a more generic set of OHS/WHS hazards/risks as they must, sometimes augmented by industry-specific codes, regulations and guidance notes. Further, mine-site safety representatives cover the entire mine, while HSRs are appointed to represent specific workgroups, which may or may not entail the entire site and all workers. This difference is important when it comes to dealing with principal hazards, site-wide fatality risks or the operations of contractors or others undertaking non-mining activities like installing or maintenance (note the higher incidence of fatalities in these activities).[129] In short, there are significant differences in the role and legislative framework that worker representatives in mining address compared to those operating in other industries (with the possible exception of those in the oil and gas industry, which is also subject to high-hazard specific legislation).

Similarly, there is simply not equivalence between a union organiser/official often having to deal with WHS in an array of different work-settings, together with other industrial relations responsibilities and a specialist full-time mine safety officer who was/is required to have both experience and qualifications specific to mining and who is specifically precluded from undertaking non-WHS related activities. In addition to this, both site safety and health representatives and industry safety and health representatives have statutory rights and powers specific to their role in mining, powers and rights that evidence from coal mining indicates they use astutely and effectively (see Chapter 4). Union officials, while they may give warnings, do not have the power to issue notices (including suspension orders), to make a report that must be lodged in the mine's safety records or to take a role in incident investigations.

The two-tier model is a feature that has distinguished the form of health and safety representation in coal mining throughout its 150 year history (and metalliferous mining until 2004) in Australia, and was a similar distinguishing feature of the model of representation in coal mining in the UK, on which it was originally based.

As discussed, this model is not the only way of supporting representation and consultation on work health and safety, nor indeed the most commonly adopted in other sectors. More generic HSRs in Australia and elsewhere, as well as other trade union and regulatory approaches to representing miners' health and safety arrangements, are resourced from

[128] Quinlan, M. & Johnstone, R. (2009), The implications of de-collectivist industrial relations laws and associated developments for worker health and safety in Australia, 1996-2007 *Industrial Relations Journal* 40(5): 426-443.

[129] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review, *The Economic and Labour Relations Review*, 35(3):576-613

different mixes, involving, for example, duties on employers to make provision for time off without loss of pay, for facilities, and for training and alongside provision from the state for resourcing some of these too. These work in tandem with the specific statutory rights of worker representatives to have access to such support. While in individual cases, these different ways of supporting worker representation and consultation can result in positive outcomes, generally, where trade unions have gone one step further in helping to make the representation of workers' interests in their health and safety *more* effective (such as with regional health and safety representatives in Sweden, Italy and Norway), the additional mileage thus achieved has, more often than not, been resourced either in whole or in part, by financial support from trade unions or from their capacity to exercise control of this resource. Further, in coal mining, such resourcing is one of the reasons for the strong sense of independent, autonomous authority that the ISHRs can bring to their role. In understanding the way that these knowledge activists achieve their effectiveness, and how they support and transfer knowledge to SSHRs, it is important to acknowledge the extent to which in coal mining, their existence is not dependent on their funding by the state or the largesse of employers. And thus, their role is characterised by its capacity to *resist* what some employers seem to regard as their managerial prerogatives to determine what constitutes acceptable risks to miners' health and safety. The mode of operation of representation in coal mining differs fundamentally in this respect from the consensus-based arrangements in place for HSRs, both in mining and elsewhere, which is often influenced by notions of co-operation with management and thus limited to pursuing activities condoned and endorsed by managers over which employers also exercise a degree of control. This is not to say that HSRs cannot be effective in such cases, but that they face considerable challenges in labour relations scenarios, in which notions of 'consensus' do not reflect an equitable sharing of power. While ISHRs and SSHRs also face many challenges in the labour relations of health and safety in mining, there is no doubt that the support they receive from the resources that the MEU commits to their role is a major factor in the determination of their effectiveness.

In sum, treating the general WHS HSRs and mine specific SSHRs as equivalents, amounts to nothing short of diluting the role and value of the latter, and arguably ignoring the bitter lessons of history (some not too distant). The same point applies when comparing the role of union officers and ISHRs. If anything, a more persuasive argument might be that the regulatory regime targeting fatal hazards and representative regime adopted in mining should be copied by other high-hazard industries (as has arguably occurred in offshore oil and gas production). Indeed, calls for such expansion can be traced back to the 19th century, including railways unions arguing for the appointment of workmen inspectors, resolutions of intercolonial trade union congresses (such as the 1891 Ballarat ITUC) and as a policy plank of the Labor Party well into the 20th century.[130] Further, there is historical precedent where this principle has been adopted in at least one other hazardous industry. In Western Australia the 1926 the *Timber Industry Regulation Act* (Part 7 ss68-85) included provisions for workmen inspectors very similar to those in mining (including union involvement).[131] This question should be revisited, especially given the plateauing of fatality rates in a number of hazardous industries.

[130] See for example *Newcastle Morning Herald* 16 September 1889.
[131] *Government Gazette of Western Australia* No.41 2 September 1927, especially 1989-1990.

Although the Mines Inspection Legislation did not adopt the title “district check-inspector,” it evident from historical sources that representatives, who were not employed at the mine, were appointed to perform inspections on behalf of workers. Also, wording in the legislation below, which states “…. and a check inspector” suggests that check inspectors were not employees of the mine.

“After an explosion or accident in or about any mine, whether above or below ground, the manager shall permit a representative of the persons employed in or about the mine, who shall be one of the persons so employed, and a check inspector to make an inspection of the place where the explosion or accident occurred as soon as such inspection can safely be made.”

The title “district check inspector” may not have been used in the Mines legislation because the reference to “districts” and “district inspectors” was removed in the 1962 amendment. However, its understanding in terms of common usage remained, with AWU organiser Jack Ayoub using the term when giving evidence to the NSW Legislative Council inquiry/report in 2023.[132]

In conclusion, with regard to both coal mining and metalliferous mining, the position of District Check Inspector/ISHR emerged in response to recognised limitations in a regime of mine safety representations, including their vulnerability to victimisation and to provide more overarching representation (as well as supporting mentoring mine safety representatives). Historical evidence indicates this system worked well in both, and the needs remain. It was retained in metalliferous mining in Queensland and its removal in NSW was not based on substantive evidence of any description but rather driven by the harmonisation push in OHS legislation (as occurred in other jurisdictions) notwithstanding recommendations that consideration be given for its reintroduction in 2023 and 2024. As this chapter has indicated, the challenges to worker representation in mining identified a century ago essentially remain, especially where the safeguarding statutory protections that were introduced after long and bitter struggles were removed.

[132] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales,* Legislative Council of NSW, Sydney, December 2023, 50.

Chapter 4 – Evidence on the effectiveness of mineworker safety and health representative arrangements in coal mining

Introduction

One reference point for considering changes to representative structures in metalliferous mining, moving them closer to those operating in the coal sector, is found in evidence of how effective are such arrangements in coal mining. While detailed research on workplace safety and health representatives is limited and fragmented in Australia, two detailed studies of the role and effectiveness of health and safety representatives have been undertaken in coal mining. This chapter considers evidence of the effectiveness of the arrangements for representing and consulting mineworkers on work health and safety in coal mining that is largely drawn from these two studies. In keeping with the aim of the report as a whole, it focuses on New South Wales. However, since much of the evidence of effectiveness in Australia arises from studies of the operation of arrangements in Queensland and from comparison with practices in other sectors and countries too, information from these sources is also drawn upon in the following analysis.

Arrangements in coal mining are based on longstanding regulatory provisions. These and their development have been described in detail in the previous chapter. The primary interest of the present chapter concerns the effectiveness of the arrangements put in place in coalmines to implement these provisions for representing miners' health and safety interests; and what research has shown to support their effectiveness. One important element of this support is fairly obviously to be found in the content of regulatory provisions themselves and the means of securing compliance with them. But it has long been evident that regulatory provisions alone do not secure best practice in the representation and consultation of workers on matters of their health and safety. Nor indeed, is compliance and the means of securing it in relation to these provisions, a straightforward matter in the labour relations of work health and safety. The present chapter, therefore considers the research evidence of how regulatory support operates as one, among a number of factors, that influence the effective operation of arrangements for worker representation and consultation on health and safety in coal mining. In particular, it seeks to understand how the regulatory provisions for both ISHRs and SHSRs work together with other elements of support, to provide an effective system.

To achieve this, the chapter discusses:

- the findings of previous studies concerning 'what works' in representing miners' interests in their health and safety in coal mining in NSW, Queensland and elsewhere; and
- reviews what evidence there is that helps to explain 'what makes it work'

This discussion and the conclusions that emerge from it, would seem to be necessary prerequisites in taking forward the wider aims of this report, to investigate what would constitute an evidence based, appropriate and workable regulatory framework for the future

development of a best practice model for the operation of worker representation and consultation on health and safety for the mining industry as a whole in Australia.

The chapter begins with a resume of the current position of the industry, its safety and health risks, and the regulatory provisions that seek to provide a framework for supporting representation and consultation on these health and safety matters for miners in NSW. This is followed by an outline of the key findings of previous research on the activities of workplace health and representatives (known as MSHRs in NSW and SSHRs in Queensland) and on those of the statewide ISHRs that support them in both states). This brief outline focuses on what previous studies indicate about their effectiveness and how they deliver the functions and use the powers conferred upon them by the relevant regulatory frameworks. The chapter goes on to offer an understanding of the research findings on the operation of these arrangements in terms of 'what works', 'why it works', and what this might mean for the possible further development of regulatory provisions in support of worker representation and consultation on health and safety in mining generally in Australia.

The industry, safety and health risks in NSW

Coal mining accounts for around 24 per cent of employment and 27 per cent of total revenue for the Australian mining sector as a whole. Coal mining on an industrial scale began in the second half of the 19th Century under British colonial rule in NSW where there remain just under 50 active mines. They are a mixture of open-cut and underground and operated by several of the largest global mining companies as well as by Australian mining concerns. In 2024, employment in coal mining in NSW stood in the region of 25,500 persons.[133] The main trade union in coal mining in NSW is the MEU which has two districts in NSW, the Northern Mining and NSW Energy District, and the NSW South Western District.[134] According to the MEU, current membership is around 14,000 in NSW overall.

Generally, coal mining in NSW exposes miners to the same risks to their safety and health as experienced elsewhere in coal mining in Australia and other developed countries. Traditionally, the most frequent injuries have included body stressing and musculoskeletal disorders, injuries arising from slips, trips and falls, being hit by moving objects or machines, and working with high-risk plant. The relative frequency of serious and fatal risks is widely acknowledged. Their causes are usually identified as fire/explosions; inundation/inrush of water or materials (and drowning from other causes); falls of ground; outbursts of poisonous gas; contact with dangerous machinery or equipment (including transport incidents and pressure vessel explosions); electrocution; falls from height; and entrapment underground or in confined spaces. As elsewhere, fire and explosion have long been the most common sources of mass fatality incidents in Australian coal mines (Quinlan, 2014).[135] Underground coal mining is generally seen as more dangerous than open-cut mining due to the problems of confinement. However, open-cut mining still encounters most of the hazards just

[133] Source: https://www.energyinnovation.net.au/article/nsw-coal-mining-jobs-hit-record-high-with-over-25-500-employed

[134] The Australian Workers' Union (AWU) has more significant membership in non-coal (metalliferous) mining, in NSW. A Mining Union Alliance with the MEU was launched in 2024 and now covers metalliferous mines in the state.

[135] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces*, Federation Press, Sydney

mentioned, as well as other hazards such as the failure of dams and transport incidents involving collisions between vehicles and between vehicles and pedestrians, as well as vehicles slipping off roadways or tipping points.

As is the case elsewhere, less is reliably understood concerning the extent of the effects of mining work on the health of miners, although it is acknowledged that risks to health are also significant and serious. Dust diseases, including coal workers' pneumoconiosis, were responsible for the deaths of thousands of mine workers in Australia in the late 19th and early 20th century. While these dust hazards have been to a large extent mitigated in Australia, as in other rich countries, a recent development that has caused considerable disquiet has been the notable reappearance of coal workers' pneumoconiosis— a disease thought to have been more or less eradicated from Australian coal mines for several decades.[136] Nor, in relation to the health consequences of recent developments, has the industry been immune to changes in risk exposures arising from changing practice in work and employment, such as the increasing use of contract workers, and the adoption of artificial intelligence in supporting changes in engineering and management practices, the risks of which are under-researched in coal mining at the present time.[137]

[136] See Queensland Parliament, Coal Workers' Pneumoconiosis Select Committee, 2017. https://www.parliament.qld.gov.au/Work-of-Committees/Committees/Committee-Details?cid=180&id=3221

[137] On contract workers for example, see Jackson, H and Quinlan, M 2024. Contract labour in mining and occupational health and safety: A critical review, *Economic and Labour Relations Review* 35, 576–613 doi:10.1017/elr.2024.32

Part of the miners' memorial wall at Lithgow (photograph by research team October 2025)

The legislative background

As discussed in Chapter 3, historically, the regulation of safety and health in mining developed different content and was administered separately from that which applied to other sectors. It shows in detail how these differences can be seen in provisions governing the representation and consultation of mineworkers on matters of their safety and health. The chapter also describes how in both NSW and in Queensland the trajectory of the development of measures on worker representation on safety and health was much older, with very different antecedents, and was quite separate from that which developed later and applied to other sectors. This trajectory, following the British mining regulatory tradition on which it appears to have been based initially, led to the development of a system of worker representation in the coal mines of these states that was, and remains, strongly orientated towards supporting the engagement of unionised workers and which gives individual representatives considerable powers. It evolved into the two-tier systems described in the previous chapter, that remains the backbone of the provisions in NSW and along with similar provisions in Queensland, provides the framework through which worker representation on safety and health is operationalised uniquely in coal mining in these states. Despite its long existence and historical independence from provisions applying to other sectors, however, it is also probably fair to say that the influence of wider national reforms of work health and safety provisions has probably been felt more in coal mining in NSW than in Queensland.

In New South Wales, the *Work Health and Safety (Mines and Petroleum Sites) Act* 2013 (NSW) Part 5 (which only applies to coal mines, and which operates together with the *Work Health and Safety Act* 2011 (NSW) (WHS Act)) makes provision for:

- Election of mine safety and health representatives (MHSRs) (who can be either a site safety and health representative – SSHR – or an electrical safety and health representatives – ESHR) who have the prescribed 'skills and qualifications' (section 38). Because coal mines also fall under the WHS Act, the workers at the mine can also elect health and safety representatives (HSRs) to exercise functions and powers under the WHS Act.
- An SSHR has all of the functions of an HSR under the WHS Act for a work group at the mine as if the work group comprised all the workers at a mine; but the ESHR can only exercise her functions in relation to electrical installations and equipment (section 42).
- SHSRs to issue provisional improvement notices (PINs) if they find contraventions of the statutory safety and health provisions, but only if the MI has not already decided to issue (or not to issue) a stop order and an ISHR has not already issued (or decided not to issue) a PIN in relation to the same matter (section 43(2)).
- A HSR elected under the WHS Act cannot issue a PIN while there is an SHSR of either type for the coal mine; and SSHRs must consult HSRs when issuing a PIN (section 43(1) and (3)).
- A SSHR must within 7 days of inspecting the mine give the mine operator a written report of results of the inspection – and the report must be kept for 12 months (section 46).

- After an inspection, and before leaving the mine, a SSHR must record in the mine record findings of any condition leading to apprehension of danger to the coal mine or to the safety or health of persons employed at the mine (section 47).
- The mine operator of a coal mine must immediately inform and give a copy of the record to the regulator.

These provisions are somewhat complicated because, unlike those applying in Queensland, as they attempt to take benefit from changes applying to all sectors under the WHS Act, while ensuring that the special rights of the coalmine representatives remained largely intact. As detailed in chapter 3 the *WHS Act* 2011 brought general work health and safety regulation in NSW in line with a *Model Work Health and Safety Act* adopted by six other Australian jurisdictions, and which, among other things, reformed older provisions on worker representation on OSH in NSW more widely in other sectors. In relation to coalmines, it means that the provisions governing mining regulation on matters such as 'workgroups' and 'PINs' (provisional improvement notices) are the same as those used for other sectors under the WHS Act 2011, while special measures concerning the election, functions and powers of the MSHR (ISHR and ESHR) that are granted under the mining provisions are retained. In practice, it is rare to find HSRs elected under the WHS Act in coal mines, but NSW MSHRs interviewed in the IOSH 2018 study said that, unlike in Queensland coal mines, OSH committees, instituted under the WHS Act, were common in New South Wales coal mines, and ESHRs and SSHRs were usually members of those committees.[138]

On ISHRs, the Work Health and Safety (Mines and Petroleum Sites) Act 2013 (NSW) Part 5 (operating in conjunction with Part 5 of the WHS Act) provides that:

- The Minister may appoint a person as an ISHR if the person is nominated by the MEU, is a WHS permit holder and has the qualifications set out in the regulations, and there are fewer than four persons currently appointed as ISHRs (section 28). Part 7 of the WHS Act regulates the rights and obligations of trade union officials (WHS permit holders) entering workplaces for OSH purposes.
- An ISHR has the functions of an HSR under the WHS Act 2011 for a work group, as if the work group comprised all workers at all coal mines in the state (section 29). An ISHR has, in addition, the following functions:
    - to review the content and implementation of the Health and Safety Management System (HSMS) at the mine,
    - to participate in investigations of events, occurrences or notifiable incidents at coal mines,
    - to assist in the training of SSHRs.
- An ISHR has the right to enter a mine to exercise functions at any time after (i) giving reasonable notice to the operator; or (ii) in the event of an incident or any situation involving an imminent, immediate and serious risk to the health

[138] Walters D., Wadsworth, E. Richard Johnstone, R., Lippel, K., Quinlan, M., Bhattacharya, S. and James, P. 2018. *The role and effects of representing miners in arrangements for safety and health in coal mining: a global study Report submitted to the IOSH Research Committee. Volume 2: Case studies in five countries,* IOSH Leicester

or safety of a person; or (iii) to accompany a government official carrying out an inspection.

    - An ISHR may give a direction to suspend mining operations if the ISHR is of the opinion that: (a) there has been a failure at the coal mine to comply with the work health and safety laws or the HSMS; and (b) because of that failure there is a danger to the health or safety of workers at the coal mine. The ISHR must notify the regulator before giving the direction, the mine operator must notify the regulator of the direction, and the ISHR must give a copy to the regulator (although a failure to notify the regulator does not invalidate the direction) (section 30).

- A direction ceases to have effect if an inspector attends and assesses the matters; or if it is withdrawn by the ISHR by giving notice to the mine operator.
- An ISHR cannot issue a PIN if the regulator has already issued (or has decided not to issue) a stop work order, or improvement or prohibition notice in relation to the same matter (sections 31 and 90(5) of WHS Act); and must give a copy of an issued PIN to the regulator.
- An ISHR may delegate, in writing, her functions under section 30 to a SSHR, who may only exercise delegated functions if (a) she has received required training and (b) the ISHR is not

Evidence of operational practice

Until relatively recently, systems for representing mine workers on safety and health in coalmines were relatively little studied. However, growing concern with the apparent slowing of the trajectory of improvement in safety outcomes (as measured by injury and fatality data), along with the occurrence of multiple fatality incidents and subsequent inquiries in Australia, prompted some research attention on the operation of systems for managing safety in mines.[139] Several studies were carried out in the first decade of the current millennium, including a major report into safety management in NSW mines[140] and a detailed comparative study of the same practices in mining companies across three Australian jurisdictions[141,142]. In addition, a degree of international comparison was afforded by a study contrasting the systems for safety management in Australia with those in the United States (Yang, 2012)[143], as well as by Quinlan's study of fatal accidents in mining and other high hazard industries (Quinlan, 2014). All these studies address the situation in NSW, either exclusively (as in Shaw et al 2017) or as part of more nationally (Gunningham and Sinclair 2012), or internationally, focused accounts (Yang 2012; Quinlan 2014). They all report

[139] Quinlan, M. (2014) *(2014) Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces, Federation Press, Sydney*

[140] Shaw, A., Blewett, V., Stiller, L., Aickin, C., Cox, S., Ferguson, S., and Frick, K. 2007. *Digging Deeper: Wran Consultancy Project Final Report*. NSW Department of Primary Industries, Sydney.

[141] Gunningham, N. (2007). *Mine Safety: Law Regulation and Policy*. Federation Press: Sydney.

[142] Gunningham, N., Sinclair, D. 2012. *Managing Mining Hazards: Regulation, Safety & Trust*. Federation Press: Sydney

[143] Yang, B. 2012. *Regulatory Governance and Risk Management: Occupational Health and Safety in the Coal Mining Industry*. Routledge: London.

favourably on the role of systems for representation of miners' interests. But none studied them in detail or produced much more than anecdotal evidence of their effectiveness.

This was remedied in 2014 and 2018 with two studies that focused specifically on these arrangements in coal mines. The first of these was undertaken for the MEU (then part of the CFMEU) and investigated practices in Queensland[144], while the second revisited Queensland and conducted new field investigations along similar lines among work representatives in coal mines in NSW as part of a global comparative study funded by the Institution of Occupational Safety and Health (IOSH) in the UK.[145]

Both studies used robust research methods that, following a detailed review of the relevant literature, mixed extensive documentary analysis and the collection of quantitative data, with gathering qualitative data from in-depth interviews, discussion groups and participant observation of training. The researchers analysed this material using the analytical methods in social science that were appropriate to this data. The studies and the several papers the researchers subsequently published in peer reviewed journals therefore represent the outcomes of detailed research on the operation of arrangements to represent the health and safety interests of miners. This work stands up well to comparison with research undertaken on these arrangements in other sectors and countries. The findings outlined in the following sub-sections are drawn from the reports of these two studies.

a) *Operational practices analysed in the Queensland study — evidence from documentary analysis*

The Queensland study was able to examine some 1165 written inspection reports from 12 open-cut and seven underground mines between 1995 and 2013 that were held by (the then) MEU. They were a mixture of reports of inspections undertaken by ISHRs (47%), SSHRs (4%) and MI (Mines Inspectorate) inspectors (52%). All of the SSHR reports were written following an on-site inspection. Most of the ISHR and MI reports were written as a result of a site visit (85% and 92% respectively — with those that were not, being predominantly postal mine records, for example, reviewing of documents supplied, arising from correspondence or contact from mine managers or workers, or following an incident at a similar mine elsewhere).

As part of the analysis of inspections, particular attention was given to those hazards that may give rise to single and multiple fatality incidents (including disasters) in mines. That is to 'fatal hazards.' Such hazards in mining have been extensively documented and are well-known, many having being recorded over hundreds of years.[146] They are outlined below in Box 4.1

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[144] Walters, D., Wadsworth, E., Johnstone, R., Quinlan, M. 2014. *A Study of the Role of Workers' Representatives in Health and Safety Arrangements in Coal-Mines in Queensland*. Available at: http://cfmeu.com.au/the-role-of-worker-representatives-inhealth-and-safety-in-qld-coal-mines-new-study

[145] Walters D., Wadsworth, E. Richard Johnstone, R., Lippel, K., Quinlan, M., Bhattacharya, S. and James, P. 2018. *The role and effects of representing miners in arrangements for safety and health in coal mining: a global study Report submitted to the IOSH Research Committee. Volume 2: Case studies in five countries,* IOSH Leicester

[146] See for example, Biswas, K. and Zipf, R. (2000) *Root Causes of Ground Fall Related Incidents in US Mining Industry*, National Institute of Occupational Safety and Health; Brune, J. and Goertz, B. (2013) Lessons Learned from Mine Disasters: New Technologies and Guidelines to Prevent Mine Disasters and Improve Safety. Colorado School of Mines: Colorado; Burgess-Limerick, R. (2011) 'Injuries Associated with Underground Coal Mining

Each mechanism leading to fatality in mines was recorded separately in the database. This was important in assessing the extent to which inspections considered or focused on hazards known to lead to serious and more especially fatal injury.

Box 4-1: Fatal hazards in mining [147]

Fatal hazards

- *Fire and explosions (including both machinery fires as well as methane and coal dust fires).*
- *Inundation/inrush of water (often from old workings but also due to excessive rain or breaking into bodies of water like rivers or underground aquifers) into mine workings — though mainly associated with underground mines, the failure of tailings dams are a hazard in open cut mines.*
- *Falls of ground (also known as rock falls), including rocks spat out horizontally from the face by intense pressure underground and falls of material from the high walls in open cut mines.*
- *Outburst of poisonous gas (or dangerous accumulations of gas) in underground mines, although exposure to toxic fumes can also be an issue in confined spaces in open cut mines.*
- *Machinery incidents in both underground and open cut mines (including contact with moving machinery, catastrophic machinery failure, and traffic incidents such as collisions between vehicles or vehicles hitting pedestrians).*
- *Electrocution through contact with live cables, water or machinery in both open cut and underground mines.*
- *Falls from height including failure of winding gear in underground mines, falls from platforms or machinery or falls associated with trucks etc. tipping over inclines, especially in open cut mines.*
- *Entrapment in confined spaces in both underground workings or confined spaces in open cut workings. This hazard can become fatal when associated with fire, toxic gases, lack of oxygen or rising water levels.*

Documentary analysis showed overall that both the site and industry representatives made strong and positive contributions towards effective approaches to safety and health in Queensland coal mines and that they did so in several main ways in fulfillment of their functions and powers:

- Firstly, the vast majority of the site inspection reports (94%), regardless of whether they were undertaken by the health and safety representatives or the MI, referred to inspection of at least one fatal risk. Machinery, fire or explosion

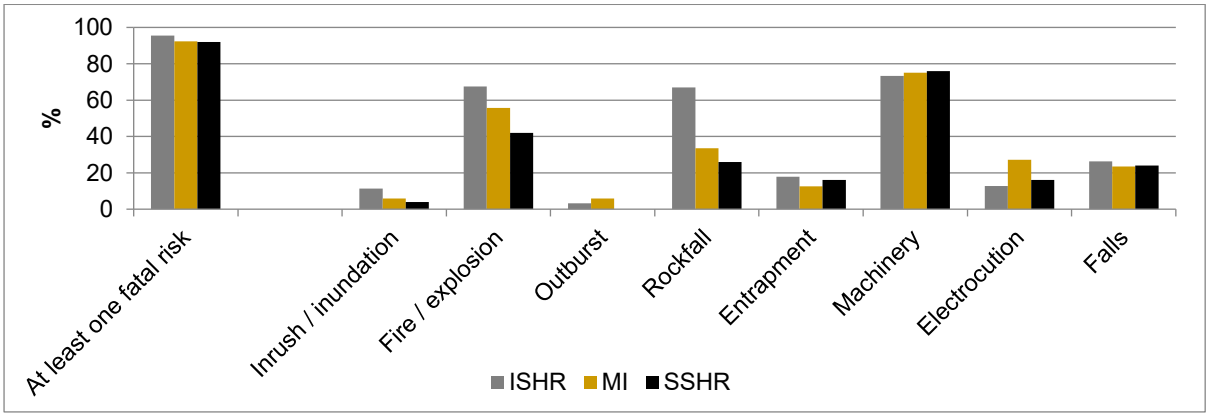
Equipment in Australia', *The Ergonomics Open Journal,* 4 (Suppl 2-M2):62-73; Donoghue, A. (2004) 'Occupational health hazards in mining: an overview', *Occupational Medicine*, 54:283-289; Groves, A., Kecojevic, V. and Komljenovic, D. (2007) 'Analysis of fatalities and injuries involving mining equipment', *Journal of Safety Research,* 38:461–470; Hopkins, A. (1999) 'Repeat disasters: The lessons of the Moura coal mine'; in Peterson, C. and Mayhew, C. (eds.) *Occupational Health and Safety in Australia*. Allen and Unwin: Sydney; Karra, V. (2005) 'Analysis of non-fatal and fatal injury rates for mine operator and contractor employees and the influence of work location', *Journal of Safety Research*, 36:413-421; Saleh, J. and Cummings, A. (2011) 'Safety in the mining industry and the unfinished legacy of mining accidents: Safety levers and defense-in-depth for addressing mining hazards', *Safety Science*, 49:764-777; Szwedzicki, T. (2001) 'Geotechnical precursors to large-scale ground collapse in mines', *International Journal of Rock Mechanics & Mining Sciences*, 38:957–965;Towsey, C. (2003) Proactive Measures for Fatality Prevention in the Mining Industry— Why Fatalities Persist While Lost Time Injuries Decline. Mining Risk Management Conference, 9-12 September, 1-9.

[147] Walters et al 2014: p. 31

and rock fall were most commonly reported and interviews suggested representatives were aware of the potentially serious nature of the hazards they were there to prevent:

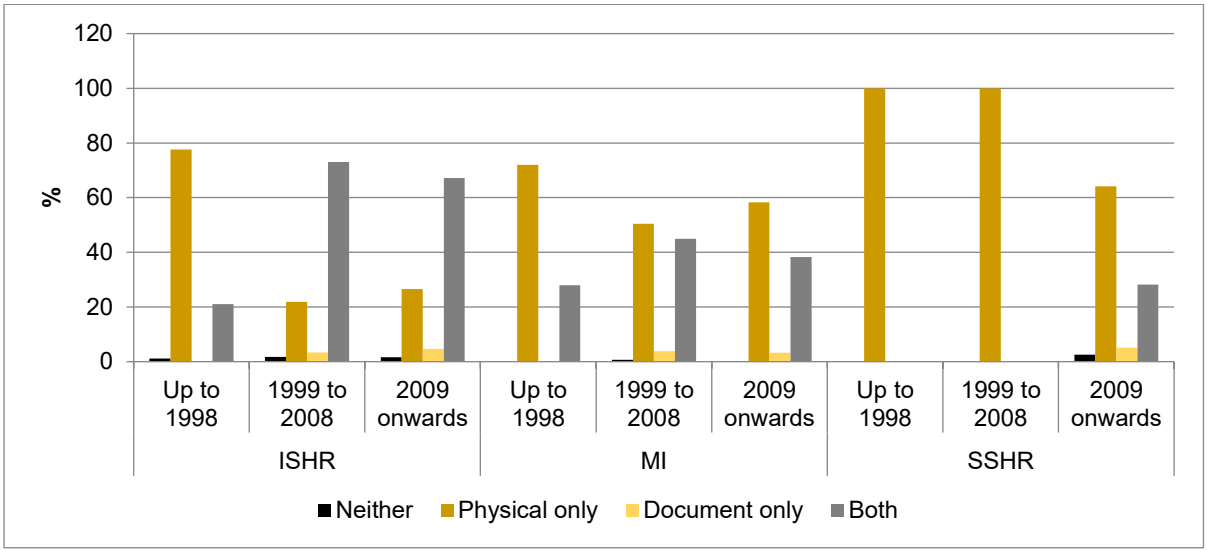
- Secondly, the analysis of documented inspections showed that review of safety and health management systems featured prominently in industry representatives' site visits, with similar patterns of documentary inspection between industry representatives and the mines inspectorate
- Thirdly, almost all mines inspection reports (96%) referred to the inspection of something physical (work areas, equipment, etc.), but reference only to physical inspection was most common among the SSHR reports, reflecting their preference, clearly demonstrated in the interviews, for a 'hands-on' health and safety role.

Figure 0-1: Inspection of fatal hazards and risks



Machinery, fire or explosion and rock fall were the fatal hazards that were most commonly reported (Figure 4-1). There was some variation between ISHR and MI reports: more ISHR reports referred to the inspection of inrush/inundation, fire/explosion and rock fall, and more MI reports referred to outburst and electrocution. Binary logistic regression showed that most of these differences were significant independent of mine type, with ISHR reports more likely to refer to inrush/inundation, fire/explosion, rock fall and entrapment, SSHR reports more likely to refer to inrush/inundation and entrapment, and MI reports more likely to refer to electrocution. In addition, mine type was independently associated with reference to all of the fatal hazards except electrocution, with underground mines more likely to have reports referring to inrush/inundation, fire/explosion, outburst, rock fall and entrapment, and open cut mines more likely to have reports referring to machinery and falls.

Figure 0-2: Comparing relative levels of physical and documentary inspection among ISHRs, SSHRs and MI inspectors over time: before the Coal Mining Safety and Health Act 1999, between 1999 and 2008, and in the last five years



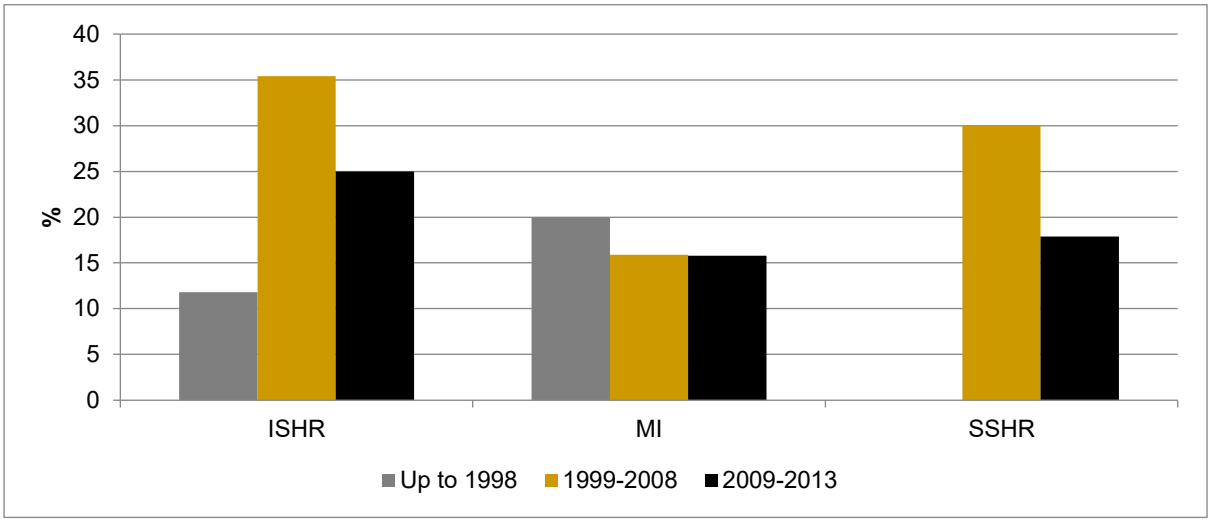
The differences between the ISHRs and the SSHRs' focus in the inspection reports were best explained by the different roles played by the two types of representative. As provided for in the regulatory requirements, the ISHRs had a wider role in reviewing OSH management determined by their jurisdiction and position external to the mines they visited. As interviews with both them and the site representatives made further clear, industry representatives often visited mines in response to requests for support from the site representatives. Inspection records also showed that the balance between examining physical features, documents or both had changed significantly over time with physical and documentary inspection increasing during the period from 1999 to 2008. The researchers concluded that this change reflected the effects of the 1999 Act, which emphasised OHS management. A further illustration of this change was that High Potential Incidents (HPIs) were another recurring theme in representatives' reports, with fatal risks being the main focus of the industry representatives' references to these HPIs. These incidents are widely seen as indices of increasing importance in health and safety practice in high-risk industries like mining — and this is strongly reflected by the risk-based coal mining regulation implemented in Queensland in 1999.[148] Thus, the high profile of such incidents in the reports of the ISHRs is evidence of the representatives' engagement with serious OHS issues in the mines.

Analysis of the documentary material further showed that during inspections the most frequent exchanges took place with a mine manager. More than 90% of the inspections undertaken by the mine inspectors, involved discussions with management and 80% cent of those undertaken by ISHRs did too, while the SSHRs' documented engagement with managers was some way less, featuring in only 30 per cent of their inspections. This was probably because the SSHRs worked within the mine they were inspecting, and could therefore undertake many of their inspections, without needing to contact management. ISHRs and SSHRs spoke to workers more frequently than did the mines inspectors, as

[148] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

might also be anticipated given that they are tasked with representing their interests. ISHRs engaged with SSHRs considerably more frequently than mines inspectors did. Again, this might be anticipated given that the ISHRs were generally visiting the mines in support of the activities of the SSHRs who were working there. However, communication with worker representatives is supposed to be an important element of the mine inspectors' visit and documentary evidence suggests this may not have been the case in practice (Figure 4-3).

Figure 0-3: Comparing relative levels of physical and documentary inspection among ISHRs, SSHRs and MI inspectors over time: before the Coal Mining Safety and Health Act 1999, between 1999 and 2008, and in the last five years



References to discussion with workers, managers and representatives also show changes over time, with ISHR discussion with both SSHRs and managers having increased over time (Figures 4-4 and 4-5). The analysis in the 2014 report suggests that the rise may reflect the effects of the 'risk-based' provisions of the 1999 Act, which seem to have stimulated greater engagement between inspectors, representatives and management. It may be that subsequent instruction to inspectors to be more active in seeking out representatives may have aided sustaining the communications between these two groups.

Figure 0-4: Differences in discussion with managers among ISHRs, SSHRs and MI inspectors over time

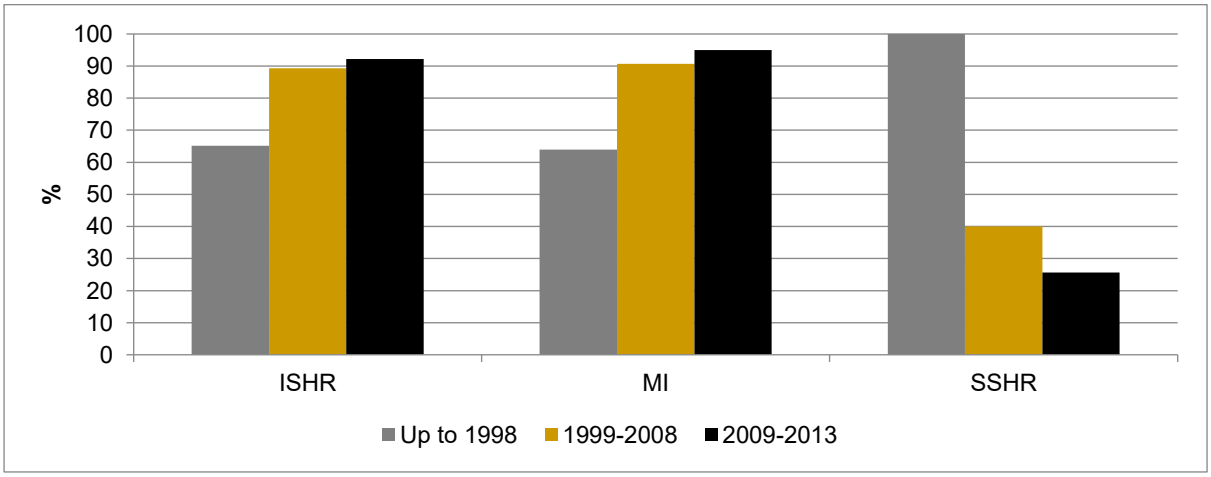
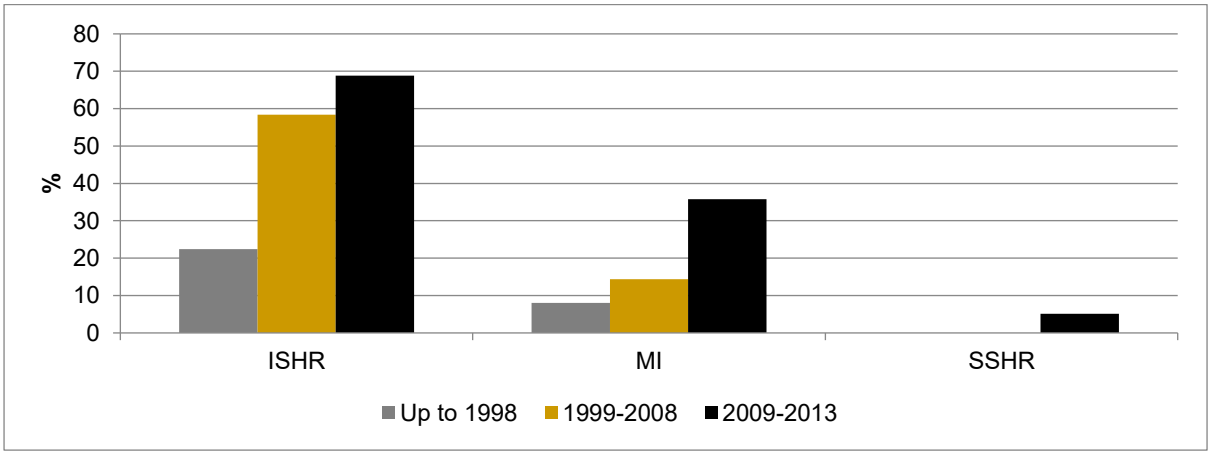


Figure 0-5: Differences in discussion with representatives among ISHRs, SSHRs and MI inspectors over time



The Queensland study of the documentary evidence also focused on the representatives' use of their statutory powers in relation to deficiencies in safety management systems, and their powers to order work cessation, since these were controversial at the time of the study, attracting much opprobrium and claims of their miss-use from employers and their political supporters. However, the study showed that when formal notifications were used, it was always to address significant OSH risks, including inadequacies in emergency response procedures and equipment, ventilation, gas monitoring, machinery hazards and so on. Further, these powers were generally used to identify the link between the risks posed by these failings and the health and safety management system in place. That is, they identified specific risks as symptomatic evidence of inadequacies in the management systems that should ameliorate and control them. This kind of feedback constitutes a procedure widely accepted as good practice in OSH management and risk prevention.

Therefore, the documentary evidence analysed in the 2014 study supported the conclusion that representatives used their formal powers to suspend operations responsibly and in relation to serious OSH management systems' failings. Moreover, there was no evidence in the documentation that referral of these matters to the mines inspectorate resulted in any substantial change in the actions taken. That is, the documentary evidence pointed to the representatives behaving responsibly. This was also clear from the responses of the representatives themselves. In interviews they indicated they used these powers when there was no other recourse – often in situations where they had previously engaged with management concerning specific risks but found the response had failed to remedy the situation. On other occasions, they were used when representatives believed there was an immediate risk of serious harm if the process or operation continued.

The researchers further noted that, while appeals against such notices were rare, most suspension notices were upheld following appeal, or the mines inspectorate issued a directive under section 166 of the Act in their place[149], which requires remedial action but allows the process in question to continue while such action is taken. It was also clear from interviews that the representatives were aware of the strictures placed on their powers to

[149] Representatives do not have this power. In interviews however, ISHRs pointed out that had such a course of action been available to them, they would have taken it themselves.

serve notices or suspend operations by the regulatory requirements on them not to 'perform a function or exercise a power ... for a purpose other than a safety or health purpose' or 'unnecessarily impede production'. And as a priority they always sought to ensure this was the case before resorting to such actions.

In addition, to the analysis of documentary evidence, the Queensland study also analysed the content of detailed qualitative interviews with 18 SSHRs, three current and two past ISHRs and with a senior regulatory inspector, used observations of training events for the SSHRs and undertook a wide-ranging review of the literature. The findings from these interviews are discussed in the following subsections, along with those from the later (2018) study in NSW, to which we turn next.

b) Practice in NSW

The global study published by IOSH in 2018[150] reports a further investigation in Queensland and an additional investigation based on interviews with coal mining MSHRs and ISHRs in NSW and on participant observations during training sessions for the workplace representatives. Limited resources for this research in Australia (the study included four other countries in addition to Australia) meant that researchers we unable to analyse documentation on the practice of representation in NSW, in the ways they had done in the previous study in Queensland, although their analysis of the interviews indicated that had they been able to do so, they would have been most likely to come to similar conclusions as the previous study had done concerning such evidence.

In both Queensland and New South Wales, the representatives taking part in the studies shared similar features to those mentioned in the previous study. Mine level health and safety representatives ranged from experienced representatives who had held the position for a good number of years to those who were more recently elected. All had some experience of training. Their motives for becoming health and safety representatives were also similar to those identified in the previous study, in that they shared a sense of wanting to contribute to the prevention of injuries, fatalities and work-related ill-health, which many had witnessed occurring to their colleagues in the mines where they had worked. Others said they were already known to be willing to engage with supervisors and managers on matters that concerned them or their workmates, prompting their colleagues to put them forward as suitable candidates. They were committed to the position of being a health and safety representative, regarding it as a long-term engagement. Indeed, several pointed out that they were more likely to be in this position for a lot longer than the senior managers to whom they made representations in the mines where they worked.

The industry level representatives were also experienced miners. They were all men in the same age range as the site representatives, but usually had held other representative positions in their trade union before becoming an ISHR. There were requirements concerning their qualifications —in NSW they were required to possess 'qualifications set out in the regulations' (at the time of the study, this meant they had to be qualified to be a deputy or open cut examiner, and the completion of accredited training (Regulation 168(1)). Some of the ISHRs had held office for a considerable time and were experienced not only in

[150] Walters D., Wadsworth, E. Richard Johnstone, R., Lippel, K., Quinlan, M., Bhattacharya, S. and James, P. 2018. *The role and effects of representing miners in arrangements for safety and health in coal mining: a global study Report submitted to the IOSH Research Committee. Volume 2: Case studies in five countries,* IOSH Leicester.

addressing OHS matters in support of the SSHRs but also in liaising with the mines inspectorate and sitting on various industry-level regulatory and policy-making committees. The positions were regarded as senior and important appointments by trade union — which also illustrated by former ISHRs continuing their trade union roles subsequently, and not infrequently elected into key senior roles within the trade union hierarchy.

As previously mentioned, the NSW legislation distinguishes between two types of mine safety and health representatives (MSHRs) ─ electrical (ESHR) and other site health and safety representatives (SSHR). In a few coalmines, a third type of representative — mechanical safety and health representatives were also sometimes present. These usually resulted from agreements between the mining company and the union. It was not entirely clear what were the origins of these state differences, but regulatory inspectors who were interviewed in the 2018 study believed it may have been a legacy of the former public ownership of mines in the NSW, whereas those in Queensland have always been under private ownership.[151]

At the time of the 2018 study in NSW, the implementation of revised regulatory arrangements on representation in health and safety was relatively recent. As outlined in the previous section, the changes to general provisions on worker representation brought about by the Model WHS Act had prompted some changes to provisions that applied specifically to mine workers, in order that both systems could operate in relation to coal mines without detriment to one another. One consequence of this was that health and safety representatives appointed under the separate provisions might operate alongside each other in the same mine. Although it was clear from the interviews undertaken in the 2018 study that the NSW MHSRs appointed under the mining provisions were aware of the situation thus created, but none seemed unduly bothered by this or possible complications this might imply in practice.

Not surprisingly, there were far more similarities than differences in the findings on the ways in which representatives went about their activities in NSW and Queensland coal mines. In NSW, the mine level representatives reported engaging with the same kinds of inspections, investigations and representations as did those in Queensland, with broadly the same experiences of varied but often limited co-operation from supervisory and middle management in the mines. Although there was a further specialised division between electrical, general mine-site representatives; and mechanical (in some cases) representatives in NSW, this did not seem to affect the overall performance or activities of the representatives, other than having an influence on the nature of the risks each type of representative investigated. They generally regarded themselves as being effective in their

[151] Although it was beyond the brief of the 2018 study to explore the historical antecedents of these different types of representative, it seems, as with history of worker inspectors more generally discussed in Chapter 3, their origins may also be linked to trade union demands. For example, the position of electrical check inspector in NSW was influenced by a specific campaign by the then Electrical Trades Union, which was supported by the CFMEU. It may have also been influenced by the Appin colliery (Illawarra) disaster in 1979, where the likely cause of the explosion that killed 13 miners, was found to be an inadequately sealed fuse box. At a more general level this is also an interesting example of an initiative of a non-skilled workers' union being taken up by craft unions and the spread of this model of worker representation on safety to other trade unions in coal mines.

actions, and the similarity with the Queensland experience would tend to suggest they probably were correct in this assessment.

But they also drew attention to some challenges. For example, some of the representatives expressed concern about a tendency for middle-level mine managers to move around a lot, which made forming consistent working relations at this level quite difficult in some mines. In regions where the mines were situated quite close together, they said, 'everyone knows each other', and 'people don't move around a lot'. In these situations, they indicated that consultation worked well because of longstanding relationships and trust. But in other mines, they said middle managers were frequently relocated and, although they were well educated, they often had little practical experience. This, combined with unfamiliarity with the details of the mines in which the representatives worked, made for considerable challenges. One New South Wales ISHR explained that in NSW coal mines:[152]

> *A lot of the problems that come up in our areas are probably due to lack of consultation. … A lot of processes and management plans are developed by middle management who just go and do it… [they] try to implement the plan and then usually it falls over and then there's a dispute. The legislation says "when developing", or "when identifying it", but they usually get through most of the process and then say "have a read of this." … [A] lot of the issues could have been resolved by good consultation, good communication, a collaborative approach…'*

The representatives also pointed to the tendency of such managers to develop their OHS plans through discussing them with people of their choice rather than through consulting mine-level representatives and ISHRs, thus giving rise to disputes. This experience was also reported by representatives in Queensland, where it was further linked to the mining companies' preferences for behaviour-based safety management systems and deliberate attempts to marginalise representatives through discussing safety management procedures with individual mine workers of their choice rather than by following agreed consultative procedures.

In relation to their use of their statutory powers to review safety and health management, NSW ISHRs interviewed in the 2018 study reported similar experiences to those identified in Queensland in the previous study. That is, ISHRs inspected documents relating to safety management with more or less the same frequency as did regulatory inspectors, but the SSHRs did so to a lesser extent, expressing a preference for taking a more 'hands-on' approach, while the ISHRs acknowledged dealing more with the safety and health management systems. If anything, this pattern appeared more pronounced in NSW coal mines than it had in Queensland.

In NSW, mine level representatives reported experiencing quite challenging demands on their knowledge which they said resulted from the greater attention being paid to safety and health management systems approaches and which caused mine managers to often ask the

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[152] Walters D., Wadsworth, E. Richard Johnstone, R., Lippel, K., Quinlan, M., Bhattacharya, S. and James, P. 2018. *The role and effects of representing miners in arrangements for safety and health in coal mining: a global study* Report submitted to the IOSH Research Committee. Volume 2: Case studies in five countries, IOSH Leicester, 24.

representatives about changes that might be required to be made to procedures. ISHRs in NSW said that while the mine level representatives were 'great on the floor, they sometimes found such discussion with managers about these changes in safety management procedures to be quite demanding, and said they 'need to consult ISHRs about these issues.'

The ISHRs themselves acknowledged that the demands of process standards legislation required them to know more, read more, and spend more time on consultation and reviewing SHMSs, leaving them less time for inspections of the physical safety and health issues in the different mines in their jurisdiction, although it was indicated that they still tried to undertake two such inspections per week, and a very minimum of one per fortnight.

In relation to their use of statutory powers to require the cessation of dangerous operations, the NSW representatives' appreciation of the value of their powers to stop dangerous work was

much the same as outlined above in relation to the Queensland representatives. That is, in both states, representatives reported that these powers were important in conferring both legitimacy and respect for their role. They therefore took them very seriously and used them carefully and sparingly, often finding alternatives to their use through efforts to achieve more effective consultation with managers. As in 2014, evidence from interviews with senior mines inspectors indicated where representatives had used their powers to require the cessation of dangerous operations, they were generally upheld by the inspectorate, and inspectors said that the ISHRs were good at sticking to safety issues and being able to distinguish them from issues that were 'really industrial'.

However, while in NSW both ISHRs and MHSRs may issue provisional improvement notices (PINs) under the WHS Act, in practice the ISHRs strongly discouraged MSHRs and ESHRs from issuing PINs. Under Section 30 of the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*), ISHRs also had the power to give a direction to suspend mining operations. Under the provisions, in certain circumstances — such as when an ISHR was either not available or it was not practicable for them to attend at short notice (section 32), they could delegate this power to a trained mine level representative (MSHR or ESHR) But here again, ISHRs reported that they rarely did so and expressed a strong preference against doing so.

The explanation offered by mine-level representatives when they were asked about what happened in practice was that by relying on the ISHRs to undertake such enforcement actions, they were less vulnerable to any punitive reprisals that might be taken against them by their employer either at the time or in the future. As one ESHR quoted in the 2018 study said:

> *For us to issue notices puts us under the spotlight. The legislation is there but for us to use those powers we tend to ask the Industry guys.*[153]

[153] Walters D., Wadsworth, E. Richard Johnstone, R., Lippel, K., Quinlan, M., Bhattacharya, S. and James, P. 2018. *The role and effects of representing miners in arrangements for safety and health in coal mining: a global study Report submitted to the IOSH Research Committee. Volume 2: Case studies in five countries,* IOSH Leicester, 26.

The ISHRs further suggested that because SSHRs were employed at the mines – rather than acting on behalf of the trade union from outside the mine – they were far more vulnerable to the risk of reprisal from the mine management or the mining company. The strategy they therefore advocated for the mine level representatives was for them to raise issues and consult directly with management, but to take issues to the ISHRs if the management did not respond favorably. In this way they would not put their present or future employment prospects at the mine at risk. This said, it was also fairly clear from the interviews with the ISHRs and the Mines Inspectorate that the ISHRs only rarely found the need to exercise their powers to direct suspensions or issue PINs. Indeed, they reported that 99 percent of issues were resolved through consultation.

Both types of representatives in both States were therefore well aware of the contentious and serious nature of their powers to stop dangerous work, and of the objections to these powers from the mining companies. As a result, they used them strategically and sparingly, normally preferring to find solutions through consultation or negotiation with managers rather than resorting to these formal and legally supported actions. Nevertheless, they were at the same time strongly convinced of the importance of their possession of such powers and the seriousness of the message this conveyed both to their fellow-mine workers and the mine management.

What works?

In short, the findings from the studies in Queensland and NSW describe comparatively effective systems for representing the interests of coal miners in their health and safety in an industry in which there are substantial risks and where there is a long history of conflictual labour relations. The studies found the systems for worker health and safety representation in coal mines were implemented effectively, and the two levels of representation, at site and industry level, worked well together in providing the necessary trade union organisation and support to help make representation effective. There were far more similarities than differences in the ways in which representatives went about their activities in the two states and in the extent to which they were able to be effective. In NSW, the mine level representatives reported engaging with the same kinds of inspections, investigations and representations as in Queensland, with broadly the same experiences of varied but often limited co-operation from supervisory and middle management in the mines. Although there was a further specialised division between general, electrical, and (in some cases) mechanical health and safety representatives in NSW, this did not seem to affect the overall performance or activities of the representatives. In NSW, by using essentially the same approaches to those studied in Queensland, the miners' representatives were able to address OSH issues that were of concern to them in ways that both they and the regulatory inspectors who observed them found to be effective. In doing so, in both cases, they were careful to stay within the boundaries of the legitimacy they believed the regulatory provisions gave them to represent the interests of miners on 'health and safety' issues, and they consciously avoided straying into territories they believed to be more appropriately covered by other types of representative and labour relations procedure.

In developing this approach, mine-level representatives were encouraged by the more experienced industry-wide ISHRs, who not only followed the same parameters themselves, but devoted efforts to ensuring that the mine-level representatives understood the nature of these boundaries and acted within them. In NSW this support extended to the ISHRs' use of

powers to stop dangerous work, for although the mines level representatives held similar powers, their use was regarded as contentious by their employers and rather than they risk possible reprisals against them, the advice from the ISHRs was to leave such actions to them to carry out, and also to seek their intervention if the management did not respond favorably to any other of the issues that the mine level representatives had brought to their attention.

It is therefore a demonstrably effective system and the most obvious support for the autonomous activity of mine-level safety and health representatives in both states was their relationship with the ISHRs. Without exception, mine-level participants from both states talked positively about the role of the industry level representatives, both in relation to their interventions in issues at the mines in which the representatives worked and held office, and more widely, in relation to their competence, their availability and provision of advice, information and training for the representatives. Training itself was probably the most frequently mentioned form of support for the autonomous activities of the mine level representatives in both states. They attributed their knowledge, confidence, and sense of the legitimacy of their role to the training they had received, and especially to that training delivered by the trade union, and most often by the ISHRs themselves.[154] In this respect, their comments reflected the widely held research finding that competent and active health and safety representatives perceive this form of training not only as a powerful support for the development of their technical skills, but also as an important means of awareness raising in relation to their representative role and in their consciousness of a shared experience of this with representatives from other mines.[155]

This said, representatives in both states and at both site and industry levels also talked at length about the challenges they faced in 'getting things done' on work health and safety issues. Most frequently, they identified limited support and a lack of trust on the part of mine management, often coupled with a perception of a lack of awareness among some

[154] In this respect it is perhaps worth noting some parallels with another fairly unique form of representation of workers interests in their health and safety, also supported by specific regulatory requirements and shown to be particularly effective in research studies — the system for regional health and safety representation in place in Sweden. Here, union appointed 'regional safety representatives' act as external agents to support the introduction, development and operation of representative arrangements within small workplaces. Thus, like the miners, delivering a 'two tier system' of support for representation that is widely acknowledged to be effective. See: Frick, K. and Walters, D. (1998). Worker representation on health and safety in small enterprises: lessons from a Swedish approach. *International Labour Review*, 137(3), pp. 367–389. Also: Walters, D, Frick, K. and Wadsworth, E 2018. *Trade union initiatives to support improved safety and health in micro and small firms*: Available at: chromeextension://efaidnbmnnnibpcajpcglclefindmkaj/https://istas.net/sites/default/files/2018-10/Final%20report%20TUPAs%20project.pdf

[155] There is a rich seam of research findings on the role of trade union/labour education and the relevance of its Freirean pedagogy to the needs of worker representatives generally, including those with a health and safety function. See for example: Robson, L.S., Stephenson, C.M., Schulte, P.A., Amick III, B.C., Irvin, E.L., Eggerth, D.E., Chan, S., Bielecky, A.R., Wang, A.M., Heidotting, T.L. and Peters, R.H., 2012. A systematic review of the effectiveness of occupational health and safety training. *Scandinavian journal of work, environment & health*, pp.193-208; Walters, D. 1997. "Trade unions and the training of health and safety representatives: Challenges of the 1990s." *Personnel Review* 26, no. 5 (1997): 357-376; Bennett, T., 2020. Countering the pedagogic hegemony of neo-liberalism in the workplace: a Freirean analysis of the contribution of union-led learning to enhanced worker participation in the UK. *Journal of Participation and Employee Ownership*, *3*(1), pp.67-85; Luskin, J., Somers, C., Wooding, J. and Levenstein, C., 1992. Teaching health and safety: Problems and possibilities for learner-centered training. *American Journal of Industrial Medicine*, *22*(5), pp.665-676.

managers about the features of both the individual coal mines and the health and safety procedures that routinely applied in them. Often this absence of awareness was attributed to the inexperience of managers in particular mines, which was brought about by company practices that encouraged their continual movement with relatively short stays in management of the coal mines in question. Representative's frustration with managers was further aired in what the representatives perceived to be company preference for the use of behavior-based safety management systems in which procedures often served to marginalize their consultative role. And as previously noted, they felt that sometimes such procedures led to managers deliberately 'consulting' with individual workers about safety issues rather than acting in concert with their representatives.

A further organisational issue, which both industry and site level representatives found challenging, resulted from the increasing use of contract labour in coal mines. In most cases, for contract workers, the insecurity of their work arrangements made it less likely that they would raise complaints about health and safety issues. However, if they did, there was a greater likelihood that the complainant would wish to remain anonymous. Experiences of such complaints were frequently recounted by the ISHRs in relation to their dealings with contract workers.

As elsewhere, reassertion of the strength and dominance of capital in the Australian mining industry in recent decades has led to considerable restructuring of the organisation of work and employment. In coal mining the use of contractor labour has increased considerably. It is well-established that the fractured work arrangements that result pose challenges for managing health and safety (Johnstone et al 2001; Quinlan and Bohle 2008). At the same time, they pose significant challenges for trade union organisation too. Indeed, in certain cases, moves towards the greater use of contractors have been shown to be part of a deliberate strategy of mining companies to reduce the influence of trade unions. While there is little doubt concerning these additional challenges, it is equally clear that both the ISHRs and the SSHRs had found a variety of ways to address them, having regard to the desire of the contract workers to avoid drawing attention to themselves for fear of possible reprisal from their employers. Evidence of these strategies emerged from interviews with the representatives and was also supported by the documentary analysis.

What makes it work?

In most advanced economies, statutory measures place duties on employers (or persons controlling business undertakings) to consult their workers on health and safety matters and these measures also usually provide workers and their organisations with rights to appoint/elect representatives and support their OHS functions within their workplace, including rights to be consulted, participate in joint health and safety committees, receive information, inspect workplaces, accidents and incidents, and to receive training and time to undertake these tasks. Similar provisions are outlined in supra-national measures such as ILO Convention 155 and the EU Framework Directive 89/391.

These participatory arrangements have been widely studied in the past 50 years and the consensus of findings on their operation indicates them to be associated with improved health and safety. Such improvement generally holds for both direct performance indicators, such as injury or illness rates, as well as indirect measures, like health and safety

management practices.[156] In sum, the weight of evidence indicates that better outcomes are likely when employers manage health and safety with representative worker participation and that joint arrangements, trade unions and worker representation at the workplace are positively associated with these outcomes. Set in this context, the findings on the effectiveness of the system for worker representation on health and safety in coal mining in NSW and Queensland outlined here are not surprising. In terms of effective outcomes, they are in line with what might be expected if account is taken of the broad findings of research on worker representation on health and safety in other sectors and countries.

However, they are something more than simply this. Wider research demonstrates that to be effective, arrangements for representation on health and safety require a set of preconditions to support their implementation and operation, central among which are:

- a regulatory steer,
- competent motivated autonomous worker health and safety representatives,
- their support from trade union organisations and
- the facilitating support of a competent organisational management, committed to participative approaches to work health and safety management.[157]

Detailed research exploring the operation of these supports rarely finds them to be present in their entirety and concludes that their underdevelopment or absence may act as limiting factors for the effectiveness of such arrangements that are in place to support the representation and consultation of workers on health and safety in practice.

Moreover, recent studies have cast some doubt about the resilience of such measures to withstand wider change. These well-documented changes have included those in the structure and organization of work and employment, in state support for securing compliance with regulatory measures, and in trade union membership, influence and power, and are further seen in a marked shift away from the pluralist approaches to labour relations and human resource management that dominated the period following the post-war consensus.[158] In its place, more unitarist trends in business management have emerged, as employers have grown increasingly confident about their managerial prerogatives within neo-liberal economic and political contexts that overtly support deregulatory (or re-regulatory) strategies to achieve growth and remove 'barriers to business'.

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[156] See for example: EU-OSHA (2017). Worker participation in the management of occupational safety and health: qualitative evidence from ESENER 2. European Risk Observatory EU-OSHA, Bilbao: https://osha.europa.eu/en/tools-and-publications/publications/workerparticipation-management-occupational-safety-and-health; Hall A, Forest A, Sears A, et al. (2006) Making a difference: Knowledge, activism and worker representation in joint OHS committees. Relations Industrielles 61(3): 408–435. Hall A, Oudyk J, King A, et al. (2016) Identifying knowledge activism in worker health and safety representation: A cluster analysis. American Journal of Industrial Medicine 59(1): 42–56; Robinson, A. and C. Smallman (2013), ''Workplace Injury and Voice: A Comparison of Management and Union Perceptions'', Work, Employment and Society, 27, 4, 674–693; Walters D and Nichols T (2007) *Worker representation and workplace health and safety*. Basingstoke: Palgrave Macmillan; Yassi, A., K. Lockhart, M. Sykes, B. Buck, B. Stime and J. M. Spiegel (2013), 'Effectiveness of Joint Health and Safety Committees: A Realist Review', *American Journal of Industrial Medicine*, 56, 4, 424–438Yassi et al., 2013

[157] See Walters and Nichols, 2007 *op cit.*)

[158] And not coincidentally, the period in which regulatory provisions on worker representation and consultation on health and safety at work were introduced in most countries

Not surprisingly in these contexts, Walters and Wadsworth found in their qualitative follow-up study to the 2rd European Survey of New and Emerging Risks, (ESENER 2) that even where arrangements were in place to provide representation and consultation with workers in line with statutory requirements, in practice in workplaces in many EU Member States, frequently these arrangements had been 'captured' by management. In these situations, they functioned not as means by which the autonomous interests of workers in health and safety were addressed, but instead as extensions of the organisation's safety management system and they were dominated by managerial leadership, prerogatives and interests.[159]

Placed in these contexts, the significance of the features of the system in place in coal mining in NSW and Queensland becomes clear. Research in both states showed that to make their presence effective, representatives used strategies that were deeply embedded within those of their trade union organisation at mine, state and national levels in their relations with the management of the mining companies in which they operated. In three further accounts (Walters et al, 2016, a, b and c), the researchers responsible for the 2014 and 2018 studies analysed their findings from a labour relations perspective and showed that the hostile labour relations that largely characterised the contexts in which the representatives operate in Australia caused them to place a strong reliance on the statutory support of their actions.[160] While previous scholars, such as Gunningham and Sinclair (2012), concluded that these hostile labour relations led to mistrust between managers and union representatives, which potentially undermined participative engagement in OSH management, stalling progress on OSH, Walters et al (2016 b and c) suggest that such an interpretation rather misses the point. Instead, they argue that their findings indicate that although hostile relations and limited trust between workers and their representatives and managers were endemic in the coal mines they studied, seen from a pluralist perspective, representatives worked quite successfully within these contexts to give voice to their constituents' OHS interests. By careful use of their statutory powers, they were able to identify and request corrections to address fatal risks; to review and suggest modifications to OHS management systems; and occasionally order the stoppage of work in situations where consultative approaches had failed or serious and immediate risks were evident.

These authors conclude that the representatives' actions, therefore, cannot be explained by arguments concerning the 'limitations of trust' in achieving effective co-operation in jointly managing OHS because such arguments assume an identity of interest, which was not supported by workers' experience of their employers, their corporate values or their means of implementing them in the coalmines of Queensland and NSW. Instead, they suggest that, in fact, the strategies of representation on OHS observed in these mines are better understood as expressions of organised resistance to the experience of unsafe and unhealthy work that occur in labour relations contexts in which corporate values promoting

[159] See Walters D and Wadsworth E (2019) Participation in safety and health in European workplaces: Framing the capture of representation, *European Journal of Industrial Relations.* DOI:10.1177/0959680119835670

[160] Walters, D., Quinlan, M., Johnstone, R., Wadsworth, E. (2016a) Cooperation or resistance? Representing workers' health and safety in a hazardous industry *Industrial Relations Journal,* 47(4):379-395; Walters, D., Johnstone, R., Quinlan, M., Wadsworth, E. (2016b) Safeguarding Workers: A Study of Health and Safety Representatives in the Queensland Coal Mining Industry, 1990-2013. *Revue Relations Industrielles/Industrial Relations*, 71(3):418-441; Walters, D., Johnstone, R., Quinlan, M., Wadsworth, E. (2016c) Representing miners in arrangements for health and safety in coalmines: A study of current practice. *Economic and Industrial Democracy*, DOI: 10.1177/0143831X16679891.

production and profit are perceived by mine workers to have been prioritised by the mine ownership at the expense of the safety, health and well-being of mine workers.

Moreover, as Chapter 3 shows in considerable detail, the regulatory provisions and the arrangements they support in coal mining are not the consequence of legislative changes of the last fifty years, for their origins predate these developments by almost a century. The practices observed in the recent studies therefore, have their roots in autonomous trade union strategies to represent the safety and health interests of miners that are deeply embedded in the culture of trade union representation in mining. In the case of coal mining and the MEU, such autonomy has from its origins, included the resourcing of the activities of ISHRs by their trade union itself, which as Chapter 3 makes clear, not only demonstrates the commitment to this form of representation by the union, but itself is a powerful indication of how closely and strongly they are embedded in the culture and ethos of the MEU in NSW and Queensland. So much so in fact, that it is difficult to imagine either them or the MSHRs they support being 'captured' by the managerialist strategies of employers in ways identified by the previously mentioned recent research in other sectors in the Member States of the European Union[161]

Are the arrangements in coal mining a model for mining more generally in Australia?

From a trade union perspective, the research discussed in this chapter presents a strong argument for regarding the situation in coal mining in both NSW and Queensland as something of a 'gold standard' for best practice that might be extended to other types of mining in these states and elsewhere in Australia more generally. The two-tier system that has been embedded in the policy priorities of the MEU and the culture of the coal mining industry in these two states for nearly one hundred and fifty years, which is currently supported by the regulatory framework for coal mining in both states, has been shown to be demonstrably effective in its support of representation and consultation on health and safety in coal mines. This can be seen in terms of:

- the focus of the actions it generates upon serious health and safety risks; and on systematic health and safety management;
- the procedures in place for drawing issues to the attention of the mine management; and for seeking their resolution;
- the liaison of the union representatives with the mines' regulator;
- the support provided by the ISHRs for the knowledge activism of trained competent and committed mine level representatives;
- the support from the trade union underpinning the role and expertise of the ISHRs at mine level and beyond; and last, but by no means least;
- the skills displayed by the ISHRs in navigating their own actions and their support for the actions of the MSHRs through the Scylla and Charybdis often presented by the embedded hostility of the mine management and mining industry to issues or actions they perceive as potentially threatening productivity.

[161] See Walters D and Wadsworth E (2019) Participation in safety and health in European workplaces: Framing the capture of representation, *European Journal of Industrial Relations.* DOI:10.1177/0959680119835670.

Examining these achievements in the light of factors that research in other sectors and countries has shown to be important in support of the implementation and operation of arrangements for representing further suggests that the practice in coal mining ticks these boxes too. It provides:

- a strong regulatory steer,
- competent, motivated, trained and autonomous worker health and safety representatives,
- their support from their trade union organisation in the form of the ISHRs and the prioritisation of health and safety in the union's national and global self-image.

However, like many other cases of worker representation in other sectors nowadays, it cannot be said that worker representation on health and safety in coal mining enjoys the further precondition usually associated with effectiveness, that is, the faciliatory cooperation of a competent organisational management committed to participative approaches to work health and safety. The studies on which this chapter draws show that operating in a labour relations climate that was neither faciliatory nor co-operative, caused representatives to place a strong reliance on regulation in support of their actions. They did so, in part to protect themselves, in a hostile climate, but also to achieve the ends they desired. This gave rise to a form of activism where representatives found the means with which to address their role successfully, despite unsupportive labour relations contexts. In such situations, their strategies are perhaps best understood, less as examples of the worker-management co-operation that are more commonly associated with consultation on health and safety, but instead, as efforts to resist the perceived harmful effects of corporate power. The evidence from the two previous studies in coal mining indicates that far from being unsustainable, in coal mines in NSW and Queensland, these strategies contributed to 'getting things done' to improve work health and safety. We have suggested elsewhere that this is a response to the realities of workers' experience.[162] And actions of representatives offering the strongest possibility for protecting workers' interests in these situations were often more in line with organized resistance than with notions of trust and co-operation.

What is critical with regard to coal mining is that supportive/empowering statutory provisions with regard to representation in combination with a strong union commitment to safety has resulted in a system that operates effectively even in the absence of employer support. This includes ISHRs helping to deal with locations where worker organisation is weaker – a point reinforced by evidence presented in Chapter 6, and something metalliferous workers interviewed clearly wanted. If ISHRs do this in coal, it is reasonable to presume their equivalents in metalliferous will perform the same role in situations where management is hostile to effective representation. Further, it is worth noting that some prominent companies operate in both the coal and metalliferous sectors. Finally, another point worthy of consideration is the respective roles of HSRs and SSHRs. As discussed in Chapter 6, the

[162] See Walters, D., Quinlan, M., Johnstone, R., Wadsworth, E. (2016a) Cooperation or resistance? Representing workers' health and safety in a hazardous industry *Industrial Relations Journal,* 47(4):379-395; Walters, D., Johnstone, R., Quinlan, M., Wadsworth, E. (2016b) Safeguarding Workers: A Study of Health and Safety Representatives in the Queensland Coal Mining Industry, 1990-2013. *Revue Relations Industrielles/Industrial Relations*, 71(3):418-441; Walters, D., Johnstone, R., Quinlan, M., Wadsworth, E. (2016c) Representing miners in arrangements for health and safety in coalmines: A study of current practice. *Economic and Industrial Democracy*, DOI: 10.1177/0143831X16679891.

current HSR representative regime in metalliferous mining is fractured and weak whereas in coal mining there is a collaborative relationship. It is arguable (and respondents made this point) that the presence of ISHRs improves relations with the inspectorate and also the willingness of management to act in a more cooperative fashion on safety and health issues. This is consistent with previous research and interview responses in Chapter 6. We would also suggest it is more likely that SSHRs in metalliferous mining would be more effective on both fronts (ie securing more cooperation from employers and closer ties to the inspectorate) than the HSR regime given their very different powers including capacity to represent the entire mine and prepare inspection reports.

This of course raises some interesting questions in relation to the transferability of the system for worker representation to other mining sectors where the trade union position may be weaker than seen in coal mining in NSW. The consequence of this difference in the case of NSW metalliferous mines is an issue that requires further exploration.

Previous research did point to challenges to the regime in coal mining, notably increased use of contractors, and as we will see in the following chapters, the same trends are at least as prevalent in metalliferous mining. Such challenges have also been clearly demonstrated in recent research on health and safety in mining.[163] There are several points to be made with regard to this. First contracting is used extensively in coal and metalliferous mining, although it appears several factors, including the same-job-same pay principle in recent federal IR legislation has slowed if not reversed this trend (Chapter 6). Second, as research already cited shows, evidence indicates a negative association between extensive contracting and worse OHS outcomes, which incidents like Grosvenor, indicate warrant more regulatory action. Third, the adverse effects of contracting on worker representation are another reason for action in this area, not a justification for allowing it undermine key provisions in legislation and legislative intent.

To date, there has been little independent study of the arrangements for representing the work health and safety interests of miners in metalliferous mines in NSW or how the experience of miners and their representatives in these mines might compare with those based on studies of arrangements in place in coalmines that have been outlined in the present chapter. This is remedied in Chapter 6 of the present report, which presents and discusses the results of the current investigation among metalliferous miners, and their representatives in NSW, as well as in coal mines in the state. It offers considerable insight into how metalliferous miners attempt to represent their interests in the absence of a regulatory framework comparable with that in coal mining and discusses their views on how support for representation of workers' interests on work health and safety might be improved in metalliferous mines, together with their implications for future possible legislative reform. Before this, however, the following chapter presents an analysis of serious incidents and enforcement in mining in NSW during the first quarter of the present century.

[163] See Nygren, M. 2025 Mining industry approaches to risk and responsibility: managing safety in outsourced environments, *Mineral Economics*, https://doi.org/10.1007/s13563-025-00555-1 Also Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613 doi:10.1017/elr.2024.32

Chapter 5: Comparative overview of incidents and compliance and enforcement strategies in coal and metalliferous mining

Introduction

The safety performance of the mining industry has improved over the last half-century, with a significant reduction in multiple fatality incidents associated with principal mining hazards such as explosion, fall of ground, or inundation. As demonstrated in Chapter 3, major mining incidents provided a catalyst for legislative review. The major mining disasters in Queensland and NSW in the 1990s (Moura No 2, Gretley and Northparkes), together with the need to develop process and risk-based legislation contributed to the review of mining legislation in the 2000s. The *Coal Mines and Mines Health and Safety Act* 2002 (CMHA) and associated Regulations introduced principal hazard management plans for multiple fatality risks, which has arguably contributed to the reduction in multiple fatality incidents. The CMHA 2002 strengthened the two-tier representative model of "site check inspectors" and "district check inspectors" outlined in the *Coal Mines Regulation Act 1982*. The *Mines Health and Safety Act* 2004 (MSHA) only identified the role of "site check inspector". The *Work Health and Safety (Mines and Petroleum Sites) Act 2013* further strengthened coal mine representative arrangements, but further weakened worker health and safety representative arrangements in metalliferous mining as described in Chapter 3. This chapter examines mine safety performance within the two periods marked by legislative change. As such, coalmine and large metalliferous and extractive mine health and safety performance is examined in respect of changes to worker health and safety representative arrangements effected by legislative change.

Mine Health and Safety Bill

The CMHA was passed through parliament and enacted in 2002. The Mine Health and Safety Bill lapsed and was re-introduced into parliament in 2004. In the intervening time, extensive comment from industry shaped the final framework of the bill. The Hon. Henry Tsang introduced the second reading of the bill to parliament, noting that:

> *About 5,000 miners work to make this sector of the mining industry a success. History has shown that the employees in this industry have suffered from an unacceptably high rate of fatalities and injuries. They need legislation that protects them from the unique and potentially catastrophic risks of mining. That is the basic purpose of the Bill.* [164]

Three key issues were debated during the intervening consultation period 2002 and 2004, when the MSHA was enacted. Two of these issues were the use of the title "site check inspector" and the adoption of the district check inspector model from other mining sectors.

[164] NSW Legislative Council Hansard Mine Health and Safety Bill: http://bulletin/prod/parlment/hansart.nsf/V3Key/LC20040921038

Decision were taken to: (1) retain the title “check inspector” but to align this role with health and safety representatives (HSR) in the *Occupational Health and Safety Act* 2000 (OHS Act) while retaining an emphasis on inspection; and (2) continue with authorised representatives, rather than introduce a new entity in the form of district check inspectors. The second decision defers to the principle of harmonisation with Model OHS Act. As noted in Chapter 3, the title “district check inspector” was not used in the *Mines Inspection Act* 1901 and amendment Acts, but the references to “employee representative and a check inspector” indicate that a “district check inspector” was not a new entity in metalliferous mining (see Chapter 3). Given the “unacceptably high rate of fatalities and injuries” in metalliferous mining, and the documented history of victimisation of site employee representatives the decision to weaken the representative model in the non-coal mines is surprising.

One of the key issues identified by the 2005 Wran Mine Safety Review was a ‘disconnect’ between company OHS management systems and the actual practices in the field. The review identified trust between workers and management as an issue in the mining industry. To examine the ‘disconnect’, and other issues identified by the Wran review, the Mine Safety Advisory Council commissioned the *Digging Deeper* project. The underlying premise of this research was that the less tangible aspects of management exert more influence over company Occupational Health Safety Management Systems (OHSMS) than formal systems i.e., how strategies are developed rather than what they involve. At the outset, *Digging Deeper* suggested factors relevant to the mining industry that may contribute to (or remove) the ‘disconnect’ include the interaction between the regulatory framework and the operation of the mine OHSMS and its integration with production management and performance measurement, and monitoring. OHSMS research asserts that genuine workplace participation and joint assessment of hazards and risks are more effective than formal systems. Incident and hazard reporting is considered to be a key aspect of an OHSMS. Worker trust in management is crucial to the effective operation of a reporting system, and an effective worker representative system plays a crucial role in elevating worker voice to the regulator. As described in Chapter 4, the regulatory framework that provided for the two-tier model of worker representation in the mining industry in NSW and Queensland is considered internationally to be a gold-class standard. As discussed in Chapter 3, the imperative of OHS harmonisation has resulted in a levelling down of best practice worker representative framework in the metalliferous mines.

Work Health and Safety (Mines and Petroleum Sites) Bill

In 2013, representative provisions for metalliferous mine workers were further weakened under the *Work Health and Safety (Mines and Petroleum Sites) Act* 2013 when the decision was taken not to apply mining-specific representative arrangements to the non-coal sectors. This replaced “site check inspectors”, who focused on whole of mine inspections, and replaced them with WHS Act Health and Safety Representatives (HSR) who may only ‘inspect the workplace or any part of the workplace at which a worker in the work group works’. The second reading of the Work Health and Safety (Mines) Bill 2013 stated the following about Part 5, Safety and Health Representatives for coal mines:

> The bill provides for the Minister for Resources and Energy to appoint industry safety and health representatives. These industry safety and health representatives will be able to enter and inspect a workplace at a coalmine. Additionally, they will be able to review the content and implementation of a coalmine safety management system. As well, they

> will be able to participate in an investigation of an event, occurrence or notifiable incident and assist in training of other representatives. The bill requires industry safety and health representatives to take reasonable steps to notify a government official of their intent to issue a notice to suspend operations, before they issue the notice. In addition, a mine operator at a coalmine must ensure that an industry safety and health representative receives notification of a notifiable incident. The bill sets out provisions for the election, disqualification and rights of site-specific safety and health representatives, including electrical representatives. They may only exercise powers or perform functions in respect of the coalmine for which they are elected. The issuing of provisional improvement notices at a coalmine will be limited to site-specific safety and health representatives only. However, before they exercise this power, they must consult with relevant health and safety representatives under the Work Health and Safety Act to identify workers at the mine who will be affected by the provisional improvement notice. Electrical safety and health representatives' powers and functions will apply to the whole of the coalmine, but only with respect to electrical equipment and installations, and issues and risks arising from their use. [165]

The next sections review the comparative health and safety performance of the coal metalliferous mining sectors between 2003-04 to 2013-14 and 2013-14 and 2023-24. These dates represent the dates of enactment of the CMHSA 2002 and the MHSA 2004 and the (WHS(MPS) Act 2013, including key changes in representative arrangements. As noted in Chapter 2, we reviewed a wide range of reports, including performance, business activity, and assessment/compliance reports. Information about industry safety performance was gained from Mine safety performance reports, Quarterly Safety Reports, incident investigations, and the *Digging Deeper* report. Regulatory activities in response to identified areas of concern were collected from consolidated program reports. The earliest Mine safety performance report for this period was 2009-10. Other reports were produced later, after the *Wilkinson Fatality Review*, and therefore information about regulatory activities before 2016 was limited to information recorded in the Mine safety performance report series and *Digging Deeper*, which is a substantial work.

We have attempted to examine four key issues pertinent to worker representative arrangements and their impact on OHS performance.

1. Is the metalliferous mining sector less hazardous than the coal sector?
2. The effectiveness of WHS (industrial) entry permit holders in metalliferous mines compared to district or industry safety and health representatives in coal mines.
3. The comparative effectiveness of OHS (or HSR) committees in the consultation process.
4. Trust between workers and managers in high-hazard coal and metalliferous work environments to ensure reporting and raising worker concerns.

[165] Work Health and Safety (Mines) Bill 2013 (Proof) 26/06/2013

5. The comparative effectiveness of the systems in elevating 'worker voice' to the regulator.

Incidents, compliance and enforcement between 2004-05 and 2013-14

In 2002 and 2004, the *Coal Mines Health and Safety Act* (CMSHA) and the *Mines Health and Safety Act* (MHSA) were enacted, respectively. The associated regulations were enacted later in 2006 and 2007, respectively. This legislation implemented risk management processes, including, among other things, the requirement to implement principal hazard management and contractor management plans, and extended reporting requirements. The CMHSA 2002 strengthened the two-tier worker representative arrangements with "district" and "site check inspectors", while the MHSA only provided for "site check inspectors".

In 2007, the *Digging Deeper* report noted some significant differences in OHSMSs on the basis of location, with sites in the Illawarra and the far west of NSW more likely to have lower scores on a number of factors used to measure the effectiveness of OHSMS and consultation. Based on qualitative data from the 'organisational factors' questionnaire, OHS consultation was rated lowest in the metalliferous sector at 3.55 compared to 3.59 for coal and 3.78 for extractives sites(this statistically significant difference is most likely due to the much smaller size of extractive sites). *Digging Deeper* found that size had a substantial and positive effect on the effectiveness of consultation.[166] On the topic of reporting, *Digging Deeper* found that rewarding hazard identification reinforced their value, and regular feedback on the progress towards fixing problems increased the likelihood that systems were used by workers. Other factors that may have an effect on reporting and participation, and comments included:

Supervisor support

> *…communication seems effective and the reporting system is easy to use (check inspector).*
>
> *Supervisors are the meat in the sandwich (miner).*

Mindfulness

> *If you use the hazard card system – it works, you'll get things fixed (operator).*
>
> *…you wouldn't dare bring up possible safety issues that would affect production. You wouldn't be employed for long; they would run out of work for you of course! (casual equipment operator – questionnaire comment).*

Trust in management

> *90% of the time, management take OHS into account in decision making (check inspector).*
>
> *For supervisors, OHS is a pain in the arse. Senior management stand up there and tell you how important it is, but if you stop to fix a safety issue, you've got them on your back ... Safety comes after production – production*

[166] Shaw, A., Blewett, V., Stiller, L., Cox, S., Ferguson, S., Frick, K., & Aickin, C. (2007) *Digging Deeper*, Wran Consultancy Project, Vol 1Chapter 5 OHS management systems and consultation, 190

is more important for senior managers … It all feeds into supervisors' attitudes (miner).

Organisational justice

I haven't seen anyone injured, but I'd expect them to be treated fairly. Management would work out what went wrong and try to prevent it happening again (operator).

[The company] spends a lot of time and effort to deny their injured workers long-term help and devise strategies to force them out of work if they have a long-term injury (supervisor, questionnaire comment).

Role clarity

We have good induction with useful reference material. Our SOPs are all being reviewed by people who are relevant to the job (miner).

Training needs improvement: inexperienced operators are training others …. People are operators, not miners anymore, so don't know the trade, they don't know what they're looking at; don't know when things are wrong, they don't recognise the hazards (miner).

Decisions are being made that affect other departments and are not getting notified. In general, the mine cannot stick to one decision, they are not thought through properly. Confusion is rife and then safety is not thought out properly as everything is rushed because of changes (tradesperson).

Regarding interactions with inspectors (from the Department of Primary Industries at that time), comments included:

DPI is very helpful to the check inspectors. We can ask them anything. They will talk for an hour on the phone if necessary. We have a six monthly forum for checkies with DPI (OHSC member).

…Our inspector doesn't contact HSRs as a matter of course and we don't get copies of reports (HSR).

Eighteen years on, statements made by metalliferous HSRs on our interviews and focus group discussions, reported in Chapter 6, are strikingly similar

Notifiable incidents

The new legislation generated more coal incident notifications due to new reporting requirements (including escape of fluid under pressure, unintended plant and vehicle movements, and incidents with an injury that had a notifiable outcome) and reporting where thresholds became more inclusive (including gas detection, evidence of electrical arcing, explosive misfires, and failure of explosion-protection equipment). Nine times the number of coal incidents were notified in 2009-10 than the average notified for the last five years (2001-02 to 2005-06) under the former legislation. The 2009-10 financial year was the first complete year under the new non-coal legislation, which commenced in the second quarter of 2008-09, also with some new and more inclusive reporting requirements. The number of metalliferous and extractives notifiable incidents in 2009-10 was 23% higher than the

average notified over the previous five years (2003-04 to 2007-08) under the former legislation.

Changes to the coal and non-coal legislation included more comprehensive reporting requirements, the introduction of mine safety management plans in the non-coal sector, mine safety management systems and major hazard management plans in the coal sector, and strengthened contractor management requirements. Coal mines were also required to notify the regulator of the commencement of high-risk activities, a requirement not included in the MHSA. Another point of difference was the right of an industry check inspector to object to content in the OHSMS. These changes may have had a significant impact on OHS performance in both sectors as measured by a downward trend in fatal and serious injury incidents (see Figures 5-2 and 5-3).

The OHS performance of both sectors based on fatal and serious injuries is not substantially different. It is noteworthy that coal ISHRs commented in the recent focus groups (see Chapter 6) that the WHS (MPS) Act 2013 formalised the role of SSHRs and ISHRs, providing greater clarity and recognition. Had the major hazard management plans, the right of industry check inspectors to object to the content, and high-risk notifications provisions been provided in the MHSA 2004, this may have provided an opportunity to prevent the Cadia East ventilation shaft construction inundation (see Table 5-4), although there is no certainty the opportunity would have been taken. Comments made by coal ISHRs in focus group discussions (see Chapter 6) suggests that it wasn't until the WHS (MPS) Act 2013 was implemented that their role with respect to contractors, for example, was formalised Prior to this contractors undertaking work on a mine site, for example the Ashton/Silver City Drilling incident described in Table 5-3, may not have been captured under the mine-specific representative arrangements.

Compliance notices

Regulatory enforcement practices can be influenced by regulatory changes. In this regard, the 2013-14 report noted:

> *The commencement of the current coal legislation (CMHSA 2002 and CMHSR 2006) in mid-2006-07 and the current non-coal legislation (MHSA 2004 and MHSR 2007) in the second quarter of 2008-09, together with the requirement that all advice to mines must now be in writing, has resulted in an increase in enforcement and advice notices issued.*[167]

Before the WHS (MPS) Act was implemented, notices were issued under the OHS Act 2000 under s91 Provisional improvement notices and s93, Prohibition notices. Section 150 of the CMHS Act made provision for an inspector to bring concerns to the attention of the most senior person in the management structure (but not required to be in writing). The WHS (MPS) Act 2013 made provision for written notices of concern under s 23.

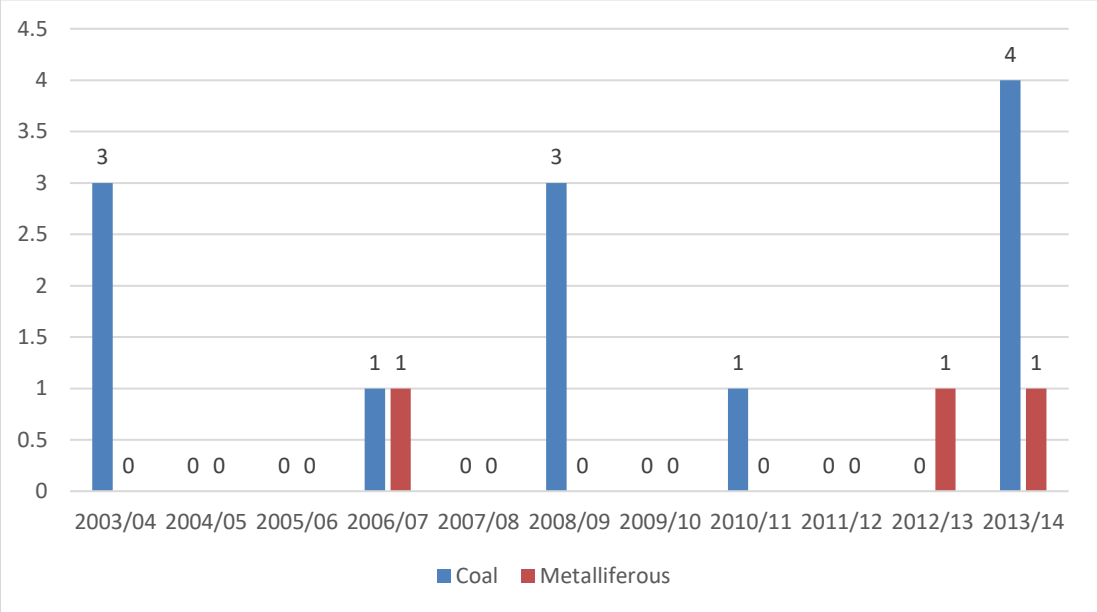
[167] NSW Department of Trade and Investment (2015) NSW Mine safety summary performance report 2013-2014, 35

Comparative health and safety performance

Fatal incidents

At the beginning of this reporting period, the Mine safety performance report presented metalliferous and extractives incidents as a combined metalliferous and extractives category referred to as 'metex'. In 2007-08, metalliferous and extractives incidents were presented as distinct sectors. Figure 5-1 shows the industry fatalities for the ten years between 2003-04 and 2013-14 by sector, and Figure 5-2 shows the five-year rolling average fatal injury frequency rate.

Figure 0-1: Fatal injuries in coal and metalliferous mines



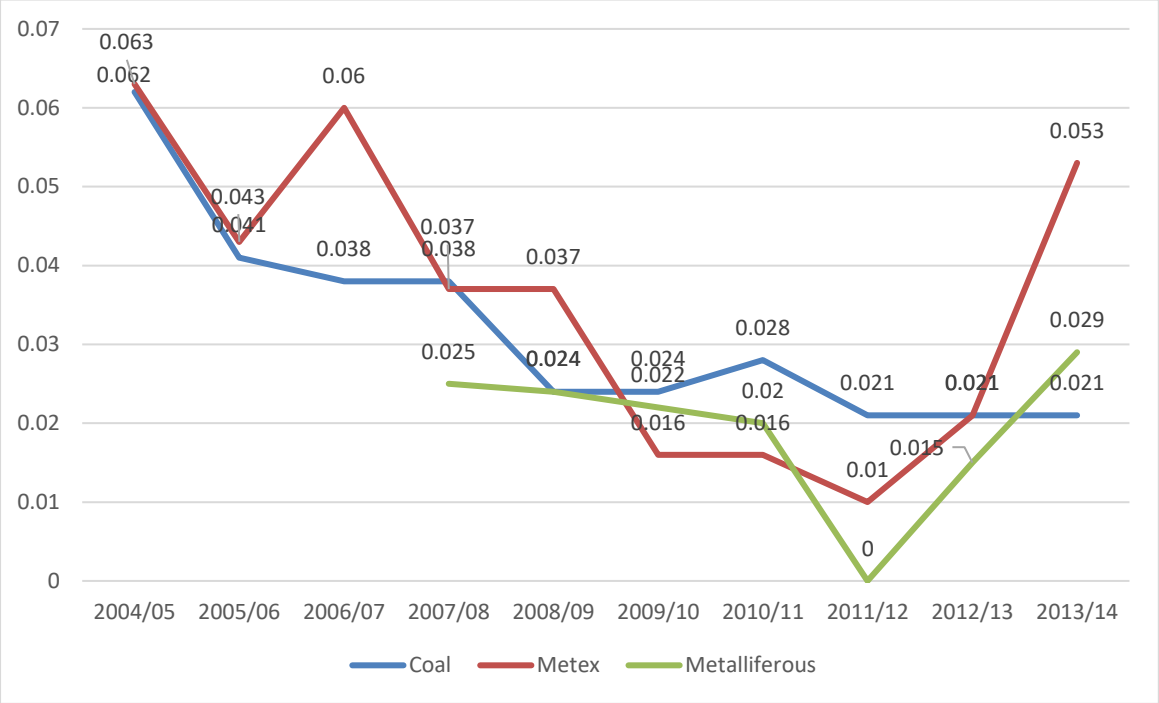
The mining industry, particularly coal mining in the early 2000s, was characterised by substantial growth and investment driven by Asian urbanisation and industrialisation. The three coal fatalities in 2008-09 coincided with the global financial crisis, and the four in 2013-14 occurred during a substantial decline in coal prices. This market decline occurred at a time when companies expected to realise returns on investment made in the early 2000s.[168]

[168] The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) publication 'Australian Commodities' vol.13 no.4 December quarter 2006 reported a new capital expenditure of A$18 billion in the Australian mining industry and a projected A$18 billion in 2006/07. In 2010, Lampard, M. & Copeland, A. et al. 2010, Minerals and energy, major development projects – October 2010 listing, ABARE–BRS, Canberra, November, reported a record expenditure of A$132.9 billion on advanced-stage projects in the Australian mining industry.

Entrance to the Cobar Miners Memorial

Figure 5-2 shows that the five-year rolling average fatal injury frequency rate to June 2012 decreased 25% for coal and fell to zero for metalliferous and extractives. In 2007-08 to 2010-11, the hours worked in the metalliferous and extractives sectors were approximately 36,000 and 4,400, respectively. The hours worked in metalliferous and extractive sectors were not reported separately in the Mine safety performance reports before 2007-08. However, hours worked are likely to be similar before 2007-08, and therefore the 'metex' fatal incident frequency rate is more influenced by the metalliferous mines than extractives mines (quarries). However, it is worth noting that the extractive mines have a higher average frequency rate than the metalliferous mines.

Figure 0-2: Five-year rolling average fatal injury rate, coal, metx and metalliferous mines



Overall, the five-year average fatal injury frequency rate (FIFR) to June 2012 fell by 65.1% compared to June 2007.[169] The CSA/Macmahon shaft sinking fatality in 2013 and the CSA underground dewatering project fatality in 2014 account for the increase in metalliferous FIFR after 2012-13.

The National OHS Strategy 2002-2012 set national targets to reduce the incidence of work-related fatalities by at least 20%, with an interim target of a 10% reduction to be achieved by 30 June 2007.

> *The Five Year Average Fatal Injury Frequency Rate to June 2007 was 0.043. This achieved both the mid-term and the ten-year targets. The Five Year Average Fatal Injury Frequency Rate to June 2012 was 0.015. This was an improvement of 65.1% compared to the 0.043 recorded for the five years to June 2007 and is 68.1% below the June 2012 target. The industry goal remains zero fatalities.*[170]

As noted in the next section on safety performance post 2013-14, the five-year rolling average FIFR in the metalliferous sector subsequently rose 0.061 in 2016-17 and 2019-20. Although the coal sector had three incidents (resulting in four fatalities) in 2013-14, the impact on the Five-year rolling average FIFR is less evident due to the number of hours worked in this sector.

[169] NSW Mine Safety Performance Report, 2011-12, 1
[170] NSW Mine Safety Performance Report 2011-12, 3

The fatalities in the 2013-14 financial year prompted MSAC to commission a report to examine whether the market downturn may have been a contributing factor.[171] The *Wilkinson Fatality Review* found no evidence that 'industry circumstances' were an underlying factor, but rather a reliance on low-level controls rather than engineered barriers (see Tables 5-1 and 5-2 Coal and Metalliferous mines fatal incidents 2004-2014). Around the same time, Quinlan's book, *Ten Pathways to Death and Disaster*, was released. This book drew attention to factors in addition to engineering and OHSMS failures that contributed to major disasters and deaths, such as a failure to heed warning signs; failure to heed concerns of workers (and others); lack of communication and trust; and economic and reward pressures. An analysis of investigated incidents using regulatory investigation reports [172] found evidence of economic/financial or production pressures through matching investigation observation with company annual reports and Resources and Energy Quarterly, December quarter 2013, published by the Bureau of Resource and Energy Economics.[173] There was some evidence to suggest the economic circumstances may have contributed to some of these fatal incidents in 2013-14. Use of labour hire workers is one way of reducing production costs (Pathway 6). Labour hire and contract workers are less inclined to join a union and less inclined to report incidents or raise concerns (Pathway 8).

Tables 5-1 and 5-2 present the Ten pathways analysis results for prior warnings, worker concerns (or supervisor), and poor supervision or communication. The text in red identifies incidents that were the subject of the *Wilkinson Fatality Review*. The tables also show the total failures for each incident and the proportion of incidents exhibiting a failure of that pathway. Few investigations directly report worker perspectives, including concerns that may have been raised, directly by workers or through their representatives, about the incident hazard and risk before the event, including risk assessments and control measures. Some investigations commented, with minimal detail, that concerns had been raised. Generally, investigation reports do not make the role and functions of industry or site check inspectors in mine health and safety visible to industry. While investigators may look at HS committee reports, or check inspector reports and interview workers, these perspectives are rarely reported. Worker evidence may not be presented in public reports for confidentiality reasons. As noted previously, this is an important feedback loop on the effectiveness of the OHSMS.

Table 0-1: Coal mine fatal incidents 2004-5 to 2013-14: Ten pathways prior warnings/incident; concerns raised; poor communication (N=10)

Hazard	Details	P2	P8	P9	Total
Ground or strata	Dartbrook Kayuga mine 2004 – A fatality due to roof fall during a pillar split using manual bolting and a road header that was not fitted with drill rigs and roof support (instead of a CM), chosen not to block access to the adjoining Wynn mine workings. The deputy failed to communicate concerns about the positioning of the road header under unsupported ground and the noncompliant bolting sequence. Change management/communication during change from contract to owner operator.	0	0	1	6

[171] Wilkinson, P. (2014) MSAC Fatality Review 2013-14: Report for NSW Mine Safety Advisory Council, Noetic Solutions Pty Ltd.

[172] Jackson, H. (2023). Pathways to single fatality and serious injury incidents in coal and metalliferous mining in NSW, Australia: Can we learn from multiple fatality incidents to prevent serious injury? *Safety Science 165 106194*.

[173] BREE (2013) *Resources and Energy Quarterly*, December Quarter 2013, BREE, Canberra, December 2013.

Hazard	Details	P2	P8	P9	Total
Ground or strata	Chain Valley 2011 – A fatality due to rib spall while operating a CM by remote-control. The deceased, also the check inspector, had raised concerns about rib support after a previous incident. The slab did not contain any rib bolts. The investigation found that deputies lacked training (particularly contract deputies) in an understanding of the new secondary strata support regime, and Undermanagers did not always participate as required by mine inspection rules.	1	1	1	10
Ground or strata	Austar 2014 – Double fatality due to coal rib burst. Information about bumps was passed between crews in an ad hoc manner. Senior technical staff did not access the available information on a regular basis. The workers were advised that bumps indicated strata pressure relief, and despite frequent large bumps, there was no planned response at the mine.	1	1	1	9
ROVOA	Ravensworth 2013 – A labour hire trainee was fatally injured in a collision between a haul truck and a light vehicle. Roads and windrow heights were the most common hazard reports made by workers. The mine management responded to concerns about roadway conditions by reinforcing operator compliance with traffic management rules rather than addressing intersection design, roadway conditions, and windrows.	1	1	1	9
Mechanical CP	Myuna 2008 – A worker's foot was hit by a drill steel, which flicked out when placed under tension between the retracting drill head and the mobile bolter platform. He later died from complications. The mine had not implemented remedial measures, such as guarding of the moving and rotating components and falling materials, identified by the equipment designer/manufacturer.	1	0	0	4
Mechanical CP	Glennies Creek 2009 – A worker was fatally injured when struck in the head by a shear shaft, which was ejected from the shearer when workers were attempting to replace a broken shaft. Shafts had broken on 34 previous occasions, and despite concerns raised by fitters, no SWP had been developed. Supervisor approved re-energising the shearer to tram and "flick" the component to remove it (in breach of isolation).	1	1	1	8
Mechanical CP	Ravensworth CHPP 2009 - A contract driver was fatally injured when the reject bin chute door inadvertently opened, releasing material that fell, crushing the truck cabin. To avoid a tarry slurry dripping onto truck windscreens in wet weather, some drivers drove forward through the race and then reversed back into position, prematurely initiating the "TIP" command from the PLC. Previous incidents had not been reported by the contractor to the CHPP operator.	1	0	0	5
Mechanical CP	Angus Park colliery 2006 – A testing contract technician was fatally injured when struck by hydraulic fluid under pressure while taking test samples. The technician was not trained in the safety features of the new system, including isolation requirements. Supervision arrangements were inadequate, and longwall production continued while sampling was undertaken.	0	0	1	7
Mechanical CP	Mt Thorley open cut mine 2004 – A maintenance contractor worker was fatally injured when a tyre fell while fitting it to the hub. The main control was safe positioning; however, workers adopted a position between the wheel hub and the tyre mounted on the tyre handler due to the line of sight required to fit the tyre to the hub without any damage. The contractor supervisor was aware of the practice but allowed it to occur.	0	0	0	4
Mechanical CP	Boggabri Coal/Theiss 2014 - Inadvertent worker action resulting in a fatal crush between the MEWP rails and the structure the MEWP was working under. The safety relied on lower-level controls such as training and competency rather than secondary guarding.	0	0	0	4

Hazard	Details	P2	P8	P9	Tot al
Proportion of the sample exhibiting the failure (%)		70	40	50	Av. 6.9

*Incidents subject of the *Wilkinson Fatality Review* are shown in red

The Ravensworth open cut coal Roads or Vehicle Operating Areas (ROVOA) investigation (see Table 5-1) reported that roads and windrow heights were two of the most common hazards reported by workers, but management responded to the frequent incidents prior to the fatal event by reinforcing traffic rules rather than roadway design. Contractors or labour hire workers may not have the same access to health and safety representatives. Ravensworth CHPP reject bin contract drivers, Angus Park testing technician, Mt Thorley maintenance contractor may not have had access to a mine-based OHS representative. Dartbrook Kayuga mine may not have had a check inspector in place due to the stage in the "life of mine" and the transition occurring from contract to owner operator.

Table 0-2: Metalliferous mine fatal incidents 2004 to 2014: Ten pathways prior warning/incident, concerns raised, poor communication

Hazard	Details	P2	P8	P9	Total
Inrush or inundation	CSA underground 2014 – A worker drowned when sucked into a sump drain hole while unblocking a drain between levels. The drain had been blocked to accommodate the needs of a dewatering project. No engineering project risk assessment or fit-for-purpose equipment for blocking drains. Inadequate supervision, overreliance on hazard awareness and JSA controls, and reported fear of disciplinary action for losing a bar in the sump contributed to the worker's decision to enter the sump.	1	1	1	9
Mechanical CP	Perilya underground 2007 – A new worker was fatally injured when crushed between a remote control loader and the mine wall. Inexperienced worker, working alone under remote supervision with a lack of engineered controls such as proximity detection or bund.	0	1	1	9
Shafts and winders	CSA/Macmahon 2014 – An engineering contract worker was fatally injured when he hit his head on a stage platform while travelling up a shaft in an unguarded materials kibble. Project behind schedule, worker fatigue due to hours of work, and reliance on low-level controls contributed to the incident.	0	0	0	6
Proportion of the sample exhibiting the failure (%)		33	67	67	Av 8

*Incidents subject of the *Wilkinson Fatality Review* discussed in the next section are shown in red

The CSA mine drowning investigation (see Table 5-2) noted that concern about the water breaching the sump and flowing down the roadway had been raised by a worker and his supervisor. The shift foreman replied that the sump was blocked on purpose and to leave it until the night shift. Evidence in the prosecution summary from co-workers indicated the deceased was concerned about possible disciplinary action after he lost the scaling bar he was using to puncture the blast bag blocking the sump drain in the sump. OHSMS that rely on low-level people-based controls, where non-compliance is managed via disciplinary procedures (see CSA incident) may also adversely affect reporting and worker decisions. Unfortunately, the CSA prosecution found company management not guilty of breaches of the Act based on evidence that the worker failed to comply with the risk management procedures contained within the safety management system, which emphasised personal

risk management obligations. These are classified as low-level people-based controls by the International Council on Mining and Metals[174] and unfortunately sends the wrong message about the relative responsibility of those in control of the workplace compared to those who are more exposed to risk of harm.

Concerns about intimidation and victimisation of workers for raising health and safety concerns has been long-standing, as outlined in Chapters 3 and 6. Evidence from the Regulator and focus groups conducted in October 2025 indicates this remains a problem in 2025. Intimidation and victimisation were examined in the regulator's report on a human and organisational factors (HOF) analysis of selected notified incidents published in 2023.[175] The HOF analysis found that 24% of incidents analysed found evidence of organisational failures, particularly risk assessment failures. Risk assessment failure is one of the commonly identified failure points in Ten pathways. An analysis of 51 serious and fatal injury incidents in NSW coal and metalliferous mining using Ten Pathways confirmed that risk assessment failures were a factor in approximately 90% of cases.[176] Evidence of worker concerns about the incident hazard was found in 35% of incidents associated with principal mining hazards and 25% of incidents managed under control plans. An earlier report on HOF contained in the Quarterly Safety Report series, asserted that a culture of blame, evident in a selection of incidents, adversely affected the reporting and investigation culture, whereby workers were discouraged from reporting incidents and near misses.[177]

A safety climate study conducted between 2013 and 2015 as part of a project undertaken under the auspices of the MSAC, a follow on from the *Digging Deeper* project, surveyed 4,103 workers from six underground (28% of the sample) and four open cut (24%) coal mines, four underground metalliferous mines (45%) and one surface mineral sands large extractive mine (2.5%). At this time, union membership was highest in underground coal mines, with 75% of respondents saying they belonged to a union, and lowest in underground metalliferous mines, with only 11% of respondents saying they were union members. In open cut coal mines, 55% of respondents said they were union members. Of particular interest, results found that one of the metalliferous mines indicated rule-breaking was accepted to complete work on time. Overall, metalliferous mines perceived safety justice to be lower (Management treats workers involved in an incident fairly) compared to coal mines.

As noted above, investigation reports record limited information about worker concerns being raised through 'check inspectors' or directly with supervisors before an incident. The case studies illustrate the interaction between Occupational Health and Safety Management Systems flaws, particularly in worker feedback, over-reliance on low-level people-based controls, and economic pressures. The Ravensworth investigation report referred to a company safety climate survey, which identified the reporting of hazards/risks and a lack of opportunity to participate in safety as concerns.

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[174] International Council on Mining and Metals. (2015). *Health and safety critical control management: Good practice guide*. ICMM, Retrieved from https://www.icmm.com/en-gb/guidance/safety/ccm-good-practice-guide

[175] NSW Resources Regulator, *Informative Note, Human and organisational factors, March 2023.*

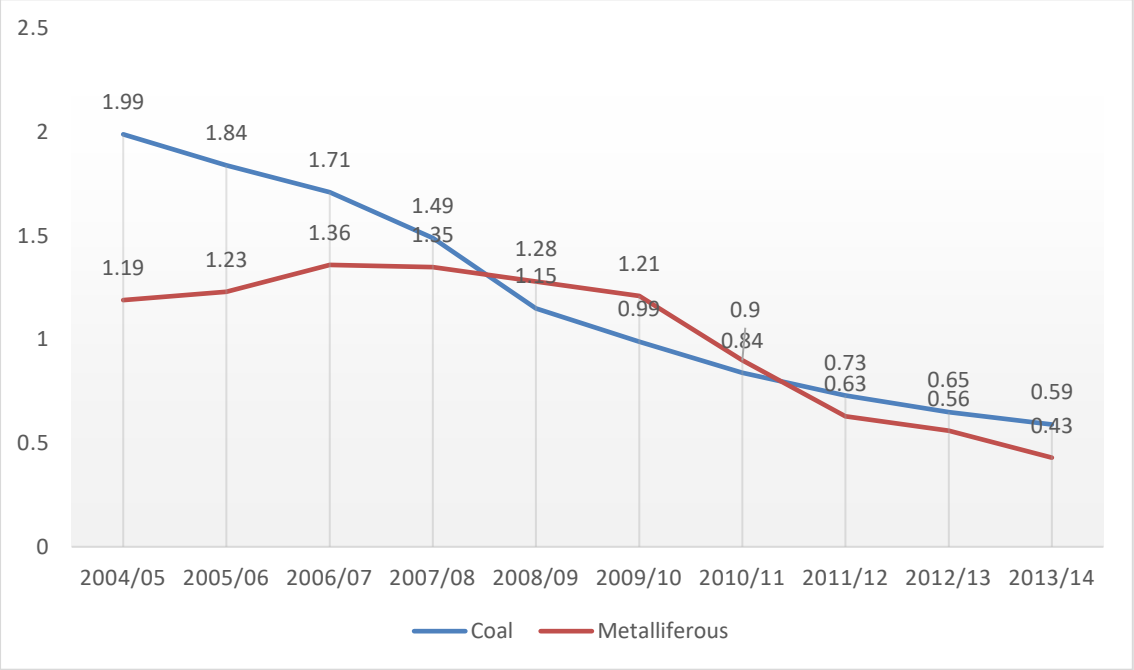
[176] Pathways to single fatality and serious injury incidents in coal and metalliferous mining in NSW, Australia: Can we learn from multiple fatality incidents to prevent serious injury? *Safety Science, 165, 2023, 106194*

[177] NSW Resources Regulator (2019) *Quarterly Safety Report, 2019 Q3, 25*.

Serious incidents and injuries

The commencement of the new coal and non-regulations mid 2006-07 resulted in an increase in incident notifications due to some new reporting requirements, including incidents with an injury that had a notifiable outcome. The NSW Mine safety performance summary report 2009-10 stated that the five-year average serious bodily injury frequency rate (SBIFR) for 2009-10 reached a record low of 1.06 and fell by 40.8% compared to June 2005. The 2009-10 financial year was the third complete year under the new coal legislation, which commenced in mid-2006-07. The new legislation generated more coal incident notifications due to new reporting requirements. [178] Figure 5-3 shows that the rate of serious injuries declined substantially in both coal and metalliferous mining sectors.

Figure 0-3: Five-year rolling average serious injury frequency rate - coal and metalliferous mines



[178] NSW Industry & Investment Mine Safety (2010) Mine safety performance report, 2009-10, 1.

Box 5-1 presents information drawn from investigation reports, with the economic context being drawn from company annual reports and the Resources and Energy Quarterlies, then published by the Office of the Chief Economist.

Box 0-1: Fatal incident case studies

Ravensworth light-heavy vehicle interaction fatality

The fatally injured worker was a labour hire trainee. The company's goal was to increase production volumes. The plan involved recruiting 190 additional workers (including redeployments, trainees, and experienced operators) and over $500 million of mining equipment.

Economic pressures - Falling coal price was placing pressure on higher-cost producers to decrease the unit cost of production (REQ Dec 2014). The Resources and Energy Quarterly, December 2013, p. 16 stated, "Many producers are locked into fixed take-or-pay contracts for infrastructure services, and it has been more cost-effective to increase production rather than close. This extra production has placed further downward pressure on thermal coal prices".

Worker concerns - Workers had raised issues about communication and working in wet weather. Statutory inspections failed to identify water pooling at the incident site. The investigation also commented on the lack of worker involvement in risk assessments. A safety climate survey conducted by the mine indicated that workers perceived a lack of opportunity for participation in safety, including reporting hazards/risks.

Low-level controls - There were many vehicle interactions in the months before the fatal incident. The contributing factors were discussed at a training meeting. The factors identified by the company were primarily non-compliance with traffic rules rather than roadway and intersection design.

CSA dewatering project sump drowning

A worker was sucked into an underground sump drain and drowned. The drain hole had been purposely blocked while drilling a new drain to the level below in another location. There was no broad-brush RA or change management for the mine dewatering project, and a lack of coordination between engineering and production personnel about water management due to continued production.

OHSMS feedback failures – (a) failure to record and transfer information between shifts about blocking and unblocking the drain; (b) management failed to monitor the water build-up in the sump and inspect the sump before work was commenced; (c) a communication breakdown during task allocation resulted in workers starting before the shift supervisor arrived; (d) the mine had set compliance targets for hazard identifications and JSAs and although monitoring identified compliance was well below target no action was taken to determine the reasons for non-compliance.

Economic pressures – the number of supervisors per shift had been reduced, possibly an indication of cost-cutting, and was adversely affecting supervisory coverage.

Low-level controls - no SWP developed for blocking/ unblocking the drain, and a lack of fit-for-purpose equipment. The ultimate control relied on a JSA (which was not undertaken) and compliance with a mine rule, 'do not enter a water-filled sump'. When the worker lost the scaling bar in the sump, he became concerned about it being sucked down to the level below, thereby creating a risk and possible disciplinary action associated with this. He entered the sump to find it.

Austar coal burst double fatality

A coal rib burst, fatally injuring two workers working beside a continuous miner. Management failed to monitor risks with appropriate technology. Management had established a flawed mental model of the hazard status. Inconsistent statutory shift reports and failure to review the reports in an appropriate forum contributed to the flawed mental model. Management failed to comprehend the warning signs of repeated coal bumps.

Concerns raised before the incident – worker and statutory position holder concerns were raised through shift reports leading up to the fatal incident.

Economic pressures - The mine had achieved an 18% increase in production despite the geological challenges. Overall, the company reported a loss due to "sustained challenging market conditions, including the continuation of low coal prices driven by global market oversupply, take-or-pay arrangements, and the strength of the Australian dollar. The company had made a substantial investment in developing new workings using longwall top coal caving at this old underground mine in 2004. The mine was a key asset, and the coal was of very high quality.

Table 5-3 presents a summary of incident investigation findings for Ten pathways P2, “Prior warnings or incident ignored”; P8, “Worker or supervisor (or other) concern”; and P9, “Communication and supervision failures” for coal mine incidents investigated by the regulator. These results are dependent on the information recorded in the investigation report and the researcher’s assessment of that information. The final column shows the total number of pathways for each incident described. Of the 16 incidents investigated, nine were associated with mechanical control plans. Five incidents involved service contractors or labour hire, and four involved specialist contractors or teams with specialist labour hire (Ashton/Silver City Drilling, Appin Douglas Park Project, Metropolitan longwall extension and changeout project, and Beltana longwall changeout). In the Silver City Drilling and Appin scaffold incidents, contractors raised serious safety concerns, which were not addressed. Likely, these workers did not have access to a health and safety representative or check inspector, and if there was a representative, timely access or fear of adverse action against them may have prevented effective issue resolution.

Table 0-3: Coal mine serious incidents 2004 to 2014 – Prior warning/incident; concern raised; and supervision/communication (N=16)

Hazard	Details	P2	P8	P9	Total
Inrush or inundation	Mt Thorley open cut 2011 – A dangerous incident occurred when a dozer became submerged in a water body on the open cut mine. Statutory inspection failed to record information on the location of the sump. Failure of information transfer between shifts placed the worker in a hazardous situation.	1	1	1	10
Inrush or inundation	Bengalla open cut 2013 – A dangerous incident occurred when a dozer partially submerged in water filled test pit on the coal bench. Risk not identified by statutory inspection/unsafe instruction given.	0	0	1	6
Inrush or inundation	Ashton underground/Siver City Drilling 2012 – Driller seriously injured due to a pressure event while drilling a borehole. The driller reported excessive water required change of drilling method. A lack of defined supervisory roles and responsibilities between the mine's contract supervisor and the contractor's site supervisor contributed to poor decisions and failure to respond to driller concerns.	1	1	1	8
Ground or strata	Beltana underground mine 2010 - Coal fell from the roof on the LW while a contract technician was replacing worn picks on the maingate end drum of the shearer. It was the last shear to be done before the LW changeout, and poor coordination of the task led to a delay and poor decisions. Having identified an unsupported roof, the supervisor then failed to communicate this and instruct the workers to install roof support. Re-picking practice common at the mine was to do both drums at the same time [to save down time], placing one drum under an unsupported roof. In this instance, there was a failure to install secondary support, possibly also related to time pressure.	1	1	1	8
Fire or explosion	Blakefield South underground mine 2011 – A methane explosion and subsequent fire occurred on the longwall due to an undetermined ignition source - lightning strike or spontaneous combustion. Forty-seven workers were evacuated safely from the mine. In addition to ventilation and earthing design flaws, there were inspection and supervision failures due to inadequate hazard understanding or training of statutory supervisors on CO monitoring and spontaneous combustion.	0	0	0	7
Mechanical CP	Clarence Colliery 2004 - Unplanned CM movement while floor trenching crushed the worker positioned on top of the CM against the roof. Lack of fit-for-purpose equipment for hanging cables under a high roof contributed to the risky behaviour. The CM was not isolated while workers hung cables due to perceived time pressure. Supervisors and managers were aware of the practice but failed develop an SWP. The report indicated that the industry check inspector was involved in the investigation	1	1	1	8

Hazard	Details	P2	P8	P9	Total
Mechanical CP	Russell Vale Colliery 2008 - Unplanned CM movement crushing a worker against the rib. Inspectors had previously issued an improvement notice on unsafe “flitting procedure” requiring a risk assessment in consultation with workers. This report indicated the inspector’s notices had required the mine operator to consult with the HS committee	1	1	1	9
Mechanical CP	Austar underground mine 2008 – A worker’s arm became entangled in mesh while using an Automated Bolter (ABM) to install bolts and mesh. Management was aware of the problem, and workers called the tangled mesh a ‘bird cage”. Management provided wire cutters.	1	1	0	8
Mech/ Elec CP	Beltana underground mine 2010 – Worker fell after being hit by flyrock and was crushed between roof support chocks by automated advance linked to the shearer. Increased fly rock had been noted in the deputy’s report; there had been a previous incident, and a worker had raised concerns about becoming incapacitated after a fall and being crushed.	1	1	1	9
Mechanical CP	Metropolitan Colliery 2004 – A worker was injured when hit by a rigging component when a lateral pull assembly failed. Inadequate engineering oversight (including JSA) to prevent the use of underrated components and unsafe assembly. Crews failed to report failure events leading up to the incident, which resulted in a serious injury. The LW extension/changeout crew was comprised of engineers and technicians contracted for the project, as well as mine statutory officers - unclear lines of authority and responsibility.	1	1	1	9
Mechanical CP	Beltana underground mine (surface activity) 2008 – A labour hire worker’s foot was caught between two LW service cassettes when being coupled in preparation to tow underground. Inadequate instruction and supervision.	0	0	1	4
Mechanical CP	Tasman underground mine (surface activity) 2011 – A truck driver was injured when the mesh load slipped from the forklift tines attached to the integrated tool carrier. The usual yardman was off sick, and a deputy who did not have the appropriate competency and experience in operating the ITC was allocated the task.	0	0	0	4
Mechanical CP	Bulga Open Cut 2006 - A maintenance subcontractor suffered a crush injury to his right index finger when the elevated work platform (EWP) in which he was working rammed the bucket of a dragline shovel. The equipment fault was not identified during the introduction to site checks, and the contract worker did not have the competency to operate the EWP.	0	0	0	4
Mechanical CP	Appin Douglas Park Project 2006 – A worker fell when the scaffold failed while mega bolting in an underground location. A subcontract scaffolder had raised concerns about the scaffold design not fitting into the restricted underground space. Concerns were ignored by the person who designed the scaffold, and he failed to independently check and certify the finished scaffold. Complex contractual arrangements, poor communication, time pressures, and failure to address worker concerns contributed to the incident.	0	1	1	7
Electrical CP	Dartbrook CHPP 2005 – A maintenance contract worker received an electric shock. The job scope changed due to a management decision to do a partial isolation to keep part of the plant running. The plant maintenance and contractor’s supervisor both failed to comprehend the additional supervision required under partial isolation.	0	0	1	6
Electrical CP	Liddell CHPP 2007 – Plant maintenance supervisor received an electric shock. The plant did not have an interlock or other electrical isolation system preventing access to “live” circuits in 3.3kV cabinets. The worker did not have high voltage training and did not “test for dead”. High-voltage testing equipment was located at the open cut mining operation that was over a kilometre away.	0	0	0	6
Proportion of the sample exhibiting the failure (%)		50	63	63	Av

Table 5-4 presents the results for metalliferous incidents investigated by the regulator. Worker safety representation at both Cadia and CSA mines favoured non-union worker participation models. In the CSA incident, the two workers involved in the incident were employed by a contractor who provided labour and underground maintenance services. At CSA these workers were obligated to comply with the mine's health and safety management system, which required workers to undertake a personal hazard awareness/risk assessment before each task or a JSA. Cadia also engaged a contractor to provide labour and underground maintenance services and discouraged union health and safety representation. It is not known how many of the workers engaged in bogging the reemed material at the base of the ventilation shaft under construction were employees of the contractor. Workers had reported several instances where machines were clogged with mud and out of service, as well as concerns about the slurry running from the base of the shaft. Supervisors had reported this to management, but remote bogging was not implemented as indicated by the procedure. The presence of an appropriately empowered (union-supported) check inspector may have been able to stop this work activity.

Table 0-4: Metalliferous mine serious incidents 2004 to 2014 – Prior warning/incident, concern raised, and supervision/communication (N=5)

Hazard	Details	P2	P 8	P9	Total
Inrush or inundation	Cadia East gold mine 2010 – Seven workers were exposed to risk of inundation when an inrush of material occurred into an occupiable area during a ventilation shaft construction that intersected an aquifer. Management failed to comprehend the significance of slurry trickling at the base of the shaft as a warning sign, and reconciliation of reemed to bogged material had failed to consider wet material. Worker and supervisor concerns went unheeded as workers were instructed to continue bogging.	1	1	1	10
ROVOA Mechanical CP	Perilya silver, lead, and zinc mine 2008 - UG vehicle hit the mine wall when the brakes failed. Pre-inspection check sheet related to a vehicle that had a different braking system.	0	0	0	5
Mechanical CP	CSA copper mine 2006 – An operator was injured when he was crushed against the mine wall by a jumbo during routine maintenance in an underground area. Both were employees of a contractor engaged to undertake development work. Although the OEM provided an instruction manual, the contractor's risk assessment was incomplete, and there was an overreliance on personal hazard awareness/risk assessments (C-Safes). These were not routinely completed, reportedly due to time pressure and complacency. The injured production worker reported that poor communication and a lack of respect from fitters towards operators was an issue at the mine.	0	0	1	5
Mechanical CP	Perilya silver, lead, and zinc mine 2007 – A worker fell from a height when a corroded rail gave way while inspecting an underground filtration plant. Corroded rails had been reported by workers conducting inspections, but they had not been fixed.	1	1	1	8
Mechanical CP	Perilya silver, lead, and zinc mine 2012 – A worker fell while working from a loader bucket to attach a weight to a load cell for the purpose of calibrating the cell. There was no risk assessment or SWP. JSA was not undertaken by all workers involved, and poor coordination and communication between management personnel resulted in workers adopting an unsafe system of work.	0	0	1	5
Proportion of the sample exhibiting the failure (%)		40	40	80	Av 6.6

Hazard	Details	P2	P 8	P9	Total

Table 5-5 summarises the results of the Ten pathways analysis of all (fatal and serious) coal and metalliferous mine incidents. The results have not been tested for statistical significance but the average failures per incident were higher for metalliferous mines. Concerns not being heeded and supervision/communication breakdowns were identified more often in metalliferous incidents compared to coal.

Table 0-5: Ten pathways comparative proportion of failures per all incidents 2004-5 to 2013-14 (N=34)

	P1 Eng. failure	P2 Prior warning	P3 RA failure	P4 OHSMS failure	P5 Audit failure	P6 Production pressure	P7 Reg Failure	P8 Concern raised	P9 Comms or trust	P10 EM	Av failures per incident
Coal (N=26)	1.00	0.58	1.00	0.96	0.65	0.77	0.62	0.45	0.58	0.27	6.96
Metal (N=8)	1.00	0.38	0.88	1.0	1.0	0.75	0.50	0.63	0.88	0.38	7.38
All mines (N=34)	1.00	0.53	0.97	0.97	0.74	0.76	0.59	0.56	0.65	0.29	7.06

Summary and observations

Overall, there is not a great difference in the health and safety performance of the metalliferous and coal sectors in the period after the mines and coal mines health and safety legislation and before the combined work health and safety legislation was implemented. There are some indications that reluctance to report incidents and unfair treatment associated with reporting or involvement in incidents are more apparent in the metalliferous sector, where union membership is substantially lower than in the coal sector.

At the outset, our aim was to examine the worker representative arrangements through a review of the regulator's mine safety performance measures and if metalliferous mining is less hazardous than coal mining based on analysis of fatal and serious incident investigation reports using the Ten pathways model. The Ten pathways analysis focused on prior incidents or warnings, worker concerns and reporting, and communication/supervision as a proxy measure of communication and trust. There was no information pertaining to the effectiveness of union entry permit holders in metalliferous mines compared to the industry check inspectors in coal mines. The role and effectiveness of these functions and HS committees in mine health and safety were not a focus for the regulator during this period. Investigations rarely mentioned health and safety committees. The Russell Vale incident involving the procedure for "flitting" the continuous miner is the exception. Evidence of worker concerns prior to an incident was identified less often in metalliferous mines compared to coal mines, but this could reflect reluctance to report and a lack of examination of this as a contributing factor in incident causation by investigations. Supervision issues, as an indicator of communication and trust, were identified more often in metalliferous incidents compared to coal. However, there were examples in both sectors where management or

supervision had not afforded due regard to worker health and safety. In summary, between 2004-5 and 2013-14, there is little evidence of “worker voice” in health and safety.

The MHSA 2004 heralded the first step towards the dilution of mineworker health and safety representative arrangements when the function of “industry check inspector” was omitted from the legislation. Information about the interventions of coalmine district check inspectors on behalf of workers is not reported, but why would they. However, under the CMHSA 2002 check inspectors did have the power to suspend operations (s175) and to object to the content of a health and safety management system (s27).

The next section examines the health and safety performance of the metalliferous and coal sectors in the period after the implementation of the WHS (MPS) Act 2013, which brought about a further dilution of the historic mineworker representative arrangements. The *MHSA* dismantled the two-tier representative system and the WHS (MPS) Act*,* which provided for a three-tier system with HSRs representing workgroups, SSHRs representing the whole mine, including contractors, and ISHRs supporting mentoring and supporting SSHRs and HSRs. The MHSA excluded metalliferous mineworkers from the mine-specific representative arrangements.

Part of the Cobar Miners Memorial

Incidents, compliance and enforcement between 2013-14 and 2023-24

In 2013-14, coal and metalliferous mining legislation was consolidated into a single Act and Regulation titled the NSW *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and *Regulation 2014*. Since this legislation was enacted, there has been a steady upward trend in SIFR in the metalliferous sector and a steady downward trend in the coal mining sector.

The Minister for Resources and Energy, Mr Chris Hartcher, introduced the Work Health and Safety (Mines) Bill to the NSW Parliament in May 2013. In the second reading, he stated, 'In recognition of the significant risks involved with mining undertaken in the three major mining States, particularly in relation to coal mining, it was also agreed that a tri-state process involving New South Wales, Queensland and Western Australia would develop additional mining-specific provisions'. This legislation strengthened the requirement for reporting of notifiable incidents (Part 3 ss 14-17), including dangerous incidents (cl 190 of the regulation) and other high-potential incidents (cl 124 of the regulation). The bill also ensured coal-mine specific worker representation (Part 5 of the Act) to supplement work health and safety representatives (HSRs under the WHS Act 2011).

> *The high-risk nature of coal mining has warranted special attention by governments and mining operators. Underground coalmines are inherently hazardous workplaces because of the potential explosive atmospheres associated with methane. The bill ensures that the existing coalmine-specific worker representative arrangements are maintained. These arrangements are consistent with Queensland—the other key coal jurisdiction—and the recommendations from the Pike River royal commission report.*[179]

Part 5 of the WHS (MPS) Act, Safety and Health Representatives for coal mines, as the title indicates, does not apply to metalliferous or extractive mines. One of the objects of the WHS (MPS) Act is to provide for worker safety and health representatives in coal mines. Metalliferous mines draw their representative rights and functions from the general WHS Act. The framework of the WHS (MPS) Act allowed for the concurrent operation of worker representation, consultation, and participation schemes under mining-specific and general legislation. It provided for the appointment of Industry Safety and Health Representatives (ISHRs are re-aligned industry "check inspectors") with powers to enter and inspect a coalmine and additionally, 'review the content and implementation of a coalmine safety management system, participate in an investigation of an event, occurrence or notifiable incident, and assist in the training of other representatives.' These important oversight and participation functions make an important contribution to mine safety. In effect, the framework completes the triple-loop learning model. The safety literature emphasises the importance of multiple feedback loops (Hovden, Albrechtsen, & Herrera, 2010; Quinlan, 2014).[180] Double-loop learning utilises monitoring and auditing information to understand systemic issues contributing to system performance. The Resources Regulator's health and safety performance data provides information for mines at this level. Triple-loop learning

[179] NSW Parliament Work Health and Safety (Mines) Bill 2013, 48

180 Hovden, J., Albrechtsen, E., & Herrera, I. A. (2010). Is there a need for new theories, models and approaches to occupational accident prevention? *Safety Science, 48*(8), 950-956. doi:10.1016/j.ssci.2009.06.002

goes deeper and seeks to understand the reasons why certain less-effective controls are implemented by WHSMSs in preference to other, more effective controls. Worker representatives play a vital role in this level of learning and understanding. The absence of mining-specific representative arrangements in metalliferous mining seriously undermines this level of feedback, as is evidenced by focus group findings described in Chapter 6. Work Health and Safety HSRs and WHS entry permit holders do not have the same formal and informal powers as site safety and health representatives (SSHR) and ISHRs.

It was the view of focus group participants, reported in Chapter 6 of this report, that the contention that underground metalliferous mining is not hazardous is incorrect and underrates the dangers faced by mineworkers. Participants referred to being “the ugly cousin of coalmine workers”. Coalmine focus group participants expressed the view that metalliferous mine workers should have the same level of protection afforded by representative arrangements in coalmines. Coalmine participants supported what they termed the “three-tier” system of representation and said HSRs made an important contribution to worker representation.

The next subsection is divided into three parts. The first part examines regulatory policy and practice; the second part examines notifiable incidents and regulatory response in terms of proactive, targeted and planned assessments/investigations; and the final part examines serious incidents and investigation findings and identifies the failure points using the Ten pathways model. Some recent investigation summaries used in this analysis provided limited information about some of the pathways that focus on organisational issues and limited the ability to identify all the pattern failures that may have contributed to the incident.

To conclude the introduction to the review of mine safety performance between 2014 and the current time, we revisit the learning arising from the previous period between 2004 and 2013 about worker representation. *Digging Deeper* found that the informal aspects of OHSMS, of which worker participation was an important part. Both the Wran Review and *Digging Deeper* emphasised the importance of trust between workers (at all levels) and management in high-hazard workplaces. Trust is important to make the hazard and incident reporting systems work. This means “no reprisals” for worker representatives and workers for raising concerns and reporting hazards and incidents. In the following review, we were looking for any information about the effective function of WHS entry permit holders in metalliferous mines, consultation arrangements, particularly HSRs and WHS committees, hazard and incident reporting, and elevation of worker voice to the regulator.

Incident notification and regulatory incident prevention strategies

In 2016, the Resources Regulator stated that the WHS (MPS) legislation aligns specific mine safety laws with general work health and safety laws; and provides a single legislative framework for the regulation of safety at petroleum sites and mines in all sectors. This report further stated that:

> *The legislative framework under which Mine Safety operates provides the basis for a well-defined and targeted regulatory approach. The challenge is in providing the operational organisation to ensure compliance with these legislative requirements and to support industry in meeting its obligations.*

This is particularly important in high-hazard work environments where the risks, and potential for catastrophic outcomes, are elevated.[181]

To gain a better understanding of the mining industry safety performance and the NSW Resources Regulator's enforcement practices under the new legislative framework, we examined the annual and quarterly reports, including Mine safety performance reports; Annual Business Activity Reports; Quarterly Safety Reports; and consolidated targeted and compliance assessment reports since 2013-14, with a slight focus on metalliferous mining. A general observation is that these reports largely consist of statistical overviews of incidents, hours worked, injuries, reporting notifiable incidents, and reporting and number/type of notices issued, accompanied by some general observations, rather than a more discursive and granulated analysis of compliance and enforcement activities. Reference is made to longer-term trends (i.e., over the previous decade) in incidents, reporting notifiable incidents and the like – again useful - but efforts to explain these shifts are limited (or to consider trends longer than a decade).

In sum, while valuable, these reports provide limited insights into the application of enforcement strategies or other potentially useful information (like whether there were associations between hours worked, industry production levels, and incident reporting rates). The application of mining-specific worker representatives to coal mines only, with metalliferous mines drawing their worker representative functions from the general WHS Act 2011, constitutes a major difference in the legislative framework covering coal and metalliferous mines. No direct measures are used to monitor activities of ISHRs, or proxy measures of the impact of this change on health and safety performance of the coal and metalliferous sectors.

After the *Wilkinson Fatality Review* in 2014, the regulator made substantial changes in the way mine health and safety performance data was collected and reported. The information below provides an overview of how performance information was presented and programs developed to improve industry legislative compliance. We were particularly interested in programs that may have addressed worker representation and programs that addressed other issues pertinent to "worker voice" such as incident and hazard reporting and raising concerns.

Wilkinson Fatality Review

In 2013-14 (which constitutes the end of the previous period and beginning of this review period), consultant Peter Wilkinson (one of three experts appointed to the 2004-5 Wran/McClelland chaired NSW Mine Safety Review) was commissioned to prepare a report for the MSAC on possible causes and contributing factors to a spike in fatal injuries in 2013-14 and to consider if economic conditions may have been a factor. This report made three recommendations relevant to regulatory practices, and this report more generally, namely:

> **Recommendation 1**: MSAC should consider how information on the implementation of risk controls for significant risks could be routinely collected, analysed and used to support a data-led incident prevention strategy.

[181] NSW Department of Industry, Skills and Regional Development, Division of Resources and Mine Safety Regulatory Reform: Implementing the Incident Prevention Strategy – Update, May 2016, 1

> **Recommendation 2**: Drawing on the discipline of Human Factors, including human and organisational factors expertise, identify the reasons that make it more likely risk controls will be successfully and reliably implemented.
>
> **Recommendation 3**: Consider whether the regulator should explicitly focus on critical controls for significant risks as part of an incident prevention strategy. [182]

In short, the report called for the more systematic collection and analysis of significant risk control data, drawing on human factors to understand effective implementation (note this arguably aligns to a number of the 10 pathways model discussed elsewhere in this report) and that the regulator should focus on critical controls as part of its prevention strategy. The report argued that it was unclear if 'industry has all the information necessary to support a data-led incident prevention strategy which focuses on risk control for known significant risks such as fatal incident risks.'[183]

Incident prevention strategy

In what seems to have been a clear response to the Wilkinson report in its 2015-16 report, the NSW regulator implemented its Incident Prevention Strategy. The interactions of the regulator with industry increased during the financial year. Events that the regulator said influenced this change in enforcement approach included the Gretley colliery disaster in 1996 (and Northparkes windblast); the subsequent Johnson Mine Safety Review in 1997; the Wran Review and report in 2004-05; the Macken Board of Inquiry on enforcement policy and activity in 2007; and the *Wilkinson Fatality Review* in 2013-14.[184] In its 2015-16 report, the NSW regulator stated:

> During 2015-16, NSW embarked on significant reforms of work health and safety regulation in the mining and petroleum industry under the *Incident Prevention Strategy*. Key changes include:
>
> - improving the way information is collected, analysed and used
> - implementing a targeted assessment program to proactively assess the effectiveness of control measures for critical risks associated with principal hazards according to operations' risk profiles
> - implementing a centralised reporting process to provide a single contact point for receiving incident and high-risk activity notifications, requests for information, complaints and general inquiries.

To this end, in 2016-17, the regulator provided an appropriate level of response to 1,971 notified safety incidents. In addition, as part of the targeted assessments, interventions and investigations conducted during the year, the regulator issued 1,328 mine safety notices including 108 prohibition notices.[185] The report went on to note that following streamlining of complaints, the number had more than doubled (actually almost tripling) over the previous

[182] Wilkinson, P. (2014) MSAC Fatality Review 2013-14: Report for NSW Mine Safety Advisory Council, Noetic Solutions Pty Ltd, 13.
[183] Wilkinson, P. (2014) MSAC Fatality Review 2013-14: Report for NSW Mine Safety Advisory Council, Noetic Solutions Pty Ltd, 12.
[184] Mine safety regulatory reform program – Incident prevention strategy, February 2016, 2-6
[185] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 5.

year (from 36 to 106) and was most pronounced in the coal and non-mines sectors.[186] An overall increase was also evident in metalliferous and extractive mines, suggesting an under-recording of complaints in the past.

The incident prevention strategy implemented proactive assessment programs with a strong focus on controls for risks associated with the principal hazards that consider control effectiveness and verify implementation. The update stated that 'the assessment programs will look more sharply and with a narrower focus, digging deeper than many of the previous audits and inspections'. Focus areas would be determined by, among other things, significant incidents, investigation outcomes, and emerging trends.[187] The interactions of the regulator with industry increased during the financial year. The number of assessments (in the field and desktop) conducted by inspectors increased by 32% (safety notices also increased and are presented in the section below on notices).

Compliance and enforcement approach

In 2017, the NSW Resources Regulator published a document, *Compliance and enforcement approach*, explaining its approach to enforcement.[188] This emphasised a proactive risk-based and reflexive approach to compliance with a pyramid ranging from education for willing voluntary compliance through counsel/feedback, and correct behaviour with graduated and proportional sanctions, applying the full force of the law to deliberate and serious non-compliance.[189] This approach had become common for inspectorates in Australia and elsewhere over the past two decades.[190] From 2017, the regulator published a report advising of upcoming compliance priorities on a six-monthly basis. A consolidated report, summarising general and specific findings and notices issued by the section of the Act, is published by the regulator on completion. One observation worth noting is the absence of inclusion in these reports of human and organisational factors (HOF), which have the potential to erode the reliable implementation and maintenance of critical controls. An information note was published in March 2023 that analysed 200 incidents reported to the Central Assessment Unit using an assessment tool covering performance-shaping factors under five categories. HOF has not been well integrated into the critical control targeted assessment programs and fact sheets.

As indicated above, the 2017-18 Mine safety performance report reinforced the greater focus on risk-based activities targeting serious injury noting that the 'most common serious injury hazard for coal mines, metalliferous and extractives mines in the period 2008-09 to 2017-18 is being hit by a moving object, followed by slips, trips and falls' accounting for three quarters of serious injuries in the last year (this continued to in subsequent reports though the 2021-

[186] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 32.

[187] NSW Department of Industry, Skills and Regional Development, Division of Resources and Energy *Mine safety regulatory reform program – Incident prevention strategy*

[188] Updated in 2025, see NSW Resources Regulator (2025) *Compliance and enforcement approach* RDOC25/17903, https://www.resources.nsw.gov.au/sites/default/files/2025-03/resources-regulator-compliance-and-enforcement-approach-2025.pdf

[189] NSW Resources Regulator (2025) *Compliance and enforcement approach* RDOC25/17903, 8

[190] Walters, D. Johnstone, R. Frick, K. Quinlan, M. Gringras, G. & Thebaud-Mony, A. (2011) *Regulating Work Risks: A comparative study of Inspection Regimes in Times of Change,* Edward Elgar Cheltenham, UK.

22 made specific reference to 'vehicle incidents').[191] The scope of hazards addressed by programmed inspection broadened to include "being struck by" and "falls from a height" covered by mechanical control plans. However, the compliance and enforcement approach maintained a focus on the principal mining hazards. The 2017-18 report executive summary stated:

> During 2017-18, we embarked on significant activity through our compliance and enforcement strategy. Sixty-one planned Targeted Assessment Programs (TAPs) were undertaken in order to assess the efficacy of a mining operation in controlling its most significant risks – or principal hazards. We also undertook seven reactive Targeted Intervention Programs (TIPs) which aim to maximise voluntary compliance to prevent multiple fatality and single fatality events, and serious injury, following an identified safety issue. See the Annual Business Activity Report 2017-18 for more details.

In line with the Regulator's goal of reducing use of "notices of concern", the 2017-18 report stated that between2014-15 and 2017-18, the proportion of improvement notices relative to notices of concern (advice) continued to increase. Additionally, the number of prohibition notices also increased. This reflected the renewed focus on incident prevention, where the regulator sought to clearly identify matters that necessitate the issue of an improvement notice as compared to a written notice of concern.[192]

This and subsequent reports also included a table summarising the different industry subsectors according to an array of Key Performance Indicators, as well as spotlight reports on fatalities. The aforementioned Annual Business Activity Report 2017-18 included more detailed information on activities, including a spotlight on a specific incident investigation and a brief description of 12 serious incidents notified to the regulator that year, including a number examined in more detail in this chapter.[193] Central to the risk-based prevention activity targeting principal hazards were programmed assessments with the regulator conducting 1,435 in 2018-19 compared to 846 in 2016-17 and 1,178 in 2017-18.

Other more recent events that have influenced education, advice, and compliance activities include the Pike River mine disaster, which triggered the development of the Learning from disasters training package[194] and the Queensland Grosvenor mine fire and explosion. For example, in response to the Recommendations 13 and 14 of the Grosvenor, Queensland Coal Mining Board of Inquiry about polyurethane resin (PUR) selection used for strata injection, the regulator issued a safety bulletin recommending that mine owners should undertake a thorough risk assessment for the use of polymeric chemicals, including consideration of spontaneous combustion and exothermic temperatures on curing of PUR.[195]

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[191] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 5; NSW Resources Regulator (2023) *Mine safety performance report 2021-22*, Department of Regional NSW, 4.

[192] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 6.

[193] NSW Resources Regulator (2018) *Annual business activity report 2017-18*, Department of Planning and Environment, 13, 18-20

[194] https://www.resources.nsw.gov.au/resources-regulator/safety/training-and-education-programs/learning-from-disasters#anchor-training-package

[195] NSW Resources Regulator Safety Bulletin, Polyurethane Resin selection, October 2021

Additionally, in 2024, the regulator undertook an inspection program in NSW underground coal mines with the purpose of assessing the status of risk control management and incident mitigation to address issues identified in the Grosvenor event.[196] This inspection program was not broadened to include metalliferous mines.

Victimisation and reporting

Although this is not a strategy, the Regulator has highlighted the problem of under-reporting in the industry. This program was initiated in response to a survey undertaken on behalf of the MSAC on safety reporting. The compliance priority program targeted reporting of safety-related issues in 37 large quarries and metalliferous mines, and 24 surface and 18 underground coal mines during the period from June to November 2022.[197] In the metalliferous sector, worker responses to this survey indicated that while knowledge of incident and hazard reporting systems was high across both permanent and non-permanent worker groups, there was some feedback that safety concerns at their workplace were not always appropriately addressed; that it was not always easy to report a safety concern, or that there was no feedback regarding the issue being addressed. In the coal sector, improvement opportunities were identified at five mines, while the remaining 37 mining operations were assessed as having robust systems in place.

Summary and observations

In sum, following the Wilkinson Fatality Report, the NSW Resources Regulator adopted a more programmatic and targeted inspection/enforcement strategy targeting the hazards known to result in fatalities and serious injuries and emphasising critical controls with regard to this. This shift, including targeting particular sectors and greater use of improvement notices, seems to have had an effect. It was indicative of a more proactive and reflexive approach. Having said this, a number of further observations are warranted. First, while the focus on critical controls included engineered systems of work, the reports make little or no mention of human (or organisational factors) and how these can contribute to repeated failure. Second, we could not locate the 2020-21 report, which may be connected to COVID, but the spike in notices in this year is not explained in subsequent reports and raises a number of questions. Third, and of most interest perhaps to this report, there is no mention of health and safety representatives, safety and health representatives (site or industry) in these annual reports. An earlier report (see above) referred to improving the complaint line, but this is missing from later reports (and the same applies to compliance priority reports discussed below). Further, the conspicuously lower rate of reporting notifiable incidents in metalliferous mines (compared to coal) is not addressed systematically, though there are occasional passing and generalised references to under-reporting. Under-reporting is a significant issue in a hazardous industry like mining and should have been the subject of targeted campaigns. Similarly, the role of safety and health representatives in reporting issues and incidents warranted explicit consideration in our view, even if such information was anonymised to protect them from victimisation in the case of site representatives.

[196] NSW Resources Regulator (2024) Consolidated report: Coal mines - uncontrolled gas or dust explosion review

[197] Compliance priority report - Hazard reporting of safety-related issues – Tier 1 quarries and metalliferous mines, December 2022 and Compliance priority report - Hazard reporting of safety-related issues – Surface & Underground Coal Mines, June 2022 – November 2022

On occasion, the six-monthly compliance priorities do refer to these issues. In its report on compliance priorities for the second half of 2017, the regulator was investigating non-reporting in all sectors between October and December:

> *The regulator is undertaking a number of investigations into suspected non-reporting and late reporting of incidents and has continued to receive further complaints in this regard. Analysis of incident reports has also identified some inconsistencies and unexpected patterns of reporting that will be subject of further interrogation and audit.*
>
> *A compliance campaign with be carried out across all sectors to ensure operators are meeting their reporting requirements. Additional education and support activities will also be targeted towards explorers to ensure that they are aware of their obligations.*[198]

The 2018 report indicated this investigation and compliance campaign was ongoing and would include escalated enforcement action for repeat or significant offences (including proposed introduction of penalty notices for these types of offences) and audit activities would focus 'on reporting practices for third party contractors while operating on mine and petroleum sites.'[199] The January to June 2019 compliance priorities indicated reporting in small mines and explorers would be targeted.[200] In July to December dust exposure monitoring and reporting in the non-coal sector was targeted.[201] Between October and December 2020, non-reporting by labour hire firms in coal and metalliferous mining was targeted after discrepancies were identified between workers compensation data across the mining sector over recent years and what has been reported to the Regulator.[202] In July-December 2022 hazard reporting in coal and metalliferous mining was prioritised after a joint MSAC/Regulator survey highlighted a number of issues including a 'fear of reporting hazards, reluctance by casual labour to report hazards, reprisals when hazards are reported and less than adequate hazard reporting and processing systems.'[203] After 2022 there is little if any evidence that reporting was prioritised.

The 2017 report had indicated that a number of matters were treated as warranting priority investigations, including offences against health and safety representatives and matters relating to entry permit holders, discrimination against workers on the basis of their work health and safety activities and failure to notify incidents.[204] It also acknowledged the importance of the health and safety representative seminar held in September in Newcastle as 'an established and respected forum for the regulator, coal mine safety and health representatives, and senior managers and supervisors to consider and discuss key issues that are relevant to effective consultation, collaboration and good WHS outcomes at mines.'[205] These points were repeated (though referring to different seminars and sometimes specific groups of representatives like electrical SSHRs), and SSHR training was referred to

[198] NSW Resources Regulator (2017) *Compliance priorities July – December 2017*, 6-7
[199] NSW Resources Regulator (2018) Compliance priorities January – June 2018, 6
[200] NSW Resources Regulator (2019) *Compliance priorities January – June 2019,* 4
[201] NSW Resources Regulator (2019) *Compliance priorities July – December 2019,* 3
[202] NSW Resources Regulator (2020) *Compliance priorities July – December 2020*, 6
[203] NSW Resources Regulator (2022) *Compliance priorities July – December 2022*, 5
[204] NSW Resources Regulator (2017) *Compliance priorities July – December 2017*, 12
[205] NSW Resources Regulator (2017) *Compliance priorities July – December 2017*, 13

in subsequent reports on compliance priorities.[206] But none of the reports we read included any data on victimisation of SSHRs or their role in reporting/bringing issues to the attention of the Regulator, although incidents we describe in this chapter provide clear evidence of the latter.

Statistical analysis of the impact of targeted campaigns in relation to non-reporting and victimisation or more generally identified in compliance priorities is not published but rather data on broad trends in Key Performance Indicators.

Comparative health and safety performance

This section examines notifiable incidents and regulatory response including notices, compliance priorities and assessment activities in the metalliferous and coal sectors. In this section, we reflect our key question 'Is metalliferous mining less hazardous than coal mining?'

Notifiable incidents

The Annual activity report 2017-18 stated:

> Under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*, mine operators are required to notify the regulator about the occurrence of certain types of safety incidents. These notifications include incidents which result in fatalities and serious injuries, dangerous and high potential incidents with or without an injury and high potential incidents resulting in more than seven days lost time or restricted duties.

The Mine safety performance report 2023-24 stated that the rate of incident notifications recorded in 2022-23 represented the fourth highest figure of the past 10 years, but the annual incident notification frequency rate (INFR) for the combined coal, metalliferous and extractive sectors decreased by 9% in 2023–24 after the rise in 2022–23. However, an observation from our review of the Quarterly Safety Reports is that reporting – under-reporting or good reporting - may be influenced by several performance shaping factors, including under-reporting, driven in part by fear of reprisals, and interactions with the regulator in response to assessment programs and priorities. The latest Mine safety performance report 2023-24 stated:

> Overall, the INFR trend shows a decrease of 17% since 2014–15. In 2023–24, the breakdown analysis by type of incident and operation type revealed dangerous incidents, potentially dangerous incidents and other high potential incidents figure prominently throughout most sectors, although each sector has its own specific breakdown.[207]

The Quarterly Safety Report Q2 2019, noted that approximately 60% of notifications are high potential incidents and 20% are dangerous incidents. The remaining notifications are

[206] NSW Resources Regulator (2018) *Compliance priorities January – June 2018*; NSW Resources Regulator (2018) *Compliance priorities July – December 2018*; NSW Resources Regulator (2019) *Compliance priorities January – June 2019*; NSW Resources Regulator (2019) *Compliance priorities July – December 2019*; NSW Resources Regulator (2021) *Compliance priorities January – June 2021*; NSW Resources Regulator (2021) *Compliance priorities July – December 2021*; NSW Resources Regulator (2025) *Compliance priorities January – June 2025*

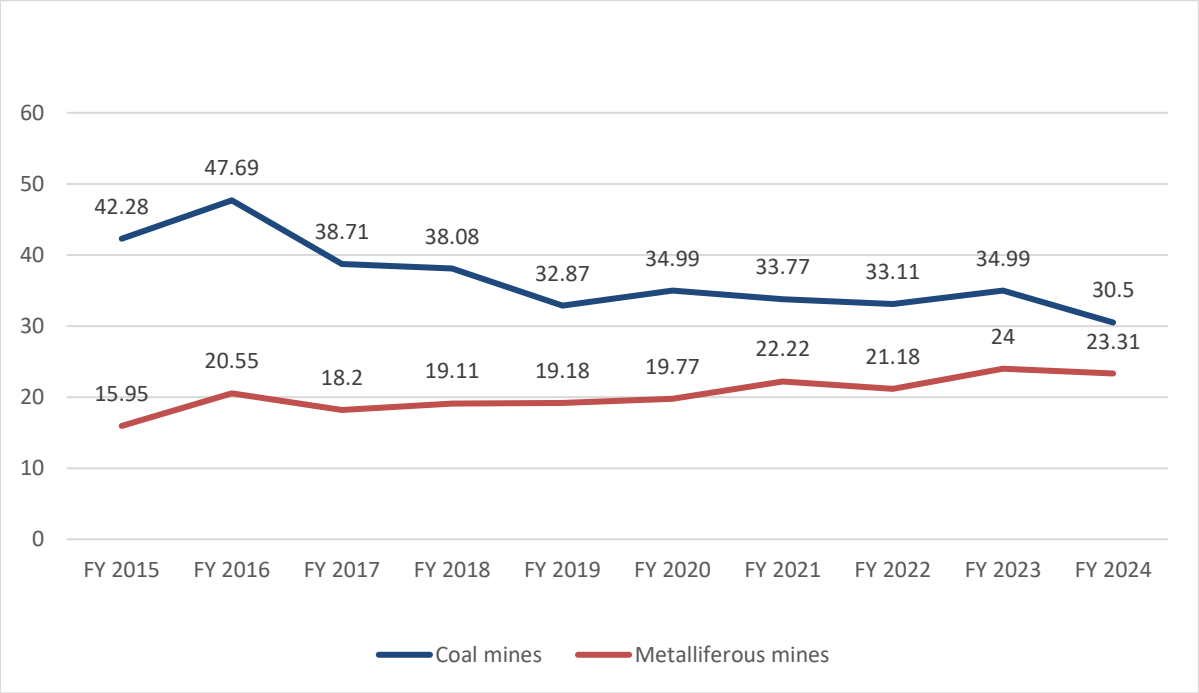
[207] Mine Safety Performance Report 2023-24, 4

medical treatment injuries, serious injuries, and workplace deaths. The Mine safety performance report also noted that over the last five quarters, most safety incident notifications came from coal mines, which had remained steady between 77% to 83% (with only minor fluctuations). It is generally accepted that higher reporting reflects a good "reporting culture" rather than poor performance. Under-reporting has been an area of concern for the Regulator and has been a compliance priority topic, and is discussed in the section on general risk management assessment programs and campaigns. Incident notification rates are presented in is presented in Figure 5-4, adapted from data published in the Mine Safety performance report 2023-2024.[208] Figure 5-4 shows a downward trend in coal mine incident notification frequency rate (INFR) since 2014-2015. The 2023-24 report stated:

- Overall, the "all mines INFR" trend shows a decrease of 17% since 2014–15.
- Underground mines account for 62% of notified incidents.
- Incidents in underground operations have decreased by 26% since 2014–15, but incidents in surface operations have increased by 38% in the same period'. [209]

The report does not make any comment about the metalliferous mine notification rate. The chart clearly shows an upward trend from 15.95 in FY 2015 to 23.31 in FY 2024. This may or may not be indicative of an increase in the number of high potential or dangerous incidents, although there has been an increase in serious injury incidents (see Figure 5-17).

Figure 0-4: Incident notification rates - coal and metex mines



The Mine safety performance report 2023-24 stated that:

[208] NSW Resources Regulator (2024) *Mine safety performance report, 2023-24, 26.*
[209] NSW Resources Regulator (2024) *Mine safety performance report, 2023-24, 31.*

Since 2014–15 the proportion of mines notifying safety incidents has remained steady. On average, 6% of mines notified the Regulator of an incident each year during the 10-year reporting period.

Figure 5-5 shows that during the 10-year reporting period from FY 2015 to FY 2024, on average, 66% of active coal mines notified incidents compared to 26% of active metalliferous mines. On average, only 3% of active extractives mines report an incident.

Figure 0-5: Proportion of active mines that notify an incident

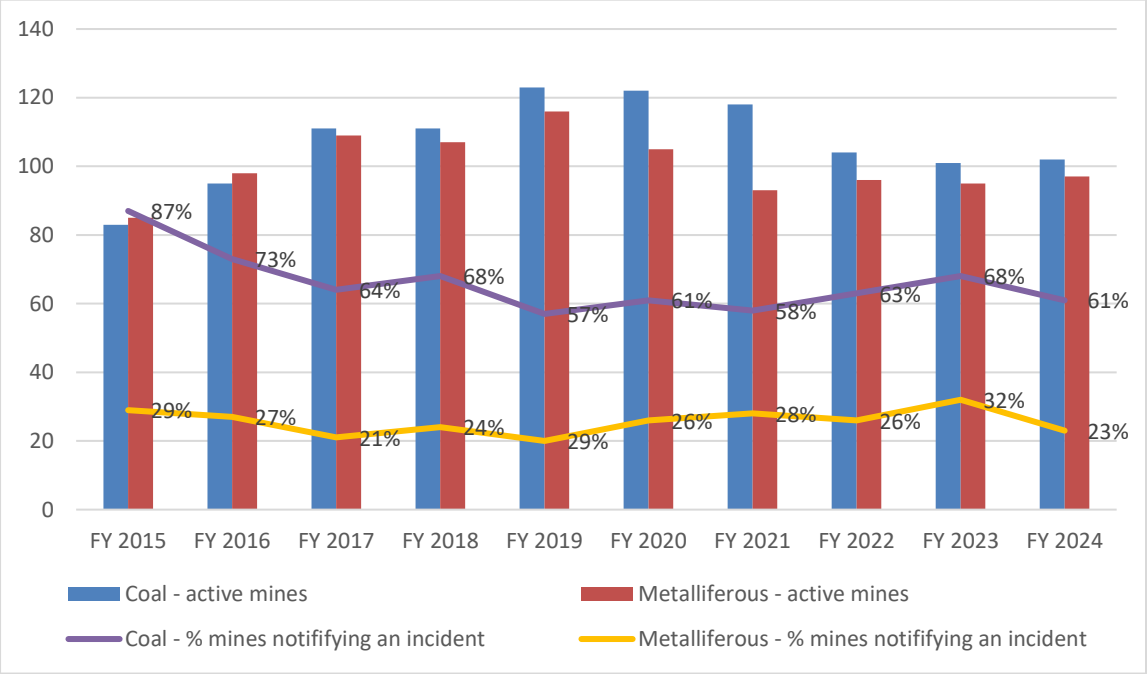
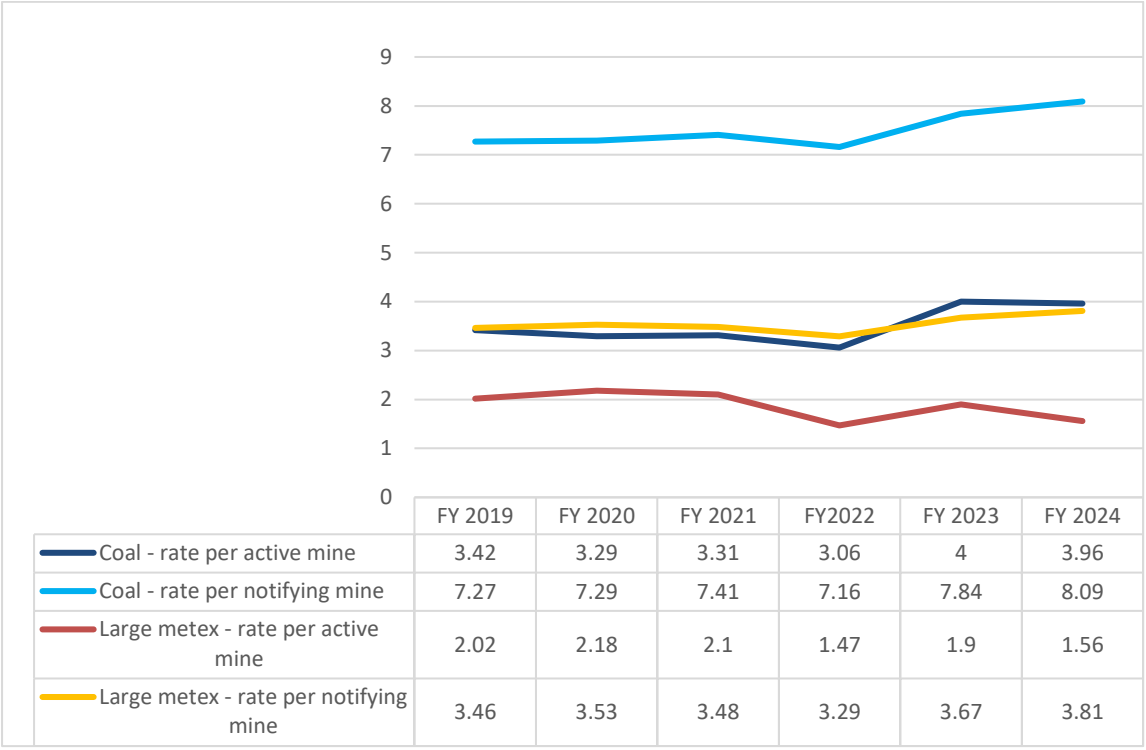


Figure 5-6 uses data from the Quarterly Safety Report series that categorises notifiable incidents for large metalliferous and extractives mines rather than metalliferous. The data indicates that coal mines that notify, notify more incidents per quarter than metalliferous mines that notify. This is suggestive of a greater variance between notifying and non-notifying coal mines. This may be explained by the requirement to report methane gas exceedances, which may be a frequent occurrence in a few underground coalmines.

Figure 0-6: Notification rates as a proportion of active mines and notifying mines



	FY 2019	FY 2020	FY 2021	FY2022	FY 2023	FY 2024
Coal - rate per active mine	3.42	3.29	3.31	3.06	4	3.96
Coal - rate per notifying mine	7.27	7.29	7.41	7.16	7.84	8.09
Large metex - rate per active mine	2.02	2.18	2.1	1.47	1.9	1.56
Large metex - rate per notifying mine	3.46	3.53	3.48	3.29	3.67	3.81

From 2019-20, Quarterly Safety Reports began classifying and reporting notifiable incidents in accordance with the relevant principal hazard or control plan under which they fall. These are summarised in Figures 5-7 and 5-8. Principal hazards 'Fire or explosion' and 'Roads and vehicle operating areas (ROVOA) accounted for the greatest number of notifiable incidents. Quarterly reports explain that 'Fire or explosion' "includes risks associated with all sources of flammable, combustible and explosive substances and materials in the working environment. A common source of these incidents are fires on mobile plant. This principal hazard is distinct from the hazards covered in the explosives control plan". Presenting data on this broad group of hazards together makes it somewhat difficult to understand the nature of the dangerous or high potential incidents occurring in undergound mines, both metalliferous and coal mines interms of ignition sources and fuels.

The Fires on mobile plant (FOMP) report does provide some additional information about where these fires are occurring.

> *The consistently high number of fires on mobile plant (FOMP) resulted in a compliance focus on this hazard and industry education. There was an 8% decrease in fire on mobile plant incidents compared to the previous year. Despite the decrease, the number of FOMP incidents (190) was still the third highest recorded over the last 9 years.[210] The report stated that 73% of all FOMPs in FY2023 occurred at surface coal mines.*

However, the report went on to state that:

> *… although the percentage of FOMP incidents occurring underground, in underground mines, had decreased from 22% to 13%, [underground] FOMPs*

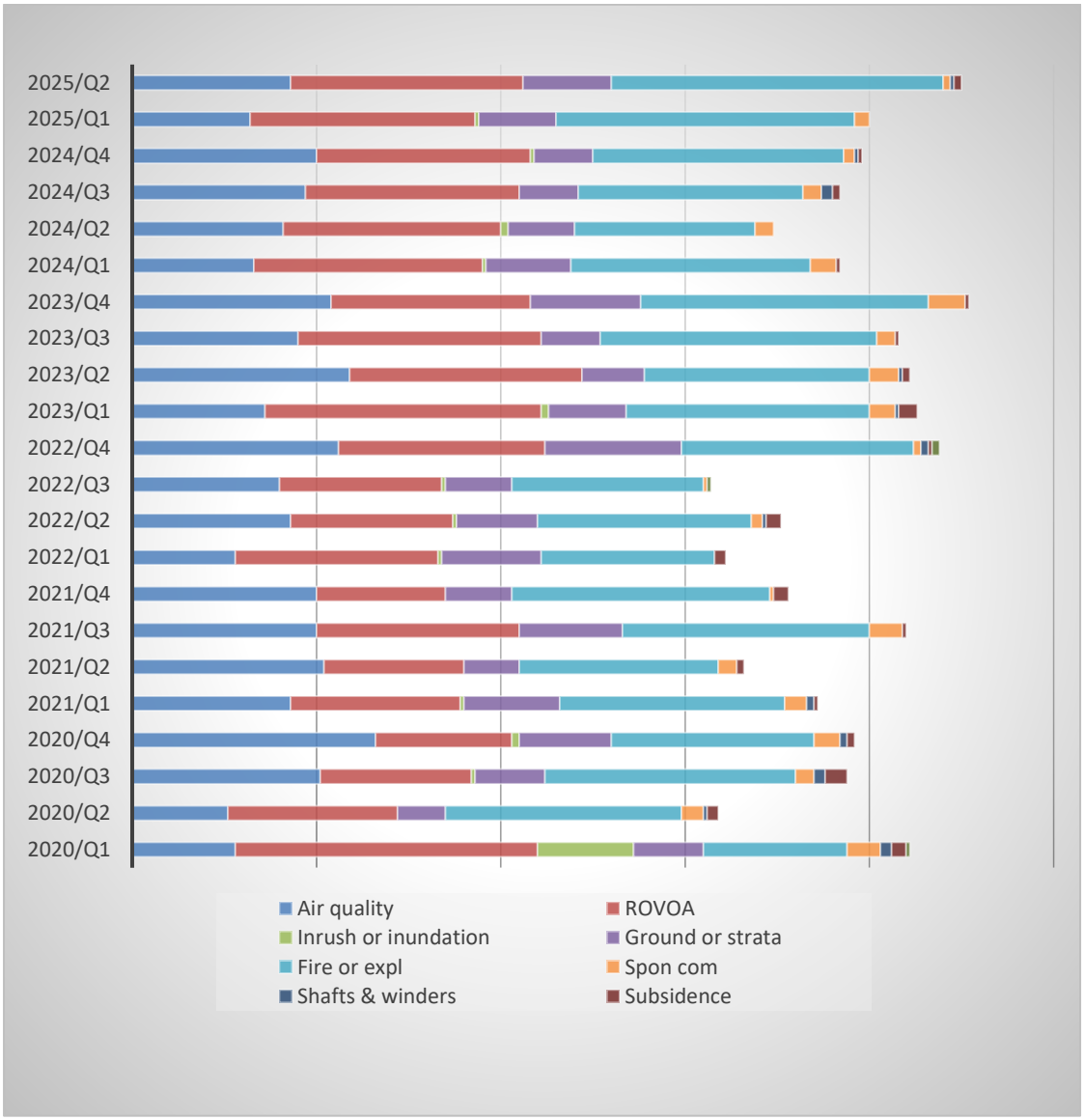
[210] NSW Resources Regulator (2023) *Fires on mobile plant, July - September 2022-23*

continued to be the second most common FOMP incidents in FY 2023. The analysis of notified incidents by sector and operation type (surface or underground) shows that underground metalliferous mines accounted for approximately 19% of notified incidents and 11% of incidents were notified under s190(2)(a) 'a fire in the underground parts of a mine, including where the fire is in the form of an oxidation that releases heat and light'.

Focus group participants (see Chapter 6) in the metalliferous sector commented that FOMP occur more frequently than reported. One surface FOMP incident was investigated in the coal sector (see Table 5-10, Mt Arthur refuelling incident), and two underground mobile plant fires were investigated in the metalliferous sector (see Table 5-11, Tritton and Cadia mines).

Figure 5-7 shows that there were very few inrush or inundation notifications. Focus group participants from metalliferous mines also commented that inrushes of material from stopes may not always be reported. Focus group participants also expressed concern about dust and a perceived lack of monitoring of work environment dust, including dust containing lead.

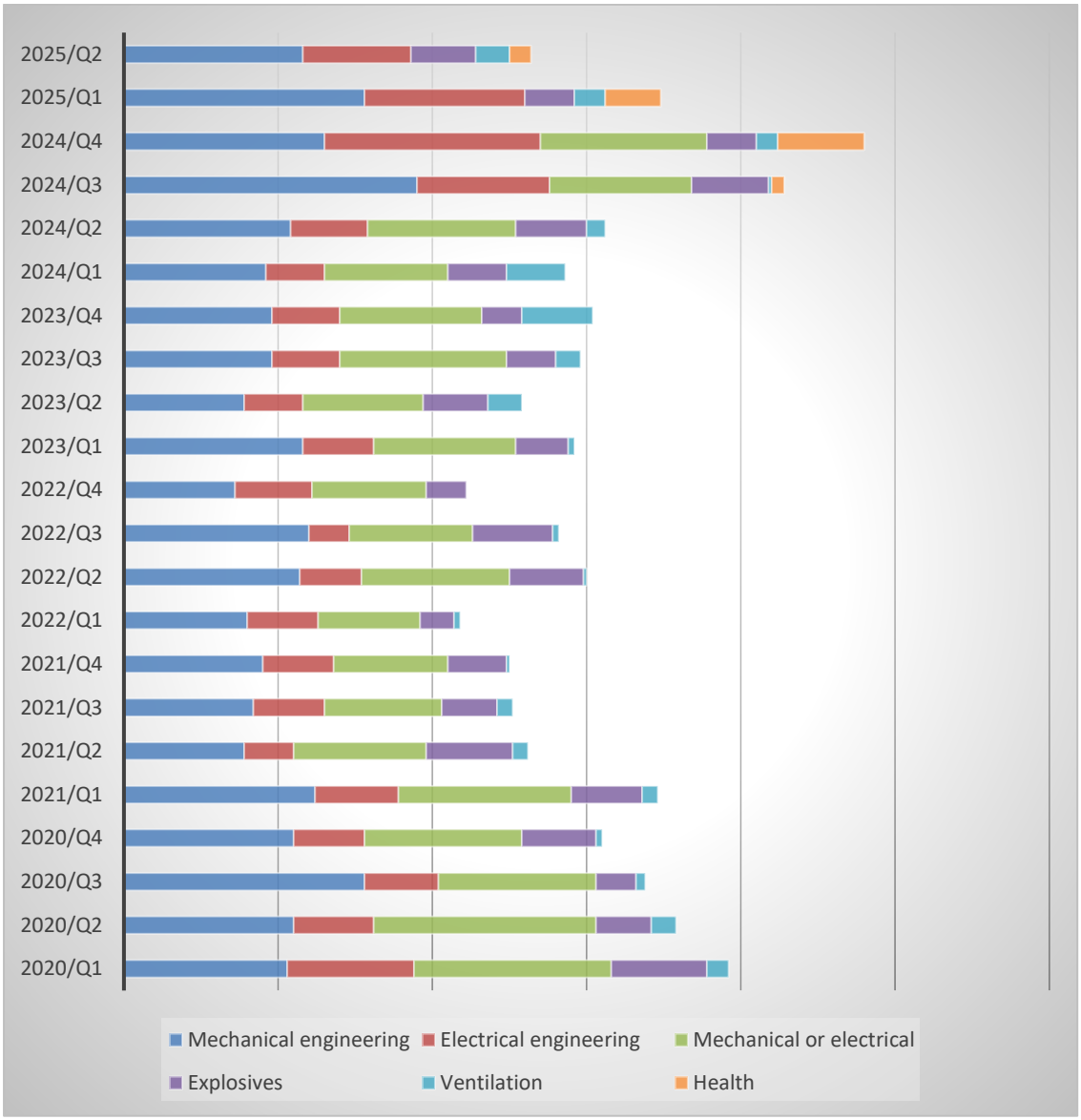
Figure 0-7: Notifiable incidents classified by Principal Hazard Management Plan



Annual reports repeatedly noted that the 'most common serious injury hazard for coal mines, metalliferous and extractives mines in the period 2008-09 to 2017-18 was being hit by a moving object, followed by slips, trips and falls' accounting for three quarters of serious injuries in the last year.' [211] From 2018-19 onwards, the executive summaries noted that being struck by an object continued to be the most common hazard causing serious and fatal injuries, followed by 'vehicle incidents'. The 2022-23 report stated, 'During the past 10 years, 'being hit by moving objects' followed by 'vehicle incidents', have been the most common hazard mechanisms in fatal injuries.'[212] There was one fatal vehicle interaction on a surface mineral sand mine in 2019, investigated and successfully prosecuted by the regulator (see Table 5-9). There were also six in coal mine vehicle interaction incidents – four open cut and two underground.

[211] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 5; NSW Resources Regulator (2023) *Mine safety performance report 2021-22*, Regional NSW, 4.
[212] NSW Resources Regulator (2024) *Mine safety performance report 2022-23,* Regional NSW, 4

Figure 0-8: Notifiable incidents classified by Principal Hazard Management Plan



From 2025 Q1, the classification 'Electrical and/or mechanical engineering control plan' was discontinued, with the data mapped to 'Mechanical engineering control plan'. Any change in the number of mechanical engineering control plan incident notifications across each of the quarters is due to the mapping described above. As shown in Figure 5-8, mechanical or electrical control plans account for a larger proportion of notifiable incidents managed under control plans. Being struck by an object or material is included under the mechanical control plan. The regulator investigated 17 incidents managed under mechanical control plans between 2015-15 and 2024-25. Three of these resulted in fatal injuries, and all three were contractors (see Table 5-8, Bengalla open cut coal mines, hit by a falling tyre; Rix's Creek open cut mine, hit by a falling trailer tailgate; and Table 5-9 Cowal gold mine, fall from a MEWP). This supports the need for mechanical SSHRs as recommended in the statutory review report by Kym Bills. [213] Focus group participants in the coal sector reported that some

[213] NSW Resources Regulator (2020) *Statutory review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013: Report by independent reviewer Kym Bills, October 2020.*

coal mines had already appointed mechanical SHRs, a practice that appears to have grown since 2014 (Chapter 4).

Focus group participants (see Chapter 6) were asked to complete an incident form that used the Ten pathways model to identify causal and contributing factors. In addition to these another 15 forms were filled in by attendees at a coal mining SSHR conference held in November 2025. Table 5-6 summarises the coal incidents. ROVOA incidents were the most common (7/20), followed by MECP incidents (3/20). MECP incidents included one entanglement with rotating machine parts and working from a workbox attached to a multi-purpose machine. Both mechanisms have been subject of a priority compliance program (see Hazard and control plan campaigns).

Table 0-6: Coal mines incident or hazard reports completed by focus group participants - Ten pathways (N=31)

Incident details	P1 Engineering	P2 Prior warnings	P3 Risk assessment	P4 OHSM/SWP & audit	P5 Contractor mgt	P6 Production pressure	P7 Reg failure	P8 Worker concern	P9 Communications	P10 Emergency mgt
Emergency management - Relief valves on CABA units were found to be faulty in outbye areas. Discovered that nearly half of the CABA units were in service with faulty valves. The maintenance schedule was extended to 24 months instead of 12 months without consulting the workforce. Inspection frequency reduced due to cost cutting. Concerns raised at shift start. This failure with Drager units led to district-wide investigation.	1			1		1		1	1	
Fire or explosion - fire on mobile plant/flames in electrical cabinet of the dozer extinguished by worker using fire extinguisher. The machine had fire suppression system, but where the fire occurred.	1									
Fire or explosion - LHD failed coolant loss test. It is common for underground equipment to fail these teats that is why they are performed on the surface regularly.	1	1					1			
Ground or strata - Sandstone outburst from the above roof sandstone layer. 4 people on CM were injured. Two first responders suffered mental (stress). Investigation found similar incidents had occurred at other mines internationally.		1	1	1	1					
Ground or strata - Rib slump injuring a worker in development panel.				1		1		1		
Ground or strata - an excavator rollover into a cavity that opened up on the excavation bench.		1	1	1				1		
Hazardous manual task - Worker struck thumb with hammer.				1		1				
Hazardous manual task - Worker jammed a fingertip installing a stopping, removed finger nail.			1	1		1				

Incident details	P1 Engineering	P2 Prior warnings	P3 Risk assessment	P4 OHSM/SWP & audit	P5 Contractor mgt	P6 Production pressure	P7 Reg failure	P8 Worker concern	P9 Communications	P10 Emergency mgt
EECP - A services scan failed to accurately locate the position of the 415V cable located beneath concrete, and it was cut with concrete saw.		1			1					
EECP - Apprentice received electric shock fault reported. Not communicated and plant re-energised.	1		1						1	
EECP - electric shock while operating a continuous miner.	1					1				
MECP - Entanglement with rotating machinery/an operator was off-siding in a QDS Bolter basket. He rested his right hand on the rear of the drill slide frame when the rig operator retracted the drill pot.	1					1	1			
MECP – DI/Clamp failure on 4" fire water pipe service. After energy was restored, the pressurised pipe was released due to the clamp failure causing damage to the belt structure guarding. Workers were in the line of fire. Previous similar incidents. Change from levered clamp to bolted SC88 contributed to the failure.	1	1	1		1				1	
MECP - Work platform attachments/contractors working in personnel basket when struck by pipe. Basket not fit-for-purpose, not identified in pre-task check. Previous injury in similar circumstances. No risk assessment only Take-5, incorrect equipment selected.	1	1			1	1	1	1	1	
MECP - During a CHPP operational procedure a worker received a crush injury to his hand/arm BPF tail pulley/inadequate guarding.	1	1	1	1		1	1			
MECP - TRS pad fell off a mobile bolter and hit operator.	1	1	1			1			1	
MECP - An isolation pin ejected from a continuous miner during flitting operation and ricocheted off roof and struck the operator on the shoulder.	1	1		1		1		1	1	
MECP - A worker fell from a height at a transfer point on a drive head conveyor.			1	1	1		1		1	
MECP – The inspection hatch of a large volume tank, which formed part of the CHPP circuit, was opened during shutdown maintenance. The tank was completely full, and the full contents discharged through the hatch knocking the contractor to the ground.	1		1	1	1		1		1	
ROVOA - HV/LV near miss interaction near-miss.	1		1		1				1	
ROVOA – DI/ 789 haul truck reversed into cab of an excavator. Work area design, bench heights. Risk identified at another mine and prior communications regarding hang-up in trick trays and process for removal . JSA was not	1	1	1	1	1		1	1	1	1

Incident details	P1 Engineering	P2 Prior warnings	P3 Risk assessment	P4 OHSM/SWP & audit	P5 Contractor mgt	P6 Production pressure	P7 Reg failure	P8 Worker concern	P9 Communications	P10 Emergency mgt
communicated to the contractor and contractors poorly managed.										
ROVOA – DI/Dozer reversed over a windrow backwards from one level to another and slipped sideways, landing on its left track with the right hand track off the ground. Operator rescued safely by ERT via man basket and ropes with harness. Dozer was recovered under RA, JSA by experienced people.						1				
ROVOA – DI/Vehicle incident on main travel road while LHD towing all fabs ballast trailer. Failure of ROVOA controls and Deputies had noted in statutory report excess water due to an inoperable pump. Similar incidents in other locations. Production pressure due to short manning.	1	1	1			1		1	1	
ROVOA – DI/ Vehicle loader rollover on ROM, no injury	1				1					
ROVOA - CHPP operator was moving material from point to point when the loader tipped onto its side.					1	1				
ROVOA - Roadways not maintained and operator hit a pot hole while driving machine and injured back.	1	1		1		1	1		1	
ROVOA - Worker jarred back in LHD on rough roads. Roads need ongoing repairs, but workers were told to drive to conditions.		1	1	1				1		
ROVOA – DI/LHD broken down on the road while towing kibbles and was struck by another machine, causing significant damage. Poor visibility contributed to the incident/kibbles were not designed for low roof heights and had operator been at the rear of the machine the driver could have been killed. Controls in place to mitigate visibility issues while towing kibbles.	1	1	1					1		
Ventilation control plan - Doors controlling ventilation flow chained to rib. Continued inadequate ventilation controls.	1	1	1	1						
	21	15	17	14	10	16	8	11	14	3
	0.68	0.48	0.55	0.45	0.32	0.52	0.26	0.35	0.45	0.1

Table 5-7 summarise the metalliferous incidents. Air quality hazards were the most common (6/22), followed by MECP incidents (5/22). There were 2 hazard reports relating to structural integrity, which were subject to a priority control plan campaign (Hazards and control campaigns). There were also 2 heat stress incident/hazards and 2 inrush hazards reported.

Table 0-7: Metalliferous mines incident or hazard reports completed by focus group participants - Ten Pathways (N=22)

Incident details	P1 Engineering	P2 Prior warnings	P3 Risk assessment	P4 OHSM - SWP & audit	P5 Contractor mgt	P6 Production pressure	P7 Reg failure	P8 Worker concern	P9 Communications	P10 Emergency mgt
Air quality - Crusher dust extraction systems were functioning poorly due to modifications made when installed.	1	1	1	1		1		1	1	
Air quality - Incline conveyor spillage, shovelling in high dust environment, high silica, no dust extraction available.	1	1	1		.	1	1	1	1	1
Air quality - Dust extraction fan not commissioned, fan venting to the atmosphere, leading to shunters being exposed to dust.	1	1	1	1		1	1	1	1	
Air quality - Poor dust management leading to dust exposure.	1	1	1	1		1	1	1		1
Air quality - Reagent mixing method necessitating manual breakup of hard bags taking hours.	1	1	1	1		1		1	1	
Air quality - Shovelling in high dust environment with high silica and no dust extraction.	1	1	1			1	1	1	1	1
Air quality - UG electricians exposed to dangerous levels of CO.		1	1			1	1	1	1	
EECP - Faulty component.	1									
Emergency preparedness - back up power failed during outage, resulting in no communications.	1	1	1							1
Emergency preparedness - the operator was sent into a refuge chamber to keep cool while plant repaired. The operator turned the oxygen bottle on as per the signs in the chamber, emptying the bottle. If unobserved by a co-worker, the bottle would have been empty in the event of an emergency.	1		1	1	1	1				1
Explosives control plan - "open hole" sign removed when the re-entry crew did a partial re-entry, the loader operator was sent to the wrong level.			1						1	
Ground or strata - a rock fall from the development face struck operator on the head.			1		1	1			1	1
Health control plan - heat stress.	1	1	1	1	1	1			1	1
Health control plan - no heat management policy during summer.		1	1	1		1		1	1	1
Inrush or inundation - dirt bund let go, resulting in an inrush of water.	1	1	1			1			1	1
Inrush or inundation - poor tailings dam management.	1	1				1		1	1	

Incident details	P1 Engineering	P2 Prior warnings	P3 Risk assessment	P4 OHSM - SWP & audit	P5 Contractor mgt	P6 Production pressure	P7 Reg failure	P8 Worker concern	P9 Communications	P10 Emergency mgt
MECP - inadequate manning, minimal training, and fatigue.		1	1	1		1		1		1
MECP - Procedures outdated, no signatures, JSAs used as a substitute.		1	1	1		1		1		
MECP – Mill sand silo cone paper not maintained	1	1				1		1	1	
MECP - Structural instability, footings collapsed	1	1	1	1		1		1	1	
MECP - Failure to maintain flooring/risk of being hit by falling rocks	1	1	1	1		1		1	1	
Work environment - Rail lines submerged under spillage, can't see footfall, drains blocked	1	1	1	1		1		1	1	
	16	18	18	12	3	19	4	15	16	9
	0.73	0.82	0.82	0.55	0.14	0.86	0.18	0.68	0.73	0.41

The summary statistics in Table 5-8 indicate that metalliferous focus group participants (plus another 15 collected during a coal SSHR conference in November 2025) identified the presence of warnings or prior incidents, risk assessment failures, production pressures, worker concerns not heeded, and communication and trust issues more frequently than coalmine focus group participants.

Table 0-8: Ten pathways summary statistics – focus group incident/hazard report forms (% exhibiting failure pathway)

Sector	P1	P2	P3	P4/5 *	P4*	P6	P7	P8	P9	P10
All (53)	0.7	0.62	0.66	0.49	0.25	0.66	0.23	0.49	0.57	0.23
Coal (N=31)	0.68	0.48	0.55	0.45	0.32	0.52	0.26	0.35	0.45	0.1
Metalliferous (N=22)	0.73	0.82	0.82	0.55	0.14	0.86	0.18	0.68	0.73	0.41

P4/5 combined OHSMS and audit and P4 was contractor management – an OHSMS issue that we decided to specify

Compliance notices

Between 2014-15 and 2017-18, the proportion of improvement notices relative to notices of concern (advice) continued to increase. There was also an increase in the number of prohibition notices issued during that time. This reflected the renewed focus on incident

prevention, where the regulator sought to clearly identify matters that necessitate the issue of an improvement notice as compared to a written notice of concern.[214]

In 2016-17, as part of the targeted assessments, interventions, and investigations conducted during the year, the regulator issued 1,328 mine safety notices, including 108 prohibition notices.[215] Reflecting the regulator's renewed focus on incident prevention, the proportion of improvement notices also jumped to 463, well above the previous year (289) and decade average, while the number of advisory notices of concern dropped to 734 (from 935), which was well below the decade average.[216] Reflecting the regulator's renewed focus on incident prevention, the proportion of improvement notices also jumped to 463, well above the previous year (289) and decade average, while the number of advisory notices of concern dropped to 734 (from 935), which was well below the decade average.[217] This trend became more conspicuous in 2017-18 with the number of improvement notices increasing to 784 (more than half the total 1385 notices issued), and there was also a significant jump in prohibition notices from 108 to 244 – a significant increase over the decade average.[218]

Reflecting the regulator's renewed focus on incident prevention, the proportion of improvement notices also jumped to 463, well above the previous year (289) and decade average, while the number of advisory notices of concern dropped to 734 (from 935), which was well below the decade average.[219] This trend became more conspicuous in 2017-18 with the number of improvement notices increasing to 784 (more than half the total 1385 notices issued).There was also a significant jump in prohibition notices from 108 to 244 – a significant increase over the decade average.[220]

In 2017-18, as part of the targeted assessments, interventions, and investigations conducted during the year, the regulator issued 1,385 mine safety notices, including 244 prohibition notices. The opal sector saw a marked increase in safety notices in the last two years because more safety notices were issued in that sector in response to our targeted safety operation. The Mine Safety Performance Report stated:

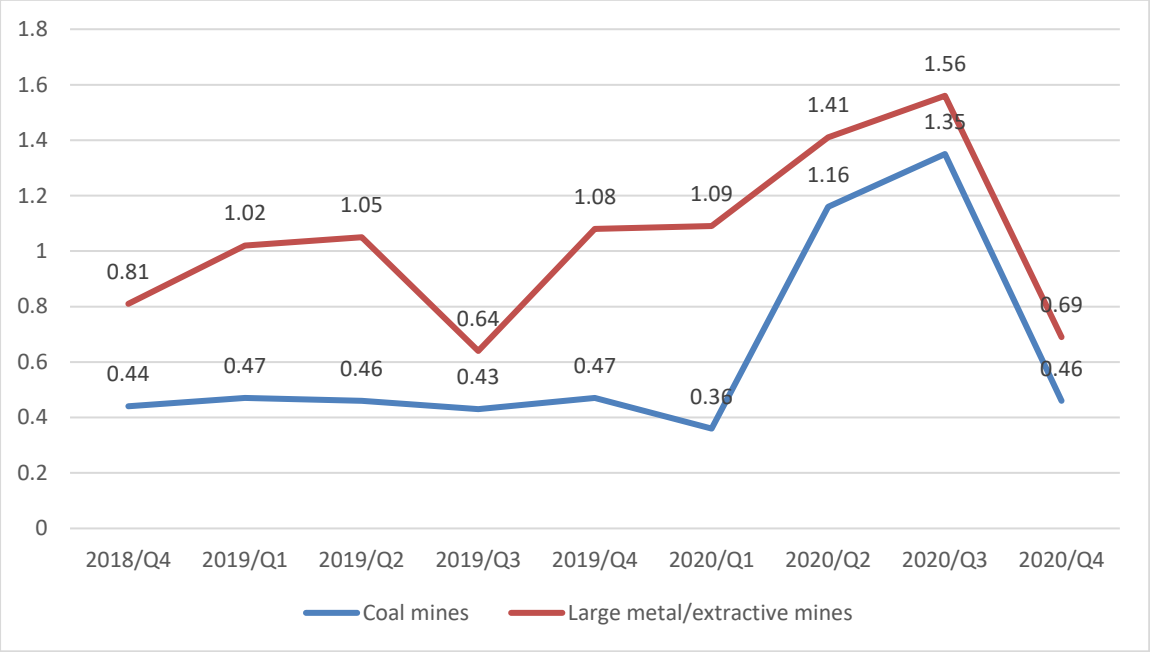
> *Between 2014-15 and 2017-18, the proportion of improvement notices relative to notices of concern (advice) continued to increase. There was also an increase in the number of prohibition notices in that time. This reflected our renewed focus on incident prevention where we sought to clearly identify*

[214] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 6.
[215] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 5.
[216] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 34.
[217] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 34.
[218] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 33.
[219] NSW Resources Regulator (2018) *Mine safety performance report 2016-17*, Department of Planning and Environment, 34.
[220] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 33.

matters that necessitate the issue of an improvement notice as compared to a written notice of concern.[221]

This trend continued into 2020-21, with the number of improvement notices issued growing in both coal mining and metalliferous mining from 2016-17 (reflecting the changing enforcement practices already alluded to), reaching a peak in 2020-21, especially with regard to underground mines. The number of improvement notices then declined somewhat in subsequent years.[222] There was no significant trend in the number of prohibition notices issued in the decade to 2023-24, maybe a small upward trend in metalliferous mining.[223] Figure 5-9 shows the comparative rate of notices per assessment for coal and large metalliferous and extractives mines (metex).

Figure 0-9: Rate of notices issued per assessment - coal and metex mines



The Mine safety performance report stated that the overall number of notices issued per assessment grew from 0.65 in 2016-17 to 0.78 in 2017-18 and 1.0 in 2018-19. However, in metalliferous mining, it grew from 1.17 to 1.69 per assessment in the same period.[224] The Quarterly Safety Reports from Q1 2019 to Q2 2020 reported the rate of notices issued per assessment (it is assumed this included targeted and programmed assessments). Figure 5-9 shows the rate of notices per assessment by sector, which is higher for metalliferous mines compared to coal mines. After Q2 2020, reports stopped reporting rates and reported only numbers and proportions per sector. With a focus on principal hazards in the metalliferous sector, a review of Quarterly Safety Reports from Q1 2019 to Q1 2021 indicated that in

[221] NSW Resources Regulator (2019) *Mine safety performance report 2017-18*, Department of Planning and Environment, 6.
[222] NSW Resources Regulator (2020) *Mine safety performance report 2018-19*, Department of Planning and Environment, 56; NSW Resources Regulator (2023) Mine safety performance report 2017-18, Department of Regional NSW, 68-71; NSW Resources Regulator (2025) *Mine safety performance report 2023-24*, Resources Regulator NSW, 39,49.
[223] NSW Resources Regulator (2025) *Mine safety performance report 2023-24*, Resources Regulator NSW, 39,49
[224] NSW Resources Regulator (2020) *Mine safety performance report 2018-19*, Department of Planning and Environment, 33.

2019/20, targeted assessments targeted “Ground or strata failure”, with 62 assessments; “Air quality” with 37 assessments; “Inundation and inrush” with 32 assessments; and “Fire or explosion” with 69 assessments undertaken.

In 2016-17, the Mine safety performance report stated that:

> *While the regulator issued fewer notices overall from the previous two years (1328 compared to 1402 and 1400 respectively) a historically unmatched number (159) were issued to opal mines as a result of a two year targeted compliance campaign (which continued into 2017-18). The 181 notices issued in metalliferous mines though less conspicuous was also unmatched over the previous decade at least and this trend continued rising to 260 in 2017-18 and 500 in 2018-19, dropping back to 422 in 2019-20).*[225]

A high-visibility campaign in 2025, summarised in the next section, resulted in more notices issued to metalliferous and large extractive sectors (metex) compared to coal mines. Based on notices issued per assessment, the higher number of notices issued to metalliferous mines is indicative of poorer safety performance. The assessment programs outlined in the following sections report the number of notices issued. Earlier reports provided more detail about the issues addressed by improvement notices, but later reports are somewhat bland and only report the numbers of notices, but not what they were issued for.

Targeted or priority compliance assessment programs

This section summarises a selection of general risk management and hazard-specific compliance programs. Where programs were rolled out across coal and metex mines, any observations about comparative performance are highlighted. If associated issues were discussed in focus groups and interviews, these are noted. We have attempted to reflect on our four key issues pertinent to worker representative arrangements and their impact on OHS performance. We have looked for evidence of engagement with HSRs or OHS/HSR committees, identification of instances of trust and communication between workers and management, and instances where the assessment process and outcomes have elevated “worker voice”.

The first part is a review of general risk management compliance priority reports. Topics covered include:

1. Risk management and supervision in the metex sector
2. Contractor management
3. Hazard reporting
4. A compliance notice campaign targeting controls for frequently notified incidents by Hazard Management or Control Plan

The second presents the results of a review of targeted assessment/intervention programs and compliance priority assessments for Principal Hazard Management Plans and Principal Control Plans. The Regulator has undertaken many proactive assessments resulting in an impressive number of compliance notices. The consolidated reports provide mine operators

[225] NSW Resources Regulator (2018) *Mine safety performance report 2016-17,* Department of Planning and Environment, 33; NSW Resources Regulator (2019) *Mine safety performance report 2017-18,* Department of Planning and Environment, 32; NSW Resources Regulator (2020) *Mine safety performance report 2018-19,* Department of Planning and Environment, 32.

with substantial information resources identifying common failures and recommendations. Some programs may have been developed after major incidents, e.g., self-rescue and refuge chambers after the Tritton copper mine underground truck fire; heat stress after the Peak mine heat stroke fatality; and positive communications after the Snapper mineral sands mine fatality. Other programs have been developed and implemented based on analysis of incident trends.

General risk management assessment programs and campaigns

In June 2019, the NSW Resources Regulator conducted a high-visibility compliance operation targeting site safety management systems, *supervision of workers, communication arrangements between shifts*, and rehabilitation of mine sites. Twenty large metalliferous and extractive mines were visited and 35 coal mines. The Quarterly Safety Report Q2 2019 described the focus of the assessment as follows:

> *The 76 mine safety inspections focussed on assessing the standard of supervision and its impact on the implementation of key risk controls, with a particular focus on the behaviours and effectiveness of supervisors in dealing with non-compliances to the mine's own safety management system.* [226]

Although the report stated that compliance was considered to be high, 22 improvement notices and 2 prohibition notices were issued as a result of the visits to the 20 metalliferous and large extractive mines, representing a rate of 1.65 notices per mine. By comparison, the notice rate in the coal sector was 1.09.

Contractors were a topic discussed in the focus group (Chapter 6). Historically, contractors are less inclined to report hazards or raise concerns and tend to have limited access to HSRs. WHS entry permit holder access issues for representing a contractor were raised during the research by one of the union officials in our field research. Between December 2020 and June 2021, the Regulator conducted assessments on *contractor management* at 38 metex mines.[227] The assessment identified several serious failings in contractor management, including contractors not being involved in site risk assessments; non-compliance with procedures during major shutdowns; not being involved in shift start meetings; contractors not being able to demonstrate competencies; and non-compliance with permit-to-work procedures. In at least 7 of 13 fatal and serious injury incidents investigated between 2014 and 2025 (see Tables 8 and 10), the injured worker was a contractor. Supervision and communication failures were common contributing factors. Issues raised during the focus groups are discussed in Chapter 6. By contrast, the contractor management compliance priority program in the coal sector found conducted between June and October 2021, found among other things that contractor representatives were frequently part of the Health Safety Environment and Community committees; some mines included contractors in the overall training analysis. [228]

Between July and December 2022, the Regulator conducted a campaign addressing *hazard reporting of safety-related issues* in large extractive and metalliferous mines, visiting 37

[226] NSW Resources Regulator (2019) *Quarterly Safety Report April to June 2019,* 14-15.
[227] NSW Resources Regulator (2022) *Compliance priorities outcomes: Contractor management in metalliferous and Tier-1 quarries.*
[228] NSW Resources Regulator (2022) *Compliance priorities outcomes: Contractor management in coal mines, 2.*

metalliferous and large extractive mines. [229] This program may have been initiated in response to a survey undertaken on behalf of the MSAC on safety reporting. Worker responses to this survey had indicated that while knowledge of incident and hazard reporting systems was high across both permanent and non-permanent worker groups, there was some feedback that safety concerns at their workplace were not always appropriately addressed; that it was not always easy to report a safety concern or that there was no feedback regarding the issue being addressed. This program intended to verify the survey feedback regarding worker knowledge of incident and hazard reporting systems, and whether these systems effectively facilitated feedback to people who raised safety concerns.

The assessment found that specific training for supervisors on how to encourage workers to report incidents or hazards was generally not provided, and that many mines utilised on-the-job training for new supervisors. Several mines with mature safety systems had formal supervisor development programs. A second finding was that feedback to workers on concerns raised was not always systematic and relied upon communication between supervisors and workers. Several mines maintained a weekly report from the incident database and displayed the information on the notice boards. Best practice also included a weekly or shift change review of open reports and updates on the actions taken to close the incident or hazard. The role of HSRs in raising concerns and HSR committees in facilitating the resolution of concerns was not explored in the campaign. A common theme arising from the focus groups was the lack of feedback they received about safety issues raised on behalf of workers. A third finding was that hazard reports may not be recorded if the hazard is immediately rectified. On the issue of maintaining records of hazards reported, some focus group participants reported that supervisors sometimes discarded hazard reports.

Based on the campaign findings, the Regulator recommended that mine operators must have a system in place to provide feedback and monitor actions recorded to correct the hazard or incident reported by workers, and that this system should consider providing feedback directly to the person who raised the incident or hazard report. Additionally, the Regulator recommended mine operators should review training and information designed to promote the development of supervisor skills and knowledge with a focus on organisational behaviours and culture. Finally, the Regulator recommended that mine operators should ensure that workers and supervisors understand the importance of recording hazards, regardless of whether they are immediately rectified, to allow for proper analysis of the prevalence and nature of hazards and expedite the systematic elimination of hazards, rather than continuously taking remedial action to address the same hazard. Worker representation is supposed to be an important pillar within the regulatory framework, yet this appears to be entirely overlooked in the Regulator's assessment programs. This object of the WHS Act, which requires provision of 'fair and effective workplace representation, consultation, co-operation and issue resolution in relation to work health and safety', is essentially invisible in Regulatory compliance activities.

The Regulator identified that in the 12 months between May 2023 and May 2024, there were 31 incidents resulting in 80 improvement notices referencing ***supervision and risk management*** in coal and metalliferous surface and underground mines. Between January and June 2025, the Regulator conducted compliance visits at 22 metalliferous and large

[229] NSW Resources Regulator (2022) *Compliance priority report: Hazard reporting of safety-related issues – Tier 1 quarries and metalliferous mines, December 2022.*

extractives and 46 underground and surface coal mines, targeting risk management and supervision in metalliferous and large extractives mines. [230] The compliance visits in metalliferous/large extractive mines resulted in 31 compliance notices issued to 12 of 15 underground mines and 10 across the 7 surface metex mines. In the coal sector (1.41 notices per assessment), 35 compliance notices were to 12 of 27 surface coal mines and 11 of 19 underground mines (1.31 notices per assessment). This represents a higher rate of notices per assessment in the metalliferous mines compared to coal mines. Overall, the assessment rating for coal mines was 96% compared to 86% for metalliferous mines. Topics examined included worker understanding of hazard risk management, ability to identify hazards and controls, and supervisor understanding of inspection responsibilities and requirements. In metalliferous mines, two WHS Act s195 prohibition notices were issued relating to risk management and supervision controls under the site MECP and ROVOA PHMP. Improvement notices and notices of concern were issued related to risk management and supervision. In coal mines, one prohibition notice was issued related to risk management and supervision controls on the site MECP. Improvement notices and notices of concern were issued related to risk management and supervision.

Metalliferous mine HSRs, who participated in Individual interviews or focus groups during October 2025 (Chapter 6), said that inspectors did not routinely advise them when they entered the mine to conduct a site inspection or seek them out to participate in inspections. HSRs reported that they were rarely contacted by inspectors when they entered the mine to conduct an inspection. Some HSRs said management advised them when an inspector visit was to occur, and a few HSRs had been invited to participate in inspections. However, most HSRs said they had never participated in a mine inspection with an inspector. This contrasts with the coal mining sector where SSHRs were usually invited to participate in inspections. SSHRs stated they were regularly involved in discussions about notifications, whereas HSRs in metalliferous mines believed that some notifiable incidents may not have been notified, or they didn't know whether they were notified to the regulator by management.

The overall impression from the focus groups (Chapter 6) was that HSRs were unaware of the Regulator's compliance campaigns. This is indicative that the current worker representative arrangements provided under the WHS Act 2011 are not being effectively engaged as a feedback mechanism in health and safety management systems in metalliferous mines. The campaigns addressing supervision and hazard reporting could have been an opportunity to engage with HSRs and assess their contribution to the implementation of key risk controls. This may reflect their availability and constraints on time allowed away from production. Additionally, information from the focus groups and interviews indicated that mines have difficulty recruiting enough HSRs to cover all the workgroups and workers nominated/elected as HSRs may vacate the position after a short period due to the challenges of the role.

Hazard and control plan campaigns

The WHS (MPS) Regulation requires that mine operators consult with workers about control measures for principal mining hazards and principal control plans (cl 114 and 115). The WHS Act requires that if workers are represented by and HSR the consultation must involve that representative (s48(2)). A selection of targeted assessments, planned inspections, and

[230] NSW Resources Regulator (2025) *Compliance priority report: Risk management and supervision – metals and extractives January 2025 to June 2025.*

compliance priority reports on principal mining hazards (PHMPs) and principal control plans (PCPs) was reviewed to identify key areas of industry non-compliance and any findings on worker participation, consultation, and representation. Before reviewing targeted assessment/intervention and compliance priority reports for principal hazards and control plans, the outcomes of the most recent high-visibility campaign are presented.

In June to July 2025, the Regulator conducted a mine safety high-visibility campaign across all mines to *review the implementation of controls to prevent Principal Mining Hazard/Principal Control Plan incidents* that were most frequently reported to the Regulator and similar types of incidents that were the subject of compliance notices in the previous 12-months. [231] Inspectors visited 96 mines and issued 244 compliance notices. The top 3 principal hazard/control plan topics at all mines were Mechanical engineering control plan hazards, with 43 of 80 notices being issued for "unintended interaction with rotating or moving equipment"; 22 notices issued for "Ground or strata"; and 20 for Electrical engineering control plan hazards. There were 30 compliance notices issued to 17 of 40 coal mines inspected, and no prohibition notices during the campaign. By comparison, 115 compliance notices were issued to 33 of 39 metalliferous and large extractives mines visited and 3 prohibition notices. Three notices were issued for "Air quality or dust or other airborne contaminants" and no notices were issued for the principal hazard "Inrush or inundation" in the metalliferous and extractive mines. There was no reference to engagement with SSHRs or HSRs during the campaign.

Air quality, ventilation, and health exposure risks

The Quarterly Safety Report, 2019 Q4, reported that 45 targeted assessments and inspections had been undertaken in the previous 12 months to ensure appropriate dust controls were in place to minimise exposure risks to workers. A new respirable crystalline silica exposure standard of 0.05mg/m3 took effect on July 2020. Figure 5-10 shows the number of coal and metex air quality notifications, metex ventilation notifications, and all mine air quality assessments. There were more ventilation notifiable incidents in metex mines than coal mines, but substantially more air quality notifications in the coal sector.

Between July and October 2020, the Regulator conducted assessments in metalliferous surface and underground mines to gauge the industry response to the lowering of the crystalline silica exposure standard from 0.1mg/m^3 to 0.05mg/m^3. The assessment found that:

> *Even though most mines were aware of the new limits, approximately half of the mines had either not reviewed or not adequately reviewed the risk assessment to incorporate the new limits. Consequently, a similar proportion had also not reviewed the principal hazard management plan and health control plan to ensure they remained relevant through revision of existing controls or addition of new controls.* [232]

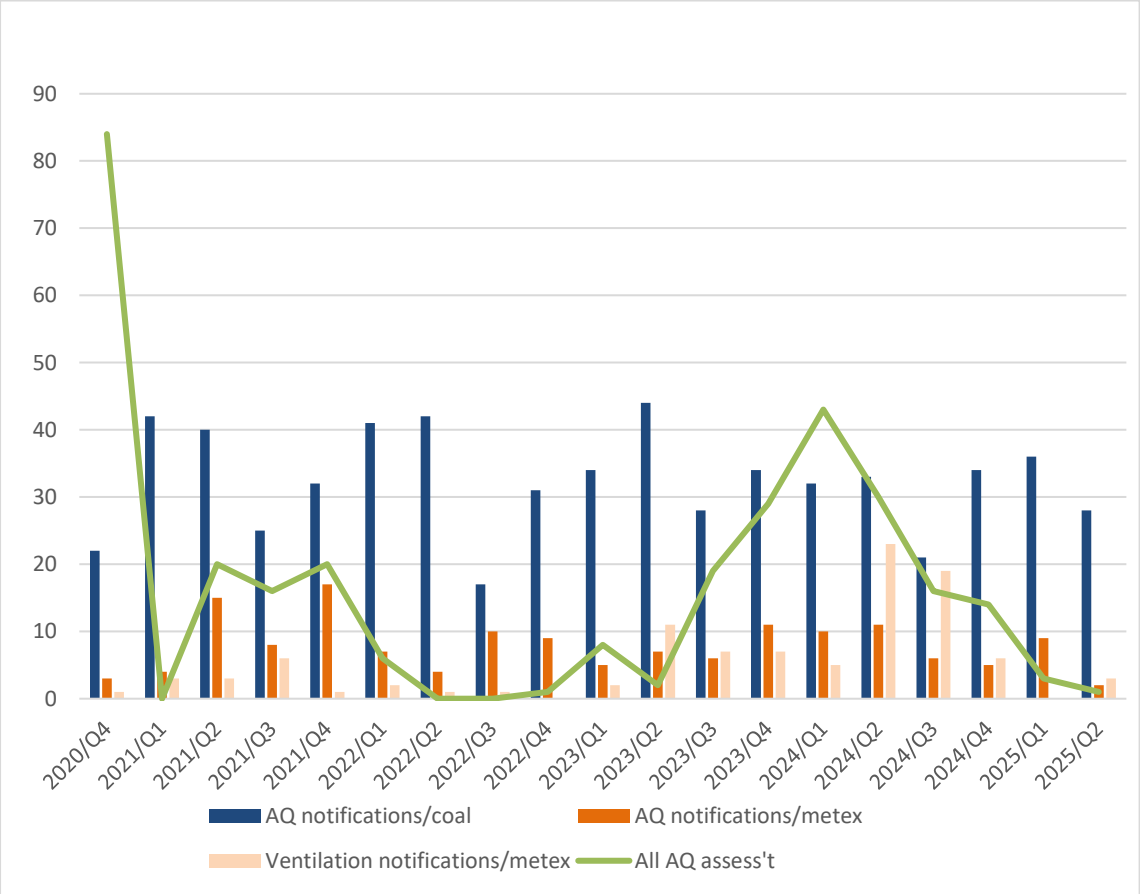
Although most mines had undertaken an analysis of the percentage of crystalline silica in mined material, 4 of the 13 mines assessed had not; and although mines understood the

[231] NSW Resources Regulator (2025) *Consolidated report: Mine safety high visibility campaign 2025 23 June 2025 to 4 July 2025.*

[232] NSW Resources Regulator (2020) *Compliance priorities outcomes: Changes to exposure standard for respirable crystalline silica – Metalliferous: surface and underground, 2.*

need for workplace exposure monitoring, this was carried out with varying frequencies. By comparison, although assessments conducted in coal mines found some mines had not analysed crystalline silica content within strata horizons being mined, some mines had incorporated an agenda item on their WHS committee meetings to review and analyse dust sampling results, and some mines had adopted Coal Services similar exposure groups.[233] ISHRs have played a long-standing active role in dust exposure monitoring and comparative assessment findings may reflect this as well, and the long history of dust sampling undertaken by Coal Services in the coal mining industry. The high number of assessments in 2020 (see Figure 5-10) most likely reflects the campaign on crystalline silica.

Figure 0-10: Air quality PHMP and Ventilation CP notifications and assessments - coal and metex mines



Between July and December 2024, a compliance priority program was conducted on *airborne contaminants and ventilation* in 15 underground metalliferous mines. The assessment tool addressed documented plans and the implementation and monitoring of critical controls. Overall, the assessments found that a third of mines had the required documentation but had not implemented the control measures. Areas of non-compliance included:

- Supervisors not having an inspection document to guide ventilation checks (6 of 15)

[233] NSW Resources Regulator (2020) *Changes to exposure standard for respirable crystalline silica – Coal: surface and underground 2.*

- Lack of equipment and documentation for recording the ventilation and atmospheric measurements (7 of 15)
- Ventilation is inadequate for the number of pieces of equipment/mobile plant working on a level (8 of 15)
- Inspection of a ventilation control is not a part of supervisor inspection during rounds of the mine (8 of 15)
- Refuge chambers not inspected for operational readiness (8 of 15)

An earlier *airborne contaminants* program conducted in January to June 2024assessed compliance with WHS (MPS) Regulation 2022 exposure standard requirements and Schedule 6 monitoring requirements – personal dust monitoring - found that 75% of mines (surface and underground metalliferous and extractives) did not engage an occupational hygiene contractor with a current licence issued by the Resources Regulator for the licenced activity. Thirty nine mines were assessed (including 10 underground mines).Ten compliance notices were issued to 7 surface and 1 underground mine (0.26 notices per mine). The assessment found that 97% of mines conducted personal dust monitoring. The report recommended that mine operators consult with site management and workers about arrangements for the implementation of airborne contaminants monitoring program.

Air quality and dust exposure were the most common hazards reported by focus group participants in the metalliferous sector (see Table 5-7 in the notifications section). Despite this focus on dust health risks, both the Mining and Energy Union and the Australian Workers Union officers interviewed during our fieldwork expressed concerns about the lack of work environment dust monitoring in metalliferous mines. In response to worker concerns, one union official purchased a personal dust monitor and undertook some personal monitoring with workers. Unfortunately, monitoring did not specify the content of crystalline silica in the samples and was dismissed by the mine management. In general, HSRs who participated in focus groups were not confident in their mine's dust exposure monitoring and health monitoring programs.

In November 2020 to February 2021, the Regulator conducted a targeted intervention in 8 metalliferous mines in response to concerns regarding *lead risk management and the adverse health effects*. [234] The intervention identified poor implementation of biological monitoring and a lack of availability of health records. Some potentially exposed workgroups had not been identified for monitoring. Additionally, at some mines, lead and lead compound dust were not being effectively collected from dust extraction systems, and poor hygiene standards were identified in vehicle cabins. In 2023, the Regulator again visited 8 metalliferous mines during a second targeted intervention to assess lead risk management controls and found that the overarching health control plans failed to address some legislative requirements, including the requirement for health monitoring of workers commencing lead risk work and the review of control measures. [235] Focus group participants were also concerned about lead particulate after a recent media report about a case of lead exposure identified in a western NSW pathology result, not picked by mine health surveillance.

[234] NSW Resources Regulator (2021) *Targeted intervention program*: *Assessment of lead risk at metalliferous mines November 2020 – February 2021.*
[235] NSW Resources Regulator (2023) *Targeted intervention program: Lead exposure management at metalliferous mines June 2023*.

Heat stress is a significant risk at several underground metalliferous mines. A rise in body temperature can lead to dehydration and heat stress. In 2017, a contract worker died from heat stroke when the air flow was reduced during a ventilation system upgrade. The mine operator at Peak Gold Mine decided that Jumbo operators would continue work during the planned outage. In July to December 2017, the Regulator undertook a compliance inspection program targeting *heat stress management plans* (HSMPs) in 13 underground metalliferous mines. Despite a significant amount of guidance, the desktop review revealed that the overall standard and general adequacy of HSMPs were poor. Failings included inconsistent or ad hoc hydration testing (this was a failure identified in the heat stress fatality at Peak Table 5-9); contract workers had a poor to no understanding of heat stress symptoms and treatment; ventilation (heat stress mitigation) was poor, confirmed by dust in the environment; and heat stress monitoring equipment supply was limited and not always accessible. Heat stress was also reported by focus group participants in the metalliferous sector (see Table 5-7).

Between November 2023 and January 2024, the Regulator conducted a planned assessment program on the implementation of critical controls for *health under health control plans*. In total, 14 underground mines and 33 surface extractive mines were visited. [236] Heat stress was one of the topics covered by the assessment program (as well as fatigue, mental health, drugs and alcohol, and physical capacity). The lowest rated control supports for hydration were 'Supervisors test the work environment in line with site procedures' with 12 of 44 sites (where this was applicable) providing evidence of supervisor heat assessment (unspecified but assume temperature and airflow); and 'Workers recall participating in any required hydration testing' with workers at 12 of 41 sites (where this was applicable) not able to demonstrate evidence of worker knowledge of participation in hydration testing. Inspectors also spoke to workers about their experiences of prolonged exposure to elevated temperatures to determine if they had felt the effects of heat hangover or heat-related illness. One HSR who participated in a focus group recounted an experience, when employed as a contractor undertaking an underground maintenance task over a prolonged period, where his body overheated and he hadn't realised what was happening. He said that he was assisted by a coworker, not a supervisor or emergency services, and there was no follow up from the mine operator or contractor. He said it was a common incident at the mine and there was no one to notify or contact to discuss the incident (see Table 5-7).

Recommendation

The Regulator promotes the safety role for workers (and their representatives) on hazard identification and control measures and monitoring of health hazards including airborne contaminants; hot working environments and heat stress; and lead work and dust exposure in metalliferous mines.

[236] NSW Resources Regulator (2025) *Consolidated report: Health control plan – stage one metal and extractives sites, November 2023 to January 2025, 9.*

Fire or explosion

Fire or explosion captures diverse hazards and risk and as noted in the previous section fires on mobile plant are the most frequently notified event under this principal hazard management plan. Figure 5-11 shows the notifications by sector and the number of assessments undertaken across all mines (metex and coal). There were three serious incidents under the Fire or explosion PHMP investigated by the Regulator in the metalliferous sector (see Table 5-12). Two of these involved fires on mobile plant. The Tritton copper mine incident resulted in the evacuation of workers. The third incident at Perilya in January 2025 was associated with exothermic heating of a polyurethane product (PUR), used to fill an underground void. This was identified as a fire hazard by the Queensland Coal Mine Board of Inquiry into the Grosvenor explosion. There were two HPI/DI in coal mines. (see Table 5-11). In 2017, a catastrophic failure of a diesel engine system occurred while operating underground in Russell Vale colliery. In 2019, 70 workers were withdrawn from Metropolitan colliery after carbon dioxide and methane levels increased unexpectedly to hazardous levels.

A targeted assessment program on *managing fire or explosion risks in underground metalliferous mines* was conducted in 2018/19. The consolidated report identified that 'mine operators' risk assessments underpinning fire or explosion principal hazard management plans, failed to consider all surface and underground work areas and work activities undertaken at the mine, and therefore failed to identify all reasonably foreseeable risks'. In addition, although mines were implementing a critical control identification process, there was no clearly defined criterion for control selection, and this was not integrated into the safety management system. [237] A parallel program conducted in coal mines identified similar flaws in risk assessment – poorly defined hazards with all-encompassing management plans identified as controls. Risk assessments also failed to include electrical and mechanical engineering managers and ventilation control officers. [238]

Recommendation

The Regulator promotes the safety role for workers (and their representatives) on hazard identification and control measures for fire and explosion risks in underground

Between December 2020 and June 2021, the Regulator conducted a planned inspection program on *fire or explosion in underground metalliferous mines* looking at 'threats' associated with electrical and mechanical energies in the presence of fuel; accumulated flammable material, leaks, or spills; and exothermic chemical reactions. The program found that overall, the management of hazards under this PHMP was adequate.[239] Between

[237] NSW Resources Regulator (2019) *Targeted assessment program: Interim consolidated report – Managing fire or explosion risks in underground metalliferous mines February 2019, 7.*

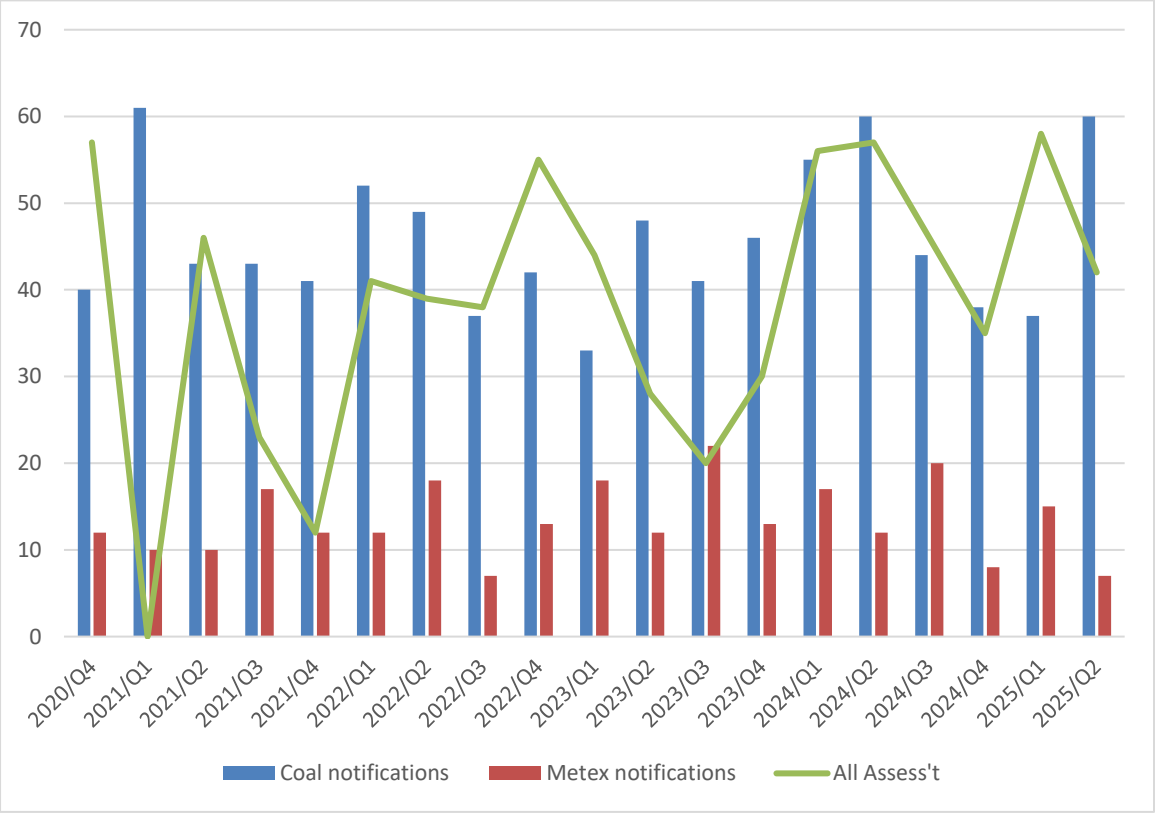
[238] NSW Resources Regulator (2020) *Targeted assessment program: Consolidated report – Managing fire or explosion risks in underground coal mines, February 2020, 3.*

[239] NSW Resources Regulator (2021) *Planned inspection program consolidated report: Fire or explosion – mining – underground metalliferous mines December 2020 - June 2021, 6.*

December 2021 and June 2023, the Regulator conducted 5 targeted/priority assessment programs on *explosion prevention in underground coal mines – suppression of fuel sources and mechanical and electrical ignition sources*. Regarding fuel sources, the assessment found that stone dust application and explosion barrier compliance were the lowest rated control supports. [240]

The coal mines mechanical and electrical programs assessed the effectiveness of MECP/EECP in managing ignition sources and their integration with the fire or explosion PHMP at 14/15 mines respectively. [241] Overall, the control supports for mechanical ignition sources – equipment suitable for the atmosphere; friction minimised on hot surfaces; and automatic fire suppression – were rated at 97%. Issues identified for improvement were signposting at the commencement of hazardous zones, worker awareness/testing of shutdown devices on equipment, fire suppression installed to design standard, and operators know what to do if the automatic fire suppression failed to operate. [242]

Figure 0-11: Fire or explosion notifications and all assessments - coal and metex miners



A targeted inspection program was also conducted on spontaneous combustion between June 2020 and January 2022. This program identified areas of good practice. Key findings were that risk assessments had been undertaken in consultation with workers and internal

[241] NSW Resources Regulator (2022) *Consolidated report: Fire or explosion – Electrical – underground coal mines, March 2022, 5.* NSW Resources Regulator (2022) *Consolidated report: Fire or explosion – Mechanical – underground coal mines, December 2020 - March 2022, 5.*
[242] NSW Resources Regulator (2023) *Consolidated report: Fire or explosion mechanical stage 2 – coal mines below surface, September 2022 to June 2023, 7.*

and external ventilation/spontaneous combustion experts; inspections were conducted and recorded as required; spontaneous combustion PHMPs were current and defined the necessary controls; but infrastructure for sealing of access drifts and shafts in the case of a significant event was incomplete. [243]

In 2024, the regulator undertook a proactive compliance campaign targeting longwall mines to ensure controls were in place to prevent underground ignition events, including PUR. In metalliferous mining, the 'Fire or explosion' planned inspection program in 2021 had not identified the use of PUR as a void filler as a risk factor. PUR Safety bulletin was not targeted at metalliferous mines. The recent underground fire at Perilya was initiated by PUR foam used as a void filler. Management at Perilya said they were not aware of the PUR safety bulletin published in 2021, and were not aware that polyurethane foam should not be used in large quantities to fill voids. The usual practice is to use paste and hydraulic fill systems for backfill as a control measure to prevent inrush and inundation (see Inrush and inundation assessment below). In this case, Perilya selected the PUR product to fill the void without a proper risk assessment. The Mining Energy Union intervention post-initiation arguably minimised potential harm to mine rescue workers involved in extinguishing the fire. If not for information about the health risks of exposure to toxic fumes and chemical absorption through the skin, which came through MEU contacts in the coal sector, firefighters may have been sent underground without appropriate PPE. A suitably experienced ISHR in the metalliferous sector may have been able to prevent the incident if they had been involved in a risk assessment before the purchase and use of the product.

Fires on mobile plant

The Regulator reported that most fires on mobile plant occur in surface coal mines, followed by underground metalliferous mines. Since 2019, only 1% of incidents occurred undrground at an undergound coal mines, [244]An analysis of FOMP incident notifications by sector and operation type (surface or underground) showed that underground metalliferous mines accounted for approximately 19% of FOMP incidents and 11% of these incidents were notified under s190(2)(a) 'a fire in the underground parts of a mine, including where the fire is in the form of an oxidation that releases heat and light'. Fires on mobile plant was identified as a compliance priority in large metalliferous and extractive mines between January and March 2019. The assessment program found that although fire or explosion PHMPs were underpinned by a risk assessment, FOMP risk assessments failed to consider all legislated requirements and were poorly integrated into the safety management system documentation, including control plans. Specific findings included mines failing to identify all reasonably foreseeable hazards and risk controls for fixed plant and mobile equipment introduced to site. In some cases, mine operators had not considered all potential ignition sources, types and location of systems for the early detection and suppression of fires, and the types and location of equipment fire fighting equipment.

The Tritton copper mine underground fire, which was initiated by a fire on mobile plant, required workers to withdraw to the refuge chambers. Communications and the external air supply to the refuge chambers were lost because of the fire and the occupants relied on the self-contained air supply within the refuge chambers (see Table 5-12). A compliance priority

[243] NSW Resources Regulator (2022) *Consolidated report: Spontaneous combustion – underground coal mines, June 2020 to January 2022, 5.*

[244] NSW Resources Regulator (2024) *Fires on mobile plant 2023 – 24, 11.*

program on self-escape and refuge chambers conducted between January to June 2020 found among other things, the that underground refuge chambers had varying levels of serviceability such as mine-air supply faults, uncalibrated gas monitoring systems, faulty communications systems and instructions depicting different equipment to that installed within the chamber. [245]

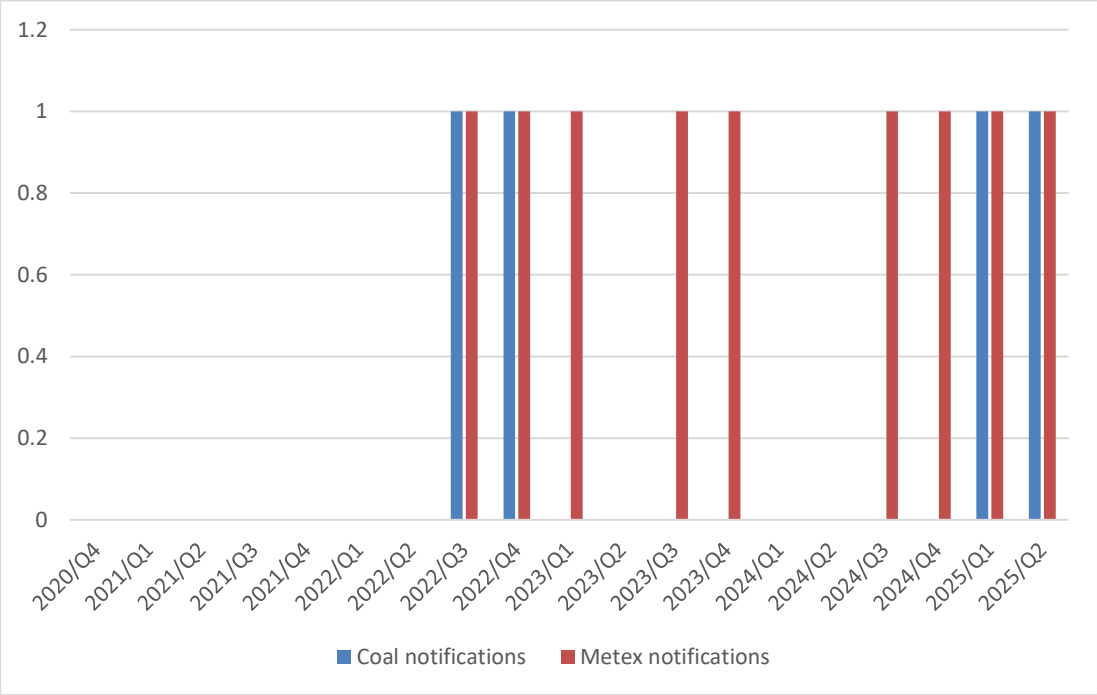
Inrush or inundation

Figure 5-12 shows that inrush or inundation incidents are reported infrequently. However, inrush or inundation has the potential to result in multiple fatalities. An inrush associated with raise bore construction of a ventilation shaft exposing 7 workers to fatal injury risks occurred at Cadia East mine in 2010 (see Table 5-4).

Recently, in January 2025, a water inrush from ramp to platform occurred at an underground metalliferous mine. The Weekly incident summary described as follows:

> *There was an inrush of water from a 24-level ramp to a 25-level platform to below the knee level of a worker in the area. The water came from an old stopping area where excess dirt and material had been put in the drive and created a bund. Water had built up behind the bund over a period and when a fall of ground occurred into the water, it created a pressure wave that broke though the bund.*

Figure 0-12: Inrush or inundation notifications and all assessment - coal and metex mines



Between October 2019 and May 2021, and October 2020 and April 2021, the Regulator conducted planned inspection programs on inundation or inrush of any substance in underground coal and metalliferous mines respectively. The identified threats and critical

[245] NSW Resources Regulator (2020) *Compliance priorities outcomes: Self-escape and refuge systems in underground mines (Jan-June 2020)*

controls were (1) accumulation of fluid – magnitude of source and design of fluid pathways; (2) containment failure – design and construction. The consequence was one or more fatalities, and the control measure was to restrict access to inundation or inrush zones. In metalliferous mines, the inspections found that detail was lacking in PHMP and risk assessments did not satisfy legislative requirements; mines did not consider the hierarchy of controls when bogging raise bore cuttings during development (see Cadia East ventilation shaft development incident 2010 in Table 5-4); mines usually demonstrated good quality assurance and quality control processes and monitoring of paste and hydraulic fill systems (this was not demonstrated by Perilya as noted above under section of fire or explosion) but not all workers were trained in exclusion zones for paste/waste fill fluid path and where to travel; not all mines had clear egress from ore/waste passes; and a reconciliation process and periodic cavity survey of ore waste passes were not conducted. Most mines demonstrated critical controls for containment. Regarding mitigation of consequences, the inspections found that mine operators relied on administrative controls such as signage and training to ensure exclusion zones were observed. The Regulator recommended that inrush zones be discussed in worker inductions and crew safety meetings. [246] Similar issues were found in coal mines, where inrush or inundation risk assessments were not aligned with the PHMP or current mining activities, and specific controls including demarcation of inrush control zones were not documented. [247]

During focus groups and interviews, HSRs mentioned failure to maintain signage, resulting in workers mistakenly accessing exclusion areas (see also metalliferous incident/hazard reports in Table 5-7). There is an opportunity to develop metalliferous mining-specific training for worker representatives and for the Regulator and mine management to disseminate principal hazard assessment/inspection report findings to HSRs for crew safety discussions or HSR committee meetings. Overall, these programs were not highly visible to HSRs, and a strengthened representative framework in metalliferous and large extractive mines could facilitate more effective integration of this valuable information arising from inspection and assessment programs into mine safety management systems.

Recommendation

Develop metalliferous mining specific training for worker representatives on inrush and inundation management.

Disseminate the information in inrush and inundation assessment reports to SSHRs/HSRs and WHS/HSR committees.

Ground or strata

The Regulator noted that ground failure in underground metalliferous and coal mines can result in serious or fatal injury. For example, a coal rib spall at Clarence Colliery in 2018 seriously injured two workers (see Table 5-11); and a fall of ground from a draw occurred at

[246] NSW Resources Regulator (2021) *Planned inspection program consolidated report: Inundation or inrush of any substance - underground metalliferous mines, October 2020 – April 2021,*

[247] NSW Resources Regulator (2021) *Planned inspection program consolidated report: Inundation or inrush of any substance – underground coal mines October 2019 – May 2021, 5.*

Ridgeway gold mine in 2015, fatally injuring an employee of a mining services contractor (see Table 5-9). A focus group participant reported a fall of ground incident using the Ten pathways incident/hazard report form (see Table 5-7). Coal/rock burst is an emerging hazard for older underground coal mines (see the Austar double fatality, Table 5-1). More recently, a sandstone rock burst occurred at Appin underground coal mine, a hazard reviewed by the consolidated report "Outburst, coal burst, and rock burst in underground coal mines". [248]

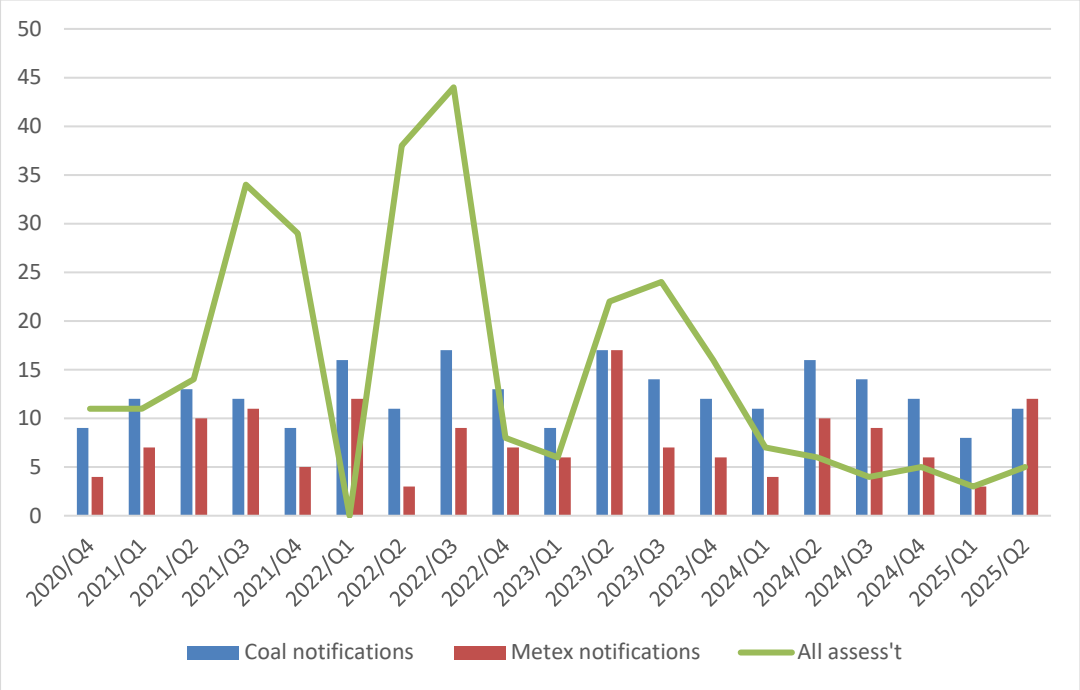
Several underground metalliferous incidents have been notified to the Regulator and summarised in the Weekly incident summary reports as follows:

> *Two workers were charging a face when a large rock around 2 to 3 tonnes dislodged from a height of about 2.5 metres, grazing one worker's head, and striking him on the shoulder. The face was scaled prior to work commencing.*
>
> *A face drill rig (jumbo) was working within a drive and drilling for ground support when the supported cut that was above it collapsed onto the machine. The operator was able to kick the back window out and exit the machine. The fall of ground was about 5 m x 5 m x 3 m.*
>
> *While charging a face, a piece of stone that was about 200 mm x 200 mm x 50 mm fell from the roof and struck a worker who sustained grazes to the face and a chipped tooth. The worker's hardhat was cracked by the falling stone. The stone fell from between the face mesh and primary ground support.*

Figure 5-13 summarises incidents notified to the Regulator in both coal and metex sectors. Given the comparatively fewer metex mines, the chart indicates that the reporting rate is higher in metex than coal mines.

[248] Resources Regulator Department of Regional NSW (2023) *Consolidated report: Outburst, coal burst and rock burst – underground coal mines , July 2023 to November 2023.*

Figure 0-13: Inrush or inundation notifications and all assessment - coal and metex mines



The Regulator conducted a planned inspection program on ground failure in underground metalliferous mines in 2017. The identified threats and critical controls were (1) excavations not designed and constructed to achieve a stable state for their design life; (2) excavations not designed to withstand all loading conditions; and (3) ground conditions not identified by workers and appropriate work method not implemented. Critical controls addressed engineering design and monitoring. Mitigating control measures identified were (1) protected cabins or remote mining; deteriorating ground conditions are identified and appropriate action taken; and unstable ground conditions are identified and demarcated. The findings indicated workers may not be competent in ground awareness, ground support, or seismicity (lack of training records); PHMPs did not reference related risk assessments and these may not have involved systematic analysis and application of the hierarchy of controls; a lack of risk assessment on management of draw points and operation of heavy mobile plant (see Ridgeway draw point incident Table 5-10); and a lack of systems to monitor and evaluate their contractor's compliance with the HSMS requirements. Specific findings included a lack of documented evidence on draw point management and failure to consider over-break risks. [249] A second planned inspection program on ground or strata failure was conducted in 19 underground metalliferous mines between September 2019 and January 2020. [250] Threats and control supports identified for this program were (1) issues with driven roadway – roadways developed and ground support installed as per plan and monitoring; (2) issues when caving ground – monitoring and response to change; (3) issues with pillars – stable pillars; and (4) fatal or serious injury due to fall of ground – worker avoid positioning under unsupported ground. Of the 19 metalliferous mines inspected, 13 received compliance

[249] NSW Planning and Environment, Resources Regulator (2017) *Mine safety targeted assessment program: Ground or strata failure – NSW metalliferous mines, April 2017.*

[250] NSW Resources Regulator (2020) *Planned Inspection program: Ground or strata failure – underground metalliferous – consolidated report, September 2019 – January 2020, 9-14.*

notices. The most common theme was a lack of current or accessible documentation relating to controls for ground or strata failure, and equipment used for strata support was not readily available or appropriately maintained. A third underground metalliferous planned inspection program was conducted between June 2021 and December 2022. This program focused on some different control supports, being management of void formation and ground support life cycle management. [251]

Between April and September 2019, the Regulator conducted planned inspections in 19 underground coal mines based on the same threats and control supports identified in the second metalliferous mines planned inspection program. The coal assessment program recommended that operators ensure that comprehensive risk assessments are conducted by a suitably qualified team of people. Of the 19 mines inspected, 14 received compliance notices. The primary categories of concerns were associated with strata monitoring. [252] A second planned inspection program in underground coal mines was conducted between March 2021 and June 2022. This inspection program focused on void formation and ground support life cycle management during secondary extraction. A general finding reported was that risk assessments were completed in consultation with workers and internal and external geological and geotechnical experts, and strata failure incidents were investigated by a range of stakeholders. The report also noted that most mines conducted communication sessions with the workforce at key points in the life cycle management of strata. [253]

Recommendation

Develop metalliferous mining-specific training for worker representatives on the ground and strata PHMP.

Disseminate the information in the ground and strata assessment reports to SSHRs/HSRs and WHS/HSR committees.

Roads and other vehicle operating areas (ROVOA)

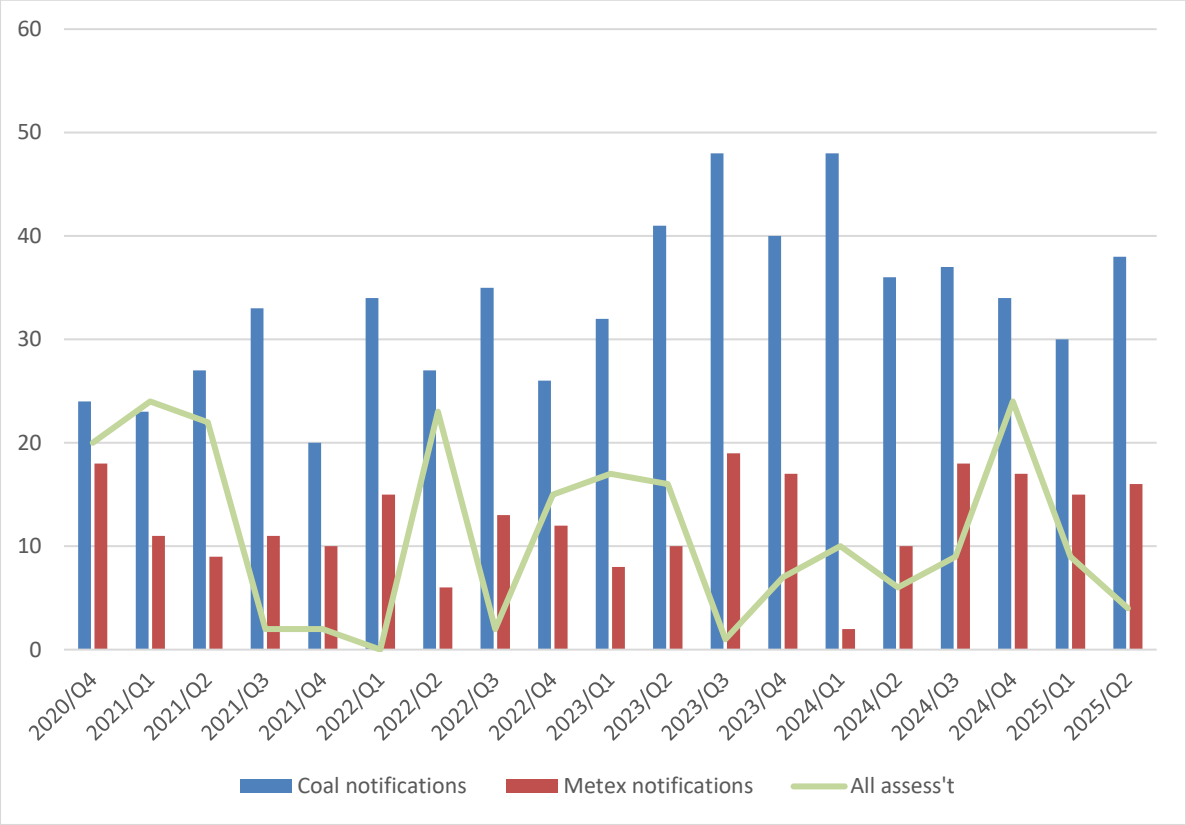
Vehicle interactions have been identified as the second most common incident type after "being struck by an object". Figure 5-14 shows the number of vehicle incidents in the coal and metex sectors and the number of assessments conducted by the Regulator. It is not possible to determine if notification rates are higher in coal mines compared to metex mines. The Regulator identified an increasing trend in vehicle interaction notifications in the 6 months prior to November 2024. Underground metalliferous and coal mines accounted for approximately a third of these incidents.

[251] Resources Regulator Department of Regional NSW (2022) *Consolidated report: Ground or strata failure – underground metalliferous mines, June to December 2022.*

[252] NSW Resources Regulator (2020) *Planned Inspection program consolidated report: Managing ground or strata failure risks in underground coal mines, December 2020,*

[253] Resources Regulator Department of Regional NSW (2022) *Consolidated report: Ground or strata failure – underground coal mines – secondary extraction, March 2021 – June 2022, 5-7.*

Figure 0-14: ROVOA PHMP notifications and all assessments - coal and metex mines



Our review of targeted assessments and interventions, and compliance priority programs identified 4 programs in metex mines and 4 underground and surface coal mines addressing vehicle interactions. Additionally, the Regulator conducted an awareness campaign in surface coal operations and a selection of metex operations in 2021, followed by a targeted intervention in 2022.

The targeted intervention focused on the responsibilities of supervisors but also canvassed the views of workers. The report stated:

> *Workers were also consulted to measure the level of understanding and awareness of the nominated vehicle interaction controls at each site. This included assessing the site traffic management standards, road conditions, road design, effective use of positive communication, and willingness to report compliance issues.* [254]

Inspectors had discussions with 96 supervisors and 321 workers in metex mines and 214 supervisors and 563 workers in coal mines. The awareness campaign found a good level of understanding and compliance with traffic management standards, positive communications, and willingness to report compliance issues. The report noted that a minority of workers (particularly contractors) expressed fears about being reprimanded if they raised concerns. The report does not say if HSRs were engaged to further explore concerns that may have been raised by workers about supervision or roadway design issues.

[254] NSW Resources Regulator (2022) *Targeted intervention campaign: Vehicle interaction – Surface coal and metalliferous mines, 1.*

In May to September 2019, the Regulator conducted a planned inspection program on the ROVOA PHMP in surface coal and metalliferous mines, addressing road standards, traffic management, and competent operators. Of the 59 coal mines inspected, 5 mines were rated below 65% on the critical control "road standards". Seventy-one notices were issued to 37 mines (1.92 notices per mine). The most common theme of notices issued was "intersections not constructed to standard or design guideline", followed by "risk assessments not relevant, not current, or not available". The other 2 common issues were poor standard of signage and worker failure to comply with people-based controls and failure to verify compliance with controls.[255] Of the 35 surface extractive mines inspected, 4 were rated below 65% on the critical control "road standards". Eighty-three notices were issued to the 35 mines (2.37 notices per mine). The most common themes addressed in notices were risk assessments not relevant, not current, or not available; workers not being familiar with nominated controls; and active roads and intersections not constructed to an adequate standard. Other themes included poor standard of signage or delineation of active roads; infrastructure and park up areas not protected by bunding; mobile plant not fit for purpose; and pre-use inspection check lists not specifying safety critical components of vehicles. [256]

In 2021, the Regulator conducted a priority assessment program on positive communication at 33 surface extractive mines. [257] The Regulator developed a tool assess positive communication processes and to ensure "Pos Coms" was being effectively implemented to address an identified increase in vehicle interaction incidents. For example, the Snapper mineral sands fatal vehicle interaction found that a lack of positive communications contributed to the incident. The priority assessment program found that workers could demonstrate adequate knowledge about the need to use positive communications.

Between August 2019 and April 2021, the Regulator conducted planned inspection programs in 35 surface extractive mines/processing plants and 30 surface coal mines, assessing fit-for-purpose vehicles and fit-for-work operators. Of 30 mines visited, 14 received compliance notices (30%). The most common themes were worker non-compliance (7 occurrences) and hazards not clearly defined in training information (5 occurrences).[258] From October 2023 to June 2024, the Regulator conducted stage 2 of a surface coal mines planned inspection program, which included an assessment of road standards. Twenty-two surface coal mines were assessed, and 5 compliance notices were issued to 5 of the 22 mines (22%). An overall assessment rating of 99% for the design and implementation of critical control supports was achieved. The lowest rated control supports were area lighting; intersection layout and windrow heights on the approach to intersections; and safe parking being observed. [259] It is noteworthy that an open cut coal vehicle interaction incident in 2021

[255] NSW Resources Regulator (2020) *Planned inspection program consolidated report: managing roads or other vehicle operating areas in the surface coal sector, December 2020, 11, 14 & 15.*
[256] NSW Resources Regulator (2020) Planned inspection program consolidated report: Managing roads and other vehicle operating areas in the surface metalliferous sector, August 2019 – September 2020, 13, 15 & 16.
[257] NSW Resources Regulator (2021) *Compliance priorities outcomes: Positive communication – Metalliferous and Tier 1 quarries.*
[258] NSW Resources Regulator (2021) *Planned inspection program consolidated report: Roads or other vehicle operating areas – surface coal mines, March 2020 – April 2021, 14-15.*
[259259] NSW Resources Regulator (2024) *Consolidated report: Roads or other vehicle operating areas – surface vehicle interactions – stage 2 – coal, October 2023 to June 2024, 7-8.*

examined roadway design issues, including grades and windrow heights in some detail (see Maules Creek open cut incident in December 2021 in Table 5-11).

Between June 2023 and August 2024, the Regulator conducted compliance priority programs in 16 underground metalliferous mines and 18 underground coal mines on unplanned vehicle interactions using the critical control assessment tool. The critical controls assessed were supervision, competent operators, and fit-for-work operators. The threats identified included operator error, rule violation, and human and organisational factors. Of the 16 underground metalliferous mines assessed, 34 compliance notices were issued to 15 of the mines (2.13 notices per mine). Many of the controls identified were people-based controls, although fatigue management assessed roster design and use of fatigue identification technology. [260] Of the 18 underground coal mines assessed, 18 compliance notices were issued to 7 mines. The most common notice themes were poor roadway conditions and poor roadway clearances to services such as pipes, cables and stored materials (Ref to Appin incident); excessive stowage limiting shunting or access to ventilation stoppings for inspection; and failure to follow mine roadway TARPS. [261]

Based on performance indices used (notices issued and control support implementation), the health and safety performance of metalliferous mines on ROVOA critical controls and control supports was lower than coal mines.

Recommendation

The Regulator promotes the safety role for workers (and their representatives) on ROVOA hazard identification and control measures.

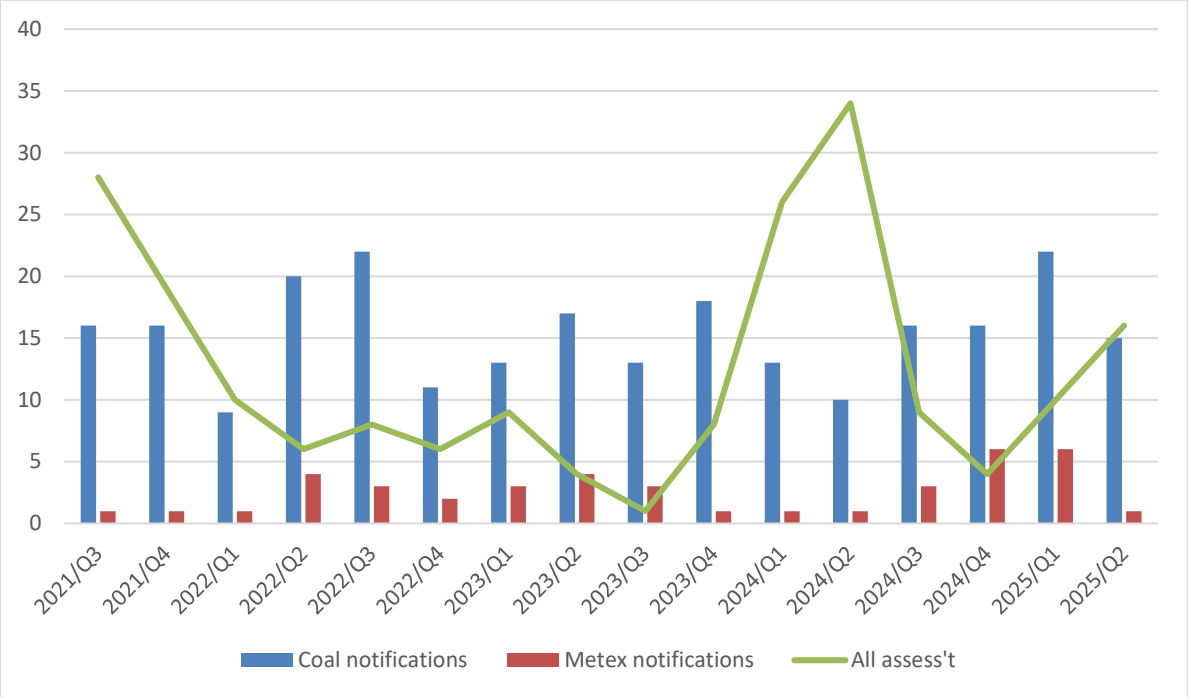
Explosives control plan

Unplanned detonation of explosives in underground metalliferous mines has the potential to cause multiple serious injuries or fatal outcomes. Figure 5-15 shows explosive incidents notified to the Regulator and the number of assessments

[260] NSW Resources Regulator (2024) *Consolidated report: Roads or other vehicle operating areas - Metex underground – unplanned vehicle interaction, June 2023 to August 2024.*

[261] Resources Regulator Department of Regional NSW (2023) *Consolidated report: Roads or other vehicle operating areas – unplanned vehicle interaction underground – stage 1 – underground coal mines, September 2022 to January 2023, 9*

Figure 0-15: Explosives CP notifications and all assessments - coal and metex mines



Between September 2023 and October 2024, the Regulator implemented stage 2 of the metalliferous mines planned inspection program. Thirteen underground metalliferous mines were assessed and 12 other surface mines. Stage 1 assessed authorisation and licensing of shot firers, storage and transport of explosive materials, loading blast holes, and suitability of explosive substances. Stage 2 assessed blast planning and safe blasting processes. The identified threats were (1) unplanned detonation of explosives; (2) persons near the blast; (3) noxious fume/airborne dust generation. The critical controls identified for these threats were (1) blast plans contain enough information for drillers and shotfirers to prepare the blast, (2) work done to specification, (3) exclusion zones, (4) communication, (5) methods of accounting for people and preventing access to the blast area, and (6) blast guards are familiar with their duties. Based on the International Council on Mining and Metals guide to critical control management, together these would be considered a system-based controlthat rely on a strong management system to ensure people-based actions are consistently implemented. [262] In summary, of the 25 metalliferous mines assessed (12 surface and 13 underground mines), 49 compliance notices were issued to all 25 mines (1.96 notices per mine). Key areas of concern were 'Blast guards not being familiar with their duties' (7of 25); and not adhering to the required wait time before re-entering a recently fired blast area (9/25). The report does not identify failures specific to underground mines nor provide any details on the issues subject to improvement notices. [263]

Stage 1 of the parallel Explosives control plan assessment in coal mines gave an overall assessment finding of 97% for planning and implementation of control supports addressing

[262] International Council on Mining and Metals. (2015). *Health and safety critical control management: Good practice guide*. ICMM.
[263] NSW Resources Regulator (2024) *Consolidated report: Explosives control pan – metalliferous stage 2 September 2023 to October 2024.*

licenced people, storage, transport, and loading blast holes. [264] Findings of the stage 2 assessment in coal mines of "safe blasting – planning and implementation" is published in summary on the website. The program assessed 26 mines - 19 underground and 7 surface coal mines. Seventy six notices, including 36 improvement notices, were issued across the 26 mines (2.92 notices per mine). The most common issues addressed in notices were explosive control plan records (17 improvement notices) and a safe blasting process (14 improvement notices and 21 notices of concern). Recommendations were made about the explosives control plan inclusions, including blast sentry roles and responsibilities, misfired electronic detonators, underground exploders and firing cables, blast exclusion zones, and transport of explosive material. [265] The number of notices issued per mine was higher in coal mines compared to metalliferous mines. Compared to the earlier targeted assessment reports, the new format presenting an overall rating utilising "traffic light" style indicators showing cumulative ratings on elements for each critical control/control support, provided less detailed information to form a nuanced understanding of potential areas of failure. Overall, metalliferous mines achieved a control support planning and implementation rating above 90%, which may lead to undue confidence in the effectiveness of critical control plans for explosives. The detail on specific issues for operation type and breaches resulting in compliance notices is lacking. The coal mines report format published on the web page provides less detail about the specific issues addressed by compliance notices.

Recommendation

Develop metalliferous mining-specific training for worker representatives on explosives management in underground metalliferous mines.

The Regulator promotes the safety role for workers (and their representatives) on explosives hazard identification and control measures in underground metalliferous mines.

Mechanical engineering control plan

Mechanical engineering control plans (MECP) cover several types of incidents and mechanical energies, as well as falls from a height. The coal sector notifiable incidents are classified as "mechanical" and "mechanical or electrical". Some automated remote control equipment has both mechanical and electrical hazards. Figure 5-16 shows MECP notifications by sector and all assessments. Even taking the size of the coal sector compared to the metex sector, there appear to be more notifications from coal mines compared to metex mines. Metalliferous mines notify substantially fewer mechanical incidents than coal mines.

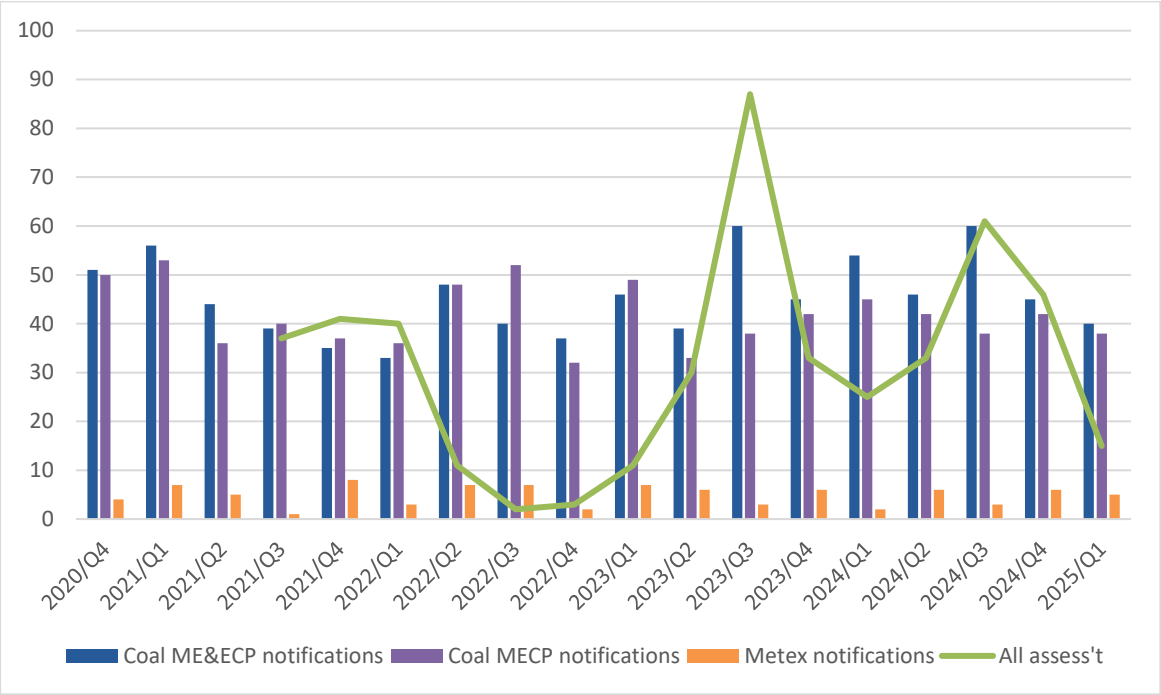
The Regulator's assessment web page lists all the assessment programs conducted in the metalliferous and large extractives sectors between 2022 and 2024. Topics included (1) entanglement; (2) falling objects and cranage; (3) work platform attachment; (4) structural collapse. There was also a compliance priority program on drill rigs. The overall impression

[264] Resources Regulator Department of Regional NSW (2023) *Consolidated report: Explosives control plan stage 1 – Coal mines surface and underground, July 2021 to June 2023, 6.*

[265] NSW Resources Regulator (2025) *Report – Coal – Explosives – July 24 to July 25.* *https://www.resources.nsw.gov.au/resources-regulator/safety/assessment/coal/report-211025*

gained from a review of inspection program findings is that critical control implementation and maintenance was rated much lower than critical controls for principal mining hazards. Figure 5-16 shows the notified incidents and all assessments from metex and coal mines . When MECP and ME/EECP notifications are combined, the visual impression is that there are fewer notifications in the metex sectors compared to coal, but this would need to be confirmed by calculating a rate.

Figure 0-16: Explosives CP notifications and all assessments - coal and metex mines



The MECP compliance priority reports provided more nuanced detail about areas of failure than the recent Explosives CP planned inspection program. The MECP assessment summary charts list all mines assessed and individual mine rating categories for each threat and critical control/control support, in addition to the cumulative rating.

The *'Planned inspection program consolidated report: Entanglement – metalliferous mines and tier 1 quarries'* identified the threats as (1) engagement with moving parts; (2) unexpected movement of machine parts; and (3) consequence of physical trauma. The critical controls assessed were (1) equipment safeguarding and safe standing zones; (2) isolation standards; and (3) emergency stops.

The entanglement planned inspection program in coal and metex mines found similar failures. Both sectors identified risk assessment failures. The metex report stated that:

> *Risk assessments associated with the development of mechanical engineering control plans were often missing key elements regarding the hazards associated with entanglement. In some cases, risk controls identified in the risk assessments were not mapped into the principal control plans and safety management system.* [266]

[266] NSW Resources Regulator (2022) *Planned inspection program consolidated report: Entanglement – metalliferous mines and tier 1 quarries, 5.*

The metex inspection program also found that risk assessments did not include a cross section of the workforce exposed to the hazard and were not reviewed due to people involved in the development having left. HSRs who participated in focus groups and interview consistently reported that SWPs were often out of date and not reviewed, as the responsible person had left the mine. This was identified as a factor in the PhD thesis by Jackson. [267] Her analysis of 51 fatal and serious incidents concluded that personal risk assessments and JSAs failed to identify and control risks. The overreliance on Take 5s and JSAs is also identified by the current additional fatal and serious incident investigation reviews (see Tables 5-11 and 5-12). Poorly maintained or inadequate guards and inaccessible or damaged emergency stop lanyards were also observed (see Thuddungra incident in Table 5-12). In The coal mines inspection program also found that risk assessments did not include a cross-section of the workforce, including SSHRs, that risks assessments did not identify entanglement, and identification of controls was left to workers performing the task with no guidance from overarching documents. Inadequate guarding and no-go zones requirements for some plant could not be practically applied (see Continuous Miner incidents in Table 5-11) were also identified issues. A prohibition notice was issued to one mine for conveyor guarding emergency stop (note the 2019 scraper conveyor incident at Appin North mine). [268] Perhaps indicative of the need for Mechanical Safety and Health Representatives.

The 'Falling objects – lifting and cranage - tier 1 quarries and surface metalliferous mines' inspection program identified a number of issues relating to lifting plant stability and integrity of lifting tackle, such as missing or worn working load limit signs on equipment and failure of pre-start inspections allowing faulty equipment to remain in service. This report provided more detailed information. Issues were also identified with lifting practices, with critical control supports for threats (1) lifting; (2) plant stability; and (3) lifting practices. Five of 11 mines were given a control support rating below 65% for one or both threats. Failures included hazards not fully assessed due to changes in the lifting plan that in one case allowed the load to move in an uncontrolled manner; suspended loads traversing without the control of tag lines; damaged lifting hooks and slings unguarded against sharp edges; and a mismatch of lifting equipment. [269] The falling objects planned inspection program in the coal sector noted in the background to the program that the fatal incident in 2018, where a contract worker was knocked to the ground by a large tyre falling from a tyre handling crane was a factor in identifying the need for the program (see Table 5-8 for a description). In coal mines, the average control support rating for all three threats was rated at over 90%. Key findings were, among other things, that MECPs' risk assessments lacked representation of a cross-section of the workforce, and lacked detail in identifying falling object hazards and control measures. [270]

[267] Jackson, H. (2021). *Recurrent causes of occupational incidents in the NSW, Australia coal and metalliferous mining industry.* (Doctor of Philosophy). University of Newcastle, NOVA, 5-233.
[268] NSW Resources Regulator (2021) *Planned inspection program consolidated report: Entanglement – coal mines, February to June 2021, 6-7.*
[269] NSW Resources Regulator (2022) *Consolidated report: Falling objects – lifting and cranage – tier 1 quarries and surface metalliferous mines, July 2022 – November 2022.*
[270] NSW Resources Regulator (2022) *Falling objects – lifting and cranage – surface and underground coal mines – stage 1.*

The ‘Structural integrity’ inspection program in metex mines identified serious failures in the maintenance of structural integrity of fixed plant with some critical controls supports rating below 80% implementation. The lowest ranked critical control support (below 65%) related to failure a to verify that foundations were free from corrosion or impact damage. Recording and prioritising defects and ensuring defects are rectified to schedule also rated low at 75% implementation. [271] In the coal sector the structural integrity inspection program gave an overall assessment rating of over 90% for all threats with the exception of traffic management which was rated at 84% implementation of critical controls. [272]

In July to November 2024, the Regulator conducted a compliance priority program on *‘work platform attachments on multi-purpose mobile plant’* at coal, metalliferous and extractive mines due to the increase in incidents involving overturning or uncontrolled lowering of work platform attachments. Thirteen underground metalliferous mines and 9 surface extractive mines were visited. Issues on which compliance notices were issued included damage to safety-critical functionality (inoperable self-closing gates); work basket maintenance inspections out of date while in use; no work basket pre-use inspection or prestart inspection completed; safe work load limits not identified; workers could not identify basket lift capacity; and workers’ harness/lanyards out of date. Many recommendations to industry were made because of the assessment findings including training in pre-use inspections, maintenance and defect management. [273] HSRs who participated in the focus groups and interviews reported an instance of work baskets not being securely attached (procedure for testing attachment not followed) and overextending boom arms, resulting in uncontrolled toppling of the plant and basket. One incident involving work from a work basket attachment was reported by a coal mine SSHR focus group participant (see Table 6 in the notifiable incidents section).

In 2019, the Regulator conducted a compliance priority program on drill rigs, looking at immobilisation versus isolation to protect workers from interactions with moving drill components. The assessments found that mine operators were relying on fallible control devices and procedures and had not been using effective isolation to control the hazards associated with operating drill rigs (see CSA and Cadia East incidents in Table 5-12). Several notices were issued, including training, instruction and supervision; implementing changes without a risk assessment or updating procedures; risk assessments without the participation of relevant workers or management; operating rigs when laser curtain systems were not working; manual control switches replaced with emergency stop switched without updating training; and effectiveness of manual control switches or laser curtains not included in pre-start checks. [274]

Concluding observations

Our review of consolidated reports focused on the implementation of worker safety role with regards to worker contribution to the implementation of control measures for principal mining

[271] NSW Resources Regulator (2024) *Consolidated report: Mechanical engineering control plan – structural collapse – METEX mines above and below surface.*
[272] NSW Resources Regulator (2023) *Consolidated report: Mechanical engineering control plan – structural collapse – Coal mines above surface July 2021 to June 2023.*
[273] NSW Resources Regulator (2024) *Compliance priority report: Work platform attachments on multi-purpose mobile plant at coal, metalliferous and extractives mines, July 2024 to November 2024.*
[274] NSW Resources Regulator (2019) *Compliance priority outcomes: drill rigs – isolation versus immobilisation, 3-4.*

hazards and principal control plans and engagement with SSHRs/HSRs during assessment or intervention programs.

Overall, these programs resulted in a substantial number of proactive interactions with mine workers at all levels. We acknowledge the value of the information generated on critical controls/control supports and recommendations to industry regarding incident prevention. However, there is little evidence of engagement with SSHRs/HSRs when undertaking site-based assessments or the use of WHS/HSR committee records as a source of information. While we recognise that this may have occurred but not reported, noting that these interactions occurred promotes the important function of worker representatives in the legislation. In metalliferous mines, the general risk management programs could have provided an opportunity to assess the implementation of *Work Health and Safety Act* HSR arrangements. There was no compliance program developed to assess compliance with WHS Act legislative requirements, such as identification of work groups, nomination, election and training of HSRs, support and time afforded for them to carry out their functions, and WHS/HSR committee constitution.

A summary of findings relevant to worker participation, consultation, and representation is outlined below.

General risk management

- Supervision and communication arrangements between shifts - 1.65 notices issued per assessment at metalliferous and large extractives mines (metex) compared to 1.09 per assessment at coal mines.
- Contractor management – in metex mines, assessments found that contractors were not involved in site risk assessments; there was non-compliance with procedures during major shutdowns; they were not being involved in shift start meetings; not able to demonstrate competencies; and they were not always compliant with permit to work procedures. In coal mines, assessments found that contractor representatives were frequently part of the Health Safety Environment and Community committees and that some mines included contractors in the overall training analysis.
- Hazard reporting of safety-related issues – this campaign was conducted in metalliferous mines and found that feedback to workers on concerns raised was not always systematic and relied upon communication between supervisors and workers.
- Supervision and risk management - Topics examined included worker understanding of hazard risk management, ability to identify hazards and controls, and supervisor understanding of inspection responsibilities and requirements. The overall assessment rating for metalliferous mines was 86% compared to 96% for coal mines.

Principal hazard management plans consolidated reports found:

- Airborne contaminants - in metalliferous mines, the Regulator recommended that mine operators consult with site management and workers about arrangements for implementation of the airborne contaminants monitoring program.

- Crystalline silica – in coal mines, the report noted that some mines included dust reports as a standing item on WHS committee meeting agendas.
- Spontaneous combustion – the report noted worker involvement in risk assessments and development of the PHMP.
- Inrush or inundation – in metalliferous mines, the report noted risk assessments did not consider the hierarchy of controls when bogging raise bore cuttings, and the report recommended that inrush zones should be discussed in worker inductions and crew safety meetings.
- Ground or strata - in metalliferous mines, the assessment found that workers may not be competent in ground awareness, ground support or seismicity (lack of training records); PHMPs did not reference related risk assessments, and these may not have involved systematic analysis and application of the hierarchy of controls.
- Ground or strata - in coal mines, the report noted that risk assessments were completed in consultation with workers and internal and external geological and geotechnical experts, and that strata failure incidents were investigated by a range of stakeholders. The report also noted that most mines conducted communication sessions with the workforce at key points in the life cycle management of ground or strata hazards.
- ROVOA – a targeted intervention in 2022, which followed up on an awareness campaign conducted in 2021, canvassed the views of workers on vehicle interaction controls. Contractors expressed fears about being reprimanded if they raised concerns.

Health control plan

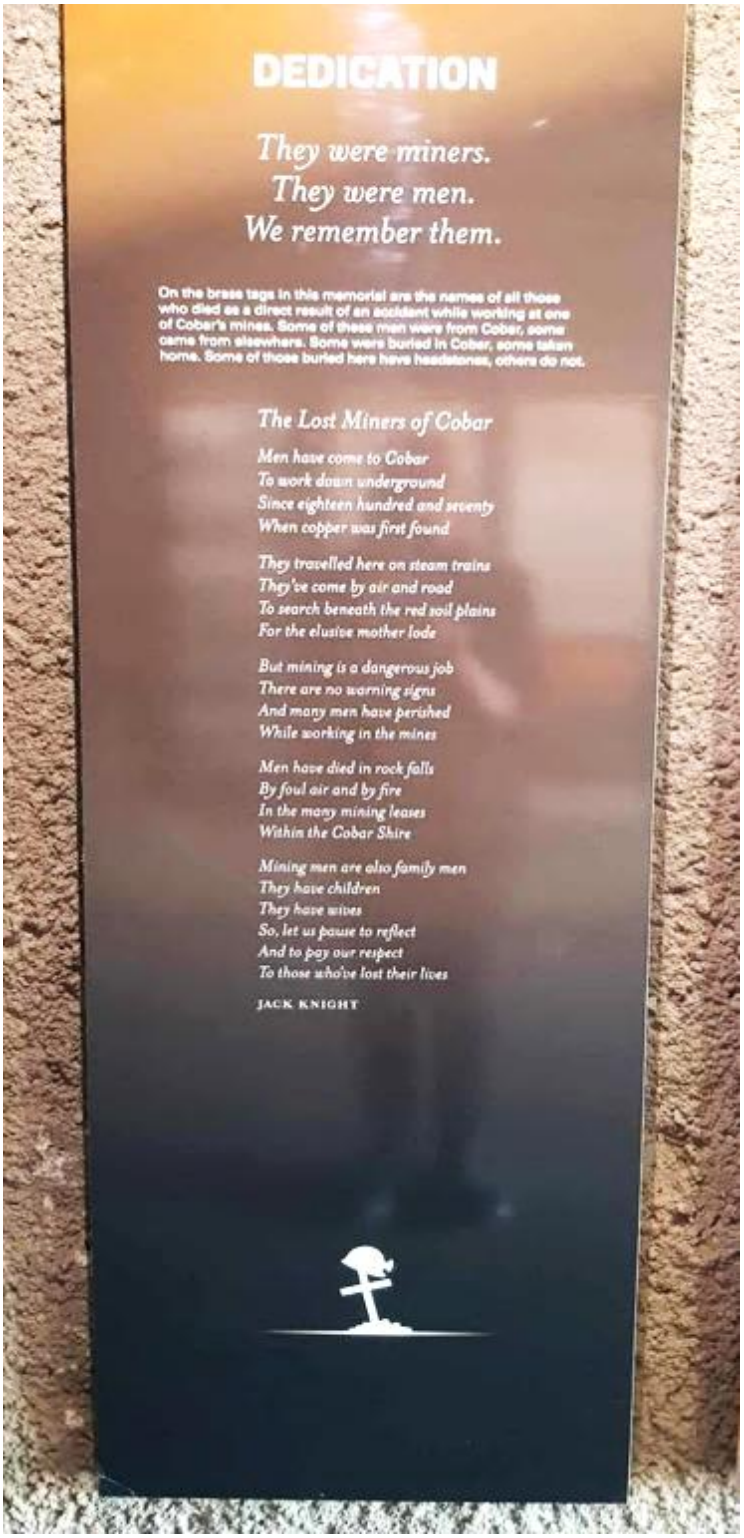
- Lead and heat exposure - the consolidated compliance reports indicated a lack of worker consultation on and participation in exposure monitoring and selection and implementation of controls.

Mechanical and electrical engineering control plans

- MECP – the “entanglement” and “falling objects” consolidated reports found that MECP risk assessments lacked representation of a cross-section of the workforce and lacked detail in identifying entanglement and falling object hazards and control measures.
- MECP – the “drill rigs and immobilisation versus isolation” compliance priority assessments found risk assessments were undertaken without the participation of relevant workers or management.

The Regulator made some recommendations about worker training, particularly on principal mining hazard awareness. Additionally, we recommend that the consolidated program outcome reports be disseminated to SSHRs/HSRs so these findings can be communicated to relevant workgroups. Our focus groups/interviews indicated that assessment programs were not visible to workers in metalliferous mines. The apparent limited engagement with HSRs represents a lost opportunity to raise awareness about principal hazard management and critical controls. HSRs provide an additional source of review of mine operator risk management standards and practices. They constitute the third feedback loop in triple loop learning. We also recommend that assessment programs promote the safety role for workers/worker representatives in principal mining hazards and control plans.

The following subsection examines the findings and learning from serious and fatal incidents. We have again attempted to reflect on our four key issues pertinent to worker representative arrangements and their impact on OHS performance. We were interested in the comparative effectiveness of the coal mine and metalliferous mine representative arrangements.



Dedication from the Cobar Miners Memorial

Industry health and safety performance

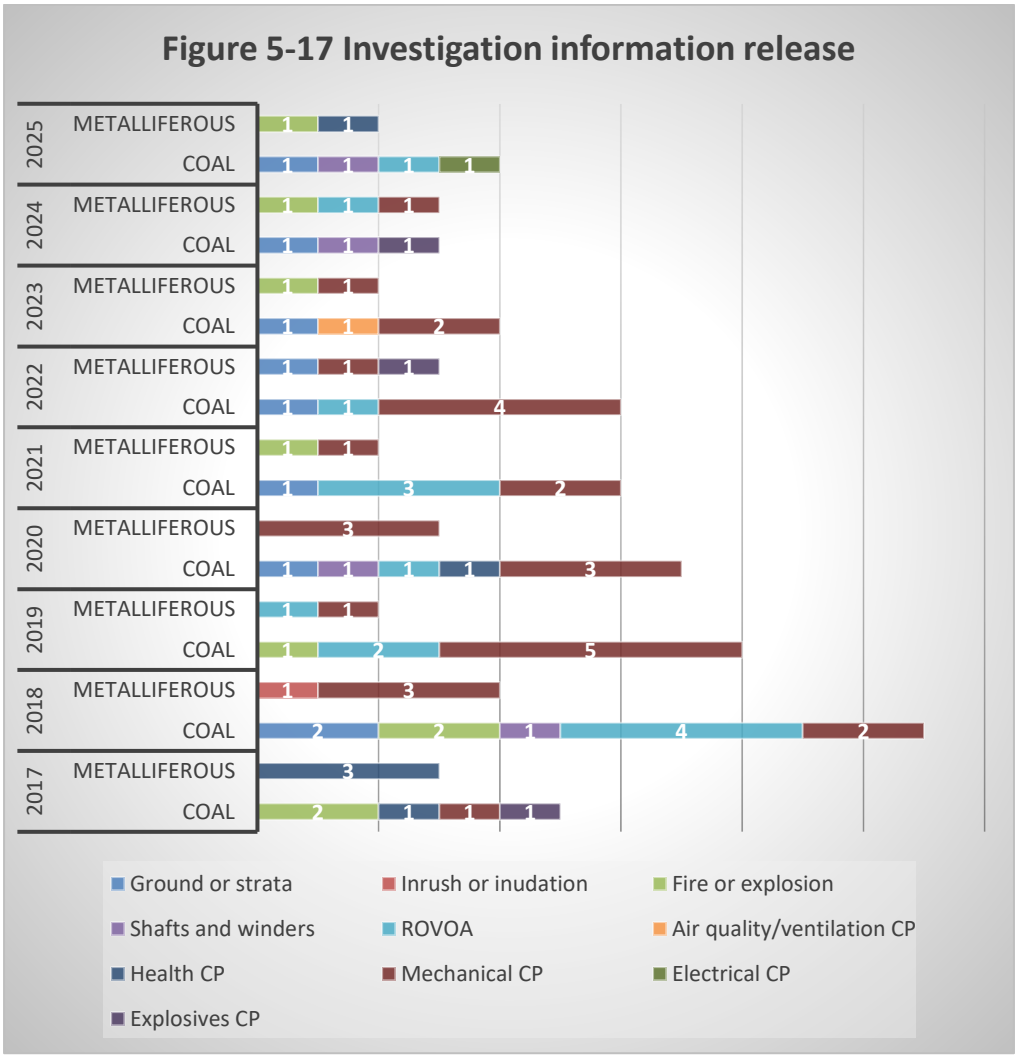
As described in the section on notifiable incidents, mine operators are required to notify the regulator about incidents that result in fatalities and serious injuries, dangerous and high potential incidents. The regulator triages these notifications to determine the appropriate action. The Annual activity report 2017-18 stated:

> *When a notification is received, the regulator triages each one based on the nature of the incident and level of harm resulting from the incident. This triage classification is used to prioritise the regulator's response to each notification. Critical and severe incidents are those which require an urgent response in that they pose (or may have posed) a serious risk to the health or safety of workers or other persons protected under the WHS framework. After initially classifying notified incidents, each is further assessed, and investigation levels are assigned.*

This section of the report examines the fatal and serious incidents identified for investigation by the Regulator. The first step in this process entails an initial investigation after which the Regulator publishes an investigation information release. Figure 5-17 summarises the incidents identified for further investigation between 2017 and 2025. The classification according to hazard or control plan is based on our assessment, not the Regulator's. Based on the initial findings, the Regulator may then conduct a full investigation.

Incidents associated with a mechanical failure and those associated with roads and other vehicle operating areas are most frequently investigated. This reflects the Regulator's analysis of notifications, which identifies "being struck" by and object (MECP) and vehicle interactions (ROVOA) as the most common incident mechanisms.

Figure 0-17: Initial investigations classified by PHMP or CP



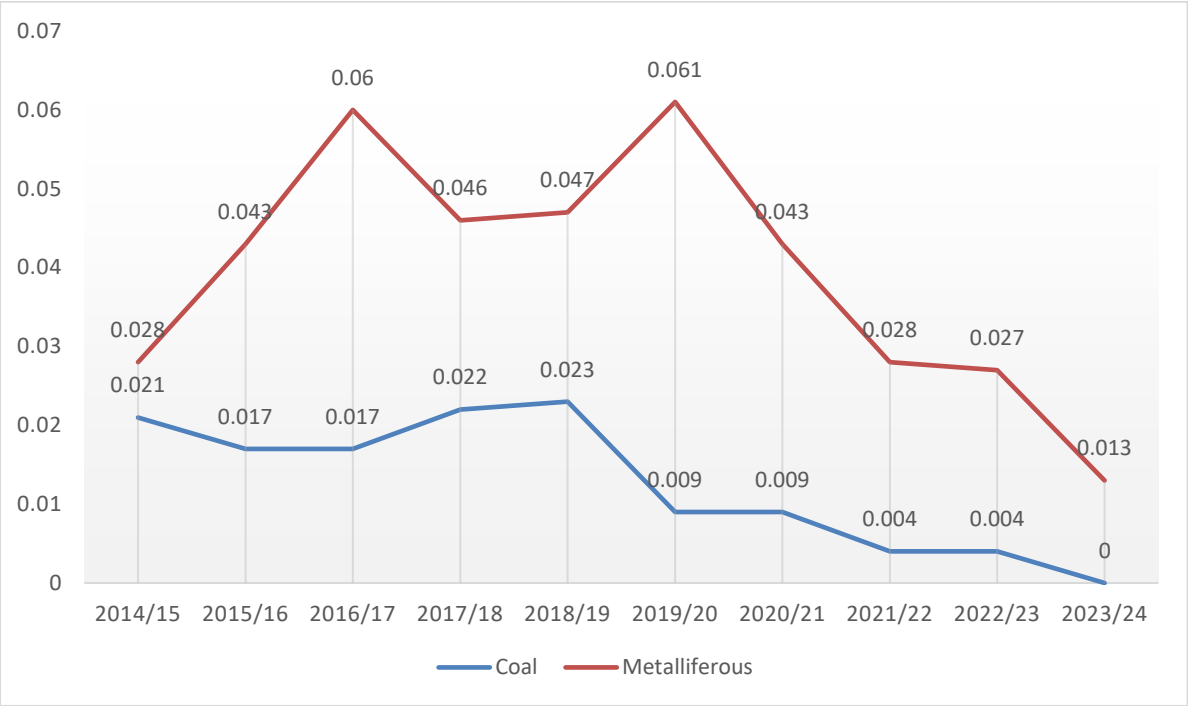
Fatal incidents

The Mine safety performance report 2015-16 noted that 'The five-year rolling average fatal injury frequency rate remained constant for the coal and extractive sectors but increased for the metalliferous sector by 68%. Overall, the five-year average fatal injury frequency rate (FIFR) increased by 13%, following on from several fatalities during the preceding three years. In its 2016-17 annual report, the regulator noted that, notwithstanding a long-term decrease in fatal injuries in mining coal, metalliferous and extractive sectors 'over the last decade the frequency rate of fatal injuries has remained between 0.033 to 0.035 per million hours worked.' It is worth noting that this stagnation has been observed in other jurisdictions (notable Western Australia and Queensland), continuing to the present, with the growing use of contractors has been identified as one factor contributing to the plateau in fatal incident ratess.[275] The Mine safety performance measures report 2023-24 noted that 'The rolling Five-year average fatal injury frequency rate in the NSW mining industry has trended down since 2016–17, in line with a long-term [downward] progression in fatal injuries over the past 100 years.' In coal mining, there was one fatality in 2016-17, one in 2018-19, and one in 2024-25 (not reflected in the chart below). In metalliferous mining, there was one fatality in

[275] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613,

2015-16, one in 2016-17, and one in 2018-19. These fatal incidents are described in Table 5-2 in the previous section. Figure 5-18 shows the five-year rolling average FIFR between FY 2014 and FY 2024.

Figure 0-18: Five-year rolling average fatal injury frequency rate – coal and metalliferous mines.



Comparing the performance of the coal mining and metalliferous mining sectors, the Mine safety performance report 2023-24 found that the coal mining five-year rolling average fatal injury frequency rate (FIFR) has shown a steady downward trend from 0.021 in 2014-15 to 0.013 in 2023-24, with a slight increase in 2017-18 and 2018-19 reflecting the fatalities noted above. In comparison, the metalliferous FIFR increased to 0.060 and 0.061 in 2016-17 and 2019-20, respectively (reflecting the impact of the three fatalities noted above), but then decreased to 0.013 in 2023-24 (see Figure 5-18). The recent double fatality at Endeavour mine will affect the five-year rolling average FIFR into the future.

Tables 5-9 and 5-10 list and briefly describes the fatalities in this period. The coal fatalities involved service contractors being hit by falling objects. Falling tyres is a known industry issue, which has been the subject of a research and design project in Queensland. This fatality was referenced in the 'Falling objects – lifting and cranage – surface and underground coal mines – stage 1 report.[276]

Table 0-9: Coal mine fatal incidents 2014-15 to 2024-25: Ten pathways prior warnings/incident; concerns raised; poor communication (N=2)

Hazard	Details	P2	P8	P9	Total

[276] NSW Resources Regulator (2022) *Consolidated report: Falling objects – lifting and cranage – surface and underground coal mines – stage 1.*

Mechanical CP	Bengalla open cut 2018 - A contract worker was fatally injured when a tyre fell while cleaning with a high-pressure hose. Marathon Tyres was responsible for the supply, repair, installation and maintenance of all tyres and rims for mine vehicles. The Mine Safety Management System specified "Golden Rules" and workers were expected undertake a personal risk assessment before each task. At the shift start meeting, the deceased raised a safety focus issue relating to suspended loads. The investigation report does not provide any details about this issue. There was no engineering control to prevent tyres from falling from the grab of a tyre. The mine relied on a Marathon Tyres SWP, which required workers to place a tyre flat on the ground before alighting from the tyre handler. Marathon Tyres denied having any knowledge that their tyre fitters were using the heavy vehicle wash bay to clean tyres. Bengalla did not prohibit Marathon Tyre workers from using the wash bay. The mine's supervisors were aware that tyre fitters were using the facility to clean tyres/rims.	1	0	1	7
Mechanical CP	Rix's Creek 2016 - A contract worker was fatally injured when the tail gate on his trailer fell while accessing the trailer for cleaning. The contractor had purchased a new vehicle for transporting processed coal form the CHPP. The trailer had no safe means of access for cleaning. It was the worker's understanding that the mine had prohibited contractors from using the heavy vehicle wash facilities. Workers had limited access to health and safety committee meetings, and there was no regular communication between the mine and the contractor. The deceased had raised concerns about the procedure for cleaning the trailer. This was not resolved, and the worker developed an ad hoc procedurethat involved propping the tailgate open with a bar.	0	1	1	7
Proportion of the sample exhibiting the failure (%)		50	50	100	7

Over the same period, there were 4 fatal incidents in metex mines, all of which involved contractors. One was associated with an above-ground construction project and a contract haul truck operator on a surface extractive mine. The other two workers were employed by a mining contractor providing labour in underground mines.

Table 0-10 Metalliferous incidents 2014-15 to 2023-24: Ten pathways prior warnings/incident; concerns raised; poor communication (N=4)

Hazard	Details	P2	P8	P9	Total
Inrush or inundation	Ridgeway 2015 - An employee of a mining labour/maintenance contractor was between a mining plant and the mine wall while water jetting to bring down a hung-up ore draw point. The mining plant was pushed by an inrush of material. There had been several similar incidents, some causing equipment damage. A meeting held between workers and supervisory/management personnel to review the procedure indicates a degree of concern. The outcome was that the existing procedure was confirmed. The procedure required workers to stand and move downwind when a hang up let go, to avoid moving behind the plant. Management was aware that some workers moved in the opposite direction to avoid the dust.	1	1	0	8
ROVOA	Snapper 2019 - A contractor was fatally injured when a dozer collided with his light vehicle. At least seven mobile plant collisions/near-miss incidents had occurred between 2014 and 2019. Investigations found workers had either failed to follow mobile plant separation distance or communication procedural requirements. At the daily contractor meeting, non-compliance with, or a need to improve mobile plant positive communication work practices were consistently raised. Pit inspection paperwork completed for the Snapper mine during the two weeks prior to the incident commented that there was "…poor radio	1	1	0	6

	comms around the site." The deceased, who was driving the light vehicle had breached BSL's separation distance, parking and communication procedural requirements immediately prior to the incident.				
Mechanical CP	Cowal gold mine 2018 - A contract worker undertaking a construction project was seriously injured and later died from complications when he lost balance and fell off a MEWP platform from a height of about one metre. Design and overreliance on low-level control.	1	0	0	5
Health CP Ventilation CP	Peak gold mine 2017 - A contract worker 36, was operating a Jumbo alone in a development road when he became unwell. The mine had decided to maintain production while a ventilation upgrade was undertaken. Insufficient ventilation led to increased heat and diesel particulate. The supervisor visited him regularly during the shift but did not undertake the required tests for heat stress. The worker became unconscious and was pronounced dead on arrival at hospital.	1	1	1	7
Proportion of the sample exhibiting the failure (%)		100	50	25	Av 6.5

Serious incidents and injuries

Figure 5-19 shows the Five-year rolling average serious injury frequency rate between FY 2014 and FY 2024. In the Mine safety performance report 2016-17, the Regulator noted that while there had been a 30% fall in the rate of serious injuries (per million hours worked) since 2007-08, there had been an increase in recent years. However, this is due to a legislative change in 2013-14, which changed the definition of a serious injury:

> *Since the Work Health and Safety (Mines & Petroleum Sites) Regulation 2014 commenced, the serious injury rate has more than doubled. The legislation broadened the scope of the definition, contributing to this increase.*[277]

The Mine safety performance report 2023-24, noted a steady downward trend in the rolling five-year average serious injury frequency rate (SIFR) for the combined coal, metalliferous and extractive sectors since 2014–15. The coal mining SIFR decreased from a high of 2.13 in 2014-15 (reflecting the four coal mining fatalities in 2013-14) to 1.30 in 2023-24. Conversely, over the same period, the metalliferous mining SIFR increased from a low of 1.24 to 1.54 (see Figure 5-4 in the previous part).

> Since the Work Health and Safety (Mines & Petroleum Sites) Regulation 2014 commenced, the serious injury rate has more than doubled. The legislation broadened the scope of the definition, contributing to this increase.[278]

The Mine safety performance report 2023-24, does not attempt to explain the differing performance trends in the coal and metalliferous sectors since 2014-15. Possible explanations for the divergence in performance include different sector-specific market forces impacting production and health and safety; differences in work arrangements, such as the proportion of contract versus direct employees; differences in application of

[277] NSW Resources Regulator (2018) *Mine safety performance report 2016-17,* Department of Planning and Environment, 5.
[278] NSW Resources Regulator (2018) *Mine safety performance report 2016-17,* Department of Planning and Environment, 5.

compliance and enforcement strategies; or indeed the different worker representative regimes described in this report.

Figure 0-19: Five year rolling average serious injury frequency rate – coal and metalliferous mines

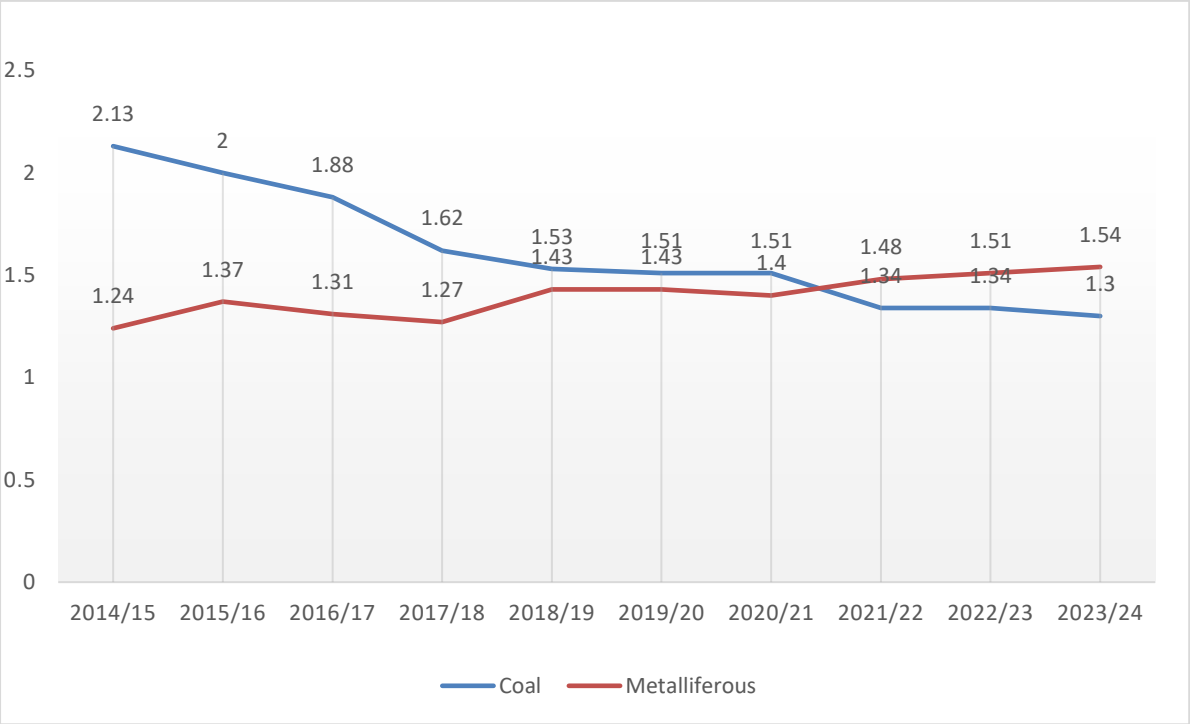


Table 5-11 lists and describes the serious injuries in the coal sector. Nine of the 23 incidents investigated were associated with MECP, and 6 of the 23 with ROVOA PHMP, which is consistent with the most frequently notified events as noted in the Mine safety performance reports. A further 3 incidents, 2 of which are classified as “Fire or explosion” and the other as “Shafts and winding systems”, could also be related to the MECP. Five of the 9 MECP incidents involved contract workers.

Table 0-11: Coal mine serious incidents after 2013-14: Ten pathways prior warnings/incident; concerns raised; poor communication (N=23)

Hazard	Details	P2	P8	P9	Total
Inrush or inundation	North Wambo underground mine 2020 - This caused a rapid loss of drilling mud from a blind bore drilling shaft. An engineered underground bulkhead seal was installed directly beneath the blind bore drilling project, where the shaft was to intersect the roadway underground. A risk assessment, which included the ISHR, had identified the hazard and an exclusion zone was established at the base of the shaft.	0	0	0	3
Ground or strata	Clarence Colliery 2018 - Two workers were tasked with cutting coal using a continuous miner - one operating the CM by remote-control and the other handling the cable. The cable hand identified a section of unstable rib that needed barring down. When the operator started the CM a large amount of material, comprised of coal and mudstone, collapsed from the upper portion of the rib and hit both workers. The mine was aware that coal spall from ribs was a hazard to workers and plant and that variables, including roof height and geological faults, increased the risk of rib spall during production. A rib spall occurred in May 2018, with coal falling on	1	1	1	9

	and injuring a worker. Following this incident, a cross-section of workers participated in a risk assessment. Routine installation of support (i.e., mesh and bolting of ribs) was not considered, despite information obtained during the investigation to indicate that workers often discussed this. When workers failed to identify rib issues, and a rib incident occurred, they were counselled for failure to identify deteriorating strata. As a result of an incident on 12 July 2016, several workers were counselled for failure to recognise rib strata hazards.				
Fire or explosion	Metropolitan colliery 2019 - Seventy workers were withdrawn from underground workings after carbon dioxide and methane levels increased unexpectedly to hazardous levels. Regular inspection identified elevated CO and methane. The decision to withdraw workers was made promptly.	0	0	0	4
Fire or explosion	Russell Vale Colliery 2017 - A catastrophic failure of a diesel engine system occurred while operating underground in the mine. This resulted in internal engine components being ejected from a cylinder block and being exposed to the mine atmosphere. The explosion-protected diesel engine system was not maintained, inspected and tested.	0	0	0	4
ROVOA	Bulga open cut 2018 - The cabin of a dozer collided with the rear edge of the tray body of another dozer, which resulted in the two pillars of the operator's cabin being pushed inward toward the driver. It is believed the driver had a microsleep. In 2016, the mining union raised concerns about the history of fatigue-related incidents at the mine. Concerns were raised about the planned removal of an existing control of two night sleeps between the day shift and night shift rotation to one night sleep.	1	1	0	6
ROVOA	Maules Creek 2018 - A contract service truck operator suffered serious injuries when he collided with a haul truck at a four-way intersection. The day shift supervisor changed the intersection road signs during the day shift the day before the incident, to allow haul trucks to drive straight through the intersection from the mine's production area. There was no risk assessment conducted and no consultation with the service crew about the proposed change. There had been four near-miss incidents at intersections between March and April 2018.	1	0	1	7
ROVOA	Wilpinjong open cut 2019 - A dozer operating semi-autonomously (SATS) collided with a manned excavator. The excavator operator was scaling a section of a highwall in the operating area of the semi-autonomous dozer fleet. The excavator travelled into the path of the dozer (working in semi-autonomous mode) while the dozer was reversing. A risk assessment conducted before the SATS was implemented identified engineering controls (such as collision avoidance) in addition to a separation bund for manually operated equipment operating in a SATS avoidance zone. These engineering controls were not implemented as the mine considered they were not reasonably practicable given the SATS "geofence" in place. On the day of the incident, the SATS avoidance system was inoperable, and a miscommunication occurred about the SATS work area.	0	0	1	5
ROVOA	Maules Creek open cut 2021 - A fully laden Hitachi narrowly avoided colliding with a light vehicle at an intersection on the mine haul road. The incident occurred at a T-intersection between multiple excavator loading areas and an in-pit dump. There were no processes followed at the mine to ensure that newly constructed roads complied with the intended design plan and the standard. Inspections conducted by mining supervisors failed to identify issues with windrow heights and other roadway features near the intersection.	1	0	1	6

ROVOA	Mannering Park underground mine 2016 - An operator was driving a load haul dump vehicle in an underground roadway when a damaged roof support strap entered the open cab and hit the operator in the head. The mine was in transition from care and maintenance to operation. The mine operator contracted labour and services from another company within the group to construct an underground link from the mine to the adjacent Chain Valley Colliery. The operator had not ensured that roadway audits occurred as required by the approval to recommence operations. A truck procured for works was not properly assessed and was too high for the conditions. The HSEC co-ordinator had concerns about driving the PJB-2545 in relation to height because he had contacted a W-Strap a couple of times when driving. He also stated that the floor heave made the roof height “tight in spots”. Operators did not report collisions or contacts with the roof or ribs despite there being substantial evidence to suggest it was a common occurrence.	1	1	1	9
ROVOA	Ashton underground coal mine 2019 - A dangerous incident occurred when CM lost traction and slid backwards down the sloped roadway while tramming forward and trimming the floor. The operator alerted the cable hand, who slipped while trying to move out of the way. He sustained soft tissue injuries to the back of his shoulder, his hand, thumb, chest and legs. Conditions were generally wet and slippery with varying uphill grades but not exceeding the CM’s safe operating limits. Workers had observed sections of the roadway that contained exposed hard stone floor substrate and had also observed that CMs had greater difficulty cutting uphill in hard stone face and floor conditions, causing the tramming tracks to spin and lose traction. Deputies had also reported that rubber tyred shuttle cars had difficulty maintaining traction along sections of the the roadway. In response, mine supervisors implemented more stringent safe standing zones to prevent workers being struck by a shuttle car if it slid down the roadway grade. The possibility of a CM sliding down the roadway was not foreseen or considered.	0	1	0	2
Fire or explosion MECP	Mt Arthur open cut 2017 - A contract worker suffered serious burns to his face, neck, torso and arms when a fire started while he was refuelling a diesel-powered tyre handler at the mine's heavy vehicle refuelling facility. The worker attached a free-flow adapter nozzle to an 800 litre per minute refuelling hose, and in doing so defeated several safety controls in the quick-connect system. The adapter did not positively connect to the tyre handler’s fuel tank and did not have the capability to automatically stop the flow of diesel when the tank was full. Diesel entered the engine bay, contacting a hot surface. The worker had been directed to the facility by the refuelling cart crew due to demand. The tyre handler was not permitted to use the facility, but it had become common practice due to time pressures. Concerns about timely access to refuelling had been raised by the workers, but the issue had not been resolved by the contract supervisor and the mine.	0	1	0	5
Fire or explosion MECP	Rix's Creek open cut 2023 - A worker suffered burns to his hands, face and body when unleaded petrol contacted the hot engine components of a hot water pressure cleaner he was refuelling. The worker had not allowed the engine to cool.	0	0	0	0
Shafts and winders MECP	Appin Winder Project 2020 - At the time of the incident, the mine operator had engaged a principal contractor, Winder Controls Australia Pty Limited (WCA), to undertake a drift winder upgrade project. During the removal of the winder rope from the Appin East drift winder, the head sheave pulley heel, weighing several tonnes, dislodged from its support frame and fell approximately 13 metres to the ground below.	0	0	0	3
Mechanical CP	Myuna Colliery 2021 - A mine worker was pinned between the CM boom and the rib while picking up a feeder cable behind the moving CM and sustained serious internal injuries, arm and rib fractures. There was some confusion amongst workers about what	0	0	1	6

	constituted "flitting" and, therefore, if "flitting" positioning rules applied to the task. There was a miscommunication between workers. The (injured) worker thought the CM operatorsaid “last bolt”, which signalled to him that the bolting cycle was complete. The worker stated he said, “going cable” to inform the other workers he was leaving the CM platform.				
Mechanical CP	Springvale Colliery 2019 - A worker was seriously injured when hit by a bow shackle after a RUD link failed during a towing operation using the shearer in a lateral pull configuration during a longwall changeout. The workers assigned to complete the task did so without adequate information, training, instruction or supervision. This included the assembly of a towing system, assessment of working load limits when lifting or towing, and the identification of no-go zones and safe standing zones. As the slow runner drive was not operational, the plan was to pull the AFC with the shearer. No relevant procedure or work instruction was found for this operation, so a JSA was created for the work activity/task to ‘pull AFC with shearer’. The controls identified were safe positioning. The towing system failed on two occasions, resulting in the sudden breakage of the chain. The failure of the towing system was not reported or documented. Evidence of a communication breakdown where the longwall co-ordinator directed the incoming deputy to collect pulling the equipment, somewhat overriding the outgoing night shift deputy's handover, which flagged the need for heavier ropes. The deputy supervising the workers was not present when the towing system was assembled and connected, nor present at the time of the incident. A longwall engineering coordinator and mechanical supervisor were not present when the towing system was assembled or connected. nor at the time of the incident.	1	0	1	6
Mechanical CP	Appin North Mine 2019 - A labour-hire worker was assisting with the installation of a new scraper conveyor. The conveyor standards identified that the most serious and fatal incidents occur on conveyors during cleaning, maintenance or unsafe access. The worker was standing on a steel enclosure on top of the scraper conveyor washing coal fines into the sump. The steel enclosure was covered with a finer mesh (tech mesh), which was installed as an interim measure to prevent fingers from entering the scraper conveyor. There was a gap in the steel enclosure under the mesh at the end. The worker’s foot bent the tech mesh down, and his foot and a small section of the mesh became entangled in the scraper conveyor. Mechanical commissioning, which would have included an assessment of guards, had not been completed, stemming from a failure to complete the site introduction process for the conveyor. There was no formal feedback link to inform deputies of the status of the new equipment underground. He believed that isolation procedures did not apply during commissioning and that the conveyor was fully enclosed and did not pose a hazard to the workers. He was of the view that he had been given permission to allow the scraper conveyor to be operated to facilitate the installation process.	1	0	1	6
Mechanical CP	Ulan Underground mine 2019 - A contract Longwall Maintenance Fitter sustained serious leg injuries due to an unexpected automatic advancement of a Powered Roof Support (PRS). Due to poor communication and lack of task-related documentation, the workers were unaware of the requirement to transport the replacement PRS leg cylinder. The approach to isolation was "ill disciplined". Neither the shearer nor PRS were electrically or hydraulically isolated, and isolation was not otherwise discussed amongst the workers at this time. Factors that contributed to the incident included a failure to provide adequate supervision and identify clear lines of responsibility of workers; poor communication between task coordinators, the LW deputy, and workers; and no lack of supervision by the LW deputy.	0	1	0	4

Mechanical CP	Mandalong Underground mine 2022 - Three workers were extending a water pipe to a new panel. A high-pressure air unexpectedly escaped from the air pipe in proximity to the two workers after a water pipe had been extended. The investigation determined there was no evidence to establish that the plant failure was causally related to the incident.	0	0	0	0
Mechanical CP	Ulan West Underground mine 2015 - Contract workers were testing and checking the integrity of recently recovered polypropylene pipes from the underground workings of the mine when a pipe end known as a 'pressure manifold' separated from the end of a polypropylene pipe. A designer from CalAir Systems warned that the Pipelion polypipe had several manufacturing defects and abnormalities and recommended that this product not be manufactured. The workers were provided with a safe work procedure, but a formal risk assessment was not undertaken. The procedure had been updated following a previous incident. The polypipe was not manufactured to the Designers R&D and some ends were not the correct diameter; transport of pipe out of the mine did not consider damage to the fittings; the wrong test medium was used - should have used a non-compressed substance such as soapy water and not compressed air; the pipe was not secured; and lack of co-ordination between technical services and mechanical engineering.	0	1	1	8
Mechanical CP	Ravensworth open cut 2019 - A haul truck was undergoing routine maintenance when a component was ejected under pressure, striking a worker. Thermal lancing had been used.	0	0	0	2
Mechanical CP	Tarrawonga open cut 2022 - A contract worker was removing a lifting plate after the conclusion of repairs to a haul truck. The lifting system of work was inherently unsafe because it necessitated a worker positioning themselves in the line of fire of the 32-kilogram lifting plate.	0	0	0	4
Mechanical CP	Boggabri Coal open cut 2022 - Three workers were preparing to remove a wheel hub and strut from position one of a dump truck when the wheel hub fell to the ground, narrowly missing the workers. The hub/spindle assembly was not securely supported. The practice of supporting the hub and spindle assembly using only a floor jack had become an accepted practice on-site. Neither the mine nor the inspectors' investigation could determine when this occurred.	0	0	0	4
Explosives CP	Moolarben open cut 2017 - A blast crew were observing the blast from a position about 246m south of where the explosives were set (the blast area), and within a 500m personnel exclusion zone (PEZ) and a 300m equipment exclusion zone (EEZ) specified in the Charging and Firing of Explosives Procedure issued in about February 2017 (the CFE Procedure). A piece of clay about the size of a football (flyrock), projected by the blast, struck one of the vehicles being used by the blast crew, causing it to be damaged and forcing the workers to take evasive action. There was some evidence that blast crews often positioned themselves within the PEZ. A worker is reported have raised this concern. The regulator claimed that exclusion zones were not enforced by the mine. The mine's failure to train and enforce exclusion zones was not upheld in court.	0	1	1	3
Proportion of the sample exhibiting the failure (%)		35	30	48	Av 4.4

The case study in Text box 2 illustrates how involving SSHRs and ISHRs can contribute to industry learning from incidents. SSHRs were involved in the pre-project risk assessment that identified the risk of inrush in the event of a bulkhead failure and implemented an exclusion zone as a mitigating control measure.

Text box 1: Effective engagement with Site and Industry Safety and Health Representatives

North Wambo Underground coal mine – Collapse of a shaft collar

A catastrophic failure of an underground bulkhead seal caused a rapid loss of drilling mud from a blind bore drilling shaft. The purpose of the engineered bulkhead, constructed directly below blind bore drilling where the shaft was to intersect the underground roadway, was to confine the drilling mud and prevent interaction with the underground workings.

Risk assessment – A risk assessment was undertaken with SSHR involvement. The RA team had foreseen the risk of inrush and had documented this in its risk assessment. An inrush control zone was implemented as a mitigating control to prevent workers from being exposed to the fatal inrush that ultimately occurred.

Time pressures – The original plan to blind sink into virgin coal and construct mains roadways to the completed shaft changed due to delays. An alternative engineered solutions involving the injection of a resin material into the void to create a barrier between the borehole being drilled and the underground workings.

Communication and trust – Communication between the drilling contractors and the underground mine control room had confirmed that the underground inrush control zone had been established, and no workers were at risk before drilling commenced on the morning of the incident. The incident was communicated to the mine workforce.

The investigation – The causal investigation team established by the Regulator included a Mining and Energy Union, Industry Safety and Health representative. Inspectors carried out an initial site assessment after the incident with Industry and Site Safety and Health representatives. The causal investigation found that:

Deviation from the original plan due to underground and surface considerations resulted in an alternative location for the drilling shaft, where alluvial material to a depth of 13.5 metres was identified, requiring consolidation of material by resin injection.

Inadequate change management procedures implemented when it was identified the bulkhead had not attained its design strength.

The seal failed to attain design strength and the risk assessment failed to consider the impact of rapid loss of confinement pressure created by a rapid loss of drilling mud on the stability of the upper section of the shaft being drilled allowing the ingress of alluvial material into the shaft.

There were no workers exposed to risk due the underground inrush control zone being established and a perimeter around the destabilised ground on the surface.

Table 5-12 lists and describes the metalliferous (and one surface extractive) mine incidents. Five of the 9 incidents investigated were related to the MECP. Two of the 3 “Fire or explosion” incidents were FOMP incidents as noted in the fire or explosion section on targeted or priority compliance assessment programs. Not all investigation reports clearly identify the employment type of injured workers. Some mine’s use labour and maintenance service contractors. Tritton maintenance services were undertaken by a maintenance service contractor; Peak gold mine shotfirers were employed by two different blasting contractors; CSA and Cadia retain a mining service contractor to provide labour and maintenance in production areas. The Northparkes incident involved contract workers undertaking a mill reline maintenance and cleaning service.

Table 0-12: Metalliferous serious incidents after 2013-14: Ten pathways prior warnings/incident; concerns raised; poor communication (N=9)

Hazard	Details	P2	P8	P9	Total
Fire or explosion	Tritton underground mine 2018 - Nineteen workers were moved to refuge chambers in the lower sections of the mine after a haul truck caught fire about 900 metres underground in the main decline. The design of the mine’s ventilation system resulted in the smoke and gases generated by the fire travelling further into the mine towards the workers, adversely affecting the air quality. Communications and the external air supply to the refuge chambers were lost as a result of the fire. The occupants relied on the self-contained air supply within	1	1	1	8

Hazard	Details	P2	P8	P9	Total
	the refuge chambers. A worker reported a leak in the exhaust flex to a maintenance supervisor, but he did not make any recommendation about taking the truck out of service. A Sandvik representative said he advised a different maintenance supervisor that the truck had a hole in its exhaust flex and questioned whether it should be in service.				
Fire or explosion	Perilya underground 2025 - All underground workers retreated to fresh air bases when workers undertaking remediation identified fumes and vapour in an area where a polyurethane product was being used to fill a void and stabilise the ground. The workers successfully retreated to where they remained until it was assessed as safe to leave the mine. The control room was initially reluctant to evacuate the mine in case it was not warranted, and the call was not made for some 2 hours after the fire was detected. No structured consultation occurred with operational teams; no procedures were developed for high-risk chemical application. The causal investigation stated, 'Evacuation was, in part, delayed due to perceived concerns relating to the ramifications of sounding an alarm when not required, which highlights a cultural issue that has manifested as minimal hazard reporting onsite' and a belief that the PUR was fire retardant.	1	1	1	9
Fire or explosion	Cadia gold mine 2021 - A dangerous incident occurred when a loader in the underground workings caught fire near the front left tyre. Once alerted of the fire, the mine initiated its emergency response procedures, and due to the presence of explosive charges in the roof near the loader all personnel were immediately directed to retreat to refuge chambers and were evacuated to the surface and fire was allowed to burn. Information received by the regulator in 2023 indicated the fire was caused by the disposal of an explosive mix on the mine floor, which was washed down with water.	0	0	0	1
Explosives CP	Peak gold mine 2022 - An unplanned initiation of some electronic detonators in the stope occurred. During the re-entry, post-firing, it was identified that a production stope had not been disconnected from the mains firing line and the shot had fired. The blast plan was delayed over several shifts due to some problems encountered and the plan was changed. There were two blasting contractors, one for development using an electric detonator and a production contractor using an electronic detonator. The development blast proceeded and was fired via the 240v AC mains firing system. The I-Kon III electronic starter detonator and firing line connection was removed from the production stope; however on re-entry it was found to have fired. Communication failure between shift supervisors and the two contractors using different detonating systems. Application of a 240v AC pulse to the I-Kon III detonators resulted in the detonation of the explosive product in the production stope. The manufacturer had issued a bulletin warning that electronic detonators must not be connected to 240v AC power and/or other non-approved initiation equipment.	0	0	1	5
Mechanical CP	CSA copper mine 2020 - A drill rig offsider's right foot was crushed by the front left jack, which was being lowered. After maintenance, the rig was relocated at the face, and the offsider plugged the face de-watering (Flygt) pump’s restrained 1000 volt plug into the jumbo’s receptacle at the front left-hand wheel guard position. The rig design had been changed by the OEM. The relocation of the pump receptacle placed personnel near the hydraulically actuated stabilising jack, thereby introducing a potentially hazardous situation for any person connecting a pump to the receptacle.	0	0	0	4
Mechanical CP	Cadia gold mine 2023 - A Jumbo operator offsider’s left arm became entangled on the rotating drill steel, resulting in traumatic amputation to his left arm below the elbow. It was common work practice at the mine for workers not to use immobiliser switches, contrary to the mine’s safe work procedure, and instead work near jumbo booms	0	0	1	5

Hazard	Details	P2	P8	P9	Total
	without the booms being immobilised; and for operators to engage a lever in the cabin to rotate the jumbo boom to assist in threading drill steels being held by offsiders. The mine operator did not effectively monitor the use of the immobiliser switches. The injured worker usually worked as a truck driver, was not trained as an offsider, and was inexperienced in the role. Supervisors were responsible for a large number of workers over an extensive area of the mine, resulting in limited supervision of each work team.				
Mechanical CP	Northparkes processing plant 2023 - A contract worker, undertaking mill relining, was using an angle grinder to cut the top section off a 1,000 litre plastic intermediate bulk container (IBC) near the processing plant. To facilitate the removal of waste product from the processing plant, workers obtained what they believed to be empty IBCs from a nearby storage area and cut the top portion off the container so that they could be used as waste bins. The IBC had not been washed, and it contained a residual amount of a liquid substance (Fischerchem Collector C503). The mine operator's hot work procedures, which stated that a hot-work-permit was required for use of an angle grinder, were not followed at the time of the incident. The permit required assessments of relevant hazards and risks to be undertaken. The injured worker did not believe that the hot-work-permit system applied to the work that he was undertaking.	0	0	0	3
Mechanical CP	Thuddungra 2022 - A worker sustained a serious hand injury when a spade he was holding became entangled in the moving conveyor rollers of a mobile screen, which was being cleaned while operating with a guard removed. The new and inexperienced worker received no induction, training or supervision, and the work environment was inherently unsafe.	0	0	1	4
Mechanical CP	Thuddungra 2022 - A worker was inundated with material when he fell into the hopper chute. Three workers had fed rock into the conveyor system to test the conveyor operation after repairs on the plant. The conveyor was blocked, and one worker proceeded to clear it using a hose. The operator and the contractor lost sight of the worker who was standing on a pile of material on the top of the conveyor guard. The operator loaded additional product into the hopper when the worker fell forward into the chute and was covered in a large amount of rock. It was common knowledge among workers that the lanyard on the emergency stop was stretched. In the 18 months before the incident, the mine's electrician made 2 separate written requests for replacement lanyards. The injured worker did not isolate the conveyor or the feeder. He was unaware of the location of the conveyor's isolation point -they were in unsafe and impractical locations. The person undertaking the role of the competent person at the time of the incident did not hold a quarry manager's practicing certificate but was permitted to undertake this role for limited periods pursuant to the Quarry Manager Instrument of Exemption 2015. He said he was not conversant with the HSMS, and the investigation identified several issues, including lack of training and supervision, including failure to enforce the isolation procedure.	1	1	1	9
Proportion of the sample exhibiting the failure (%)		33	33	67	5.33

Tables 5-11 and 5-12 show that there were more communication and trust issues identified in metalliferous mines compared to coal mines – 67% compared to 48%. The proportion of metalliferous and coal incidents where there was evidence of concerns being raised before the incident is similar.

The case study in Text box 3 illustrates how the lack of knowledgeable industry-based worker representatives contributed to failures in post-incident management. It highlights the

importance of worker feedback – the third learning loop in triple loop learning – in incident prevention and outcome mitigation. Most of this information was sourced for the causal investigation report. Additional information pertaining to the WHS entry permit holder was provided by the MEU entry permit holder in Broken Hill. The entry permit holder was not invited to participate in the emergency response risk assessment or the causal investigation.

Text box 2: Lack of proactive engagement with HSRs and WHS entry permit holders

Perilya Southern Operations - Underground silver, lead and zinc mine

A significant underground fire occurred during a polyurethane foam (PUR) void fill remediation project in January 2025t. The purpose of the project was to stabilise old workings that had consequences for infrastructure, production and worker safety. The fire originated in a previously mined section of a haulage shaft and resulted in an emergency evacuation of 46 workers and temporary entrapment of 5 workers in a fresh air base.

Planning – The project work area was not inspected due to geotechnical hazards present in the historical mining void. Planning relied on incorrect mine plans provided by Perilya to MCA Engineering Pty Ltd, a contractor who provided shaft maintenance activities. Planning failed to detect key fire risks, including a timber-lined ventilation rise and the potential for residual ventilation materials such as hessian and paper-based sheeting, which could not be seen from the shaft access area. MCA engaged BMS Strata Systems Pty Ltd to undertake the geotechnical remediation by applying polymeric chemicals. BMS uses a range of products that react quickly to create tough, flexible and watertight barriers.

Risk assessment – A risk assessment conducted by BMS in September 2024 had identified a fire hazard when exceeding theoretical volumes. A new risk assessment in January 2025 focused on ground stability and failed to address known chemical combustion risks associated with PUR, including flammability, toxic by-products, and heat generation. Critical information was ignored or misunderstood, including fire thresholds, material limitations, and regulatory guidance. Personnel held the mistaken belief that the product was fireproof.

Time pressures – Decisions were taken due to production pressure and an urgent need to stabilise the area, and this overshadowed critical planning and due diligence checks.

Communication and trust - No consultation occurred with operational teams and there is no evidence of worker representatives being involved in the risk assessment process. As fire was not identified as a hazard, no monitoring such as fire watch or surface temperature monitoring and no mitigating control measures were in place such as an evacuation Trigger Action Response Plan. Evacuation was delayed due to (1) perceived concerns about sounding the alarm when not required; and (2) mistaken belief that the product was fire-retardant. Delay in sounding the alarm exposed workers to toxic fumes over a 2-hour period. After the incident, workers reported respiratory symptoms but were initially unaware that these were associated with the chemical exposure.

Information from the Broken Hill Mining and Energy Union indicated that HSRs had sought support from the union. The entry permit holder had information from the National Union Vice President, which indicated that this PUR product was not approved for use in coal mines. Perilya was undertaking a risk assessment before sending mine rescue workers underground to contain the fire without PPE to protect from absorption of the toxic chemical through the skin. Information from the MEU warned workers about the toxic properties of the chemical fumes and skin absorption as well via the respiratory system. WHS entry permit holders do have the right to participate in investigations, but were not invited to be part of the post-incident investigation.

The investigation – A cross-section of the workforce, including HSRs, superintendents, supervisors, safety managers and inspectors was established to participate in the investigation.

The investigation concluded that the incident was marked by an escalation of multiple preventable failures.

- Reliance on incorrect plans
- Misjudged risk assessments based on incorrect assumptions about chemical properties
- Inadequate hazard recognition associated with injecting an expanding, heat-generating chemical into a confined, inaccessible, and timber-lined void

Fifty-one workers were potentially exposed to a fatal fire hazard and exposed to toxic fumes with health risks.

Table 5-13 presents the Ten pathways analysis summary statistics. With exception of P5 Audit failure, more failures were identified by individual incident investigations in metalliferous mines compared to coal mines.

Table 0-13: Ten pathways summary statistics fatal and serious incidents 2014 to 2025 (percent of incidents where failure identified)

	P1 Eng. failures	P2 Prior incident or warnings	P3 RA failure	P4 OHSMS failure	P5 Audit failure	P6 Production pressure	P7Reg failure	P8 Concern raised	P9 Comms or trust	P10 Emergency mgt	Ave failures per incident
Coal (N=27)	0.81	0.41	0.78	0.78	0.41	0.44	0.22	0.33	0.56	0.04	4.78
Metalliferous (N=13)	1.0	0.54	0.85	0.92	0.31	0.46	0.31	0.46	0.54	0.31	5.69
All mines (N=40)	0.88	0.45	0.80	0.83	0.38	0.45	0.25	0.43	0.73	0.13	5.10

Concluding observations

The most convincing argument in support of re-establishing ISHRs in the metalliferous and large extractives mine sector is the steady rise in the SIFR since 2013-14 when the consolidated WHS (MPS) Act was enacted, which excluded metalliferous mines from the mining industry-specific worker representative arrangements (see Figure 5-19). Between 2004 and 2014, the SIFR trended down for both the coal and metalliferous sectors. As postulated at the outset of this review, there are several possible explanations for this divergence in performance. The weakening of representative arrangements in the metalliferous mining sector and the parallel strengthening of representative arrangements in the coal mining sector were flagged as a possible explanation.

We attempted to examine five key issues/questions. The first question related to the view that metalliferous mining is less hazardous than coal mining, and the remaining four questions related to worker representative arrangements and their impact on WHS performance. We reviewed a wide range of reports, including annual safety performance and quarterly safety reports, consolidated targeted assessment and compliance priority reports to gain an insight into comparative safety performance of the metalliferous and coal mining sectors, and the contribution of worker representatives to risk management. A general observation - which may be out of scope – is that reports have become more generic, particularly in the last couple of years, providing a less nuanced summation of identified issues. As outlined in the summary in the subsection above, worker representation has not been a focus in any program, although a few made observations or recommendations about involvement in risk assessments or training in principal hazard awareness. Where parallel programs were conducted in coal and metalliferous mines, more coal mine consolidated reports identified better performance compared to metalliferous mines, as indicated by notices issued and ratings achieved on critical control/control support implementation. Although it is not possible to claim that ISHRs and SSHRs explain the difference observed in performance, it is reasonable that their oversight has contributed to this outcome.

One of the Wilkinson Fatality Review recommendations was to understand the reasons why certain less-effective controls are implemented by s in preference to other, more effective controls. Worker representatives play a vital role in this level of learning and understanding. The absence of mining-specific representative arrangements in metalliferous mining seriously undermines this level of feedback, as is evidenced by focus group findings

described in Chapter 6. This chapter applied the Ten pathways model (based on examination of fatal mine incidents), which identifies recurring pattern of failure and argues that attention to these is a means of minimising such incidents. As an aside it is worth noting that Ten pathways was used to undertake measures of safety performance as part of the annual roadshows conducted by the Western Australian mines inspectorate between 2017 and 2023 and was the core subject of the 2023 Roadshow.[279] The mining industry in Western Australia is predominantly metalliferous to put it mildly and employs well over 100,000 mineworkers. This demonstrated that industry participants understood the pathways model and could apply it to their mine. Further, all the elements in Ten pathways with specific regulatory requirements in Western Australian mining and this is almost certainly also the case with NSW as these are fairly standard requirements in mine safety legislation (these aspects will be examined in more detail in the second stage report). For its part, as mentioned elsewhere in this report the NSW Regulator used the Ten pathways in its *Learning from disaster* training package. One significant feature of this chapter was the application of Ten pathways to an examination of serious incidents in NSW mines.There were relatively detailed investigation reports available between 2004 and 2024.The initial analysis of 51 serious incidents (Jackson, 2023) was updated for this report.[280] This updated analysis indicated that a significant number of the failures identified in Ten pathways were present in the NSW mine incidents, both coal and metalliferous. Metalliferous mines had more failures, including those most directly related to worker representation (P2, P8 and P9).It is important to note that most other pathways that can be affected by poor communication, feedback and trust. Interviewees/focus groups and attendees at a NSW SSHR training day organised by the MEU also completed a high potential incident (HPI) based on the Ten pathways model (just under 60 in total), and these again indicated the same recurrent pattern of failures. Reponses from metalliferous miners consistently identifiedmore failures. Apart from reinforcing the point that metalliferous mining is not conspicuously safer than coal mining (which is clear from the overall statistics examined in this chapter) it is also suggestive that as a follow-up to the *Wilkinson Fatality Review*, Ten pathways should be used as a self-audit tool by companies, as a guide to investigations into incidents and as a tool for both ISHRs and SSHRs (which is already beginning to occur in Queensland) and as part of the enforcement/targeted assessment toolkit. This could be facilitated by the production of the guidance note explaining the pathways, how they align with both NSW regulatory requirements and sound mine safety and health management principle, and with self-audit tools and appropriate training/awareness raising.

Returning to our five key questions, the introduction of the Work Health and Safety (Mines) Bill implied that metalliferous mining is inherently less hazardous than coal mining and therefore mine-specific representative arrangements were not required. However, the number and mechanisms of fatal and serious incidents, the number of notifiable events, and the rate of notices issued suggest this assumption is incorrect. For example, a comparison of ground fall incidents in metalliferous compared to coal mines (see Figure 5-13) suggests a higher rate in underground metalliferous compared to coal mines. Dust generated by many metex mines contains crystalline silica, and these mines have not had the same level of

[279] Jenke T, Boylan JL, Beatty S, Ralph M, Chaplyn A, Penney G and Cattani M (2022) Fatality risk management: Applying Quinlan's Ten Pathways in Western Australia's mining industry. *Safety Science* **146,** 105494. https://doi.org/https://doi.org/10.1016/j.ssci.2021.105494.

[280] Jackson, H. (2021) Recurrent causes of occupational incidents in the NSW, Australia coal and metalliferous mining industry, PhD thesis, University of Newcastle NSW.

focus on dust diseases as coal mining. In addition to silica, some metalliferous mines generate dust containing lead or undertake lead work, both of which expose workers to lead. Underground metalliferous mines also have significant heat exposures, which have resulted in a fatality. Finally, a compliance assessment program focusing on contractor management found that contractors in metex mines found a lack of involvement in site risk assessments and shift start meetings, non-compliance with procedures during major shutdowns and permit-to-work procedures. The rate of compliance notices issued per assessment is consistently higher in metalliferous mines compared to coal mines (see Figure 5-9). The Regulator's analysis of Fires On Mobile Plant (FOMP) incident notifications across sectors and operation types, found that underground metalliferous mines accounted for approximately 19% of FOMP incidents. There were three serious fire and explosion incidents investigated by the Regulator in the metalliferous sector (see Table 5-12). These findings directly contradict a number of statements made in recent years as to why more stringent representative mechanisms are needed in coal mining but not in metalliferous mining. What this chapter also showed was that significant problems in metalliferous mining apparently failed to attract the level of review and revision in compliance strategies warranted. The tragic double fatality at the Endeavour mine highlights the need 'dig deeper' when looking at the implementation of critical controls/control supports.

With regard to the issues of entry permit holders and ISHRs a number of important differences were identified in Chapter 3 which was reinforced by interviews/focus groups in Chapter 6. The case study presented in Text boxes 2 and 3 illustrates the different levels of involvement of ISHRs and WHS entry permit holders in investigations, even though permit holders do have the right to participate in investigations. The evidence in this chapter could not add much to this or the third issue of the comparative effectiveness of HSR/WHS committees. Nonetheless, this observation actually demonstrates a significant omission. That is, since the Wran Inquiry or following significant changes in legislation (notably 2004 and 2013) affecting worker representation in mining, neither MSAC nor the Regulator has undertaken any detailed review of representative structures, including gaps and issues, notwithstanding some evidence of serious problems, including those highlighted in the *Digging Deeper* report. It thus appears that the MSAC's rejection of proposals (Bills and the Portfolio Committee, which did cite some evidence – see chapter 3) to consider reintroducing the ISHR type position into metalliferous mining lacked a strong evidentiary base. The interviews/focus group responses in Chapter 6 provide evidence on the comparative effectiveness of the representative regimes in metalliferous and coal mining.

We identified some lost opportunities to assess the WHS representative structure in metalliferous mining. Two compliance programs that addressed reporting and victimisation and risk management and supervision could have included some inquiry into SSHR/HSR concerns and experiences regarding these matters. Our focus group/interview participants certainly had views on both these matters. The campaign on hazard reporting and safety-related issues, conducted in 2022 in response to a survey conducted on behalf of MSAC, found that workers thought safety concerns at their workplace were not always appropriately addressed. The focus of assessments was on reporting systems and supervisor support for their use. In metalliferous mines, this campaign could also have focused on HSRs, their experiences in raising concerns on behalf of workers and if they are supported to carry out their functions. We found limited evidence that assessment programs examined how mines implemented the safety role for workers in the selection and implementation of control

measures for principal mining hazards and control plans. In coal mines, the targeted assessment on the spontaneous combustion and ground or strata PHMP indicated that workers had been consulted in the development of control measures. We found no evidence of worker consultation regarding controls for principal mining hazards in metalliferous mines. This may have occurred, but was not mentioned in the Regulator's consolidated reports. A ground or strata targeted assessment in metalliferous mines noted that workers may not be competent in ground awareness, ground support, or seismicity (based on lack of training records). The inrush or inundation targeted assessment recommended that workers be trained on hazard awareness. There is also an opportunity to train HSRs and provide refresher training on specific principal hazard awareness.

With regard to the fourth issue of worker voice both analysis of official investigations of serious incidents by the Regulator and incident forms filled out by focus group participants/interviewees indicate that the Ten pathway failure points relating worker involvement and trust were lower in metalliferous mining than coal mining. During the ROVOA targeted intervention in both sectors, the Regulator identified a minority of workers feared being reprimanded for reporting safety related issues (particularly contractors). With regard to the fear of reporting and under-reporting the Mine safety performance report 2023-24, it stated that 'over the last five quarters most safety incident notifications came from coal mines, which had remained steady between 77% and 83% of noitifiable incidents, with only minor fluctuations.' Based on data from annual Mine safety performance reports and Quarterly Safety Reports, incident notification rates present a complex picture. Between FY 2014 and FY 2024, an average of 66% of active coal mines reported an incident in each reporting year compared to 26% of metalliferous mines.

Under-reporting has been an area of concern for the Regulator. Comparing the coal and metalliferous incident notification rates over the 10-year reporting period, coal "notifiables" have trended downwards while metalliferous "notifiables" have trended upwards. Finally, based on quarterly data, coal mines that report in any given quarter report more incidents in a quarter than metalliferous mines that report in any given quarter. As mentioned in the body of the report under the notifiable incidents subsection, this may be due to the requirement to report methane gas exceedances, a hazard affecting only certain underground coal mines. Although the regulator attempted to investigate worker hazard/incident reporting after anecdotal reports of victimisation, the Regulator has not been able to demonstrate industry-wide evidence of this or any sector variation. However, the lesser numbers of active metalliferous mines reporting an incident each quarter gives cause for concern. If the anecdotal reports of under-reporting are correct, then the number of notifiable incidents in metex mines could be greater than indicated. As Chapter 6 indicates, the greater willingness of coalminers to report issues, supported by a stronger representative structure including ISHRs as opposed to widespread fears in the metalliferous mining, contributes to this difference.

With regard to the fifth issue of worker representation, elevating worker voice to the Regulator, only general inferences can be drawn from the data in this Chapter. What seems clear is that coal mining seems to have secured more attention from both MSAC and the Regulator in terms of strategic and other enforcement initiatives, and some of these were arguably influenced by or certainly targeted issues relevant to representation. An obvious example was the response to labour-hire/contractor issues arising from the Grosvenor mine explosion in Queensland. Better contractor management in coal, as evidenced by the

comparative planned assessment on contractor management. It should also be noted that the representative structure in coal mining is better adapted to dealing with contractor issues. Unlike ISHRs, union officials can only conduct interviews with those workers who could belong to the union (and even then, contractors may be reluctant to speak to them), and unlike HSRs, SSHRs cover the whole site and can speak to all contractors on site, not those who may be part of their workgroup. The importance of these differences is reinforced in Chapter 6.

Chapter 6 – Coal and Metalliferous mine worker representation and safety and health in NSW interview/focus group findings

Introduction

This chapter of the report is based on the findings of interviews and focus groups conducted in five different mine districts in NSW, which also entailed observations with regard to another mining district. The interviews/focus groups focused on 10 areas central to understanding how current representative arrangements were operating in both metalliferous and coal mining – making direct comparison of the different regimes possible. Consideration of general issues relating to mine safety and health was part of this assessment, but additionally, some significant issues emerged worthy of note in their own right. Respondents provided a lot of detail on important issues, which unfortunately, in many instances could not be reproduced without possibly identifying the informant and the mine they worked at. Overall, the findings were very consistent with the picture that had emerged in earlier chapters dealing with the evolution of legislative arrangements and the analysis of incidents in NSW mining. The results are presented according to the 10 major themes after a brief description of the interviewee profile and methods used.

Interviewee profile and methods

In October 2025 interviews and focus groups were undertaken in both metalliferous and coal mining districts in NSW. Interviewees were organised by the unions (MEU and AWU) and most occurred either in the union office for that district or at another venue that was convenient for participants to access. Interviewees were not able to be interviewed at mine-sites given a level of fear pertaining, and even then, we could not obtain interviews in one metalliferous mining district where approaches were made for this reason. Interviews and focus groups used a semi-structured interview schedule with 10 principal areas/questions. All interviews were digitally recorded with the consent of interviewees (and assurances as to anonymity – see Chapter 2) and automatically transcribed by the PLAUD program. Most interviews with full-time union officials were conducted separately. With regard to other interviews, whether an individual interview or focus group was used was dictated by the availability of miners due to their shifts. Individual interviews typically took over an hour while focus group interviews (with six to seven participants) took two hours or more to ensure all participants had a chance express their opinions. As summarised in Table 6.1, a total of 48 individuals were interviewed with ages ranging from 22 to 69, a mean age of 45.3 years and a mean of 19 years (18.989) of mining experience. Three of the 48 interviewees were female and the remaining 45 were male. Interviewees covered a wide array of different occupations/job tasks (excluding ISHRs and full-time union officials), including operators charge up, mill operator, service crew, truck operator, bogger operator, shotcrete, stores, maintenance fitter and electricians. With regard to the mining subsector, 21 interviewees were from metalliferous mining and 27 from coal. A significant minority of coalminers interviewed (4) had also worked in metalliferous mining and were able to make direct

comparisons of their experiences in both sectors. One metalliferous mineworker had previously worked as an exploration drilling contractor in coal mining.

Table 6.1: Breakdown of those interviewed*

Sector	*Operator/ mineworker*	*SSHR*	*HSR*	*ISHR*	*Union official*	*Total*
Metal	*11*		*7*		*3*	*21*
Coal		*15*		*4*	*8*	*27*
Total	*11*	*15*	*7*	*4*	*11*	*48*

*Note all SSHRs and HSRs were also mine employees as were most union office-holders. Three HSRs and two SSHRs were also union delegates/officeholders (but only counted for their SSHR/HSR role in Table 6.1) and SSHRs included three electrical SSHRs and one mechanical SSHR (all trade qualified).

As indicated, interviewees were asked questions in 10 broad areas designed to shed light on the operation of representative mechanisms in metalliferous and coal mining, including the issues that were being confronted, reporting and under-reporting of issues, relations with inspectors and how effectively (and timely) issues were resolved. The 10 areas of questions are shown in Box 6-1:

0-1: Focus group questions

1. Welcome and ice breaker - introductions
    - What mine do they work at and for how long – how many workers work at the mine and percentage of direct employees versus contractors and labour hire workers?
    - What outcome are you hoping for?
2. How many HSRs do you have at your mine? How were the workgroups that HSRs represent identified?
    - How many workgroups were identified at your mine, and how were they identified?
    - Does it provide representation for all workers, i.e., night shift, contractors, surface workers, etc.?
3. What are the main hazards at your mine that could seriously injure or kill someone? How were they identified and assessed? How were control measures decided, and were workers and HSRs involved?
    - Were workers involved in identifying principal mining hazards, and did they have the opportunity to contribute to the risk assessment and selection of control measures (114 Safety role for workers in relation to principal hazards—the WHS Act, s 276(3)(h) and Sch 3, cl 5)
    - Does the mine's safety management system and principal hazard management plans manage the risks effectively?
        i. How often are they inspected?
        ii. Are HSRs or workers involved in these inspections and any review of control measures?
        iii. Do inspectors provide adequate oversight?
4. How effective are HSRs in raising concerns about the ***control of principal mining hazards***? Let's explore this in the context of a recent incident. We have an example, or you could talk about another that you were involved in.
    - Have there been any high-potential incidents in the last year?
    - What happened?
    - Was it reported, and does the mine report all high-potential incidents?
    - Were HSRs involved in the investigation? Do inspectors seek out HSRs and consult them?
5. Do workers feel confident to ***raise concerns about health and safety***? Do employed workers have the same experience as contractors or labour hire workers?
    - Are worker concerns dealt with fully?
    - Are there any instances where concerns about a hazard or risk were not fully assessed, or concerns ignored that resulted in a serious incident?

- Do HSRs feel confident raising worker concerns with management, and are their views and this role respected?
- Do HSRs ever feel intimidated and therefore reluctant to perform some of their functions?

6. How much interaction do HSRs have with inspectors?
    - Are HSRs contacted by inspectors when they visit the mine, and involved in inspections are investigations?
    - Do inspectors investigate and resolve complaints from workers?
7. Do you think the training given to HSRs is adequate – does it cover mining hazards, inspecting mining hazards, understanding safety management systems, and what should be covered in a principal hazard management plan?
    - Do training providers know the industry? Have they had industry experience?

Part 2: Would the NSW coal legislative framework for representation be more effective?

- Would it be more effective if a health and safety representative could speak on behalf of the whole workforce, not just a particular workgroup?
- Does the HSR model negatively impact the effective control of principal hazards?
- Does it limit power and authority, i.e. unequal levels of power or influence HSRs have compared to management? Would a union/industry-wide safety and health representative help site representative elevate concerns and gain management attention?
- Would this support representatives' capacity to be involved in inspections of major hazard risk status or incident investigations?

8. Role of trade unions in worker representation. The general WHS Act gives a union representative the right to enter a workplace where they have members or potential members and to consult with these workers. They can enter to inquire into a suspected contravention or consult, advise relevant workers, and ward workers if they are exposed to a risk.
    - What percentage of workers are members of a union?
    - Under the current model, are WHS entry permit holders from relevant unions able to gain access to the mine to enquire into breaches or other concerns raised by workers without being challenged? Do they deal with issues effectively? Are they knowledgeable about mining processes and hazards?
9. Would a full-time industry-based worker safety representative who could visit your mine assist HSRs, respond to problems, etc. be of help?
    - Would support of this kind help site representatives carry out their functions – raise issues, cease work, issue provisional improvement notices.
    - Would it equalise power relations?
10. Should a legislative update establish ISHRs as a function in metalliferous mining?
    - If so, how should they be elected, appointed, and paid?

Interviews/focus groups provided a rich body of informed responses with clear, consistent and dominant themes emerging with regard to key issues. In addition to transcribing each interview/focus group (which automatically identified different speakers as speaker 1, speaker 2 and so one), the PLAUD program prepared a summary of key themes and issues using artificial intelligence. While we found these summaries both useful and accurate (based on our recollections and transcripts) we did not rely on them but undertook our own interrogation of the transcripts as well as our recollection of themes and responses at each location. Several of research team have used focus groups in prior research and were experienced in distilling key themes and responses. The results below are broadly configured in terms of the 10 areas of questions identified above. Specific quotes were used to illustrate dominant themes and significant points. In a number of instances, specific details have been removed from quotes in order to protect the anonymity of respondents.

Interview/focus group results

Background, mines and contractors

As already indicated, interviewees included a mixture of ages and experience, but average experience was 19 years in mining. The vast majority of interviewees had at least 8-10 years' experience and had been at the mine where they were currently employed for over five years. In sum, interviewees fitted the profile of experienced and knowledgeable miners with the capacity to speak knowledgeably of the mine where they were currently employed. Interviewees worked at over 12 different mines across five different regions in NSW, while the ISHRs in coal covered far more mines and were able to speak knowledgeably about districts where interviews were not conducted.

When asked about the proportion of contractors in their mine, some respondents were able to speak more knowledgeably than others (in part depending on the position they occupied). While all mines used contractors/labour hire he proportion relative to direct hired labour varied significantly between mines and districts. Metalliferous mining respondents indicated the use of contractors was not growing of late, and in at least one case, it was falling due to a recent downsizing of the workforce. As in previous research into mining and indeed other industries more generally, the use of contractors and labour hire was generally seen as a potential or real threat to OHS due to their site inexperience, perceived willingness to cut corners to finish jobs and reluctance to report OHS problems.[281] In operational areas, contractors/labour hire was used by some, if not many, mines as a form of probation, with those performing adequately being offered direct-hire positions. This could discourage reporting further. Typifying this one metalliferous mine worker observed:

> *I remember when I was a HSR, there was a guy on the crew that actually come to me and said something about, shift time and he'll give me a problem with the truck. And I said, oh, did you record it and plot it? And he's like, no, I'm a contractor. I don't want to do that. He goes, you've got a full-time job you should do it. Like, implying that I'm a bit safer. He wanted to sort of, because there's probation periods and stuff that they serve, and they weren't accruing, a lot of these guys aren't accruing holidays and stuff like that, so they really want to try and get in a full-time job as quickly as possible. So yeah, he'd come to me and he was like, oh, no, can you deal with it, because you're full-time, so [R7].*

Another metalliferous miner referred to compliance issues, noting these extended beyond mining:

> *contractor access and compliance and stuff like that. It's a broader issue, it's not just with mining [R19A].*

In coal mining too, a number of respondents indicated the use of contractors was used as a probation system and this affected their willingness to speak on safety issues:

[281] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613

So contractors are sort of your new starters, you know, coming into the industry and that as well. It's a way in the door. So it's a probation system isn't it? Yeah. It's very much locked up on that [R21F].

Several respondents pointed to one mine where long-standing contractors with scarce skill-sets or doing very specialised tasks were able and did adopt OHS standards as high as those pertaining to the direct hire workforce:

For the most part, though, they are pretty good at stopping jobs by themselves, and they're pretty good at getting their stuff directed. I think just over time they've figured out that if they want something fixed, then they can just go and get it done themselves, and they will push to get that done themselves, predating us having HSRs on site…I guess so yeah, they're actually pretty good at getting their own stuff fixed [R15].

But with the possible exception of highly specialist contractors doing major overhaul/shutdowns, this response was exceptional to a particular mine-site.

At the same time, as already mentioned, shedding workforce numbers was also seen to compromise safety by placing increased pressure on remaining mineworkers, though some felt more capable of resisting this pressure. Typifying this one metalliferous mineworker stated:

Oh, it was probably a negative at the time…Yeah. You were stretched. They were stretched but you can only do what you can only do. Depends on how some people took it. Some people could have stretched out, thinking they were under the pump but you can only do what you can do anyway. It doesn't matter how much work you've got on your list [R11].

At a number of coalmines use of contractors/labour-hire was seen to have declined, something attributed at least in part to the implementation of the same-job-same pay principle which effectively removed savings of $40,000 to $50,000 per worker according to one respondent:

The industry was running around 40%, 45% up until same job, same pay. So I was at [mine name deleted] recently and their contractor ratio now is 17-20%. So we understand that the contractor ratio at most sites has dropped, but it could range anywhere from, I would think 17% is probably reasonably low, I would think it's probably somewhere between 17-30% would be my view [R22C].

The reduction in contractors/labour-hire was seen to have improved communication between direct-hire miners and fixed-term and contractors, one coalmine respondent stating:

At our site, we, I want to say [specifies date of shift], we were probably around about 50-50 contractors/directly employed people, that now swap out and a lot of those contractors become fixed termers. So now we're probably running around about …20-25%. And that happened after the same work, same pay, everybody must have done. But when you actually break it down to that extent, we're still probably running about a 50-50, the way I see it, but some of that, at least 60% of that 50% of the contract is, a fixed term, 2-year

> *fixed term for the mine. So they're on a limited time contract. But as far as our role, it hasn't really changed that much. What we do find is the fixed term has come to us a little bit more now, where previously the contractor was sort of trying to fix it themselves. But I think a bit of that is the conversation within the work group has changed a little bit. So the fixed termers are probably having a closer conversation… getting some guidance things and that sort of stuff… which is helping the process so there's … a significant difference [R21A]*

Another coalmine respondent indicated that relations with contractors were good at their mine and that inspectors had played an influential role in addressing dual WHS systems and ensuring contractors reported incidents through the mine system:

> *We have a pretty good relationship with contractors, I mean, you talk about that and some of the younger ones coming through don't understand the concepts you're talking about because the culture's shifted. And another thing that happened when you talk about getting some participation in, you know, for their safety and whatnot, there was two, they had their own WHS, they dealt with all their issues and filed all their stuff. The regulator got involved with that, got right into it, but now it's all reported as one through the [names acronym of reporting system], they say everything has to go through an event form, has a report form that we've got, and it goes through our systems for reporting to the regulator I suppose, so that it can be accessed there, and they come and address that. Prior to that, we were having issues with contractors and that's saying, well, we don't… so now they feel a lot more comfortable to be able to raise a concern and do something and I think that's a good issue [R21B].*

Nonetheless, other respondents pointed to the ongoing vulnerability of contractors, their fear of being removed from the site if injured, and their reluctance to report safety and health issues, and meeting with them privately to avoid company scrutiny:

> *We encourage contractors to come to our SSHRs, HSRs, that type of stuff, but to be brutally frank, contractors are absolutely fearful that their name will at some point accompany some complaint about safety, and lots of contractors, even though they might identify some sort of safety issue, they're very reluctant to go and report it anyway, because it's a bit of a myth, maybe not a myth, it's certainly a position in the coal industry where contractors are of the view that if they raise safety, then they won't get a permit, so they tend to not want to raise them. If it's significant enough when they do raise them, they'll do it very privately, they won't initially raise it with a supervisor. You might get some contractor that might, but more often than not, they won't raise a safety issue directly with their supervisory people. If they do need to raise it, they'll go and raise it with us privately, and they'll be explicit in, I don't want you using my name [R22C].*

Further, a number of coalmine respondents pointed to a prolonged preference for labour-hire in one district [named but not identified in this report], many of whom were drive-in-drive-out (DIDO), which was seen to weaken mine-site representation (including appointing HSRs or giving them the confidence to report issues) and require additional attention from ISHRs to try and fill the shortfall. Again, these responses are entirely consistent with previous research

and evidence collected following the Grosvenor coal mine explosion in Queensland in May 2020, discussed elsewhere in this report.

One significant issue that emerged with regard to contractors was that, unlike SSHRs who cover the entire site and all workers/staff and could readily speak to contractors, HSR access to them depended on how work-groups had been designated (in one instance, a contractor had their own HSR). Even more importantly perhaps, unlike ISHRs authorised persons (i.e., union officials) entering a work-site might only speak to members or workers who could join the union. Thus, pronouncements that authorised officers can do the same tasks as ISHRs — and therefore the latter are not needed in metalliferous mining — ignore this serious limitation in the capacity of authorised officers to address OHS issues, particularly where contractors are involved (for other shortcomings see Chapter 3 and below).

Part of the 1887 Bulli mine disaster memorial list, part of the miners' memorial wall Wollongong (photograph taken by research team October 2025)

Number of HSRs in a mine and how workgroups were identified

As noted in Chapter 3, unlike SSHRs who cover the entire mine-site, HSRs cover a designated workgroup. Respondents were asked to identify the number of HSRs in their mine, how workgroups were identified, and did the resulting structure cover all workers including those on night shift, night shift, contractors and surface workers.

Both workers and HSRs interviewed in metalliferous mines could often only give an approximation of the number of HSRs at their mine and not all these were trained and certified. Typical were these comments by metalliferous miners, both longstanding employees at the mine (as were the bulk of other interviewees):

> *Officially, we've only got one. Yeah, we've got a few, we've got about three HSRs. Oh, yeah, they're still not trained and certified, so, yeah, we've picked up a couple of new folks over the last three or four months, so this is progressing well [R6].*
>
> I only know of one. So that's the one that represents you? Yeah, that represents us, yeah. Well, on my panel, I think there's one. Maybe on the other panel they've got one as well [R11]

Another metalliferous miner stated:

> *I know of people but I just don't know the extent of how many people and of course you can know by name but to know that they're there, no I don't [R10].*

The respondent pointed to stronger representation in the past and difficulty of maintaining it:

> *We had a real strong presence of HSR safety reps. But over the years it's just slowly dwindled down. You know, they've taken other roles and left, moved. Yeah, so it's just been that slow, natural progression [R10].*

In some metalliferous mines respondents indicated HSRs were identified only by word of mouth within crews, and there was no official signage (including names and contact details) in crib or change-rooms, even though they believed this to be a legislative requirement.

Most respondents indicated that workgroups had been determined by mine management. One metalliferous miner stated:

> *The only way we got told our work group is our panel. So now I've moved the panel through, I was on panel **XXX** (panel identifier deleted). Yeah. So their work group, the way they look at it is on, my work group is my panel [R5A].*

At one mine a group of contractors had their own HSR but this was exceptional, most being subsumed into workgroups either formally or informally. One metalliferous mine respondent stated:

> *We don't have any contractor HSRs. The contractors can speak to… HSRs if they wish. They're probably not really aware of that though. That's probably one thing we haven't done is communicated that to the contractors [R19A].*

It should be noted in passing that all contractors on a mine site are covered by a SSHR in coal mining and this would be the case if a similar model of SSHRs was reinstituted in metalliferous mining.

In some if not most metalliferous mines respondents reported that there were significant gaps in representation. Workgroups were often based on panels, but not all panels or workgroups had HSRs as one respondent indicated.

> *but again there are only three HSRs out of the potential with 10 or 11 yeah work groups, not 10 or 11 maybe eight work groups with your development oh okay um yeah for four panels [R5B].*

> *So currently that's, we probably don't have enough HSRs up there to be honest. There are still a few holes in areas [R13].*

The process of becoming a HSR was often somewhat informal according to metalliferous mine respondents. One HSR observed:

> *Well, I sort of almost felt like I fell into it because I didn't know a whole lot about it. And... I don't know. Yeah, like, we did have, when I was at [nominates mines] there was a HSR, and we'd sort of get bits and pieces from him in the meetings out there every now and again, but it wasn't a real critical part, it wasn't something we actively used, I didn't go through that guy as much, I sort of, we had him and just raised it at the meeting, but when I went to [nominates mines] it was actually my [nominates management office holder] who said, oh, you should, because I was quite active in speaking up, and he said, oh, you should do the HSR thing, and I was like, okay, and so anyway, we went through the paperwork, it took a little while to actually make it official, but we went to the crew and just said, oh, is everyone happy for me to be the HSR, they didn't have one at that point, so everyone was quite happy for me to do it, and yeah, it just went from there [R7].*

As noted elsewhere, more than a few metalliferous mine respondents indicated not all persons identified as HSRs in their mine had received training (required for certification and to issue PINs) and several believed management had organised training through nominated providers. At one mine a metalliferous mineworker indicated the safety department had been proactive in promoting and training HSRs with (number deleted for anonymity) at present although a quarter of these were still to be trained due to staff turnover [R19A].

There was also some confusion as to the alignment between HSR status and membership of the mine safety and health committee. Some believed the positions were essentially one and the same and this overlooks the critical difference between the functions and the prioritising post- Robens OHS/WHS legislation has always given to HSRs as the primary vehicle for worker involvement and as critical aspect of the legislation.[282] There appears to be an urgent need to audit of all HSRs currently said to be at metalliferous mines to see how they were elected and whether they were adequately trained and accredited.

[282] Quinlan, M. Bohle P. & Lamm, F. (2010) *Managing Occupational Health and Safety: A Multidisciplinary Approach*, Macmillan, Melbourne, 3rd edition.

In coal mining by way of contrast workgroups were irrelevant for SSHRs (mines discussed all had multiple SSHRs to cover 24-hour operations and some also had specialist SSHRs. Further, where coalmines had HSRs there was, in comparison to metalliferous mining) a more negotiated and strategic process of deciding workgroups and the number of HSRs appeared to prevail, that ensured effective representation was secured while accommodating differences in operations and workforce organisation between individual mines. There were also concerns that the creation of too many HSRs might create chaotic situations, rogue elements or the issuing of unwarranted PINs. One large mine had over 20 HSRs- this didn't appear typical but requires further investigation. Nonetheless, respondents emphasised how the number was determined following careful consideration to the circumstances. Referring to one mine a coalmine respondent stated that in some instances this resulted in a smaller number for the workforce than might otherwise be expected because this was seen as a more rational by both the employer and the union:

> *10 HSRs for such a huge mine that's because we agreed with the employer on the work groups are not just it's not every production crew it's not A, B and C on this side and A, B and C on that side so… so we generally try and structure our process [R22C].*

Another coal mining responded stated:

> *…what the union did is we negotiated with the employer on how many HSRs we would have, and we identified work groups. So, for example, at [names mine], we identified production as a work group, the washeries as a work group, and maintenance as a work group, and then we allocated three HSRs to those work groups so that we maintained control. We didn't want fifty HSRs because we knew that the employer would use that against us [R22A].*

The last sentence of this comment is especially noteworthy as it refers to the potential for HSR representation to become so numerous that, in the view of this report, it would be too diluted to be effective. It is understood that at least three NSW metalliferous mines have numerous HSRs (110 at one covering a workforce of 2000 or 5.5% of all workers, another with 40 HSRs covering a workforce of 500 or 8%, and a third with 22 HSRs covering 410 workers of 5.3%). Leaving aside the question of training, there would seem to be obvious coordination and influence problems with such a model (especially when it comes to hazards extending beyond any single workgroup) and in at least some instances it must make health and safety committee meetings cumbersome to say the least if a significant number attended a meeting. While such numbers may look democratic and representative superficially the effectiveness of these structures warrant investigation as part of an audit of HSR representation and training recommended by this report. While individual mine structures and operations vary this could well amount to a misapplication of the designated workgroups system and it would be interesting also to know who decided on this workgroup structure. As noted, one large coalmine referred to during research had well over 20 HSRs, the impression gained was this was not typical and the number of HSRs was determined through a negotiated process, taking account of specific circumstances. Referring to one mine where there could have been 50 HSRs a coalmine respondent stated that a total of 9 HSRs and 1 SSHR had eventually been agreed to as 'you've got to just be a bit smarter about how you deal with things, because the employer will find a way around you' [R22C]. Moreover, the large number of HSRs cited in relation to some metalliferous mines above

may not be representative of mines in the industry as a whole. Research for this report revealed that the largest number of HSRs identified at these mines was about 12 perhaps 15 at most. Most had fewer and as a number of respondents indicated the number of establishment did not necessarily the number that there were at a particular point in time due to turnover and the need of some to complete their training. In addition to this, respondents identified gaps in representation at their mine. As one metalliferous HSR stated we 'actually don't have enough HSRs, is the main thing' before identifying representation gaps at the mine and adding that they could guarantee even amongst those covered many would not know who their HSR was or what they did [R15]. This is consistent with other responses cited above. The above critical observations are also consistent with international research on the effectiveness of HSR representation.[283] In sum, it is by no means clear that the HSR structure in NSW metalliferous mines is either adequate or effective or that their training is either adequate or appropriate to their needs, and an audit of HSR representation, training and accreditation across these mines is warranted.

Main hazards in your mine: identification, risk assessment and management systems

Interviewees were asked to nominate the main hazards at their mine that could seriously injure or kill. They were also asked to describe how these hazards were identified and assessed, how control measures were decided, and were workers and HSRs involved in identification and risk assessment and were the controls and mine's safety management system effective, and the degree HSRs were involved in inspections and control measure review. Interviewees were also asked to comment the adequacy of inspectoral oversight. HSRs were also asked if there had been any high potential incidents (HPIs) or dangerous incidents in their mine in the previous year, was it reported and actioned, and were HSRs involved in the investigation.

Significant hazards identified in metalliferous mine interviews included dust management, lead exposure and monitoring, ventilation in mills, ground conditions, ground support, charge-up/explosives, excessive heat, ageing/corroded plant, roadways/conditions and inrush prevention/water management. In lead, zinc and silver mines lead contaminated dust was a serious concern as was dust more generally with one respondent stating:

> *There is a lot of infrastructure in place to try and keep the dust down, but it's a fairly dry mine, so it is dusty. Yeah, that's probably one issue that needs continual looking at, yeah [R8].*

Poor ground conditions and inadequate ground control were also frequently mentioned:

> *There are rocks coming off big enough to crush the cars, let alone a worker standing there [R15].*
>
> *ground conditions are terrible… the ground is wet and slippery and sloppy… you can slip, hit your head…[R9].*

[283] See for example Walters, D. & Nichols, T. 2007 *Worker Representation and Workplace Health and Safety*, Palgrave Macmillan.

Hazards associated with high-pressure hydraulic equipment, increasingly used in connection with automation, were raised by both metalliferous and coal mining respondents (for example, R20A), something identified by the Bills report.[284] A coal mining respondent stated:

> *So being an electrician, I walk up the long-[mistranslated but probably 'wall], and there's whatever it is, a 22,000 volt cable running of the loop that doesn't scare me anywhere near as much as those hydraulic hoses that are running right alongside it because you know there's protections and it's like it's like mechanic, or a mechanical inspector you know I think again it's like electrical one was done because it was done but now we need to evolve into where there should be legislative mechanical analytics so [R20E].*

In addition to general SSHRs and electrical SSHRs (electricians by trade), more specialised mechanical SSHRs (with a suitable trade background) were present in a number of coalmines, reflecting recognition of the need for more specialised knowledge to deal with mechanical hazards, including the challenges associated with automation. Coal mining interviews/focus groups expressed uniform support for specialist mechanical SSHRs. This was seen as an issue warranting greater attention both in terms of the hazard itself and having adequately trained and recognised representatives:

> *The legislation only accommodates really mining and SSHRs, so no one sits [in] my position, we won't get that back. For mechanical, and I said the same thing, the potential, the hazards and the high pressure in long walls and stuff is pretty much getting up there equal with the electrical [R21A].*

Respondents were conversant with mines with mechanical SSHRs, including outside their district and indicated their introduction had come about via negotiation:

> *It had just come about, as [names another attendee] said, through consultation. The work groups, the mechanical work group or work stream would go and consult with them about can we have a SSHR with a mechanical stream, and that's how it starts. It either gets resolved on site, and if it doesn't, as you know, you call the regulator to come in as part of the resolution process, because it's not formally written in legislation, as you know [R22A].*

Another respondent stated that the introduction of HSRs had facilitated this process, part of the new three-tiered representative regime discussed elsewhere in this chapter which was strongly endorsed, and this appears to another advantage of it. They also pointed to management agreement to the change.

> *It comes about on site because a HSR, generally an operator, have the expertise with respect to the point that [names attended] raised about hydraulic systems so it just comes about because they're looking for someone with expertise otherwise the HSR if there's an issue that's raised from the maintenance people the maintenance people in this case mechanical need to step them through the entire process about why they say*

[284] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney.

> *we've got this issue and what the implications might be and I think in the case of [mine name deleted]… it was just about somebody there with the, mechanical expertise that could add value into the system and the process and my understanding was the company at that point of time didn't have any dramas with it… actually both parties saw value in it to try and minimize understand incidents minimize these you know they were obviously seeing some incidents were concerned and things were going to escalate and … both parties saw here's an opportunity in the regulator, that's organically on the site [R22C].*

Again, this respondent made specific reference to the challenges posed by hydraulic systems. Another respondent indicated mechanical SSHRs had come about via the WHS committee at their mine and made sense where mines had large maintenance workshops or where an individual mine's lifecycle meant there was a large amount of ageing mining equipment [R22B]. Interestingly, the growth of mechanical SSHRs had occurred organically, and none could recall either companies or the regulator facilitating this as a result of Kym Bills' report, which had specifically recommended such a position.[285] It was noted that the NSW regulator itself recognised the need for specialist knowledge electrical and mechanical inspectors, and electrical and mechanical SSHR would be in a better position to communicate with such inspectors when needed [R22C]. It was also indicated that specialist SSHRs provided a valuable reference point to seek informed advice following an incident [R22C and R22E]. Specialist SSHRs stuck to their area of expertise, relying on general SSHRs to deal with more general mining issues except for rare occasions when they spotted a significant hazard posing an imminent risk of serious injury, and an SSHR was unavailable, with one specialist SSHR describing such an incident [R21H]. It is worth noting that with regard to one such intervention the specific hazard targeted for action had resulted in a serious injury (amputation) at another mine.

With regard to almost, if not all the significant hazards just identified, instances were given in metalliferous mining (far fewer in coal) where these were being inadequately managed or the critical controls were inadequate, such as the failure of barriers to stop an inrush with inadequate follow-up actions. Similarly, with regard to fire risks reference was made to the absence of a register of toxic substances being used (which also recognised long-term latent effects of exposure) and inadequate emergency procedures with regard to ceasing operations, a clear chain of authority at the mine to make urgent decisions, rapidly and fully communicating with potentially affected mineworkers, immediate hospital evaluation of exposed workers, and formal reporting of witness statements. Other respondents referred to more stringent practices adopted by workers following an incident. For example, a metalliferous respondent noted operators had implemented increased meshing and shotcrete use beyond standard following an incident when a miner had been hit in the head by a rock [R5A]. Another respondent added that, notwithstanding seismic monitoring, there were ongoing concerns because the mine only recorded significant events and in the 'last three weeks we've had three falls of ground' [R5B]. Another metalliferous respondent referred to budget constraints on ground support practices [R8]. Another referred to a serious ground support hazard:

[285] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney

> *And I said, oh, yes, stop the job. And I reported it, and they sent us [deleted for anonymity]… the [names supervisory position]… came down… said to someone, when the service crew's done, sign it off, no one's allowed in. So that's [expletive] dodgy [R11].*

Reference was also made to poor scaling practices that went unaddressed for some time exposing mineworkers to serious risks. Similar concerns were expressed with regard to the management of water/inrush, dust suppression and emergency equipment/procedures at multiple metalliferous mines. Concerns at another metalliferous mine were heat and escape ways:

> *[management] takes a heat reading, right in front of the fan and says it's OK, but the guys are working a couple of drives away from the fan… [and with regard to escape-ways] rocks squeeze them in yeah they're just falling apart being squeezed and pulling ladders are falling off the walls and plates are popping off the backs [R19D].*

Other examples given by respondents included poorly maintained emergency/rescue equipment [R15] and complete communication failure due to a power outage. Other respondents [for example, R12 and R13] referred to specific incidents where necessary safeguards (including engineering controls) were not in place, some resulting in serious injuries, and which, but for serendipitous circumstances in at least one case, could have resulted in one or more fatalities. Another incident was described, which would have met the definition of a dangerous incident where management tampered with the site to give a misleading impression as to the cause [R15]. Again, these statements included considerable detail which could relatively easily be logged against mine and inspectorate records, but this detail has been excluded to preserve the anonymity of the informants. Similarly, a coalminer who had spent time as a maintenance contractor at the NSW metalliferous mine referred to a serious lapse in safety communication:

> *They were all shot firing around a few pillars around from where I was working when I had no idea that there was actually blokes on that level because I was, once again, I was also maintenance which was different than mining, it was very hard to get any communication from anything that was just at a workers level that I was not having support through safety side of things [R20C].*

A number of metalliferous mining respondents stated that there was a reluctance to implement effective engineering controls at their mines, with a preference for less costly ‘workarounds’, new administrative controls/behaviour rules or personal protective equipment (PPE). For example, one HSR stated:

> *As far as your hierarchy of controls go, I would say they mainly focused on your PPE. And we all know how the hierarchy is. We all know how the hierarchy works. And that is where, you know, it got to that point that, you know, this, it's not good enough [R13].*

Respondents indicating that all serious hazards were being adequately managed were exceptional. One respondent stated:

> *It's our housekeeping that lets us down. It's our maintenance. It's not until, you know, The [nominates part of mining equipment), rusted through, oh that side base has fallen off because eventually it's rusted through, no one's fixed it, it's just that [R6].*

As the question of mechanical SSHRs only emerged after most metalliferous mining interviews were completed, we were unable to pose this option to them. However, especially in the context of increased automation of mining more generally the option of appointing mechanical SSHRs in metalliferous mining in revised legislation warrants serious consideration and it would also be valuable to amend coal mining requirements in this. That would be consistent with Bills' recommendations and also reflects the positive evidence with regard to their activities uncovered by research for this project, which reinforces Bills' recommendation.

As Chapter 5 shows there have been serious incidents in metalliferous mines relevant to almost if not all the issues identified. Other hazards raised included psychosocial hazards. One metalliferous mining respondent referred to an instance of bullying and harassment of a worker that had continued over two years until they reached 'breaking point' and could no longer work. He had reported the bullying but was told 'it's not us' which, if confirmed, was a misreading of the legislation.

Related to concerns about managing serious hazards, there were complaints amongst metalliferous mine respondents about the risk-assessment practices, both whether they were being undertaken sufficiently and the quality of those that were undertaken. HSRs also felt excluded from the process. One HSR stated:

> *And that's another one I've brought up in HSC meetings because I've noticed some of ours [risk assessments] are quite out of date, I believe. There was one I'm quite passionate about in the airborne contaminants side of things and I noticed that was like, I think the last time it was a review. On the revision, I didn't know any of the names that were on it, so that's ever left and I think it was about eight years or something since it's been last done and I said, oh, can we do this? And they're like, oh, you know, we've got a lot of stuff going on at the moment. And I was like, well, this is the sort of stuff we should be doing. If we can get in and contribute to it, lighten the load, then I'd love to do that sort of stuff. But it never really, like you could say it, but you've never got a message or anything to say, yeah [R7].*

When asked about whether workers or HSRs were involved in changes to safe work procedures, a metalliferous miner indicated that everyone relevant should be involved but that this only occurred sometimes and it was more typical for miners to be presented with the changes as a fait accompli and asked to sign off on them [R10].

By way of contrast, coalmine respondents were generally positive about their involvement in risk assessments, citing instances where SSHRs played a significant role in risk assessments as well as being kept abreast of developments and the composition of RA teams:

> *Yeah, so at the end of 23, we went through a pretty big undertaking where…[names two SSHRs], were approached saying, hey, we've got to*

review [describes extensive review, details deleted]… and that was a six-month process, much two days a week, reviewing and updating and bringing it back in the line with any legislative changes because some of them were quite outdated [R22B].

It's the same for major stuff. We'll be involved in everything, but the minor stuff, they'll... send an email and say, do you want to be involved in this? Like, we'll release you if you're at work to go and attend this and that sort of stuff. But they'll also send me a list of who's involved in it, and they'll also send me a list of who attended the meeting, if it was under what they said it was, then I can go up and put a note on the bottom of that risk assessment and say, didn't get to attend, they didn't have the full class of people, get a full course across the whole thing, we'll reassess this at a different date [R22G]

Several coalmine respondents noted risk-assessments practice that failed to include adequate workforce involvement had occurred or been tried, but representations backed by a strong unionised workforce had been used to rectify this. One coalmine stated:

So that's a requirement that was also driven very heavily by the regulator because I've seen in my time as the role, you would see a lot of risk assessments done from management. So there would be a risk management done around a certain job and then you'd look at the list of who'd done the risk review and it would be, you know, a couple of engineers, a production manager, an engineer, an under manager and then but we started kicking up a stink and saying well what's the point of these.

If they're not involved with the workers and then through the industry safety and health reps and with the help of the department, they would look like when those reviews, when those risk assessments would go across their desk on how the department started questioning them. Why have you got seven people on this risk assessment and not one of those seven people is going to be involved in the job? So that was a change that was driven from both the guys at the mines and then once the department got on board and started writing notices to say.

Well we're not approving this high risk activity because your risk assessment doesn't involve a broad section of the workforce That drove that change and then our company, like Gus said, or Centennial, they got on board that change really quickly, Because they knew that if they were submitting risk assessments to the regulator that didn't have involvement from workforce participation, That they were going to either get knocked back or if there was a serious incident and they knew they'd pulled out a document And there was no workforce participation, they knew they were in trouble [R20E].

Other coalmine respondents described the active involvement of SSHRs, including those with specialised electrical and mechanical knowledge (when appropriate), as well general mining knowledge, in risk assessments as a matter of routine [for example R21A and R21B].

A further significant outcome of the interviews/focus groups was with regard to the notification of serious mine incidents. Studies that make up the substantial body of research

finding a positive association between the presence of arrangements for trade union representation on work health and safety and improved performance on health and safety, across a range of economic sectors and countries, frequently point out that reporting is generally better in workplaces where unionised representatives are active, than in those in which they are absent or where they are prevented from representing workers interests.[286] This finding is also true for specific studies of mining.[287]

Especially with regard to metalliferous mining, respondents referred to incidents that were not reported or reclassified in ways that downplayed risks. This included severe inrushes being classified as minor "slurry" events. Non-reporting/notification was also raised in coal mining but the impression was this was more aberrant or confined to a particular mine rather than being systemic. The stronger representation regime and closer relations between SSHRs and more especially ISHRs with the inspectorate were viewed as a significant reason for this. The significance of non-reporting/notification of serious incidents has been discussed elsewhere in this report (especially the chapter on incidents) where the lower notification rate in metalliferous mining was noted. Interview responses reinforce concerns that under-reporting is a significant contributor to lower notifications. Notifications are there for a reason, notably they a key 'warning signal' of impending failures. As one respondent observed, ignored warning signs and deferred fixes can turn minor "weeps" into failures and where lack of testing and monitoring replaces evidence with assumptions incident likelihood increases.

A related issue was with regard to incident investigations. Criticisms made in this regard included manager-controlled ICAMs without worker transparency sanitize incident outcomes. One respondent stated:

> Oh, the ICAMs that the company's doing. So they're doing their own investigation into this incident. It's generally done by a few managers or a few supervisors that are yes-men for the managers anyway. Very rarely, up until recently, until we got our health and safety reps trained, that we started demanding they get included in these sort of things. But again, even their report, they have their say around that table, and that's the last they hear of it until the ICAMs are good. Investigations closes; nothing to see here, or in the monthly work health and safety meeting [R2].

Metalliferous mine respondents complained that regulator feedback was absent, and when reports triggered no action, workers stop reporting and safety is degraded. Coal mining respondents were generally more positive about reporting practices but did point to problems, including ambiguities with regard to when a fire - or evidence of it - was reportable – which would seem to warrant action:

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[286] See for example, Dean, A., McCallum, J., Venkataramani, V. and Michaels, D, 2023. The effect of labour unions on nursing home compliance with OSHA's workplace injury and illness reporting requirement, *Health Affairs* at https://doi.org/10.1377/hlthaff.2023.00255; Donado, A. (2015). Why do unionized workers have more non-fatal occupational injuries?. *ILR Review*, *68*(1), 153-183. Morantz, A 2017. What Unions Do for Regulation, *Annual Review of Law and Social Science* Vol. 13:515-534 https://doi.org/10.1146/annurev-lawsocsci-120814-121416

[287] See for example, Morantz, A. (2011) *Coal Mine Safety: Do Unions Make a Difference?* Stanford Law and Economics Olin Working Paper No 43: Stanford Law School.

It's not about asking them, or telling them they should report it, it's asking them, are, you going to report it? No. Can you tell me why it doesn't fit in the dangerous or the high potential definition? They'll tell them why, because the legislation is ambiguous, you can't, it's that grey, it gives them an out [R22A].

Another pointed to differences of opinion as to whether something should be classified as a dangerous incident or an HPI and the challenges this could pose for SSHRs in relation to the issuing of notices and whether the site must remain undisturbed (as it does with a dangerous incident):

And it puts us sometimes in a hard spot as well because it's such a grey area. They could class one as a dangerous incident, roughly sort of the same incident by potential, and then you've got workers coming to us going, well, why is this class as a dangerous incident? And then this one's class is a HPI. And so, well, in the end of the day, it's more a manager can deem it what he wants to deem it. And I said, well, it's pretty much the same scenario [R22F].

One point raised both in coal and metalliferous mining, but especially the latter were criticisms of safe work procedures (SWP) also known as safe operating procedures (SOP), and their relationship to Job-Safety-Analysis (JSA) and 'Take-5' and the like. In metalliferous mining a number of respondents referred to SWPs being out of date, inadequately signed off or difficult to access (for example being only available online via the supervisor). Respondents from at least metalliferous mines indicated that SWPs/SOPs were difficult to obtain. One indicated they did JSAs with their shift boss, but when it came to SWPs:

We have access to it, it's not easy [R19C].

Another metalliferous mine respondent referred to this problem, though noting some recent efforts to address it:

I'm just saying I'm just basically what you've set up I agree with what you communicate about a procedure is not being reviewed adequately in a timely manner and outdated because just observation just conversation that we've got so many documents to review hasn't been reviewed I know for my operators have them having access to these procedures is not as accessible [R19A]

A more general and worrying response was that SWPs were missing from routine tasks and that too much reliance was being placed on JSAs, Take5 and the like to fill this gap instead of being reserved for non-routine and special circumstances not covered by SWPs. This is contrary to the norms that should be expected in mine safety management, with the tendency to locate greater responsibility on the individuals undertaking JSAs rather than overall systems that should be in place. Associated with this were repeated comments that JSAs had become 'tick and flick' and even instances where JSAs had been prefilled out. One metalliferous miner stated:

…we obviously got to do JSAs for tasks where there's not, yeah, but we've got supervisors who've pre-filled out JSAs for you to sign, you know, so, yeah, and they say, and pressure, or what, just use that, I've already done one [R12].

Asked how often this occurred, the respondent indicated ‘Most times, every time you need a [specifies task] job [R12]. The respondent went on to confirm both that JSAs were being used in preference to SOPs and that ‘out of date’ SOPs had ‘come up’ quite a few times. A metalliferous mining HSR indicated that there was confusion with regard to the processes in developing and renewing SOPs:

> *how often should your SOPs be reviewed? Do reviewed SOPs need certain bodies on them, and should it be signed off? Yeah, so everything that we could find was unsigned copies without having who was present within it and that sort of thing [R14].*

The same HSR indicated that they had found there was no SOP for a critical routine task in their area of the mine.

SWPs/SOPs are critical to preventing serious incidents in routine work practices. Several respondents also argued there were situations where JSAs were being used in preference to multiple SWPs that were present in order to bypass measures that would have restricted production – even more concerning. Referring to one mine, a metalliferous union official stated:

> *So the SWP standard is up here. The current way of operating is down here. So rather than lift the workforce up to meet the current SWP, they're dumbing down the SWP to meet current work practices. And that's where the JSA, do a JSA that says you can run [detail on using JSA to override SWPs and workers’ response re safety implications omitted to preserve mine anonymity]… And why isn't the regulator coming in and, why hasn't that been picked, that should have been picked up. I mean, they should have been coming in and they should have been asking workers, well, what's the standard operating procedure on your task here? The guy says, well, there is one, but we're working on a JSA because we can't operate the standard operating procedure anymore [R16].*

More generally, the overuse of JSAs et al was seen as shifting responsibility for any failure onto the worker and helping to justify an ‘operator error’ causal attribution and sanction. This also reinforced a punitive approach to safety management at some mines, with workers complaining of being sanction or witnessing others being sanctioned for practices that had long been accepted at the mine, without adequate warning or in the worst instances, being able to obtain n SWP. In one instance, described by a number of interviewees at length, was the imposition of dismissal while the underlying physical causes of the problem/hazard remained entirely unaddressed. This has seemingly still not been picked up by the regulator (we were assured it continues) and sends a poor signal about OHS to say the least. If a worker or several workers are dismissed for a serious safety breach it is usually worthwhile for inspectors to determine the full circumstances including whether the practice was customary (and therefore a serious lapse in the system and oversight), what were the reasons for the practice and had the underlying cause been addressed by the sanction. Without such an investigation serious hazards may remain unaddressed and encourage a climate of fear with regard to reporting issues.

Problems with regard to the respective use of SWPs/SOPs and JSAs were also identified as a serious concern in coal mining. The following responses were typical:

I know in my life recently we've had a couple of JSAs, a couple of big jobs, and I've brought up that. We need a SWP and that said JSA is just doing that. And I've actually written their names as the supervisor instead of me as the panel deputy. And I really can't do that. I'm only the panel deputy, you're the actual area of responsibility, so you have to be involved in it, and that means having to come out on shifts and do that, so I don't know if that was me stepping them up as the ISHR of the area, but also, yeah, there's been a couple of times now, and we're, out early, I think it is getting a little bit better having SWPs on our bigger jobs, but they do rely heavily on just having the JSA and the section deputy to do their jobs, so yeah [R20C].

These guys will tell you a lot, they'll have stories about the procedure that gets developed, that the last page of the procedure says, if in doubt, complete a JSA, and so we went through a process of saying, well, they're just not good enough in procedures, because the procedure's developed by the guys to do the job, like if it's a procedure, why do you need a disclaimer at the back of it to say, do a JSA, and they'll be able to tell you countless examples of it [R20E].

As in metalliferous mining, time and production pressures were seen to play a role in the over-use of JSAs:

A lot of our supers are, they are busy at the end of the day, their job's the exact same. They're getting stuff handed to them all the time with those sorts of roles, as much as they should be doing it. They're fairly time limited. A lot of the time they just say, look, I haven't got time. And then it becomes then the issue of JSA every time [R20D].

Describing what the approach should be a coal mining respondent stated:

So let's talk about just for a second a perfect system. The perfect system is that every job at the mine has a safe work procedure and that's developed in consultation with the engineers and the workers that do the job. The place for a JSA I believe is if that job can't be done that way and you get to a point where it's got to be done a different way, so you do a JSA, then that gets attached to that procedure, then it goes back to the management, that same group of people come back together again, review it and change the procedure, like that's perfect [R20E].

What was striking was the widespread nature of concerns over the use of SWPs and JSAs, something that, if confirmed, should be of serious concern to the regulator as undermining the effectiveness of legislation and associated system requirements.

Another problem identified at several mines pertained to the exchange of information between cross-over shifts, which were over-reliant on informal information exchanges. One metalliferous mine HSR stated:

We're expected to do our cross-shift talks with the shift that's just finished before the meeting started. So when we get into the meeting that's more or less when the shift boss just sits at the front…Well, sometimes you don't even see them because they come up from the cage, we're coming to work,

> *and you're more or less just relying that you cross paths. If you don't, if he goes this way and you go that way for some reason, he ends up in the shower, it's up to one of the persons to go back and find him. A lot of the times the person that's going to find him is the shift boss. just had a shower, you haven't got to want to go back through to find that person. So if you miss them, you expect to tell the supervisor on your way past so he can relay…But a lot of the times they say they've got that much going on that they miss it and stuff as well. So they sort of expect you to make sure you do see your supervisor [R7].*

While the capacity of production pressures, including bonuses, to undermine safety is common to both coal mining and metalliferous mining, interview responses indicated this was worst in metalliferous mining (though not all mines), in part due to the stronger representative structures in the former, which better enable workers to resist such pressures and to be more aware of the trade-off. A number of metalliferous mining respondents stated the workforce was being continuously informed that their mine was financially stretched and could close, which preyed on the minds of those working there and could affect decisions that might interfere with production or add costs. Reference was also made to safety first being more a mantra than guiding practice or incidents being downgraded so production could continue:

> *And we all walk around saying production over safety, however [R19D].*

> *Or if we don't have to preserve the site, we get to continue with production, meet production needs. That definitely happens… Oh, yeah, there's massive production pressure. Massive production pressure. It is regularly pushed by my [management title deleted]and the [management title deleted] I've had in the past, production over safety. They've told me to my face and pushed production over safety. [R15].*

The problematic nature of bonus regimes with regard to safety was also raised:

> *…we've gone to a bonus structure that does lead to competition in between people, which I've been in other places where they've introduced that type of stuff. And I think it's just a little bit of healthy competition, but it ends up not being healthy competition because people will take shortcuts to [get] it [R19A].*

Others referred to time-pressures and concerns when critical equipment failed or support tasks were delayed. For example, a miner doing a charge-up stated:

> *You do your job, you know, we do it, it's safe, but you're always trying to squash that little bit of extra time out because you know that other heading is fresh ready to go, that next job might come online, you know, because we never know, sometimes you'll get, alright, this is what we want, like, yeah, we can get that in the time frame, and then the jumbo breaks down, and then it's pushed back another two hours, and then it's into the two hours you set that heading out for, you know, so...[R10]*

By way of contrast, while production bonuses remained an issue in coal mining, some respondents indicated this aspect was not as influential as in the past:

> *I can remember a time when I first went into the industry where bonus was like push to head through things, to do jobs, to be back on coal, to be earning a bonus, but I would say, and I don't know why, it's just been a generational shift, it's just a generational shift, but yes, blokes now are concerned with their bonus, but they don't chase bonus, maybe daily they do, but I know at Springvale I don't believe the guys chase bonus like they did 20 years ago or 15 years ago, you know, like 15 years ago, if you were at work and you weren't in the bus, they would scream at you to get in the bus because they wanted to get to the face to start getting bonus, like now, you know, they're malingering a bit like cats from the bus [R20E]*

Those respondents with direct experience in both coal and metalliferous mining reinforced the difference between the nature of systematic hazard management and oversight, with terms ‘cowboy operations’ being used repeatedly to highlight the differences. While this is a generalisation and there was evidence of well-managed metalliferous mines sensitive to OHS in our interviews (albeit largely by way of comparison with poorly managed ones), it highlights a significant perceived gap – and one seen to be a significant degree as a reflection of different representative arrangements. That former metalliferous miners should feel more comfortable with safety and health arrangements in coal mines is telling with regard to this, and also any suggestion metalliferous is manifestly safer or healthier. Some metalliferous miners also used the term ‘cowboy operations’ to describe particular mines they had worked at and the revelation that came when they moved to a metalliferous mine with better safety and health arrangements:

> *I started my underground career at [names mine] ended up with their culture, been a bit of a cowboy, have changed seeing how it was done elsewhere and have changed with it and couldn't be happier with having, like some people don't like change. I'm more than happy to change and yeah, always looked after myself, always looked after the people around me, never done anything I considered unsafe or left anything unsafe behind, but coming [words deleted to preserve anonymity] here [R8].*

A coalmine union respondent referred to a colleague seeing at least some metalliferous mine managers as being caught in a time warp:

> *Like one of our district officials had a conversation with a manager and he said it was like having a conversation with a manager in the 1980s. He said it wasn't like a 2025 conversation. He said the manager was saying to him, you will and he was like, no I won't and he won't be either but the mentality, he said it was just like, you know, you know. It's just. Yeah. Going back in time [R20E].*

Confidence to raise concerns about safety and health

Interviewees were asked if workers felt confident to raise concerns about health and safety, and if this applied equally to direct-hire, contractors and labour hire workers. They were asked about how confident HSRs (and SSHRs) were in raising concerns and to what extent these concerns, when raised, were addressed. Further, HSRs were asked whether they had sufficient powers to carry out their functions, did they feel confident in raising issues with

management, h the matters resolved, were their views and role treated with respect, and were they ever subject to intimidation.

The tone of interviews was that there was reluctance amongst many workers to report safety and health concerns, especially in metalliferous mining and one coal mining district where union organisation and worker representation were weak.[288] Typical of these concerns and the 'double whammy' this could entail, one metalliferous HSR stated:

> *I think people are suffering at work then because you're obviously doing something that's not comfortable or safe. So you've got two, it's a double whammy because one, you've got fear of losing your job and then two, you're probably going there and operating a truck that could be hurting your back or something like that. So not only are you worried about losing your job if you raise it, but you're going home with a sore back every night because you want to just get the job done for them [R7].*

As this quote implies, failing to raise OHS problems can have adverse physical consequences for workers. Working with poorly maintained equipment can, for example, be not only a source of physical risk but also psychological stress.[289]

At some mines the situation was seen to have deteriorated, with one metalliferous HSR observing:

> *I've been there **XXX** [indicates years spent at mine] it's worse now than what it was when I first started okay yeah yeah for sure blokes are worried more now about their jobs yeah and they're willing just to sit back and say nothing [R5A]*

Some workers stated they spoke out on safety, but they noted a general reluctance to speak out. Typical was the statement of one metalliferous miner:

> *If I talked about … our crew, if something needs to be brought up, there's a lot of guys that won't talk up. They're just not people that like confrontational. They'll rather have a meet and go away table talk or talk in the crew room about their concern and then hopefully myself or two others who generally speak up will bring it up. And I've brought that up with superintendents and our managers before that [R4].*

Another indicated speaking out had resulted in being singled out:

> *And I believe I've had a target on my back to where I'm sitting now. I can't move anywhere. I was just stuck in the role that I'm in currently. And the job come up and I just, for the sake of it, because I was saying I need to get out of here because I can see things going wrong. That's right [R19D].*

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[288] Illustrating Morantz's argument on the positive role of trade union representation on health and safety matters. Morantz, A 2017. What Unions Do for Regulation, *Annual Review of Law and Social Science* Vol. 13:515-534 https://doi.org/10.1146/annurev-lawsocsci-120814-121416

[289] Indeed this was nominated as the leading source of stress amongst heavy equipment operators at a metalliferous mine in Western Australia. Interview with one of the authors 2023.

At two metalliferous mines, respondents indicated that relations with management, support for representative structures was constructive and workers felt able to both raise issues and stop the job when required [interview with R8 for example]. But this was not the case in most mines covered in interviews and focus groups. By way of contrast, relations were perceived as more constructive notwithstanding disagreements and occasional fraught moments by most coal mining respondents, with stronger representative structures being repeatedly nominated as the reason for this. One coal mining respondent who had worked in a NSW metalliferous mine noted that he found metalliferous mineworkers to be more isolated and afraid to raise OHS issues:

> *But, because I still carried my kryptonite stickers on it [equipment] and all that sort of stuff, they sort of, yeah, they sort of realised that I wasn't just a normal, like, a nipper or one of them workers, they sort of like, but then after a while they started asking me questions and how to do things differently, but yeah, it was very, you were on your own, it wasn't as a team environment, didn't have a backing of anyone else to help you, I've seen that, that was the same [R20C].*

A number of metalliferous miners interviewed referred to stopping the job (such as charge up) on occasion on safety grounds, emphasising they relied on their expertise to make this call but others lacked the confidence to do it:

> *You're confident to stop the job, yes, because you know I'll try to stop the job…I am in an absolute position to make that call because, you know, my brain will explode [R10].*

However, some respondents also stated that, on occasion, diligent workers were removed from critical tasks, signalling a production focus that suppressed proactive safety behaviour. A metalliferous miner stated that after he had been removed from a job after stopping it due to poor ground support, the task he regarded as too dangerous was later completed by other workers. These comments are consistent with observations made in the *Digging Deeper* discussed elsewhere in this report.

During interviews, repeated references were made to HSRs feeling insecure about raising OHS issues and fearful of being targeted. The term ‘having a target on your back’ was repeatedly used, and in the course of interviews reference was made to HSRs who had been dismissed. Typical of comments about the climate of fear at some mines was this statement:

> *Like, we've got the HSRs that are trained up with their PINs, they should be putting PINs in it. But again, it's been two years and nothing's been done… So they've got a lot of confidence built up in themselves, but [specific details omitted], they're not going to put a pin in. 100% if you put a pin in [R5B].*

A metalliferous mining HSR stated they lacked the confidence to issue PINs notwithstanding the support of union officials – who while committed to safety, it is important to note, lack the knowledge and authority of an ISHR:

> *I haven't issued any… We're obviously given all the information in regards to that. Yeah. still have all the manuals and everything like that with the PINs having not issued one I personally don't feel confident enough I would be*

able to gather as much information as I could as much information that I could sort of put together myself from having the manual there with me and knowing what [R13].

Another chilling effect raised with regard to some metalliferous mines was significant items remaining on the mine safety and health committee for extended periods (well over a year or even several years in some cases specifically cited) without being actioned/resolved, some eventually lapsing. In addition to HSRs, other workers in metalliferous indicated issues they had raised had not been actioned.

A couple of incidents that have happened to me when I've raised issues in the past and nothing's happened have both been, well, there's probably been more than two [R8].

Yeah, that's right. He used to ask that and then he'd have his meeting but I'm pretty sure he'd say he'd bring stuff up and they just don't do nothing … until something happens, really. Unless it's very serious, but, and most safety concerns should be considered serious [R11].

Some HSRs observed that attendance at Health and Safety (HS) committee meetings had been dominated by staff/management, chaired by persons close to management, or held at times that discouraged attendance. The imbalance in meeting attendance remained at some mines due to these problems:

the HSR meeting's always done on a [names shift] shift, which annoys me a little bit, but anyways. But I always see the attendances and there's usually more management there than what there is HSRs… But the problem we have with them, and you've got a group of them, if you're all managers and I'm an HSR and I've only got two in the room, I'm not going to say anything to them. I don't want to speak out of two because then I'll get targeted [R19A].

The presence of senior managers at meetings could intimidate and affect issues raised:

Yeah, everyone felt intimidated by that. In terms of the workforce, from when I was on it, it was, I was the only one in the middle. Now I think there's about two or three, but, they hold it at horrific times. in the morning after a finished night shift and the last thing you can do is focus on a meeting. Again that's something that they don't actually allow time to say you know yes you're at work this meeting is part of your work [R10].

While a number noted composition and representation had improved, HSR attendance was by no means complete due to competing shift/work demands and a preoccupation with housekeeping issues rather than significant unresolved health and safety problems weakened the desire to attend. A metalliferous HSR [R13] indicated that meeting attendances ranged from 6-12 at meetings when they were working night shift it was difficult to attend. They went on to indicate that matters normally considered would be of a routine nature:

So they generally go through your safety for the month, in which they do bring up reportable incidents and any injuries, medically treated or anything of the like there. So on there, during the meetings, they're generally, they go

> *through them, not in depth, just say, all right, this month there were however many reportables…I mean, on there, with that and a lot of the things that are brought up within that committee, a lot of them are brought up every month. And I can tell you now that the biggest one is [nominates hazard]. And [and nominated hazard] will never be removed, as far as it goes [R13].*

This view was echoed by another HSR:

> *There's a set agenda and everything that rolls out with it. There's also the company man that they send out, but who doesn't technically chair the meeting. He just does the presentation, gives us all the slides and all the safety data from the previous month, and then takes all the notes, and he's supposed to then take everything to the bosses' meeting [R15]*

Metalliferous mining respondents indicated they were unaware of inspectors perusing HSC minutes, a view echoed by at least one of the union officials interviewed [R18]. The perceived lack of scrutiny was seen to further weaken these bodies.

The above views coincided with those of coalminers who had worked in metalliferous mining in NSW or Western Australia:

> *My experience, there was no safety issues, they got risen from no one. And I've seen a few things happen, like [cites acronym for mining equipment] getting flipped and just trying to get it fixed… We didn't even get told who our Health and Safety Committee was. The foreman, he was pretty cranky. Chief Boss, not great [R21C].*

> *I had a good leading hand, which he could go to, and he was good. The Health and Safety Committee was poor, if you could find them [R21H].*

Reference was also made to confusion regarding the status of HSRs, mandatory training and worker members of the committee being HSRs. A metalliferous union official stated that he had requested a register of HSRs in order to identify, assist them and explain their legislative duties and powers from the regulator, but this had been refused. Both MEU and AWU officials struggled to know the identity and number of HSRs on particular metalliferous sites, whether some workgroups were unrepresented, who had been trained (and by whom). Further, as noted above, HSRs interviewed were themselves were often unsure as to the precise number of HSRs at their site. A union official spoke of efforts to redress these deficiencies by running accredited training programs, but noted HSRs were still reluctant to issue provisional improvement notices (PINs) for fear of 'blowback'.

In sum, as identified in earlier research and inquiries, interviews confirmed that fear of retribution for raising OHS issues is a serious issue that not only weakens 'worker voice' essential to effective OHS regimes but also undermines OHS management systems and can have an adverse effect on physical and psychosocial wellbeing.

While fear of victimisation also existed in the coal mining industry, especially in more weakly organised mines, coal mining respondents, in stark contrast to their metalliferous counterparts, expressed confidence that OHS matters could be referred to their HSRs, SSHRs and ISHRs and actioned. It was indicated that mine representatives raised issues

with the company and regularly reported progress at the meetings. One respondent observed:

> *So they're part of the structure of our meetings they'll have a buckle come to our meetings and have a spiel on what's happened what's been going on and then the blokes will raise any issues they've got. I know at Airlie there's two sort of forums where Tim can bring up issues and be raised to him who's also in a HSEC committee. He's heavily involved in that and he can go forward and then raise issues straight to the company there where they can get actions completed, delegate actions to members of that of our workforce. So it's not just through the union it just leads. [names representative] got a couple of different avenues as in our site at SSHR [R20C].*

Coalmine respondents also described the operation of HS committees at their mines in far more positive terms, both in terms of operation/structure (formal election processes and worker representation) and effectiveness, than those in metalliferous mining, noting the importance of stronger representative structures to this. Typical statements in this regard were:

> *We've got a committee, we sort of run that don't we. [and asked on representation on committee]…So we've got a three year term I think as part of legislation for SSHRs. We have a system where we have a, what do you call it, election and then we do odds and evens. committee doesn't roll over as one, so you sort of get a two-year term sort of thing, and we run it like that….So we put an election nomination sheet, and then we go and advocate, and people are starting to see a little bit of that now…. Then we actually hold an election, and then that gets voted on. So we nominate that, start a shift, and then there'll be an election vote, and we fill out the ballot papers [R21B]*

> *You can't nominate yourself, someone else has got to nominate you, and then there's got to be people that back you, and then it goes to vote [R21C].*

Different methods were adopted to ensure the committee was representative, depending on circumstances, some based on shifts while others were based on cross-sectional representation, where a shift-based approach wouldn't work [R21B and R21D]. Key technical management positions and the safety department were seconded to committee meetings, and efforts were made to ensure contractors were represented while still ensuring workers constituted the majority of any quorum as required under the legislation [R21A, R21B and R21E]. With regard to the effectiveness of their operations the following statements were made, which again stand in stark contrast to metalliferous mining respondents:

> *So, we run a hit list… But it's decided at the committee, like, is that something to be achieved within a month, or is that something that's a bit bigger, and then we'll put a three-month timeframe on it, or a six-month timeframe on this, depending on the size of it, the weight of it, I suppose. And then we just constantly just keep working through that. But we always, each month, ask for an update on each item. So if we're looking for, say we've got a dust issue on the roads and we're looking for a replacement bit of gear, then I say, yep,*

> *righto, we've got it in concept, we haven't got it approved yet, so that's the report from that month. The next month, not there yet, we've got the money approved, or the contractor have organised to make it, yep, righto, so we keep tracking it. And then we track that through our management system, which is a 360 system, so that'll get tracked through, so if that gets assigned to the mechanical engineer, he's actually held accountable through the tracking system that the mine provide, and he's got to put the information into the system [R21A].*

Another respondent described how, as an SSHR they got workers to fill in hazard reports and compile evidence before it went to the committee so 'when we present an issue with a bit of evidence behind that we find I'm finding normally they'll get more attention and probably result a bit quicker' [R21B]. They added 'if you give them some notice, they're more likely to come to the meeting with a bit of information for you' [R21B]. Yet another respondent noted that due to fatigue at the end of a shift, sometimes things occurred to them after the meeting:

> *Sometimes at night sleep you think of something a bit better than you can. We leave the meetings and I get home the next night and I'm like, we should have seen that next time. Well, you have time to think about it. We bring it up at the last thing. All the new things brought up and then the next week it'll be given to a person and then they'll look into it [R21E].*

This respondent went to note that most things got resolved, although an isolation issue remained unresolved after over five years. Asked how the system worked with regard to how SSHRs and committees dealt with issues respectively, a succession process was described:

> *…we run a similar flow system… So our flow, we're going to place a flow chart as part of the safety constitution and we basically say raise the issue, address it with your immediate supervisor and if you don't get any, it's just... It's like a yes-no thing, like a close-in through a close-charts. Immediately you don't get a result, go to the next person involved, which would be an coordinator or under manager or something like that, and at that time if you don't get a result then it ends up at a SSHR, and then through the ISHR and through the Regulator and all that sort of stuff too. So your Work, Health and Safety Committee, they would basically just get involved in that first bit if possible and try to push it along, and then they probably would just generally call the SSHR. So we sort of try to, the Work, Health and Safety Committee reps, they just try and help the process along within the shift, I suppose you call it, so that's what the shift reps type thing or, yeah, they represent the shift, and then it just sort of flows on to the SSHR [R21A].*

One respondent indicated there was not committee at their mine:

> *We didn't have no committee, there was no format to raise these issues with. Probably the hardest thing as chief reps and that is to get someone to fill in the paper and then go okay give it to the under manager or you can take it to the next safety team [R21F].*

Drawing the foregoing together, the following general conclusions can be drawn. In metalliferous mining, workers fears of raising safety and health issues are widespread (notwithstanding some exceptions), HSRs often lack confidence/trust to raise and pursue issues, there are gaps in representation, and mine health and safety committees have often proved to less representative than desired and ineffective at resolving significant issues. Fear of being targeted is also found in coal mining, but the more robust representative system means issues do get raised and tend to be resolved, and that mine health and safety committees operate more effectively as part of this. The approach is more formalised with workers raising issues with immediate supervisors, then proceeding to HSRs and ISHRs, who may refer it to the committee or take action themselves and secure the backing or help from an ISHR if needed. Both the representative structures and committee operations are more formalised than in metalliferous mining and better suited for this. Representatives seek to resolve issues amicably and using internal processes, aided by their mining experience and knowledge of mine safety legislation, with escalation reserved for those that cannot be resolved at a lower stage. The presence of these stronger representative structures also seems to influence the responsiveness of management to issues when they are raised, compared with what metalliferous mining respondents described. Again, at several metalliferous mines for which interviews with mineworkers were undertaken, management was more supportive of the process and role of representatives, but even here the processes more typically found in coal mining were more formalised and developed. At mines hostile to worker representation (either union or HSRs or more typically both), representation was typically more fragmented and challenged with no access to an ISHR-equivalent to help redress this imbalance in terms of worker voice on safety and health.

HSR/SSHR interactions with the inspectorate

Both HSRs and SSHRs were asked about the nature of their interaction with government inspectors, including whether inspectors notified HSRs prior to or during site visits, how the latter responded to complaints from HSRs or workers (including labour hire and contractors).

There is a legislative requirement that inspectors should notify/contact or make their presence known to HSRs during inspection. Specifically, under section 164(2)(c) of the NSW WHS Act 2011:

> Notice of entry
>
> (1) An inspector may enter a place under section 163 without prior notice to any person.
>
> (2) An inspector must, as soon as practicable after entry to a workplace or suspected workplace, take all reasonable steps to notify the following persons of the entry and the purpose of the entry—
>
> (a) the relevant person conducting a business or undertaking at the workplace,
>
> (b) the person with management or control of the workplace,
>
> (c) any health and safety representative for workers carrying out work for that business or undertaking at the workplace.

(3) However, an inspector is not required to notify any person if to do so would defeat the purpose for which the place was entered or cause unreasonable delay

While there are limits to this, when unannounced inspections occur, the universal response of HSRs we interviewed was that such contact had never been made in their experience and that they only became aware of inspections when notified by management. One metalliferous mine respondent stated:

> *the regulator is supposed to notify the HSR yeah well, the previous meetings and you know that at the work health and safety committee we know that you can request as a HSR to go with them wasn't aware that the regulators should be coming on site and going who's your HSRs on today come with me drop what you're doing because you have every right to do that yeah but it doesn't happen [R17].*

Another metalliferous mine HSR respondent indicated they were aware of visits but had never been notified:

> *They'll come for a visit and they'll basically target one area. They came here for a dust order, apologies for the procedures, it's a paperwork day. That's been a recent priority, dust hasn't it? Yes, it's been one of them for a hundred years, a hundred and thirty years… I won't get a call from them and say we're coming. I've never had that request we need you to be on board [R6].*

Asked if he could recall instances where HSRs had been contacted by inspectors, another metalliferous miner responded:

> *I can't, I wouldn't think that they would be contacted. We're generally told when they're coming. [interview query: By management?] By management, yeah. Obviously because management are trying to make sure we're doing the right thing [R8].*

Contact with inspectorates during visits was generally coincidental rather than organised, and accompanying an inspector during a visit was described by one HSR as only occasional [R5A], while another indicated that they had requested that this should be routine [R5B]. The latter added that to his knowledge unplanned/unannounced inspections of the mine only followed in the wake of a serious event and that inspections had become more frequent.

> *They're still not interacting with the workforce as such but their presence is the only thing [R5B].*

The lack of interaction between inspectors and workers in metalliferous mining was a consistent theme:

> *Well, here's the thing with that as well. A lot of these regulatory visits, they are with supervisors or management. All the time. Not personnel. Not just your worker. They take them on a bit of a walk around. And that's the most we...[R14]*

This metalliferous HSR went on to indicate that they would have liked to accompany the inspector but felt constrained by both staffing levels and whether this would be seen as impinging on the inspector:

I feel like if you say all right the regulator is going to be here I'd like to do a walk around with them you're going to get pushback from either your department because they're going to lose a body already being undermanned or actually I've felt as though you're just going to hinder the regulator doing what the regulator is doing personal feeling so in what way would you think well they just feel off-put like why do I need a HSR to follow me around if that makes any, sense it's that's the feeling I get I mean I don't know [R14].

Note: HSRs have a right to accompany inspectors. Section 68 of the NSW WHS Act 2011, Powers and functions of health and safety representatives provides, among other relevant provisions, that a HSR may … accompany an Inspector during an inspection of the workplace or part of the workplace at which a worker in the work group works…s68(2)(b). The inability of HSRs to accompany inspectors or their belief this might be seen as interfering with the inspector's function are both serious issues that, like notification, need to be addressed by the Regulator.

Another metalliferous mining HSR complained that government inspections failed to deal with serious underlying problems or lacked follow-up on symptomatic problems:

your DPIs that come through, and I mean, for a long time now, it was a bit of a generic, I guess, to be quite pointed, almost laughable, when the DPI comes in and they say, we need that spill removed. Yeah, there's spill on the ground, what about the rest of it? [R13]

Others referred to mines being aware of impending inspections. A number of metalliferous mineworkers and HSRs referred to changes in work practices before announced visits to, for example, improve ventilation readings or suppress dust below what was normally present. Even more disturbingly, a clearly illegal 'work-around' in relation to a dangerous hazard was referred to at a mine where evidence of this was regularly removed prior to inspectors visiting the mine (we are unable to include details to preserve the anonymity of the respondents who referred to this).

Consistent with the last quote, most metalliferous HSRs and workers indicated their interactions with inspectors were minimal and they did not believe inspectors treated complaints they or workers had raised with sufficient seriousness. One metalliferous respondent [R17] indicated that inspectors were often accompanied by managers/supervisors but not workers or HSRs, and they were unsure if workers were interviewed away from managers. Examples were cited where inspectors largely listened to management when viewing a hazard and where hazards had been overlooked or under-played. Several stated they believed the inspectors (some formerly employed by mines they inspected) were insufficiently rigorous in their approach. There was also little confidence in referring matters to the inspectorate more generally.

In some instances, there was outright mistrust that metalliferous inspectors were genuinely acting in the interests of mineworkers' health and safety, with several suggesting the ones coming to their mine were too close to management:

One of the things that we've found over the years for the regulator is one thing, like you've got obviously some of the employees that, some of the regulators that come to our site are ex-employees. Some of them are friends

with the bosses. Some of them are married to, into the families. There's a lot of crossover [R15].

On occasion, metalliferous mineworkers referred to more positive exchanges, particularly when during an interview the mineworker demonstrated a significant understanding of an emerging hazard. For example, one metalliferous miner [details deleted for anonymity] recounted an instance where inspectors were surprised by their knowledge of a particular hazard after asking them what they knew about it and later spoke to them privately (i.e., away from management, R12). Unfortunately, such examples were rare. As research discussed elsewhere in this report demonstrates, the knowledge base of experienced workers and HRS can make an important contribution to identifying and remedying hazards, but it does not appear sufficient use is being made of this by the metalliferous inspectorate.

More generally, concerns were raised about the lack of feedback after notifiable incidents had been investigated and passed on to the regulator. One metalliferous mining respondent stated:

So we still don't know if what they put forward has been assessed by the regulator, if it was a reportable incident, because we don't know if even our statements that they're making are making it to the regulator, because some of the statements are a lot pretty damning from the incidents that have gone on, but yet nothing's ever happened out of it. So that's the grey area that the workers don't know. And it's been going on for years, and they're browbeating into why even bother, you know [R2].

The contrast with coal mining could not have been sharper. Coal mining respondents, including SSHRs, indicated they were always contacted and given adequate notice by inspectors except where circumstances prevented this, notably unannounced inspections as one respondent indicated:

The only time the unannounced ones, I've been lucky, they came late in the afternoon and I was just about to go home, and he said, mate, sorry, but this is what we're here. We're turning up at three o'clock in the afternoon, and I said, that's fine, I'll come with you anyway. Yeah [R20A].

Similarly, coal mining respondents all spoke of generally close and constructive relationships with coalmine inspectors, including ready exchanges of information, joint inspections and mutual trust and respect. This was seen as a direct product of the stronger representative arrangements in the coal mining industry, which was also seen to promote more constructive relations with coalmine management. Reference was also made to inspector's scrutinising company efforts regard to worker involvement and communication on OHS;

Companies have to prove to the department how they're communicating to the workforce, you know what I mean, so they've got to have the health and safety meetings and they've got to, you know, because the department will come and say, well, how do you allow you to check your time and communicate with the workforce or raise issues or, so these are all platforms they have to have to enable that communication [R20E].

Another referred to the positive outcome that occurred when they first assumed the role of SSHR and accompanied an inspector during an inspection:

> *When I first took over as the SSHR, I was on night shift, this under-manager that we worked under, he didn't do too much of the information, like sharing of what's going on through the mine, then I had an inspection with the regulator to go around and they asked the workers, so I was standing there with them, asking the workers about some maximum information that had gone on, there was some reporting going on, and I had no idea about that information, and I was standing there thinking, I'm lucky that he didn't ask me because I've got no idea, so I went back to the under-manager when I went back on shift and I said, how are we going to work this? I said, because you don't share it, you need to share it, it's an expectation, I'm not going to look silly, so if you don't start sharing it, we're going to... I talked to relevant people, so, and that was going on for as long as I was there until, so, that he just had that stigma, if you had a sticky or something like that, he'd put you on a belt move or whatever, but yeah, it was just, this is going back five years ago, but it's not there anymore, but you can see how different people, how they, it was a bit of a bullying tactic, I believe, from him [R20A].*

Coal mining respondents who had worked in metalliferous mining in NSW or another jurisdiction (including Western Australia) reinforced these differences based on their own experience. One indicated that in the years he spent in metalliferous mining in Western Australia they had never encountered either a safety representative or an inspector:

> *Never. Not one. So that was over four years, been on client for way out. And you never saw one? Never saw one [R21C].*

Generally, regulatory studies have found a strong association between the presence of trade union representation and increased regulatory enforcement.[290] This suggests that the above contrast in the experiences in metalliferous mines compared with coal mines may be, at least in part, explained by the weaker union presence and rights to representation in the former.

Training and refresher courses

Interviewees were asked to comment on the adequacy of training given to HSRs, notably whether it covered mining hazards, inspecting mining hazards, understanding safety management systems, and what should be covered in a principal hazard management plan. They were asked if they could identify the provider, and whether the provider knew or had experience in the industry-experience?

As indicated above a number of respondents from metalliferous mining indicated that HSR training was often organised by companies. This view was also expressed by a union official interviewed who added that the functioning of HS committees was also constrained:

> *But management would always try and stop or put pause or say, no, this is all right. We don't have to worry about that sort of stuff. As it sort of moved into the HSR world, I was given, like we had a couple of blokes on there, and I was giving them information around their rights. And, you know, the training*

[290] See for example, Weil D. (1991) Enforcing OSHA: the role of labor unions. *Industrial Relations* 30:120–36 .

was always done by the company. They wouldn't let them go anywhere else. And it wasn't as proactive as what a HSR committee should be in mining or in any industry, really, but particularly in metalliferous mining. I saw it, and I tried to train our guys that were on there that this is a vehicle that the use can introduce change for the better for the worker. And that just got done. many impediments put in front of them did stuff just stick on the agenda and never get I'd say so mate I'd never seen minutes you never seen it so the inspector couldn't come out and look at what they were doing the inspector said if I go on a tangent around the regulator yeah no talk about [R18].

In NSW coal mining, SSHRs receive specialised training, though there was some criticism in relation to one provider:

It's just a training provider it says, the person facilitating it should have at least a cert four, but it doesn't go into that, usually mining people if they're at mines rescue, but how they're delivering the course, and I know the course is outdated and they haven't changed the legislation, and that's not up to the mines rescue station, that's up to the regulator [R22A].

Options for refresher training were rarely mentioned by metalliferous miners [due in large part to the timing of interviews before this issue emerged], but were endorsed as important by those who were asked to consider it [for example, R15]. Refresher training was repeatedly raised in coal mining interviews. In Queensland and NSW coal mining, there are regular (often annual) SSHR conferences organised by ISHRs that include expert speakers and activities for SSHRs to enhance their knowledge and skill-set as well as interacting. When this was pointed out to metalliferous miners, there was strong and universal support for a similar mechanism for HSRs and SSHRs in metalliferous mining.

In coal mining, respondents were unaware of refresher training being available for HSRs but supported this. One option supported was that HSRs should be invited to the Regulators Annual Safety Seminar, with a respondent indicating:

I think it would help them become more engaged as well, and have a similar, more of a similar understanding to what we do, because we are so connected. I think if we had, those formal forums that they could attend, they'd have a better understanding of what they can use us for and what the network is with the ISHRs as well [R22B].

While supportive of annual refresher training, other respondents indicated the numbers involved would be challenging (both in terms of industry pushback and cumbersome), and perhaps another approach was needed, although whatever method was used, it would require the regulator to push it [R22C and R22E]. Other respondents noted the common challenges in both open cut and underground mines [R22D and R22F] while it was also noted that HSR refresher training involving SSHRs and ISHRs would have benefits in terms of mentoring and attracting persons to the role:

But if they had that support or mentorship… from an SSHR... an ISHR, you would get maybe HSRs wanting to do the role. They don't want to do it now because they feel isolated [R22A].

There was some criticism of the need for more regular refresher training or updating/expanding knowledge of SSHRs in coal mining. The NSW Regulator runs an annual conference to which SSHRs and ISHRs are invited, but this is not focused on them. Both the Northern District and Southern and Western Districts run annual workshops/conferences for SSHRs, which include an array of valuable information. For example, the November 2025 South and Western Districts conference included two talks by inspectors (on electrical hazards and the targeted assessments program), the outburst at the Appin mine, Ten pathways, an update on national developments, dust sampling and Health Standards (Order 45). These are valuable, but some believed the Regulator should do more to implement annual refresher training. One coal mining respondent (ISHR) indicated there was a need for annual refresher training for SSHRs:

> *Some sites, a lot of sites, will send them to HSR training every year, but there's nothing in the legislation. Once you do that approved five-day course, as soon as it's reasonably practicable, there's nothing in there about refresher training … And we used to not interrogate sites to make sure they're sending them to the HSR at least course every year, but they were releasing to us, it wasn't a gentleman's agreement, but it was sort of, I never used to push them. This year we had a pushback from a few sites that wouldn't release their guys, because they don't have to, [name deleted] was one of them, they'll let them come, they'll give them the time off, but they won't pay them, so the lodge has got to pay for their wage. So now, I'm going to be going to my sites to ensure that they're at least sending them to HSR training every year, and if they're not, I'll be carrying out my functioning role [R22A].*

The respondent went on to indicate that the union district did provide an annual refresher for SSHRs informally in their office:

> *We're not an RTO and it's not recognised, but [name deleted] and I facilitate the SSHRs one day, the VSHRs the next day, and we just give them training or information about their roles, what can help their roles [R22A].*

> *In Queensland coal mining, the MEU undertakes a five day conference for SSHRs (organised by the ISHRs) across the state on an annual basis, which includes SSHR legislative powers, functions and roles but also specialist lectures on particular hazards (for example respirable dust, psychosocial hazards, fatigue and sexual harassment) by academic experts, government regulators, police and others. Following the general practice in labour education, all these sessions tend to be highly interactive, even where more didactic teaching methods were employed in imparting technical mine safety information. Two of the research team have had opportunities to observe these conferences over the past 15 years and have been uniformly impressed with the quality of the training provided and the opportunity for SSHRs to swap information and enhance the overall learning experience and morale of those undertaking the task. The conference also provides an additional opportunity for ISHRs to mentor SSHRs. Interviewees we spoke to in the course of this project, were supportive of such practices, including*

metalliferous miners where such opportunities were rare and confined to a district:

And whenever we've done that, whenever the union has put on a course of some kind, it'll involve, [refers to other mines in the district]…and getting the chance to cross paths with them, you know, interact, learn, you know, just even just being in the same room as them at the same time is hugely beneficial… Hey, you've got this problem going on. I've got this problem. It overlaps here and here. Brilliant. Have you tried this? Can I try that? Fantastic. It's helpful. It's always helpful. Having any side of, like, any kind of outside experience is always helpful. [R15].

Positive references were also made to qualifications and ongoing training requirements for ISHRs in coal mining. One respondent with experience in both metalliferous and coal mining made some more general observations about training standards and OHS systems in the two:

In coal, for a deputy, we have to maintain our competencies; we've got to do 60 hours every five years of training to maintain our tickets. And that goes from principal hazards to supervision arrangements to help me out of your hip. Oh, yeah. We've got to maintain it. I don't know, that was eight years ago. I was in hard rock, where it could have changed maybe a little bit, but what we have here in the coal now definitely leaves them for dead, by training and all that sort of stuff to do that, it is leaps and bounds a bit front of what they do. And when I was out there (at a metalliferous mine) there was a common joke, if you could last a year at [mine name], you could work at any mine in the world… my first week back in the coal, I went to [names mines and says it is not highly rated conditions-wise], and it was like walking in heaven, like it was great [R20C].

Another coal mining respondent pointed to an abuse of ticketing/certification at a particular mine:

We went and audited the whole process because we were unhappy. I said my concern is people getting pushed through. That one guy from [names mine] was ticketed up there… He told me he was really experienced… I said he's got two days experience… So one guy had ticketed six people in one shift on chalk trails. I said he's done six in a whole shift. There's 42 questions. So he's gone through 42 questions and 45 assessment criteria. He's done six in a shift [R21E].

This appears to have been an isolated case but may warrant further investigation as part of a more general audit of training/certification in NSW mining.

Part of the 1902 mine disaster miners' memorial (the worst mine disaster in Australian history) at the miners' memorial wall, Wollongong [photograph by research team October 2025]

Comparing representative arrangements in metalliferous mining and coal mining

Interviewees were asked their views as to whether it would be more effective if metalliferous mining had representative arrangements similar to the NSW coal mining framework, notably an SSHR type role who could represent the entire workforce at the mine-site, and were there limitations, by way of comparison, with regard to the ability of HSRs to address principal

hazards including those extending beyond their workgroup. Further, interviewees were asked if the existence of an industry/union safety and health representative (ISHR type position) would help mine-based representatives gain more attention from management and government inspectors.

This chapter has already detailed the often significant challenges confronting metalliferous mining HSRs in carrying out their roles. At the same time, in the course of interviews, HSRs were overwhelmingly described in positive terms by other mineworkers, with considerable trust expressed in them. Typical of this, a metalliferous miner indicated that they were well aware of the hazards in their area, would normally take any concerns to the shift boss, but if that failed, would go to their HSR:

> *…if it's flying on deaf ears I could probably, yeah, definitely see my HSR [R19B].*

Another metalliferous mine respondent indicated that the HSR structure at their mine was fairly recent and building trust took time, required suitable workgroup designations and could be reinforced if management was supportive of the role:

> *You've got to build trust in your HSR to be able to say something. And I think that's one of the biggest challenges that we've got out there, is building that trust around our HSRs and having that management support [R19A].*

The majority of metalliferous HSRs were viewed as doing their best within the structural constraints under which they operated. One HSR indicated how they resolved a series of issues:

> *Good example is one of our maintenance boys, came to me with a question that he didn't have the answer to and couldn't find, so he was hoping I could find out [refers to emergency equipment underground used by maintenance workers – details deleted for anonymity]…So next committee meeting for the OH&S committee, I simply asked management and the other HSRs, and upper management gave me the response of, it's meant to have them…It eventually went through a whole process with upper management saying, we want a site-wide standard …And this is the standard we want to set, so now you're bringing everything up to that standard [R15].*

However, even that HSR who was rated highly by other mineworkers we interviewed doubted how much confidence workers had in their HSRs, given the amount of management pushback:

> *I don't think the workers could legitimately be confident in any of the HSRs, even though they know that some of the HSRs are doing very much care about their issues and are doing absolutely everything they can to chase it up. The pushback from management or just when they're being really tedious, just the absolute lack of feedback and slowing things [R15].*

Some HSRs were viewed as exceptional. A number who were both experienced mineworkers and pursued safety and health issues with considerable determination, earned particular praise typified by the following quote:

I've actually got a very good relationship with, and she will listen to... Yeah. Hard work. She's probably the right person for the job. Yeah. Yeah, she'll listen to what my concern is and back me up [R12]

But within the existing context and supports in metalliferous mining, it was hard for HSRs to operate effectively. One respondent noted these constraints and challenges including a lack of support if not outright hostility from management:

To be fair, how it's structured is the HSRs don't understand their powers. They're not supported. And it's pretty much, this is what we have to do when we have our meetings. These will be the topics. We'll run through them, and we'll always do it at the start of shift, so you can have people finishing night shift or coming up to their day shift, so it's okay, well, we've got meetings in an hour, so we need to rush through this, and then HSRs actually can't bring up issues from the workforce, from their departments, because the fact that we have a list, this is what we need to get through, yep, HSRs are here, no worries, here's the minutes, we'll see you in a month [R19C].

Similarly, another metalliferous miner who had undertaken HSR training commented:

I'm just going to ask, how is everyone's HSR? I'm prepared to say that our company doesn't really care [R19D].

As noted earlier in this chapter, most HSRs interviewed felt vulnerable and were reluctant to issue PINs even though they recognised this was the appropriate action to take. In coal mining such fears were also present, but ISHRs were available to assist and even issue the notice if warranted taking the pressure off the mine representative. HSRs who indicated they were confident to issue a PINs were exceptional, but one noted how this lifted the standard of OHS management at the mine – something consistent with the findings of research into safety representatives in mining and elsewhere.

I've issued a PIN and this is what to write based on what you've told me. This is how to write it. Because you'll get that sort of training. Or they might say, no, let me come in and have a look. So it's just a graduated system. But sometimes it can back up the safety department who might have been banging on about an issue that they haven't got enough carriage on. And that's how... happened, you know, where they can say, look, you've got to do something about this because if you don't, you know, so in my experience it lifts the quality of management in the [mine] [R19C].

Interviews and focus groups were asked for their views on the respective roles of HSRs and SSHRs. Amongst metalliferous mining respondents, there was strong and consistent support with regard to the value of having representatives who could cover the entire worksite (including remotely located contractors), conduct site inspections (and prepare reports with regard to this), raise-site wide issues. This was seen to fill an important gap in the existing representative structure and provide a conduit for HSRs coordination where needed. For example, one metalliferous miner stated:

Yeah. I reckon that would be the way to go as well. You still have your … reps for each panel, like for what they specialise in. So [naming two HSRs], they've been underground for a long time, and they're not afraid to say what

they want to say either and they I think they've done courses so they know what they can say and um but yeah I think it would be good to have probably someone above them that does the whole mine and knows everything [R11]

HSRs interviewed indicated they did not have time to conduct inspections on a regular basis, and this, unlike that by SSHRs, would be confined to their work area. A metalliferous mine respondent made another important observation relevant to the respective roles of HSRs and SSHRs and the advantage of having the latter:

Yeah, well our fatal hazards are site-wide. When you talk about working in heights, it's whether you're underground or up-ground, doesn't matter. So, yeah, I think that would probably help [R19A].

This observation would apply to a number of principal hazards – the things that SSHRs in coal mining typically pay considerable attention to (see Chapter 4). Coal mining respondents also endorsed the need for site-wide representation not only with regard to principal hazards but also with regard to site-wide hazards like psychosocial hazards, and also their capacity to deal with other site-wide issues like injury management. One respondent described an instance with regard to the latter which is worth quoting at length because of what it reveals of the dynamics of how issues can get resolved (with new procedures in place) by the combination of supportive workers and the representative process overcoming fear of coming forward with a problem:

Yeah, well, one recently injured worker who didn't want to rock the boat about requesting adequate injury management. There was no injury management plan in place. So it had [details of nature of injury removed for anonymity] And, yeah, no injury management process in place to facilitate his rehabilitation and providing adequate work to reintegrate into the workplace. Until he was dragged, mind you, to me, almost against his will by a co-worker saying, this guy will help you, this guy will sort you out. Still didn't want to tell his story because it's going to get out somehow. It's going to get out that, you know, I think they're doing enough or that I'm being a problem. Anyway, by the end of that process, yeah, he calmed down a lot, explained to him that, you know, this is coming from me on behalf of you, you know, I don't even have to identify you. I can just identify an issue with the injury management process because you're not the only one. And so through that, yeah, there has been a review and a lot of subsequent retraining of frontline leaders and our health team in the processes of injury management. But come hell or high water, he wasn't going to see anyone about it until one of his co-workers dragged him in to see me [R22B].

At the same time, some coalmine respondents were supportive of the HSR role that emerged following legislative changes in 2013:

We have HSRs, we're warranted, we're work groups identified, we have SSHRs, then we have ISHRs. The SSHR, he has that oversight because he looks after all work groups, all workers on site, which makes it harder, I'd imagine, in metalliferous, just having an HSR for a work group where… but we still we have got the three-tier system okay [R22A].

The value of both the SSHR and ISHR positions, and their positive interaction, was emphasised by coal mining respondents, typified in this response, highlighting their commitment to all on site, workers and staff, union and non-union members, contractors and direct-hire workers:

> *You're there to say, okay, this is failing in this area, look, you can give a PIN notice and all that sort of stuff, there's a learning curve for them too, because it's someone that's coming from an area that can see something that could potentially have harmful incidences, to anyone, and that's where the SSHRs and the ISHRs are different too, they're just the mine side, they're there for all workers, and also the staff workers also, so it's actually there to benefit them, and it's just us, it's not just a union base, we're there to help everyone [R20C].*

Referring specifically to staff, professional and office workers at the mine:

> *it's very hard for people some people that talk up these goals as SSHRs probably know that people who don't speak up that they've got a voice when they can go to the these boys the SSHRs they've got a voice that can pull the companies on and sort of stand up for the people where there's just nothing like that in the office [R20C].*

> *Anyone on my site can come to me. It doesn't matter if it's a boss or... My name, my picture's up on the board, got on the wall, and all things, so you can come in there and I'll sort it out [R22G].*

This wide ambit was seen as a positive aspect of the 2013 legislation by coalmine respondents, with one stating:

> *I'm here for the rep techie, yourself as well as an employee, you know what I mean, like that difference going back to the check inspector. Well, you're only here looking after the rank-and-file. It was the SSHR, and you're there for your staff employees as well. You're the general manager of the cleaner. Yeah, yeah, so back in the day, it was just a checkie. The way I felt it come across was now the SSHR, you're there for everyone. That's probably a good point. Yeah, everyone on site, that's a good point [R21A].*

Indeed, this was part of a broader view that the 2013 legislation had advantages in that it was perceived to more formalise the representative structures, garnering greater respect from management and facilitating a three-tiered system of HSRs, SSHRs and ISHRs that some saw as superior to the pre-existing system.

> *What I experienced when the change happened…not only did the name change from check inspectors and that sort of stuff to ISHR which took us a long time to get around. But what I did notice, it appeared to become more formal, when the new legislation kicked in. There appeared, from my perspective, to be more formal training. Companies were, or it appeared at the time that they were tasked with having to train people, where previous to that, there just didn't appear to be a lot of structure. We'd have check inspectors at the mine, but that was sort of as far as it went. We didn't have this big, the big long-winded HSR process. We didn't appear to have that.*

> *And it appeared to me at the time that the changing of the legislation suggested that companies had to then go through a process to identify HSRs, work groups and stuff like that. So that appeared to be the significant change that I noticed from what was the old system into the new system [R22C].*

Another respondent who had been a contract manager spoke of how their movement to another mine at the time of the legislative change and witnessed a coincidence of union presence and a stronger advocacy of safety:

> *So I came from working with [names company] as a contract manager…where it was pretty hectic for the workers there, particularly looking after contractors. It was a big job. But coming into [names mine with] a very dominant industrial presence. And it would have been probably around that time where I did see a shift to, I suppose, a more vocal safety aspect of things. … I didn't know much about the name change or the act change or introduction or anything like that. But there was a very big step change in, okay, this is, everything's industrial, to, okay, now there's this huge voice advocating for safety. Even though safety business was always union business, there was very much a lane that existed for safety points. That was pretty visible [R22B].*

One reason this structure was seen as advantageous was because it meant particular workgroups had representatives and could resolve local issues. SSHRs indicated they were careful not to infringe on HSR activities unless approached by HSRs themselves or the issue was site-wide. Describing the new regime on coalmine respondent stated:

> *There's a regime in this new system that we deal with. So we've said to all our rank and file, the system is, go to your WHS [HSR] first. If you can't deal with it, then he reports to your SSHR. If you can't deal with it, goes to ISHR…So it can be escalating. And as long as your rank and file understand the system, don't come to me first… We've set some guidelines for them that we think everyone should be clear in…Well you want a system that will work whether the management is operating or not. That's right. Something that bypasses them if they don't work. This system does that [R21E].*

The three-tiered structure was seen as conducive to resolving issues at a lower level because the presence of both SSHRs and ISHRs alone could lead to more senior management calling for a more review of processes without the need to escalate with the writing of a PIN or referral to ISHR [R22A and R22B]. Further, it wasn't just the prospect of things being escalated. On occasion, management found the representative channel as a valuable option for addressing issues, and a number of respondents referred to this as the following quote illustrates:

> *In some instances a supervisor might well be a supporter of HSR saying yes I'm raising that through my channels and I'm actually happy to have it. It's actually quite an interesting dynamic or even when it gets to a staff manager may say, look, we appreciate you for your channel. So that's an interesting one [R22D].*

This is consistent with staff coming to SSHRs with problems they cannot resolve in-house (see above), and it is also consistent with research in other industries where managers oppose HSRs or government inspectors from raising an issue they cannot due to opposition from their superiors.[291] Another respondent pointed to the contribution to building more robust processes, with SSHRs acting as a conduit to enhance information flows to the workforce and their acceptance of outcomes:

> *And I think the smart ones know, and I tell a lot of my managers, if you involve your SSHRs, the required risk assessments, the required health and safety information, pass that on to them, they're a conduit to your workforce because they've been involved, people have got questions, they can say, yes, I was there, this is what they've said. If you use them in the right way, they are a good tool for them. If you don't, you're battling all the time [R22A].*

Again, coalmine respondents who had worked in metalliferous mining at some point (in NSW or Western Australia) - a number now SSHRs - were emphatic about the superiority of the NSW coal mining representative regime. Consistent with observations in an earlier subsection, reference was made to how both HSRs and SSHRs worked on mine safety and health committees and the positive wider networking of mineworkers, which this facilitated:

> *we would have probably 10 HSRs we also have the value of three SSHRs where we had the regulator agreed to a mechanical inspector as well electrical… effectively, now all those people sat on the WHS committee, because effectively our network HSRs would raise issues with their supervisor or the HCE or supervisor if they were unable to escalate the SSHR, or if they were managing the situation appropriately, they'd have the SSHR, so there was, whether the issue was getting resolved or not, there was always an SSHR. The SSHRs could then, ISHRs, again, bring this issue, so there was always that communication line where there was the ability to escalate, so it was a system that certainly the SSHR had direct lines of contact to the statutory people on the cycle of that being those communications whenever issues were raised to the HS committee or to anyone…people aware that these things were coming so it really just created a network as opposed to you know if you just had HSRs sort of the one man out does that well just get the advice you know escalate on that site certainly… So be fair to say that HSRs rely on the SSHR [R22D].*

Specific reference was made to the mentoring of SSHRs by ISHRs, but also the opportunities of SSHRs to mentor each other, especially helping those with less experience. Ultimately, this took some of that load off ISHRs and reflected a preference to resolve things on-site where possible:

> *I think mentorship is as important if not more than training. Because training is a structured thing, there's a lot of legislation and law and mentorship. You'll come across this. And then you can marry it up. You can't have one, you*

[291] Walters, D. Johnstone, R. Frick, K. Quinlan, M. Gringras, G. & Thebaud-Mony, A. (2011) *Regulating Work Risks: A comparative study of Inspection Regimes in Times of Change,* Edward Elgar Cheltenham, UK.

don't have mentors. I already learned, I'm not going to look at any peers to work with someone now. I already learned a lot [R21A].

You work in pairs, you work and bounce off each other to work in pairs on site. Have that confidence in the person because you might not know how to communicate something. And sometimes we try to leave Steve Barrett out of it as much as we can, and we just try to deal with stuff [R21B].

They appreciate it more, and they've always appreciated it more. Rather than go from it to the ISHR [R21E].

The ISHR role (while not present) was seen to be an especially valuable addition by metalliferous respondents, including giving critical support to SSHRs and HSRs. While views on ISHRs are examined in more detail below, one observation is worth making here. In metalliferous mining, respondents believed the presence of ISHRs would be especially valuable in helping HSRs issue PINs or issuing a notice on their behalf, eliminating fears of retribution. ISHRs mentoring HSRs and enhancing their skills/training was also endorsed:

I like the idea of mentoring HSRs throughout New South Wales, you know, so that they can actually understand, even with training, even with training, HSR training, it's always done through the company, you know what I mean? It's not independent or done through the union or anything like that [R19C].

Another metalliferous mine respondent believed the ISHR would provide support for HSRs and improve how management responded to them:

That would have to have a bearing on it because then they know that there's back up sort of thing, like there's more than just you, so you've got others outside of you and a bit higher. that can come in [R19D].

What was also noteworthy was that respondents in coal mining indicated that ISHRs played a similar role in that sector, and this was especially important in more weakly unionised districts with a high proportion of contractors/labour hire, where HSRs and SSHRs felt particularly vulnerable. As one respondent observed:

Out [refers to more weakly organised district], them guys wouldn't issue a pin because it would put a target on their back. They'd go straight to the industry-wide [i.e. ISHR] and say, this is the problem, and the industry guy would just write for them and submit it [R20E].

Nonetheless, even in more strongly organised districts, the support role of ISHRs to SSHRs and HSRs was greatly valued:

…there's an issue with the SSHRs, they've got [names ISHR] backing quite easy, as in industry strategy, and then [names ISHR] can go out there, and he can do that. I think even views at any time. and ring up … our ISHR…So, yeah, having that also, these guys also having that extra person above them, the SSHR having the ISHR above them to help them out through the union, like how it's set up in our position, they've got a better support network, I guess you could say, than just a person that's individually going against himself, against the company [R20C].

It was noted by SSHRs that if they were being rebuffed, just mentioning that they would refer a matter to the ISHR was often enough to get an issue resolved [for example R20D].One respondent stated:

> *when I was SHSR, I never had to issue one because my last email to the company was, this is your last warning. If you don't do it, the next, like the line in the sand, the next thing's coming is either I'm going to the district [i.e. ISHR] or I'm going to issue a PIN, and they would sometimes just go, yeah, no worries, right over. So just the threat of being able to issue, because let's be honest, a company doesn't. want an improvement notice off one of their workers, they're probably less than happy to get them off the district, but they definitely don't want one off a worker at the mine side because it just puts them under a big spotlight [20E].*

These observations are also consistent with previous research that both SSHRs and ISHRs are cautious and selective about issuing notices and attempt to resolve matters without recourse to them unless no other option is available (see Chapter 4). In the same vein, another respondent indicated how SSHRs use their knowledge of the mine safety legislation, safety procedures and systems to resolve issues:

> *I haven't heard a situation where I've had to be even close to issuing a PIN. If you know your legislation, you know the site safety management systems, and the SWP's etc and you can show cause where they're failing to meet any of our standards, and especially if you put it in an email and CC told you yes you don't get too much trouble [R20B].*

As already suggested by clear referral and escalation protocols, the three-tiered representation regime had not resulted in unwarranted complexity. In most instances, ISHRs dealt with SSHRs, and HSRs via SSHRs. As one ISHR observed that as 'ISHRs, we wouldn't necessarily know all the HSRs and all the jobs, we don't have that interaction with them, we all have the interaction with … the site safety and health [rep] [R22E]. The relationship between HSRs and ISHRs was two way, constructive with a degree of mutual dependence. As one respondent stated:

> *The point you made before about the HSRs rely a lot on the SSHRs, that's generally true, but at times we often, well I certainly rely on them as well. I have very little idea about mechanical workings of hydraulic systems, for example, and while one of them, an HSR may come to me because they're not getting the joy they need on an issue, I certainly rely on them for that SME point of view of, well, why is this an issue and what do we need to do to prevent it? … For me to go to a maintenance manager and say, hey, we need to do this, if they turn around and say, why, I don't have that knowledge, so I really rely on their expertise in their roles as well, so we really bounce off each other, so it's not just a one-way street of them relying on us, I absolutely rely on my HSRs as well. [R22B]*

In short, as indicated elsewhere in this chapter, SSHRs were careful not to impinge on HSR's turf and indeed relied on their more detailed knowledge of their workgroup as well as the technical expertise they possessed when it came to addressing a hazard.

Union officials right of entry

Interviewees were asked for their views on the role of union officials in worker representation, including their rights of entry under the general WHS Act where they have members or potential members, to consult with these workers, to inquire into suspected contravention and consult, advise relevant workers, and warn workers if they are exposed to a risk. They were asked what proportion of mineworkers were members of a union at their mine and the capacity of union officials to address worker concerns about safety and health, as well as their knowledge about mining processes and hazards.

Full-time industry-based safety and health representatives

Interviewees were asked whether a full-time industry-based worker safety representative who could visit your mine, assist HSRs, respond to problems, etc., would be of help and would this support help site representatives carry out their functions – raise issues, cease work, issue provisional improvement notices and better equalise power relations?

Interviews amongst metalliferous miners revealed strong and universal support for the establishment of ISHRs in metalliferous mining with powers and functions like those in coal mining and similar to government inspectors. A number of points were made in this regard, including their capacity to resolve issues and command more authority with management and inspectors than HSRs. As genuinely independent they were seen as being a more trusted authority that could give workers more confidence to raise issues and mentor on-site HSRs. One metalliferous HSR encapsulated much of this:

> *Obviously, this is a completely independent, from the company, and from the regulator, they are paid by somebody else… they've come from different parts of the state, or they don't have family ties here, they're not friends with the bosses, they are completely independent, which means they've got the power to come on site, more importantly, this is their job to come in and do it, so they don't have to worry about the workplace firing them, they don't have to be worried about getting targeted, they're not upsetting their best buddies, they haven't got their fingers in any pockets, so when there is an issue, they can walk on site with the experience and the power to walk on site and say, these people said there's a problem, I can see there's a problem, you need to fix this problem, it'd be hugely beneficial, hugely beneficial, we're trying to fix little problems without getting fired, and that is a massive, massive issue for us right now, there is a big target on HSRs at the moment. There's a big target on union members at the moment. So anybody with the power to come in and put any kind of pressure and documentation for, the workers to help improve our safety standards, that doesn't have to worry about being fired [R15],*

Other typical statements from metalliferous miners were:

> *Yeah they can issue a direction. So in that fire they could have come onto that site very quickly and issued a directive if they didn't think it was being dealt with more quickly enough. Or they could come in with say you're inrush incidents and say well look, you've had XXX [number removed] in the last 12*

months, what is your water management regime like at the mine? You know, do you have some issues that might need to be looked at? (R4)

you can't intimidate yeah the thing I like most …what a lot of us lack at the moment when we were HSRs is just that confidence in that what we were going to do was justified yeah so if we had someone we could go back to… at least it gives people the confidence going forward you do it a few times you think hey I know what I'm doing now you can but yeah at the moment where here we've done our training course for the HSR which is the five-day course which is great but then when you go to put it into practice in the workforce there's no… one [R7].

I think it'd be good if you have essentially a third party where if you feel like you're not getting the results or you need the support, that you can call in someone that is not going to... Well, I suppose the problem when you're employed by the company is you're sending intimidation [R8].

Yeah, I think that's great idea. [and asked if it would make it more comfortable to raise issues] Oh, I'm sure they would… also, yeah, letting them know the information that they can go through these channels without going through work, if you've got a problem to raise. So you don't feel like you're going to get targeted or feel like your job might be threatened due to that -because, yeah, no one wants to lose a job [R11].

Yeah, no, that would be good because that would keep the company at least scared enough that they're going to keep it safe. Exactly. Yeah [R12].

Another metalliferous HSR referred to a longstanding and serious issue they had been unable to resolve despite repeated attempts and the difference an ISHR would make, later adding they would confront an array of significant demands on their time and energy and would have 'a heck of a hill to climb'[R9]. The existence of ISHRs in metalliferous mining was also seen to provide support and mentoring to HSRs. A metalliferous union official indicated that an ISHR would be better able to provide advice and mentoring and would constitute a more effective conduit/referral point as HSRs were unlikely to approach a regulator and as a result contact tended to be made with the union, the official within which lacked the expertise, powers and authority of an ISHR.

And this is, and I mean, if you go back to Mentor and all that sort of stuff, a HSR wouldn't even ring the regulator to get advice. You know, the first person they're ringing is us [R18].

The official also pointed out that, unlike union officials, ISHRs had powers to sanction in situations of serious and imminent risk. They also pointed to problems union officials had on occasion accessing the workplace and of viewing or obtaining copies of critical records (powers clearly enunciated with regard to ISHRs) before concluding 'I don't see any negatives with it. I really don't' [R18].

The value of ISHRs was also universally endorsed by coalminers interviewed – and for the same reasons as metalliferous miners. In addition to points already referred to, they could visit mine sites and interview managers where they believed the SSHR was being ignored or

victimised. One respondent stated that following one such case, the ISHR went to see the production manager and said:

> … you know you're treating our site health and safety rep adversely because he's reporting issues and then it's like oh you know and ultimately, they're gonna not do that to him because they don't want to upset [names ISHR][R20E]

Those coalminers who had worked in metalliferous mining made mention of the deficiencies they had experienced there, and those who had moved from metalliferous mining without prior experience of coal mining were particularly struck by the difference.

Legislation establishing ISHRs in metalliferous mining

Finally, interviewees were asked whether, if the function of ISHR was established should they be elected or appointed, and who should pay them. Again, the responses in this regard were uniform throughout interviews and focus groups, namely that legislation should be amended to establish ISHRs in metalliferous mining and these should be elected, not appointed, and that their salary and expenses should be paid for by unions not the government. One metalliferous mine respondent stated:

> *It's important we get legislation to understand that we need this and then it's important for companies to get on board and that's the drama. I don't think you'll have a drama with getting this through legislation or anything like that. No, I honestly don't think so [R19C].*

The reasons given for this included that election by workers was essential to ensure their independence and that they had the trust of those they served. Typical was the response of one metalliferous miner who stated he believed an election would ensure the person is respected, trusted, experienced, and willing to speak up, as opposed to a staff member who might be appointed. The need for independence was also raised with regard to payment, with one metalliferous mining HSR stating:

> *Yes. That was going to be my thought. They're not going to pay for a regulator and then an independent regulator I don't see [R13]*

In essence, this echoed the views of coal mining respondents where these procedures already operated:

> *So it's important that when you're looking at these roles that they're elected by the workforce because the workforce are going to pick people that then it's like set and forget you know you will get those workers that will still want to engage and be, you know active and have a go at the bosses and that but you've also got a majority of workers that go well I'm thinking him to do that role because i know that when he goes into those meetings he's going to do the best for us if that makes sense so i mean if they're looking at the roles in the metalliferous mind that that's a key a key point in my life that the positions are not appointment positions [R20E].*

Another coalmine respondent who was supportive of the NSW Mine Workers Alliance push believed that the removal of pre-existing representative provisions from metalliferous mining

had been essentially political and that coal mining would have suffered a similar fate but for the vigorous opposition of the MEU:

> *A lot of it was political either because of government at the time, you know, they've tried to write…ISHRs out of legislation in the past as well, and because we've been fairly strong and militant and agitated, even through Liberal governments, state governments and stuff, we've managed to hang on to them [R22C].*

Conclusion

This chapter reviewed the findings of 48 interviews with mineworkers, HSRs, SSHRs, ISHRs and union officials in metalliferous and coal mining in NSW undertaken in October 2025. Interviewees included a mixture by age and experience, but were on the whole mineworkers with considerable experience in mining (average 19 years) and had been at their current mine for some time (the vast majority over 8 years). Most respondents were male, but three were female and they proved very knowledgeable and valuable in terms of their responses to questions. In sum, interviewees fitted the profile of experienced and knowledgeable miners with the capacity to speak knowledgeably of the mine where they were currently employed. Interviewees worked at over 12 different mines across five different regions in NSW, while the ISHRs in coal covered far more mines and were able to speak knowledgeably about districts where interviews were not conducted.

Previous research and incidents like the 2020 Grosvenor coalmine explosion have shown that significant use of contracting and labour hire has been found to weaken OHS management, including the willingness of workers to report safety and health issues. In broad terms, interviews/focus groups reinforced this picture, although use of contractors was reported as largely stagnant in metalliferous mining but declining in coal mining attributed in part to the implementation of the same-job-same-pay principle which had removed the cost-savings of using contractors. The reduction in contracting was seen to improve communication in mines, but challenges remain. This issue was a focus of attention in coal mining by the regulator following the Grosvenor incident, but this effort does not appear to have been sustained, nor extended to metalliferous mining, where similar problems exist. The findings in this chapter indicate renewed attention is required with the intersection of contracting/labour hire and representation/worker voice, warranting particular attention.

With regard to representation structures, metalliferous mining respondents identified a number of problem areas including knowledge of how many HSRs were in a mine, significant gaps in representation, turnover amongst representatives, not all representatives being trained, questions about the quality of training/who provided it, and a general lack of confidence in exercising their functions. Moreover, the intersection of HSRs and mine HS committees was viewed as highly problematic due to a combination of management dominance, difficulties for some HSRs attending and the chilling effect of significant issues remaining unaddressed or not even making it onto agendas dominated by slide presentations of routine data. Some HSRs interviewed presented as knowledgeable, active and effective but even they indicated this was by no means the norm in the mine they worked – a view confirmed by other interviewees including most workers and the smaller number of union officials interviewed who were responsible for the mine. Reinforcing this point, almost all mineworkers interviewed as well as HSRs referred to workers feeling vulnerable and frightened to report safety and health issues for fear of retribution. Even

highly experienced miners with scarce skill-sets mentioned this and while a number indicated they had stopped the job on safety grounds they noted pushback and the fact that some miners who spoke out had been removed from tasks and redeployed. Similar problems had been identified by the *Digging Deeper* review almost two decades ago. That this problem continues to exist, and indeed a number of respondents believed it had deteriorated, is evidence that existing representative arrangements are not working.

Repeated reference was made to the fear of putting a target on their back or similar terms. Such widespread fear is cancerous to the effectiveness of any representative regime, especially when HSRs themselves feel at risk.[292] Interviews also revealed several instances where HSRs were seen to have been targeted or sanctioned - something that could only accentuate concerns. Restrictions on HSRs included their inability to cover site-wide issues or readily conduct regular inspections. They also felt isolated from support, notwithstanding the efforts of union officials, given the latter's access conditions, need to deal with multiple issues and workplaces (in the case of the AWU) and inability to speak readily to anyone on site, demand access to relevant documents or issue anything beyond a warning in relation to a safety issue. Both metalliferous mineworkers and HSRs were universal in their support for having the positions of SSHR and ISHR, as in coal mining (as had once existed in metalliferous mining, albeit with different titles). The former were supported because they could deal with site-wide issues, while ISHRs were seen to offer important advantages in terms of mentoring and supporting HSRs, being able to require the production of critical documentation and to issue notices when required. They believed this would change the climate of representation and its effectiveness within metalliferous mining and add to the confidence and activity of HSRs and worker trust in referring matters to them.

The picture painted by respondents in coal mining was sharply different from their metalliferous counterparts and reinforced the argument for similar statutory arrangements in metalliferous mining. While job insecurity and fear of victimisation were present, the representative structures were seen to be operating effectively, including their intersection with mine HS committees. The regime was seen to lead to more constructive relations on site whereby matters could be resolved while ISHRs were able to provide support and advice as well as dealing with intractable issues and help fill gaps with regard to, for example, a district where the widespread use of contractors/labour hire and more hostility to both union and representative presence made it more challenging for HSRs. As the last observation hints at, representative arrangements had evolved since the 2013 legislation, and this was universally viewed as an improvement. The 2013 legislation was seen as beneficial both in more formalising representation procedures – or at least the recognition they now had – and adding the position of HSRs who could represent particular workgroups in a mine – a new layer of representation that had been introduced in some mines through careful negotiation – unlike what appears to have happened in metalliferous mining. In essence, a three tiered-system of representation with HSRs and SSHRs (both at mine-site level) as well as ISHRs (at district level). Far from over-complicating representation respondents spoke to a more effective system where respective roles were carefully delineated so SSHRs left HSRs to their activities – both supporting but also relying on them – and with clear protocols for referring matters to ISHRs. This is entirely consistent with research undertaken in 2014 which was dealt with in Chapter 4. A need for regular refresher

[292] There is indeed a body of published research dealing with this. See for example Walters, D. & Nichols, T. (2007), *Worker Representation and Workplace Health and Safety*, Palgrave Macmillan, London.

training for both HSRs and SSHRs was identified which warrants some attention. The emergence of HSRs with specialised mechanical knowledge also helped facilitate another evolution and improvement of the system, namely the emergence of mechanical SSHRs paralleling electrical SSHRs that have existed for some time. The need for representatives with more specialised mechanical knowledge had been identified by Bills and is also a reflection of greater use of high-pressure hydraulic hoses underground and other challenges associated with changing technologies in coal mining. A number of mines now have mechanical SSHRs, indeed this shift began over a decade ago (and was referred to in the 2014 report dealt with in chapter 4) seems to be a trend that management sees benefits from. As with the HSR and SSHR intersection, specialist-SSHRs (both electrical and mechanical) stay within the confines of their expertise except for occasions (rare) where they identify a hazard constituting an imminent risk of serious injury and cannot refer it to a SSHR in a timely fashion.

Representatives (both SSHRs and ISHRs), indicated they had good and constructive relations with coalmine inspectors, including notification of visits (as required legislatively) and support with problems. Again, this was in sharp contrast to metalliferous mining, where all HSRs interviewed indicated they were never advised by metalliferous mine inspectors of inspections, only receiving this information, if at all, through the company. Contact with metal mine inspectors was reported as minimal by both metalliferous mineworkers and HSRs, and trust in them, including willingness to contact them, was low. One or two respondents referred to positive interactions with mine inspectors, but these were exceptional, with more referring to negative experiences. In sum, far from helping to offset weaknesses in worker representation and fear, the activities of regulators accentuated these limitations.

Further evidence of the differences between metalliferous mining and coal mining was revealed when interviewees were asked to identify the major/principal hazards in these mines and to comment on whether these were being adequately managed. While coal mining respondents identified a number of problems, they were generally satisfied with these arrangements, whereas metalliferous mineworkers pointed to a litany of failures with regard to areas like ground control, dust management, fires and inrush prevention. The disparity was similar with regard to the involvement of workers and representatives in risk assessment and incident investigation, with coal mining SSHRs indicating they were either involved or kept apprised with developments when they chose not to get involved, whereas metalliferous mineworkers and HSRs made critical comments with regard to their involvement, or rather lack thereof, in these critical activities. With regard to incident notification, responses were more mixed. A number of coalmine respondents identified incidents they believed were notifiable but had been ‘downgraded’. However, the level of concern was uniform and graver amongst metalliferous mineworkers and HSRs (and for coalminers recalling their experience in metalliferous mines), who gave detailed descriptions of serious incidents that should have met the criteria of a dangerous incident being downgraded or serious incidents not reported altogether. This finding is directly relevant to concerns about the adequacy of incident reporting in metalliferous mining discussed in the previous chapter. The responses regarding the identification and management of serious hazards in metalliferous mines raise questions not only about the adequacy of existing representative arrangements but also the level of safety and health management in metalliferous mines. It also suggests that the recent double-fatality should not be treated in isolation.

One significant limitation in safety management, or rather a trend in practices, was identified by both coal mining and metalliferous mining, namely a growing use of JSA, Take-5s, SLAMs and the like instead of SOPs/SWPs with regard to routine activities (that should be the domain of the latter). This undermines a core principle in OHS management (and regulatory oversight too) by placing too much reliance on risk-assessment processes when procedures can and should be in place, and also in relocating the responsibility for critical decision-making to workers rather than higher authorities. It is prone to lead to any failure being attributed to 'operator error' rather than examining more systemic causes (like engineering, maintenance or flawed systems), which is not only ineffective but liable to increase fear and vulnerability on the part of mineworkers. In some situations, at least increased production was seen as a driver for this approach, for example, in the case when a JSA was used to trump the restrictions that following the three SOPs would have imposed. In metalliferous mining, the problem was seen to be somewhat worse with respondents referring to the difficulty of obtaining SOPs, SOPs being out of date or with a JSA rider added to them, and with (as might be expected) JSAs becoming a 'tick and flick' exercise in some situations (even pre-filled out according to at least one interviewee). References to the over-reliance on JSAs et al were too uniform to be an aberration or isolated issue of a few mines, and no respondent made mention of the regulator being aware or addressing this problem – worrying in its own right. Such an approach is inconsistent not only with effective OHS management, but also undermines worker representation by pushing too much responsibility onto individual workers rather than devising safe systems and procedures. In the view of this report, it needs to be addressed as a priority matter.

Finally, in some instances at least, hostility to representative processes and worker voice was interconnected with hostility to union presence in the workplace and fears amongst union members that they would be targeted. This effectively prevented interviews in one metalliferous mine district and probably affected the number of interviewees in others, as well as being continually raised in interviews that were conducted. International research is clear that unions provide essential logistical support for HSRs and the challenges they face, especially given the historical growth of contracting/labour hire and temporary work arrangements.[293] There is also a broader body of global research, including in mining, that has found unionised workplaces tend to be safe, in part because they facilitate more effective forms of worker representation and consultation.[294] On the other hand, measures that weaken union presence or facilitate management hostility to unions have been found to adversely affect HSRs' activities and increase the likelihood they may be victimised for them.[295] These problems have been evident in a number of industries, perhaps most publicly in recent times by the dismissal of a HSR by Qantas when he raised concerns during COVID. But it has also been raised recently in mining with regard to the Cadia mine, which was viewed with concern by the Legislative Council's Portfolio Committee and undoubtedly influenced their recommendation that an ISHR-type role be reintroduced into metalliferous

[293] Johnstone, R. Quinlan, M. & Walters, D. (2005), Statutory OHS Workplace Arrangements for the Modern Labour Market *Journal of Industrial Relations*, 47(1): 93-116.
[294] Morantz, A. D. (2013). Coal Mine Safety: Do Unions Make a Difference? *ILR Review*, 66(1), 88-116. doi:10.1177/001979391306600104
[295] Quinlan, M. & Johnstone, R. (2009), The implications of de-collectivist industrial relations laws and associated developments for worker health and safety in Australia, 1996-2007 *Industrial Relations Journal* 40(5): 426-443.

mining discussed in Chapter 3.[296] This chapter noted how the presence of ISHRs was able to ensure more effective representation in a district with a conspicuously lower union presence and substantial use of contractors/labour hire. The point not only reinforces the already strong grounds for establishing ISHRs in metalliferous mining but also makes a more general observation about the importance of unions to securing effective OHS voice for mineworkers.

[296] *Portfolio Committee No.2 – Health, Report No.63 Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales,* Legislative Council of NSW, Sydney, December 2023, 50.

Chapter 7: Overall Findings

Introduction

This chapter summarises some of the key findings of this report and why both SSHRs and ISHRs provisions should apply to metalliferous mining, essentially similar to those that currently apply in coal mining in NSW. The evidence in favour of this change is both multifaceted and compelling. The chapter also specifically addresses arguments raised against the statutory institution of ISHRs in metalliferous mining – arguments it finds unpersuasive in the light of available evidence. In the course of preparing this report, a number of issues were identified that are both important in their own right in terms of OHS[297] and affect mineworker representation so are worth noting.

The Mine Safety Advisory Council (MSAC), strategic enforcement and evaluating arguments made against the proposed changes

Mine safety and health has been the subject of a number of reviews including general reviews in 1997 (undertaken by Susan Johnston) and 2004-5 (chaired by former premier Neville Wran and Jan McClelland), a report on the 1996 Gretley mass fatality inrush in 1998, a 2013-14 review of underlying trends and causes of fatalities by Peter Wilkinson and a report on manager, personnel and contractors' views of the Mine Safety Regulator based on telephone/online survey (222 respondents).[298] Further, in 2020, Kym Bills undertook an independent statutory review of the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* that examined, if briefly, the representative provisions.[299] A number of these reports are referred to in more detail in other chapters of this report.

One of the major recommendations of the 2004-5 NSW Mine Safety Review was that the MSAC needed revitalisation and to take on a more proactive role. There is evidence that this occurred. The MSAC commissioned a deeper dive into mine safety, especially some problem issues identified in the Wran and McClelland review, leading to two *Digging Deeper* reports. As indicated in the incidents chapter, the MSAC also undertook a number of initiatives towards more strategic enforcement following the Wilkinson fatality inquiry referred to above. As discussed elsewhere, the *Wilkinson Fatality Review* Identified lower-order controls as a common contributing factor to the four fatalities in 2013/14 and recommended that the regulator focus on critical controls and also take a more proactive approach to investigations/assessments. While the response focused on the importance of engineering controls and risk assessment, other causal factors – at an organisational level - such as warning signs and worker concerns received little or no attention.[300]

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[297] The acronym OHS rather than WHS is used as a generic term throughout this report except where applied in connection the term Work Health and Safety (for example WHS Act) because of its wider and more generic application to the field.

[298] Wilkinson, P. (2014) *MSAC Fatality Review 2013-14: Report for NSW Mine Safety Advisory Council*, Noetic Solutions Pty Ltd

[299] Bills, K. (2020) *Statutory Review of the Work Health and Safety (Mines and Petroleum Sites) Act 2013*, NSW Resources Regulator, Sydney, 62-65

[300] See Jackson, H. (2021) Recurrent causes of occupational incidents in the NSW, Australia coal and metalliferous mining industry, PhD thesis, University of Newcastle NSW.

The MSAC was and remains an important consultation forum. It is an important venue for unions (the MEU and AWU) to give voice to worker concerns and where their views on worker representation should carry particular weight. In 2018, the MSAC executive officer role was withdrawn, which does not seem consistent with a more proactive role. As traced in Chapter 5 while the MSAC did respond to the Wran Review by adopting a more proactive approach (including the *Digging Deeper* Review), this continued for over a decade, including following up the Wilkinson review recommendations (to a substantial degree). However, notwithstanding some exceptions (with regard to respirable materials and lessons arising from the 2020 Grosvenor mine explosion, the MSAC's own annual reports, together with business activity and annual reports of the Regulator indicate a less proactive approach. Even with regard to Grosvenor, efforts appear to have lapsed after the initial survey, which received a low response rate – actually hardly surprising to anyone with research experience in this area. Further indicating a lack of proactivity/critical awareness, this activism seems to have been restricted to coal mining when even casual observation would indicate that contracting/labour hire was also extensively used in metalliferous mining, and the same problems could exist there. Interviews undertaken as part of this report indicated that under-reporting was a problem in both coal mining and metalliferous mining – hardly a revelation given this issue has arisen in other jurisdictions and occasionally been the subject of significant sanctions (most notably perhaps in the case of the Norwich Park mine in Queensland). However, our interviews indicated that the problem of under-reporting and mislabelling/downgrading was more serious in metalliferous mining, being described in considerable detail, which had this been known to inspectors, could have been investigated. While debates over interpretation/classifying an incident will always occur (and some interviewees indicated regulatory changes might be needed with regard to some), a number of incidents were clearly so serious that it is difficult to see how they could not have been labelled as dangerous. Together with other evidence the impression is that not only have both the MSAC and the Regulator (less so with regard to coal but especially metalliferous) are no longer as proactive and reflexive as effective oversight over mine safety and health as should be the case but that metalliferous mining in particular has received less critical attention than its importance and OHS experience warranted.

As noted in its 2023-24 annual Mine safety performance report:

The functions of MSAC are detailed in the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* (the Act) and the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022 (the Regulation). MSAC's functions under section 61 of the Act are:

- to advise the responsible Minister on any policy matter relating to work health and safety in mines
- any other advisory function relating to work health and safety in mines as prescribed by the regulations.

The functions as prescribed under section 164 of the Regulation are to:

- to advise the Minister on any matter, other than a policy matter, relating to work health and safety in mines that is referred to it by the Minister, and

- to advise the Minister on any other matter, other than a policy matter, relating to work health and safety in mines that it considers relevant. [301]

As at September 2024 the MSAC consisted of an independent chairman, three representatives of the NSW Minerals Council (one for coal and two for metalliferous), one representative of Cement Concrete and Aggregates Australia (quarrying), two representatives of the Mining Energy Union, one representative of the Australian Workers Union, a representative of the NSW Resources Regulator and two independent representatives (one with expertise in medicine/disease and the other human factors and biomechanics). There is, it seems, no expert member with an overall knowledge of mine safety and health who could contribute expert knowledge to debates such as those over representative arrangements by directing MSAC to relevant research and evidence. It is of course, difficult to cover all areas of expertise that might help inform MSAC decision-making, but a remedy might have been to commission an expert report when a serious debate or issue required it.

In recent years, the MSAC has been reviewing mineworker representation provisions. As discussed in Chapter 3 prior to 2004, representation provisions in coal and metalliferous mining – and had been so for decades – with both having site check inspectors (now known as site-safety and health representatives) and full-time district check inspectors (now known as industry safety and health representatives in coal mining) – the latter with powers in many respects similar to government inspectors. In 2004 the district position was removed from metalliferous mining and in 2013 the position of site safety and health representative (and the extensive provisions associated with this – see Chapter 3) was replaced with the generic position of health and safety representative (HSR) as applying to other workers under the *Work Health and Safety Act* (the representative structure in coal mining remained unchanged). In 2020, a statutory review by Kym Bills recommended that consideration be given to extending the position of ISHR to metalliferous mining. In its 2021-22 annual report, the MSAC stated it had 'agreed to write to the Minister advising MSAC does not agree to extending industry safety and health representative roles to non-coal mines, noting three members did not support this decision (recommendation 8).'[302] The three members opposing the measure or the interests they represented were not identified. It is worth noting that three members are not even close to a majority of the MSAC membership. In 2023, the NSW Legislative Council Portfolio committee echoed the Bills' recommendation (see Chapter 3 for a more detailed account), drawing comparisons with the legislative requirements in coal mining. The committee examined the environmental and health impacts of metalliferous mining operations, including workers exposed to dust (some containing lead), and was also concerned by access denied to WHS entry permit holders under the WHS Act 2011, at the Cadia goldmine. [303] This recommendation was endorsed by the government's response to the report.

The MSAC is still considering its response. In light of this, we would make the following observations, which support the extension of the ISHR to metalliferous mining (and the reintroduction of SSHR equivalents too) and identify weaknesses in contrary arguments.

[301] *NSW Mine Safety Advisory Council Annual Report 2023-24*, 4.
[302] *Annual Report Mine Safety Advisory Council 2021-2022*, NSW Resources Regulator, 9.
[303] NSW Legislative Council Portfolio Committee No. 2 – Health: Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales.

Both coal mining and metalliferous mining are highly hazardous

While it is sometimes suggested that metalliferous mining is significantly less hazardous, such that it does not require the representative mechanisms found in coal mining this argument does hold up to close scrutiny. Historically, representative provisions were extended to metalliferous mining for the same reasons they were established in coal mining and there is actually considerable documentation on this (see chapter 3).[304] These points have not changed. Following the Pike River Mine disaster the representative provisions introduced in New Zealand and modelled on NSW and Queensland applied to both coal and metalliferous mining and this mutual application was never questioned on the Extractives Industries Advisory Group which (like the MSAC) reviewed the operation of the legislation and its enforcement subsequently (one of the research team was a member of the EIAG throughout its decade long operational history). Research into both sectors has painted a mixed picture rather than one where metalliferous mining is distinctly less problematic. The *Digging Deepe*r reports found that hours of work were significantly longer in metalliferous mines, especially amongst contractors, than coalmines and twice as many coalmines as metalliferous mines were identified as proactive.[305] The Brady Review of mine safety in Queensland also painted a more complex picture with regard to fatalities and other serious incidents. Between 1999-2000 and 2019-20 most fatalities occurred in open-cut coal mining (14), followed by metalliferous underground (9), metalliferous open-cut (8), quarries (7) and underground coal mining (6). The fatality frequency rate was highest in quarrying followed by metalliferous underground, metalliferous open cut, coal underground and coal open cut.[306] As discussed in a later subsection, both coal mining and metalliferous mining are subject to adverse effects resulting from an increased use of contractors. Further, US research into this has found a more complex pattern with regard to the relative risks of fatal and serious injuries in coal and non-coal mines that does not support an assertion that coal mining is generally more dangerous.[307] The eight mechanisms that kill miners are to be found in both metalliferous and coalmines.[308] While explosive gases like methane are overwhelmingly (but not universally) found in coalmines fire/explosion remains a serious risk in metalliferous mines. Indeed, the worst metalliferous mine disaster (and fourth worst mine disaster overall) in Australia occurred as a result of a fire and entrapment at the Mount Lyell mine in 1912. The Tritton mine underground fire, which resulted in the withdrawal of workers, and the Perilya PUR fire, is a reminder that this risk still exists in metalliferous mines. Fire was also ranked the highest risk at the Beaconsfield goldmine (due to the use of timber supports in older/upper levels) and the recent incident at a Broken Hill mine should be a reminder that

[304] Quinlan M & Walters D, (2020) Knowledge Activists on Health and Safety: Workmen-Inspectors in Metalliferous Mining in Australia 1901–25, *Labour History*, Number 119 (November 2020): 33–60

[305] Shaw Idea (2007a) *Digging Deeper: Wran Consultancy Project No 1*, Vol. 1 Commissioned by Mine Safety Advisory Council, NSW Department of Primary Industries, Sydney

[306] Brady, S. (2019) *Review of all fatal accidents in Queensland mines and quarries from 2000 to 2019*, Report prepared for the Department of Natural Resources, Mines and Energy, Brisbane, 159.

[307] See for example Karra, V. (2005) Analysis of non-fatal and fatal injury rates for mine operator and contractor employees and the influence of work location, *Journal of Safety Research*, 36:413-421; Muzaffar, S. Cummings, K. Hobbs, G. Allison, P. & Kreiss, K. (2013) Factors Associated With Fatal Mining Injuries Among Contractors and Operators, *Journal of Occupational and Environmental Medicine*, 55(11): 1337-1344.

[308] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

this risk remains significant.[309] Finally, it is probably worth recalling that the most recent mass-fatality incident at a NSW (1999) mine occurred in an underground metalliferous mine (Northparkes).

If attention turns to available NSW data, the more nuanced picture emerges where metalliferous mining remains dangerous. The chapter on incidents examined a number of OHS indices, including notifiable incidents, comparing a number over a considerable period. While improvement was evident in some indices, there were others where the situation remained stagnant or actually worsened. Further, an important observation needs to be made with regard to notifiable incidents, namely the problem of under-reporting. As indicated at several points elsewhere in this report, while the compulsory requirements (within different time spans based on severity) are critical because they are based on hard-won historical knowledge of the precursors of fatal events, ensuring all notifiable incidents are reported has remained a challenge in NSW, Queensland, Tasmania, and indeed other mining jurisdictions with which we are familiar. Some notifiable incidents are just not notified or even recorded. In other cases, the incident is ranked at a level below the reporting threshold, for example, based on evaluations of its potential impact or whether mineworkers were in close proximity. Detailed investigations into serious incidents like the 2006 Beaconsfield goldmine fatality/entrapment, and subsequent audits of the Tasmanian inspectorate, revealed serious disagreements between management and the inspectorate as to whether particular incidents should have been notified. The Beaconsfield goldmine experienced 24 serious unplanned falls of ground in the 30 months leading to the fatal fall, a number of these unreported to the inspectorate. It is worth asking what the inspectorate might have done had it been aware of this pattern, which continued even after the company changed its mining methods following a particularly serious rockfall in October 2005, six months before the fatal fall, and in the same levels (915 and 925).[310]

The NSW Regulator is aware of the under-reporting, making a number of references to it in its reports. The number of notifiable incidents grew in metalliferous mines (especially underground) in the decade to 2018-19 and continued to 2023-24, while numbers fell slightly in coalmines.[311] At the same time, the number of metalliferous mines (both surface and underground) reporting notifiable incidents was around half that for coalmines.[312] Even accepting a higher fire risk in coal mining, this substantial difference in reporting raises concerns about greater under-reporting in metalliferous mines, warranting detailed

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[309] Quinlan, M. (2009), *Report on OHS management at the Beaconsfield Joint Venture Gold Mine, Tasmania up to and including the time of the rock fall incident at the 925 level of the mine that occurred at around 9.23pm, resulting in the death of Larry Paul Knight and the entrapment of Todd Andrew Russell and Brant George Webb* (expert report prepared for Greg Melick SC, Independent Investigator appointed by the Tasmanian Government), 30 August 2007.

[310] Quinlan, M. (2009), *Report on OHS management at the Beaconsfield Joint Venture Gold Mine, Tasmania up to and including the time of the rock fall incident at the 925 level of the mine that occurred at around 9.23pm, resulting in the death of Larry Paul Knight and the entrapment of Todd Andrew Russell and Brant George Webb* (expert report prepared for Greg Melick SC, Independent Investigator appointed by the Tasmanian Government), 30 August 2007.

[311] NSW Resources Regulator (2020) *Mine safety performance report 2018-19*, Department of Planning and Environment, 55; NSW Resources Regulator (2023) *Mine safety performance report 2021-22*, Department of Regional NSW, 29.

[312] See for example NSW Resources Regulator (2024) *Mine safety performance report 2022-23*, Department of Regional NSW, 10; NSW Resources Regulator (2025) *Mine safety performance report 2023-24*, Resources Regulator NSW, 10.

investigation and remedial action. These concerns were reinforced by interviews and focus groups undertaken for this project. Coalminers were more confident that notifiable incidents were indeed being notified, whereas the response amongst metalliferous miners was far less positive, a numberdetailing instances where potentially serious incidents went unreported or were reported at a level not requiring notification, which they disagreed with. In explaining these differences (it is worth noting in passing over 10% of our respondents had worked in both coal and metalliferous mines) reference was made to the role of SSHRs and ISHRs and their close relations with government inspectors in coal mining while metalliferous miners pointed to weaker representative structures (especially the absence of an ISHR to press issues) and the fear of retribution if issues were report or pressed. Respondents from both groups also argued that low reporting by some mines didn't reflect better performance but lower reporting. Such problems could be easily identified and addressed by targeting low reporting mines, and if this problem exists, it warrants action. Another important difference was the involvement of SSHRs/HSRs in serious incident investigations, with SSHRs (coal mining) indicating they usually, if not always, were involved and kept apprised of outcomes, whereas HRSs in metalliferous mining indicated they were often not involved. This arguably can have implications for notification and is also an important distinction between SSHRs and HSRs relevant to any comparison between the two (see below). Further, during the course of our research, we were given information on at least two serious/dangerous events in metalliferous mines that were unreported, both identified by workers (one an HSR).

Further, the incident chapter examined all serious NSW coal and metalliferous mine incidents since 2004 for which there was a detailed investigation. This review revealed that a significant number of these incidents occurred in metalliferous mines, and the incidents entailed a repeated cluster of failures typically associated with mine fatalities. Previous research on NSW mine incidents indicates that the vast majority of incidents contain 4-7 failure points and a significant minority (around 25% contain 8-10 failures). Design, engineering and maintenance failures were present in 94% of incidents.[313] It should be noted that, as elsewhere, the depth and quality of regulator investigations varied, and some failure-points, especially whether workers or others had held or expressed concerns prior to the incident, are seldom investigated (or included in the final report if it has been). In general, the more detailed the investigation, the more of the 10 repeated failures are identified (for example, all 10 were present at Pike River).

In sum, an argument that metalliferous mining is so much less hazardous than coal mining that it does not require the representative arrangements similar to those in coal mining, which it too had until 2004/2013, is not supported by the available evidence, especially if under-reporting is acknowledged. Review of NSW Regulator (see incidents chapter) and MSAC annual reports indicate that both have responded to emerging problems. The NSW Regulator has conducted an impressive number of targeted and priority compliance campaigns since 2016 in response to the *Wilkinson Fatality Review* and associated recommendations. However, only rarely could we find any evidence, let alone detailed evidence, on the impact/effectiveness of these campaigns. It is difficult to identify good 'monitor' performance indicators that could be used to track trends. An argument could also be made that, in some instances at least, if not more generally, the campaigns were not explicitly linked to overarching long-term strategic goals. For example, as noted in the

[313] Jackson H (2023) Pathways to single fatality and serious injury incidents in coal and metalliferous mining in NSW, Australia: Can we learn from multiple fatality incidents to prevent serious injury? *Safety Science,* 165(2):

incidents chapter, there were only sporadic reports of the operations of the complaints line, and while there were ongoing references to worker fears of reporting and contracting/labour hire as at 2023-24, research into these remained at a preliminary stage (and confined to coal mining, it seems with regard to fears). None of the mineworkers interviewed was aware of campaigns with regard to contracting/labour hire or reporting fears. If campaigns were actually undertaken, this would be surprising, as in our experience, targeted campaigns by regulators' publicity are used as a tool to extend their impact. There was no dedicated assessment of the effectiveness of representative mechanisms, including an assessment of the impact of changes in representative arrangements in metalliferous mining – a glaring omission in our view. Yet the MSAC maintained (at least up to the time when this report was prepared) the view that no change in existing arrangements was needed.

Changes to existing representative arrangements are unnecessary given the resourcing and activities of the NSW Resource Regulator

Another argument that might be made is that existing resourcing and activities of the NSW Resources Regulator do not warrant additional representative requirements in metalliferous mining. There are a number of problems with this argument. First, the argument overlooks the history of these measures. Mine and later district check inspectors (as they were originally known) were introduced following prolonged struggles in both coal and metalliferous mining, with the latter role being especially important to giving workers in a hazardous industry an effective voice in safeguarding their own health, safety and well-being. In the decades that followed their introduction, the weight of evidence is that they operated as an important adjunct to government inspectors, undertaking inspections and raising issues of importance. The positions of site check inspectors (SSHR equivalent) and ISHR equivalents in metalliferous mining were removed, not due to any compelling evidence of ineffectiveness or being no longer required, but essentially due to arguably short-sighted decisions taken as part of the post-Robens reforms of OHS legislation and the moves to national harmonisation from 2011. Essentially, as we have shown throughout this report, this amounted to a 'levelling' down of OHS standards. Although Western Australia removed worker inspectors (again without compelling evidence to warrant this), Queensland did not – retaining both mine and district safety and health representatives in metalliferous mining. It is also worth noting that the harmonisation process is undergoing a critical review by Safe Work Australia, and the NSW government has indicated it will reverse another 'levelling' down decision taken as part of this process. We would see a reversal of the watering down of representative provisions in metalliferous mining as another consistent step in this direction. Harmonisation should never entail levelling down OHS standards.

Second, research into the operation of the SSHR and ISHR regimes NSW and Queensland, arguably amongst the most detailed research into workplace safety representation anywhere, confirmed the effectiveness of the regime, the caution with which ISHRs used their suspension powers, and the overall constructive relationship between SSHRs and ISHRs with government inspectors. Detailed examination of inspection reports prepared by government inspectors, ISHRs and SSHRs indicated an overwhelming focus on the most serious hazards, and slight differences with regard to particular hazards were arguably complementary. This evidence, published in both reports and peer-reviewed academic journals, is reproduced in another chapter of our report. The interviews and focus groups undertaken for this project reinforced these earlier findings. In coal mining, respondents talked of the positive and constructive relations between government-mine-inspectors and

SSHRs and ISHRS, including ready exchanges of information and SSHRs being notified (in a timely fashion) of government inspector visits to their (apart from unannounced inspections) so they could meet and accompany the government inspectors. These practices were in stark contrast to what we were told occurred in metalliferous mining. Of immediate concern (given it is a regulatory requirement), HSRs representing multiple mines and regions stated that they were never notified of inspectoral visits except where this information was provided by the company. Section 164 of the WHS Act 2011 'Notification of entry' requires an inspector to notify any health and safety representative for workers carrying out work for that business or undertaking at the workplace. The responses were too uniform and repeated to indicate this was only an aberrant problem. Further, interactions with inspectors can be characterised as mixed at best, with some viewing inspectors as being too close to management. The report is not in a position, and nor is that it's intention, to make judgements on the effectiveness of metalliferous inspectors. The only point being made is that respondents in two significant districts did not have a close relationship with inspectors (unlike coal) and believed this was a product of the weak representative structures. There was also a strong view expressed that HSRs were too isolated and lacked the support that a full-time ISHR could provide, including backing or independent inspection to draw attention and action on an issue. Respondents in metalliferous mines and coalminers who had spent time in metalliferous mines were also of the view that the presence of ISHRs in metalliferous mines would result in a more constructive relationship with government inspectors and ensure their concerns were given due attention.

> *Existing representative arrangements are working well and the presence of SSHRs and ISHRs would overly complicate things including the role of statutory office-holders.*

There is to our knowledge no evidentiary base to these suggestions, while there is considerable evidence on the efficacy of these positions in coal mining and serious deficiencies arising from their absence in metalliferous mining, including the evidence collected in this report.

We are unaware of evidence that the presence of SSHRs/ISHRs has overly complicated representative arrangements or OHS management more generally in coal mining, or to our knowledge, in the past when these arrangements operated in metalliferous mining (see Chapter 3). Rather, the regime was viewed in positive terms and as an important contribution to remedying hazards. As detailed extensively in another chapter, there is particularly detailed research into the operation of the regime in NSW and Queensland, which indicates the regime operates effectively and in a complementary fashion with the activities of government inspectors and management to lift the overall level of the management of serious hazards and risks in coal mining. These findings were confirmed by interviews/focus groups undertaken at all three coal mining districts in NSW. There is nothing to indicate why the situation should be any different in metalliferous. Further, as indicated elsewhere, far from encumbering the role of statutory officers on mine sites, our interviews/focus groups referred to instances where staff members approached SSHRs and ISHRs in order deal with OHS issues.

In sharp contrast, in addition to evidence of serious OHS issues in metalliferous mining referred to above and detailed in the incidents chapter, the interviews/focus groups undertaken for this project repeatedly referred to problems with existing representative

arrangements in metalliferous mining. During the course of interviews/focus groups, respondents raised a number of serious issues which they believed were not receiving adequate attention, especially those in metalliferous mining – the latter included management of dust, lead and heat. Psychosocial hazards were a concern common to both coal and metalliferous mining, including workloads and a climate of fear/uncertainty, neither of which was being effectively addressed. When asked whether HSRs and workers were included in risk assessments associated with changes in work processes and the like, responses were, unlike coal mining respondents, mixed at best, a significant number stating that consultation had not occurred at all, rather that changes already decided on/implemented were explained by management. At some mines, HSRs described an ongoing struggle to be involved in the process with varying levels of success. Under-reporting or misclassification of notifiable incidents were also repeatedly referred to, including an actual incident (like a fire, serious heat exposure event, fall of ground or inrush) being 'downgraded' or labelled as a 'potential' incident thereby falling below the threshold of a dangerous incident that would require preservation of the site (and ceasing work activities in that area) until it had been inspected by a government inspector. There were also references to systemic inadequate dust management (including that containing lead), ventilation and health monitoring practices at mines, which HSRs felt unable to address or their concerns were not actioned even when repeatedly raised. These incidents, a number of which were nothing short of alarming, were not vague generalisations but described in detail (sometimes at great length) in terms of timing, how particular levels of management had responded, and on occasion with illustrative/corroborating evidence and the like (including how exposure level records were manipulated). While unable to cover all major metalliferous mining districts, the number of these incidents described indicates these are systemic, not aberrant problems in terms of OHS management and regulatory oversight, magnified by the limited influence HSRs are able to exert. At several mines in particular, HSRs expressed a lack of confidence/trust in government inspectors because they were viewed as too close to management.

Other problems with regard to representation (HSRs) in metalliferous mining included the limited scope, generic training (at least in some instances), and vulnerability to victimisation of HSRs and their limited leverage on issues, with some significant OHS problems not being followed up or sitting unaddressed on the agenda of mine-site safety committees for long periods before lapsing. There was often uncertainty as to how many HSRs were at a particular mine, and gaps or turnover in representation were identified. Some HSRs indicated they were yet to receive training (so could not issue PINs), some training was organised by the mine, and the quality of training was seen to vary. With regard to the prominent placement of notices identifying HSRs and their contact details, responses varied, with some indicating this was an issue. Another problem raised at several mines was the difficulties HSRs or workers had obtaining copies of safe operating procedures (SOPs) - sometimes only available via shift-bosses and online.

At least as disturbing, if not more so, was a common response that mines had become over-reliant on job safety analysis (JSAs), take-fives and slams on routine tasks, in some cases overriding SOPs, and with the implication that any failure could be more readily located with the worker than the system. Concerns were also raised about securing adequate worker representation on the mine safety and health committee in relation to management and the reluctance of HSRs to attend or become more involved once it became clear that significant

issues they or others had raised were not being addressed. The corrosion of HS committees when in practice they are confined to lower issues is a common problem and was identified in relation to a committee established at the Beaconsfield goldmine prior to the fatality. Reference was also made to the fragmentation of HSR representation in terms of ensuring all workers on a mine-site had a representative, and the problems of coordinating and exchanging information between different workgroups (each with their own HSR). Respondents uniformly affirmed the value of having a representative (SSHR) covering the entire site as well as an ISHR to provide mentoring, support and visit the mine especially to deal with more intractable issues and whose authority and powers would give HSRs more traction and provide a readier conduit to government inspectors when needed (see earlier observations on HSR/regulator contact in metalliferous). The responses of metalliferous miners were reinforced by coalminers who had spent time in metalliferous mines.

In contrast, the response of coalminers more generally was uniform in its support for the arrangements in coal mining, very much in keeping with earlier research, including the constructive relations with government inspectors and management and the capacity of ISHRs to address problems in less unionised mines where they was greater fears in speaking out on OHS. What was also noteworthy was that HSRs now operate in coal mines (many it seems) along with SSHRs and ISHRs. This was seen to have value in giving particular workgroups representation, but not in a way that overcomplicated representation, with SSHRs saying they didn't interfere in their activities and encouraged HSRs to raise and address issues without recourse to them unless it was necessary. It was also observed that where a safety committee existed, its membership was largely composed of workers (as required under WHS legislation) and commonly chaired by a safety representative.

It is worth noting that the findings of fieldwork undertaken for this project and other evidence collected or reviewed were consistent with the findings of a survey of 63 metalliferous mineworkers and union members undertaken by the Mining and Energy Union and the Australian Workers Union through the New South Wales Mine Workers Alliance, conducted in April 2025. Results echoed concerns raised elsewhere. The vast majority (84%) reported an injury or near miss at their mine-site in the last two years, including heat, fires and dust-related incidents, with 40% rating employer management of these as poor (almost twice the number 22% rating it sound) and only 13% reporting HSR were involved. Dust in particular was repeatedly raised – an issue also prominent in worker/focus group responses in this report. Others reported that injury management practices were manipulated to avoid lost time injuries or affecting bonuses. Over half (58%) reported psychosocial hazards being present, including excessive workloads and bullying/harassment, and again, management responses were rated poorly. Respondents were often unsure of how many HSRs were on their site; a significant minority (20%) reported none of their HSRs were workers, 30% said all were workers, and half (50%) reported their HSRs were a mix. This response suggests that some labelled HSRs at mines would not meet a legislative or common-sense understanding of HSRs and their role. The survey found 34% of respondents were unsure if their HSRs had been elected (one indicated their HSRs were appointed by management), only 37% reported HSRs had received 5-day training, 54% were unsure, and 10% said they hadn't received training. Only one respondent (#10) reported that HSRs on site had completed a 1-day refresher course. Just over half the respondents (54%) indicated HSRs were little involved in OHS matters on site, only 12% reported they were very involved, and

only two could recall a PIN being issued.[314] The majority of respondents (77%) indicated there was a work health and safety committee at their mine (over 20% were unsure), with views on their value being mixed. Criticisms included delays/inaction, and poor feedback on issues. Taken as a whole, these responses closely parallel the results of interviews/focus groups undertaken for this report.

Pivotal to any effective system of worker representation is the confidence workers and their representatives have to raise OHS issues without fear of reprisal/retribution. These concerns were central to the introduction of the check-inspector, historically including the introduction of district-wide check inspectors who could not be threatened with losing their job or other forms of victimisation that might apply to the employee of a specific mine (see Chapter 3). The check inspector, and the later site and industry safety representative regime, helped to address these concerns and enable OHS issues to be addressed. Fears continued, but this added level of protection no longer exists in metalliferous mining in NSW. Indeed, in the interviews/focus groups we conducted, an overarching or dominant theme was concerns that raising OHS issues or stopping a job would have severe consequences. This was present in both coal mining (especially more weakly organised mines) and metalliferous mining, but was most manifest in the latter. The phrase " not want to put a target on one's back" was used repeatedly, and an array of potential forms of retribution was identified, including being assigned to a less desirable job or shift. We were also acquainted with several instances where HSRs appear to have been targeted. Where metalliferous respondents indicated that when they had paused a task, they knew that their specialist expertise insulated them to a degree from such threats, but they were still aware of them. Others, both safety representatives and ordinary workers, indicated they had raised OHS issues in the knowledge that others were afraid to. This issue is not news to the NSW Regulator and MSAC, but the widespread nature of these concerns, and the chilling effects they have (and that were referred to during interviews/focus groups) are hardly indicative of a representative system that is functioning well. In July-December 2022, the NSW Resources Regulator prioritised hazard reporting in coal and metalliferous mining after a joint MSAC/Regulator survey highlighted a number of issues, including a 'fear of reporting hazards, reluctance by casual labour to report hazards, reprisals when hazards are reported, and less than adequate hazard reporting and processing systems.'[315] After 2022, there is little, if any, evidence that reporting was prioritised, and none of those we spoke to could recall seeing visits or other actions taken as part of this. The common view of respondents was that fears of retribution had not improved over the past decade, and a number believed that if anything, things had gotten worse.

There are two further pieces of evidence relevant to the adequacy of the existing regime in metalliferous mining, which we put in separate subheadings below, both in recognition of their importance but also because they are relevant to other arguments that might be raised.

There are significant differences between SSHRs and HSRs

We are aware that the positions of SSHRs and HSRs are sometimes portrayed as essentially the same, but this is inaccurate, as there are significant legislative and practical differences. Some of the more significant differences are:

[314] NSW Mine Workers Alliance, *NSW Metalliferous April 2025 WHS Survey – Summary of Results*
[315] NSW Resources Regulator (2022) *Compliance priorities July – December 2022*, 5

First, SSHRs cover an entire mine-site, whereas HSRs cover designated workgroups. Normally, mine-sites consist of multiple workgroups and therefore HSRs. In the course of our interviews/focus groups, the mines discussed had at least two or three HSRs. This difference is significant because SSHRs are able to represent all on the site, including professional and office-staff (see comments elsewhere) and contractors (including those undertaking remote activities on site), and pursue site-wide issues (like dust/lead exposure, for example) that HSRs cannot. Our interviews/focus groups reinforced the importance of this distinction.

Second, the functions and powers of site safety representatives are more extensive and detailed than those pertaining to HSRs, including the right to undertake inspections, get cooperation from contractors, and have their reports treated seriously. In this regard, it is worth repeating the last iteration of the regulations with regard to this that applied in metalliferous mining in 2004 (for more detail, see Chapter 3).[316] A number of key provisions are bolded.

> **144** *Functions of site check inspectors***:** The functions of a site check inspector for a mine are as follows: (a) to keep under review the measures taken to ensure the health, safety and welfare of persons at the mine, including procedures to control risks, (b) to investigate any matter that may be a risk to health and safety at the mine, (c) to attempt to resolve such matters but, if unable to do so, to request an investigation into those matters by an inspector for that purpose, (d) (Repealed) (e) to be an observer during the presentation of any formal report made by a government official to the operator of a mine, or to a contractor who does work at a mine, about an work health and safety matter related to work at the mine, (f) at the request of an employee at the mine, to accompany the employee during any interview or discussion with an employer or the operator of the mine about any work health and safety issue, (g) to be an observer during any formal in-house investigation of a notifiable incident within the meaning of Division 1 of Part 7, (h) to assist in the development of arrangements for recording workplace hazards and accidents and to promote improved workplace health and safety, (i) to make recommendations on the training of employees in relation to health and safety, (j) to participate in consultation that the operator, or any contractor who does work at the mine, is required to undertake with a site check inspector under this Act or the regulations, (k) **to inspect the mine to assess the level of risk to which employees are exposed, including inspecting documents and plans relating to health, safety and welfare that are required to be kept at the mine by this Act or the regulations or by the *Work Health and Safety Act 2011* or the regulations under that Act, (l) any other functions prescribed by the regulations. s 144: Am 2011 No 67, Sch 4.19 [28]–[30].**
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> **145** *Training of site check inspectors* (1) A site check inspector for a mine must undertake a course of training relating to work health and safety that is accredited by

[316] The *Mines Health and Safety Act 2004 Subdivision 1 Site check inspectors* **138** *Site check inspectors* (1) For the purpose of enabling inspections to be carried out at a mine, on behalf of the persons at work at the mine, an individual may be elected as a site check inspector for the mine. (2) More than one person may be elected as a site check inspector if the operator agrees or the Chief Inspector so directs. Clauses 139-143 dealt with election, vacancies and notification of appointment and are not reproduced here but in Chapter 3.

the Minister for the purposes of this section. (2) The operator of a mine must permit a site check inspector for the mine to take any time off work, without loss of remuneration or other entitlements that is necessary to undertake the training. s 145: Am 2011 No 67, Sch 4.19 [31].

146 ***Duties of operators in relation to site check inspectors*** **The operator of a mine must: (a) on being requested to do so by a site check inspector for the mine, consult with a site check inspector on the implementation of any changes at the mine that may affect the health or safety of persons at work at the mine, and (b) permit a site check inspector to make any inspection of the mine that a site check inspector is entitled to make under this Act and to accompany an investigator during any investigation at the mine by the investigator**, and (c) if there is no health and safety committee (established under the *Work Health and Safety Act 2011*) in respect of the operator's employees at the mine—on being requested to do so by a site check inspector, consult with a site check inspector concerning the development, implementation and review of measures to ensure the health or safety of persons at work at the mine, and (d) permit a site check inspector to be present at any interview at which a site check inspector is entitled to be present under this Act, and (e) provide a site check inspector with access to any information to which a site check inspector is entitled to have access in accordance with this Act and to which access has been requested, and (f) provide a site check inspector with reasonable time, during normal working hours, to exercise the functions of a site check inspector without loss of remuneration or other entitlements, and (g) provide a site check inspector with access to any facilities that are: (i) prescribed for the purposes of this paragraph, or (ii) necessary for the purposes of exercising the powers of a site check inspector. Maximum penalty: 100 penalty units. s 146: Am 2011 No 67, Sch 4.19 [32] [33].

147 ***Duties of contractors in relation to site check inspectors*** **A contractor carrying out work at a mine must: (a) on being requested to do so by a site check inspector for the mine, consult with a site check inspector on the implementation of changes at any mine at which employees of the contractor perform work for the contractor, being changes that may affect the health or safety at work of the employees, and (b) permit a site check inspector to make any inspection of the mine that a site check inspector is entitled to make under this Act, and to accompany an investigator during any investigation at the mine by the investigator,** and (c) if there is no health and safety committee (established under the *Work Health and Safety Act 2011*) in respect of the contractor's employees at the mine—on being requested to do so by a site check inspector, consult with a site check inspector concerning the development, implementation and review of measures to ensure the health or safety at work of those employees, and (d) permit a site check inspector to be present at any interview at which a site check inspector is entitled to be present under this Act, and (e) provide a site check inspector with access to any information to which a site check inspector is entitled to have access in accordance with this Act and to which access has been requested, and (f) if a site check inspector is an employee of the contractor, provide the site check inspector with reasonable time, during normal working hours, to exercise the functions of a site check inspector, without loss of

remuneration or other entitlements. Maximum penalty: 100 penalty units. s 147: Am 2011 No 67, Sch 4.19 [34] [35].

148 *Assistance to site check inspectors:* The operator of a mine and all other persons at the mine must afford every facility and assistance to a site check inspector for the purposes of an inspection of the mine by a site check inspector. Maximum penalty: 100 penalty units.

149 *Reports by site check inspectors* (1): After making an inspection at a mine, a site check inspector must report any perceived hazard to the operator of the mine. Maximum penalty: 20 penalty units. (2) On receipt of a report from a site check inspector, the operator must: (a) send a copy of the report to a government official within 24 hours after receiving it, and (b) take measures to resolve the matter including the taking of any necessary corrective action. Maximum penalty: 20 penalty units. (3) A government official who receives a copy of a report must investigate the report at the earliest practicable time.

Third, in short, the site check-inspector provisions reflected the historic role of mine check inspectors (and the ongoing role of SSHRs in coal mining), which were designed to specifically address the mining industry and hazards, including regular inspections. Further, unlike HSRs, site check inspectors were required to prepare a report of their inspections. They were in many respects analogous to provisions still applying in coal mining. By way of contrast, HSRs have a more generalised role and functions designed to cover a wider array of workplaces and industries. Given this, the report would strongly argue that the role of SSHR needs to be reintroduced into metalliferous mining, while properly designated and trained HSRs can be retained, as seems to be the practice in coal mining in NSW. Finally, as discussed earlier, given the fractured nature of HSR representation, SSHRs as well as ISHRs would be in a stronger position to secure the attention of both management and inspectors on significant issues.

ISHRs and authorised persons under the WHS Act are not equivalent in key respects

The argument that an authorised person (such as a union organiser) under the WHS Act is equivalent to that of an ISHR is deeply flawed (see Chapter 3), notwithstanding commendable efforts by union officers to fill the void left by the removal of district check inspectors from metalliferous mining. Unlike union organisers (who in the case of the AWU, may be responsible for an array of members, not all of whom are miners), ISHRs must be experienced miners (normally having previously served as an SSHR) and in coal mining with a supervisor-level qualification (deputy or open-cut examiner),and we recommend the same apply for metalliferous mining. Their statutory role exclusively pertains to OHS, and they can be removed from office by the minister (a serious sanction) if they were to engage in other activities like industrial relations.

In practice, ISHRs are able to access a mine less problematically than is the case with union organisers. The more problematic access issues were revealed in evidence given by an AWU official with regard to the Acadia goldmine at Orange to the Portfolio Committee of the NSW Legislative Council in its 2023 review (see Chapter 3). This was directly responsible for its recommendation that consideration be given to re-instituting the equivalent of ISHRs into metalliferous mining. In the course of this research, documented details were provided with

regard to a case of disputed access at another mine. ISHRs have the power to visit non-unionised mines and hold discussions with workers like contractors who an authorised officer might not be able to talk to because they are not covered by the union. The same would apply to staff and office workers. This is another important difference.

Further, even if able to obtain entry, the most an authorised person may do if concerned about a safety or health issue as an imminent and serious risk that remains unaddressed is to issue a warning and notify the Regulator. In sharp contrast, an ISHR has powers close to those of a government inspector and after accessing a mine can inspect any area, hold discussions with any relevant person, demand copies of any relevant documentation (pertaining to a task, risk assessment or more general OHS management systems) and in situations of serious imminent risk to miner health and safety where an accommodation with management is not reached issue an order suspending that part of the operation. Detailed research into SSHRs and ISHRs in Queensland and NSW indicates that these powers are used rarely, carefully and judiciously (see another chapter). Commonly, the very existence of these powers is enough to command respect and resolve issues. This interpretation was reinforced by interviews/focus groups in coal mining where the ISHRs were seen to provide independent and critical support, advice and mentoring, to SSHRs; provide an additional layer of preventative oversight and fill an important gap at mines where organisation was weak or representatives fearful of raising/pursuing OHS issues. Interviews/focus groups in metalliferous mining districts were strongly supportive of the value of having ISHRs for precisely the same reasons, especially given the absence of SSHRS (which they also wanted), the more fractured HSR representation and fears amongst HSRs and workers of the consequences of taking a stand on an OHS issue. There was a uniform view that ISHRs would help to ameliorate these problems and increase the traction and willingness of HSRs to pursue OHS problems, as well as the trust and cooperation they would obtain from other mineworkers.

Bonus regimes and production pressures

Production-based bonus/payment schemes are a long-term feature of both coal and metalliferous mining. The earliest form was piecework in coal mining (typically in payment according to hewing rates) and tribute/tut-work in metalliferous mining. The capacity of these schemes to undermine safety by encouraging corner-cutting on safety has also been long recognised. For example, in 1868 Ballarat miner and unionist John Trevana claimed 'three-fourths of the fearful accidents which occur in our mines are attributable to . . . men being compelled to work at such reckless speed in order to earn a crust.'[317] More recently, the adverse effects of incentive payment systems on health, safety and well-being have been confirmed by studies conducted in an array of industries, including road transport.[318] Both

[317] *Ballarat Star* 23 September 1868.

[318] See for example, Hopkins A & Maslen S (2015) *Risky Rewards: How Company Bonuses Affect Safety*. London: Routledge; Hensher D, Batellino H, Gee J, & Daniels R, (1991) Long Distance Truck Drivers On-road Performance and Economic Reward, Research and Analysis Report. Institute of Transport Studies, Graduate School of Management & Public Policy, Sydney; Mayhew, C. & Quinlan, M. (2006) Economic pressure, multi-tiered subcontracting and occupational health and safety in the Australian long haul trucking industry *Employee Relations*, 28(3): 212-229; Rodriguez, D., Targa, F. and Belzer, M., (2006), 'Pay incentives and truck driver safety', *Industrial and Labor Relations Review,* 59(2): 205-225; Johansson, B. Rask, K. & Stenberg, M. (2010). Piece rates and their effects on health and safety - a literature review, *Applied Ergonomics*, 41(4): 607–614; Premji, S. Lippel, K. & Messing, K. (2008) "We work by the second!" Piecework remuneration and occupational health

the 1997 (undertaken by Susan Johnston) and 2004-5 NSW Mine Safety Reviews (chaired by Neville Wran and Jan McClelland) raised concerns about production and safety bonus schemes. These concerns were reinforced by subsequent research commissioned in the wake of the latter by the Mine Safety Advisory Council.[319] It is also worth noting that the production bonus issue is not confined to mineworkers, and these incentives extend further up the chain. In addition to worker incentives, executive and senior manager economic incentives have the power to compromise safety. A review of company annual reports revealed that executive incentive programs were skewed in favour of reward for economic rather than health and safety goals, and that safety indicators were focused on high-frequency-low-consequence indicators such as lost time injury rates.[320] Quinlan concluded that it was difficult to apply performance incentives to prevent low-frequency-high-consequence events.[321]

One catastrophic mine disaster and a near-disaster brought these issues into stark relief. Following the 2010 Pike River Mine disaster in New Zealand, where 29 miners died, the Royal Commission found that production pressures at the mine were a significant contributor to the incident, including a time-sensitive bonus system (i.e., the longer it took to reach the target the lower the bonus) based on production targets the mine had never come close to reaching.[322] Lamare et al usefully summarise Royal Commission's findings:

> *Against a backdrop of significant delays and spiralling costs, the attention of the executive management and the board was focused on increasing the hydro coal production level with little or no assessment of the associated risks. It should be noted that it was common knowledge that the use of hydro mining may exacerbate the levels of methane gas. After hydro mining began, high methane gas readings – many dangerously high – were recorded most days. The company also made the decision to place the main ventilation fan underground, which was unprecedented in any gassy coal mines in the world. The Royal Commission of Inquiry (2012: 9) report stated that 'putting the fan underground was a major error. The decision was neither adequately risk-assessed, nor did it receive adequate board consideration. A ventilation consultant and some Pike staff voiced opposition, but the decision still was not reviewed. Not only was the main ventilation fan incorrectly positioned, but at the time of the explosion, there were too few gas sensors. Many of the*

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and safety from an ethnicity- and gender-sensitive perspective, *Perspectives Interdisciplinaires Sur Le Travail et La Santé*, 10(1), 1-35; Williamson A, (2007) Predictors of Psychostimulant Use by Long Distance Truck Drivers, *American Journal of Epidemiology*, 166(11):1320-1326; Mooren, L., Williamson, A., & Grzebieta, R. (2015). Evidence that truck driver remuneration is linked to safety outcomes: a review of the literature*, Proceedings of the 2015 Australasian Road Safety Conference*; Thompson, J. & Stevenson, M. (2014) Associations between heavy-vehicle driver compensation methods, fatigue-related driving behaviour and sleepiness, *Traffic Injury Prevention, 15*(sup1) S10-S14

[319] Shaw Idea (2007a) *Digging Deeper: Wran Consultancy Project No 1*, Vol. 1 Commissioned by Mine Safety Advisory Council, NSW Department of Primary Industries, Sydney; Shaw Idea (2007b) *Digging Deeper: Wran Consultancy Project No 1*, Vol 2 Commissioned by Mine Safety Advisory Council, NSW Department of Primary Industries, Sydney.

[320] Jackson, H. (2021) Recurrent causes of occupational incidents in the NSW, Australia coal and metalliferous mining industry, PhD thesis, University of Newcastle NSW.

[321] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

[322] *Royal Commission on the Pike River Coal Mine Tragedy* (2012) Volume 2, Wellington.

> *sensors were not working or positioned incorrectly, and others were not fit for purpose. Critical information regarding the use of hydro mining, the levels of methane gas, the lack of sensors, and poor ventilation was not properly considered, and the response to warning signs of an explosion risk was either not noticed or given no response.*

It is a regulatory requirement that electrical equipment and cabling must be protected and incapable of sparking an explosion in restricted and dangerous areas of gassy mines. However, in the PRCM mine, electrical equipment and cabling were unprotected, and the risk of unprotected equipment and cables was never assessed (see Health and Safety in Employment (Mining – Underground) Regulations 1999, Regulation number 2 and Chapter 11 of the Royal Commission of Inquiry, 2012). A number of variable speed drives (VSDs) were located underground. VSDs were used to control the power supply to the fan and water pumps. There were problems with the VSDs, one of which was replaced, and a number of which were removed for repair. The extent of these problems underlined the need for a comprehensive risk assessment of the electrical installations underground at PRCM (Royal Commission of Inquiry, 2012).[323]

The economic pressures identified in the Pike River disaster were exacerbated by the absence of an effective system of worker representation, concerns held by the hydro-mining expert engaged by the mine (who left), deliberate marginalisation of the union, and threats of legal action after it endorsed a deputy leading his team out of the mine over safety concerns at one point. Later research also indicated safety concerns amongst mineworkers, including a contractor planning to leave the mine at the expiration of their contract.[324] In short, mechanisms that should have given rise to concerns about safety were compromised by production imperatives, and mechanisms enabling mineworkers to express their concerns were either absent or ignored/overridden. With regard to the question of mineworker representation it should be noted in passing that New Zealand had enacted legislation recognising the role of check inspectors (as in Australia mine disasters played a role in this development) but these provisions had been removed as part of the post-Robens reforms to OHS legislation, *Health and Safety in Employment Act* 1992, notwithstanding opposition from the union representing miners (the Engineering, Printing and Manufacturing Union or EPMU). The EPMU, amongst others, called for a reintroduction of workmen's or check inspectors when the government undertook a review of mine safety in 2008-2009, but again failed in the context of concerted opposition from industry submissions.

Industry arguments that the position would blur legislative responsibilities, duplicate the role of mine managers, and create tensions at the workplace could have been readily tested against the New South Wales and Queensland experience but this was never done (Department of Labour, 2008a, 2008b: 16-17). The New Zealand Department of Labour

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[323] Lamare R, Lamm F, McDonnell N. & White H, (2015) Independent, dependent, and employee: Contractors and New Zealand's Pike River Coal Mine disaster, *Journal of Industrial Relations*, 57(1):84.

[324] Lamare R, Lamm F, McDonnell N. & White H, (2015) Independent, dependent, and employee: Contractors and New Zealand's Pike River Coal Mine disaster, *Journal of Industrial Relations*, 57(1):88; Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from fatal incidents in mines and other high hazard workplaces*, Federation Press, Sydney, 137.

(2008b: 18) could not even garner sufficient support for a code of practice on employee participation in the mining industry.[325]

As noted in another chapter in this report, subsequent research into the SSHR/ISHR regime in Queensland and NSW refuted these concerns and indicated the system was operating effectively and making a positive contribution to mine safety and health. This research also undermined other objections that might be raised. For example, there was no evidence to support an argument that these activities were or could be undertaken by statutory office-holders within the management structure of the mine. Rather, the regime operated in a complementary way with government mine inspection, focusing on serious hazards, ensuring more rigorous investigation of incidents, identifying hazards and detecting flaws in management systems. Both SSHRs and ISHRs used their powers to suspend operations both judiciously and sparingly, and a number of instances were identified where their intervention prevented the escalation of a dangerous train of events. Research for this report provided further evidence relevant to this contention. Notably, in coal mining, it was found that on occasion statutory office-holders within management approached ISHRs with issues in order to have them resolved – a complete contradiction to the argument these office-holders could fulfil the functions of ISHRs or SSHRs.

As mentioned elsewhere in this report, following the Post Pike River mine disaster mine safety legislation (2013) established a system of site and industry representatives modelled on New South Wales and Queensland.

The second major incident regarding production pressures worthy of comment occurred at the Grosvenor coalmine in Queensland May 2020, when five workers were severely burned by a methane explosion/fire. A number of serendipitous events arguably prevented this explosion from resulting in multiple fatalities and indeed endangering others underground at the time. First, an unplanned accumulation of stone dust near the ignition prevented the methane explosion from transitioning into a coal-dust fire that would almost certainly have had more catastrophic consequences. Second, a senior anaesthetist visiting the town of Moranbah that day, doing COVID-19 training, was able to stabilise the miners so they could be transferred to a burns unit. The Board of Inquiry into Grosvenor found that mining operations were repeatedly conducted in a manner where gas emissions generated by the rate of production exceeded the mine's gas drainage system capacity. The mine was operated by a contractor using labour hire, and the Board also found that these workers were afraid to raise issues, and some issues that were raised were ignored.[326] Reflecting this climate of fear of victimisation/retribution, only one labour hire employee gave evidence to the Board. Reflecting its broader concerns, the Board had commissioned one of the authors of this report to prepare a background report reviewing research and other evidence pertaining to production pressures/bonus regimes and safety, Board responsibilities in this area, contracting/labour hire, and the operation of representative mechanisms in mining.[327] The effectiveness of representative mechanisms, including union input at Grosvenor, had

[325] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from fatal incidents in mines and other high hazard workplaces*, Federation Press, Sydney, 63

[326] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613

[327] Quinlan, M. (2020) *Report on a number of matters with regard to the Board of Inquiry Investigation into the methane incident at the Anglo American Grosvenor Mine at Moranbah on 6 May 2020 and related matters*, unpublished.

been weakened by the overwhelming dependence on labour hire, including a decision by the then Chief Mines Inspector to stop the electronic exchange of inspection reports between the mines inspectorate and SSHR and ISHR inspections. This practice enabled ready exchange of information and views, and as is noted in another chapter, had been praised in earlier assessments of the SSHR/ISHR regime in Queensland. In the aftermath of Grosvenor, the exchange of electronic copies was re-instituted.

As with incentive payment/bonus systems, a focus on boosting production and cutting operational costs has been linked to safety problems and disasters in a range of industries, so there is nothing especially exceptional in these findings.[328] As noted in another chapter, along with repeated references to fears of victimisation, the interviews and focus groups conducted for this report made repeated reference to production pressures (and related points like tight scheduling) both directly and indirectly in situations where this could result in compromises on safety or health, notwithstanding the oft-stated pronouncement that safety always trumps production/profit. A number of interviewees also referred to being told the mine was on a financial knife-edge and might close, which essentially amounted to the same sort of pressure. Concerns were also expressed with regard to the operation of production bonus schemes compromising safety, including specific incidents, which we would have liked to have elaborated but cannot in order to protect the anonymity of those to whom we spoke.

Contractors and labour hire

As with production pressures and bonus schemes, concerns with regard to the adverse effects of using contractors are longstanding, not only in mining but in an array of other industries, and there is a body of international peer-reviewed research that has, in broad terms, found these arrangements are associated with worse OHS outcomes, including disasters.[329]There is also an extensive body of international research across a wide array of industries pointing to the adverse OHS consequences (including higher injury rates and problems reporting OHS issues) of labour hire, which is known as temporary agency work outside of Australia and New Zealand.[330] These problems are compounded after injury. In

[328] See for example Hopkins A. (2012) *Disastrous Decisions: The Human and Organisational Causation of the Gulf of Mexico Blowout*, CCH, especially 97-110; Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from fatal incidents in mines and other high hazard workplaces*, Federation Press, Sydney especially 157-158.

[329] See for example Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613; Nygren, M. (2025) Mining industry approaches to risk and responsibility: managing safety in outsourced environments, *Mineral Economics,* https://doi.org/10.1007/s13563-025-00555-1; Mayhew, M. Quinlan, M. & Ferris, R. (1997) The Effects of Subcontracting/Outsourcing on Occupational Health and Safety: Survey Evidence from Four Australian Industries, *Safety Science* 25(1-3):163-78; Mayhew, C. & Quinlan, M. (2006) Economic pressure, multi-tiered subcontracting and occupational health and safety in the Australian long haul trucking industry *Employee Relations*, 28(3): 212-229; Quinlan, M. (2023) 'Subcontracting, Repeat Latent Failures and Workplace Disasters' in J. Le Coze and Journe, B. eds. *Safe Performance in a World of Global Networks: Case Studies, Collaborative Practices and Governance Principles*, Springer, 27-36.

[330] See for example Francois M, & Lievin D, (1995) Emplois Precaires et Accidentabilite: Enquete Statistique Dans 85 Entreprises. Paris, Institut National de Recherche et de Securite; Storrie D, (2002) *Temporary Agency Work in the European Union*, European Foundation for the Improvement of Living and Working Conditions, Dublin; Silverstein B, & Foley M, (1998) Protecting contingent workers from work-related injury. Paper presented to the Ergonomics Society of Australia Conference, October 5-7, Melbourne; Park Y, & Butler R, (2001) The safety costs of contingent work: Evidence from Minnesota, *Journal of Labor Research*, 22(4):831-

most instances self-employed contractors are precluded from accessing workers' compensation and while contractors who are employees of a firm and temporary/labour-hire workers (most though not all employees) have access to workers compensation in practice evidence suggests they experience poorer outcomes in terms of compensation and rehabilitation/return to work compared to direct hire employees – what Underhill has termed a double-jeopardy situation.[331]

Contracting has been a long-term feature of the mining industry, but the extent of contracting has grown substantially in recent decades. A recent international review of research (using an array of different research methods) into the relationship between contracting (including labour hire) and OHS outcomes concluded that the overwhelming majority (indeed almost all) found an adverse effect on injury and fatality rates, and a number of other indices (including exposure to or the capacity to measure exposure to hazardous substances). These findings did not differ noticeably between coal and metalliferous mining or by region, suggesting existing regulatory arrangements were not affecting this as might be hoped. The review findings dovetailed with fatality data for mining in Western Australia and Queensland and were also evident in a number of incident investigations.[332] In terms of the underlying causes of this the most prevalent factors in mining (and elsewhere) are the greater susceptibility of these workers to economic/reward/production pressures, the greater likelihood of disorganisation at the workplace (due in part to the more complex work-systems and authority structures) and regulatory failure (due to more complex chains of legislative responsibility, lower union presence and greater challenges to regulators). The findings do not mean the use of contractors is harmful or dangerous in all situations, and there may be some activities (like non-routine maintenance) where the engagement of specialist contractors may be advantageous. However, the findings indicate that contracting and labour hire undermine OHS in most situations, notwithstanding, more rigorous oversight should probably be confined to those activities, not operations and routine maintenance (indeed, recent fatality analysis in Western Australia suggested a clustering in on-site maintenance activities together with limited site experience).[333] The use of labour hire was

850; Underhill E, (2008) Double Jeopardy: Occupational injury and rehabilitation of temporary agency workers, PhD thesis, UNSW Sydney; Lippel K, MacEachen E, Saunders R, Werhun N, Kosny A, Mansfield L, Carrasco C, Pugliese D, (2011) Legal protections governing the occupational safety and health and workers' compensation of temporary employment agency workers in Canada: reflections on regulatory effectiveness, *Policy and Practice in Health and Safety*, 9(2):69-90; Underhill, E. and Quinlan, M. (2011) How precarious employment affects health and safety at work: the case of temporary agency workers.*Relations Industrielles* 66(3):397-421.

[331] Underhill E, (2008) Double Jeopardy: Occupational injury and rehabilitation of temporary agency workers, PhD thesis, UNSW Sydney; Lippel K, MacEachen E, Saunders R, Werhun N, Kosny A, Mansfield L, Carrasco C, Pugliese D, (2011) Legal protections governing the occupational safety and health and workers' compensation of temporary employment agency workers in Canada: reflections on regulatory effectiveness, Policy and Practice in Health and Safety, 9(2):69-90; Quinlan, M. & Mayhew, C. (1999), Precarious Employment and Workers' Compensation, *International Journal of Law and Psychiatry*, 22(5&6):491-520; Quinlan, M. (2004), Workers' Compensation and the Challenges Posed by Changing Patterns of Work: Evidence from Australia *Policy and Practice in Health and Safety,* 2(1): 25-52; Quinlan, M., Fitzpatrick, S. J., Matthews, L. R., Ngo, M., & Bohle, P. (2015) Administering the cost of death: Organisational perspectives on workers' compensation and common law claims following traumatic death at work in Australia. *International Journal of Law and Psychiatry*. 38:8-17.

[332] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613

[333] Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613

associated with other practices that can have adverse effects on worker health, safety and well-being (including family/work balance and sexual harassment), including fly-in-fly-out (FIFO) and drive-in-drive-out (DIDO), not to mention impacts on transport-related emissions and deleterious socio-economic effects on neighbouring towns. Irrespective of whether it is planned/deliberate or not, contracting and labour hire are also associated with lower levels of union membership, which in turn weakens their capacity to provide logistical support to SSHRs and HSRs and increases demands on ISHRs.[334] It is worth noting in passing that there is international evidence linking union presence to better OHS outcomes in mining (and other industries for that matter).[335] During the course of our interviews and focus groups, repeated statements were made which essentially echoed the last three sentences, including the accentuated fears of contractors and labour hire workers to speak out on safety and the greater challenges in more weakly organised districts, especially metalliferous mining, but also with regard to at least one coal mining sub-region.

Again, these observations are not new. As with production/bonus systems, the OHS challenges associated with contracting/labour hire were brought to the attention of the 2004-5 NSW Mine Safety Review and confirmed by subsequent research undertaken and reported in the *Digging Deeper* reports referred to elsewhere in this report. It was also identified as a challenge to SSHRs in research on SSHRs and ISHRs in Queensland and New South Wales.[336] A study argued that the extensive use of contractors was a contributory factor to the 2010 Pike River mine disaster, and the extensive use of labour hire was also criticised by the Board of Inquiry into the 2020 Grosvenor mine explosion – and the practice changed subsequently.[337]

In NSW, the MSAC has raised the issue of whether the shift to contractors was associated with increased fatalities with the NSW Resources Regulator.[338] In 2019-20, the MSAC noted

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[334] Beach, R. et al (2003) Workforce Turnover in FIFO Mining Operations in Australia: An Exploratory Study, University of Queensland; Peetz D and Murray G (2008) Black gold and big girls' toys. *Griffith REVIEW*, Editorial 22, 1–10. Available at https://www.academia.edu/3107444/Black_gold_white_nights_and_big_girls_toys; REVIEW REPORT (2015) An independent review of existing, predominantly fly-in-fly-out resource projects in Queensland, Queensland Government; Western Australian Mental Health Commission (2018) Impact of FIFO work arrangements on the mental health and wellbeing of FIFO workers, Government of Western Australia; Community Development and Justice Standing Committee (2022), Report 2 'ENOUGH IS ENOUGH' Sexual harassment against women in the FIFO mining industry, Parliament of Western Australia, Perth; The issue was also dealt with extensively in Quinlan, M. (2020) Report on a number of matters with regard to the Board of Inquiry Investigation into the methane incident at the Anglo American Grosvenor Mine at Moranbah on 6 May 2020 and related matters, unpublished.

[335] See for example Morantz AD (2013) Coal mine safety: Do unions make a difference? *ILR Review* 66(1), 88–116. https://doi.org/10.1177/001979391306600104

[336] Walters, D. Quinlan, M. Johnstone, R. & Wadsworth, E. (2016) Cooperation or resistance? Representing workers' health and safety in a hazardous industry, *Industrial Relations Journal* 47:4, 379–395; Walters, D. Johnston, R. Quinlan, M. & Wadsworth, E. (2016) Safeguarding Workers: A Study of Health and Safety Representatives in the Queensland Coal mining Industry, 1990-2013, *Relations Industrielles*, 71-3, 418-441; Walters, D. Quinlan, M. Johnstone R. & Wadsworth, E. (2019) Representing miners in arrangements for health and safety in coalmines: A study of current practice, *Economic and Industrial Democracy*, 40(4): 976-996.

[337] Lamare R, Lamm F, McDonnell N. & White H, (2015) Independent, dependent, and employee: Contractors and New Zealand's Pike River Coal Mine disaster, *Journal of Industrial Relations*, 57(1): 72-93; Queensland Coal Mining Board of Inquiry (2021) *Queensland Coal Mining Board of Inquiry Report, Part II*. Available at www.coalminesinquiry.qld.gov.au; Jackson H, Quinlan M. (2024) Contract labour in mining and occupational health and safety: A critical review *The Economic and Labour Relations Review*. 35(3):576-613

[338] *Annual Report Mine Safety Advisory Council 2018/19*, NSW Resources Regulator, 7.

that incident analysis found contractors were less likely to record an injury, but there was an increasing fatality rate for contractors has an increasing trend. The contributory causal factors identified included type of work, familiarity with safety systems and under-reporting.[339] Labour hire was also identified as affecting reporting - again something identified in other industries. Between October and December 2020, non-reporting by labour hire firms in coal and metalliferous mining was targeted by the NSW Resources Regulator after discrepancies were identified between workers' compensation data across the mining sector over recent years and what has been reported to the Regulator.[340] Responding to the Grosvenor mine explosion Board of Inquiry report In its 2021-22 annual report, the MSAC agreed to undertake a survey to determine whether fear of losing employment caused labour and other non-permanent workers to under-report safety concerns due to fear of losing employment. A survey was distributed to all coal sectors in the first quarter of 2022, a draft report of survey outcomes was presented to its June 2022 meeting to be followed by preparing an action plan.[341] The annual report for the following year indicated that the response rate for the survey was very poor and it agreed to conduct a follow-up survey in 2023-24.[342] This objective was not met, it seems in 2023-24, although the MSAC 'resolved to do a follow-up survey on safety reporting culture following the low response rate to the previous survey conducted in 2021.'[343] However, the Regulator did conduct a campaign addressing hazard reporting of safety-related issues in large extractives and metalliferous mines, visiting 37 metalliferous and large extractive mines in 2022. [344] Additionally, the Regulator conducted assessments on contractor management in the large metalliferous and extractive, and coal sectors in 2021.[345] We understand that in 2025, the NSW Regulator undertook a further targeted assessment with regard to contractor management. It should also be noted that the first survey was confined to the coal sector. Our interviews/focus groups indicate that these problems are certainly present in coal, but fears of retribution for raising OHS issues were more pronounced in metalliferous mining.

As part of this project, we asked interviewees/focus groups the extent to which contracting/labour hire was present at their mine and if this had affected OHS in their view. Where contracting was prevalent, many respondents expressed concerns consistent with the research evidence above, notably that these workers were more susceptible to production/bonus pressures and were also less likely to raise OHS issues, but did raise some via the HSR, SSHR or ISHR where these were present. At the same time, some pointed to a reduced use of labour hire/contractors more recently. In coal mining, the reason most typically proffered for this was the implementation of the same job/same pay principle under recently passed industrial relations legislation. In metalliferous mining, other factors were also identified, notably a desire to reduce workforce numbers, with contractors being removed and then some re-engaged as direct hire workers. The overall reduction in workforce numbers while production/output levels remained unchanged was seen as leading

[339] *Annual Report Mine Safety Advisory Council 2019/20*, NSW Resources Regulator, 7-8.
[340] NSW Resources Regulator (2020) *Compliance priorities July – December 2020*, 6
[341] *Annual Report Mine Safety Advisory Council 2021-2022*, NSW Resources Regulator, 8.
[342] *Annual Report Mine Safety Advisory Council 2022-2023*, NSW Resources Regulator, 8.
[343] *Annual Report Mine Safety Advisory Council 2023-2024*, NSW Resources Regulator, 8.
[344] NSW Resources Regulator (2022) *Compliance priority report: Hazard reporting of safety-related issues – Tier 1 quarries and metalliferous mines, December 2022.*
[345] NSW Resources Regulator (2022) *Compliance priorities outcomes: Contractor management in metalliferous and Tier-1 quarries.*

to overload and compromising OHS. This view was consistent with international research into the OHS consequences of downsizing.[346] Notwithstanding the last point, contracting/labour hire remains a serious issue in the mining industry in terms of its effects on worker health, safety and well-being. Representative structures, most notably SSHRs and ISHRs, provide an important avenue for contractors and labour hire workers to raise OHS issues, but these mechanisms are both missing in metalliferous mining in NSW.

Are mechanical site safety and health representatives needed?

The Bills' statutory review raised the need for mechanical safety and health representatives. The field work found instances of MSHR being appointed in some mines, even though this is not a legislative requirement. The development of powerful hydraulic mining equipment has increased the level of risk (to a commensurate level to electrical risk). One focus group participant described the process at his mine where workers and their representatives raised the need for an MSHR with management, which was supported by management, and subsequently the nominated/elected person was appointed by the regulator. The weight of evidence in this report indicated that both electrical and mechanical SSHRs, where they already exist, play a valuable role and the latter should be recognised legislatively, especially in light of increased automation within mining.

OHS Training and learning from failure

As already indicated, there were differences with regard to training, where some HSRs working in mining largely received more generic training (in keeping with OHS training in other industries) while SSHRs received more mining-specific training. Given the specific array of hazards in mining and specific legislative requirements, more targeted training, including a focus on significant mining hazards (and lessons from past failures in this regard), has significant advantages.

- Unions in metalliferous (both MEU and AWU) have started to deliver HSR training in order to address mine-specific hazard and risk, and mine-specific legislation.
- Workers, HSRs, and union delegates/officials interviewed were unsure about the mining content in HSR training delivered by trainers approved under the WHS Act.
- One benefit of HSR training is that refresher training is required annually – unsure if this actually occurs in the metalliferous sector.
- Concerns were raised by coalmine ISHRs about the mine-specific training – no requirement for refresher training (the MEU has stepped into this gap and conducts an annual training day for SSHR/ESHR, and concerns about the format and content of training (one SSHR commented on the focus on legislation as opposed to how to carry out functions effectively)

In NSW coal mining, the Regulator provides an annual workshop/conference to which SSHRs and ISHRs are invited, as are others in the industry, but this does not constitute refresher training. The Northern and South Western Districts provide annual

[346] For a review of this research see Quinlan, M. & Bohle, P. (2009), Over-stretched and Unreciprocated Commitment: Reviewing research on the OHS effects of downsizing and job insecurity *International Journal of Health Services* 39(1): 1-44.

conferences/workshops for SSHRs, but these are not refresher training but rather efforts to extend their knowledge, skills, and afford opportunities for interaction. In NSW, a need was identified for legislatively mandated annual refresher training for SSHRs. In Queensland coal mining, the MEU undertakes a five-day conference for SSHRs (organised by the ISHRs) across the state on an annual basis, which includes SSHR legislative powers, functions and roles but also specialist lectures on particular hazards (for example, respirable dust, psychosocial hazards, fatigue and sexual harassment) by academic experts, government regulators, police and others. All these sessions tend to be highly interactive. Two of the research team have had opportunities to observe these conferences over the past 15 years and have been uniformly impressed with the quality of the training provided and the opportunity for SSHRs to swap information and enhance the overall learning experience and morale of those undertaking the task. The conference also provides an additional opportunity for ISHRs to mentor SSHRs. Interviewees we spoke to in the course of this project were supportive of such practices, including metalliferous miners, where such opportunities do not exist at present.

In addition, it is worth making some more general observations about OHS training in metalliferous and coal mining. From 2018, the NSW Resource Regulator introduced a modular industry-training package *Learning from disasters* training package developed by the Regulator, including eight case studies identifying key/repeat failures, lessons learnt from previous events.[347] The program drew on the book *Ten Pathways to Disaster and Death: Learning from fatal incidents in mining and other high hazard workplaces*[348]*,* and possibly the Royal Commission into the Pike River Tragedy. The MSAC strongly endorsed this program, which included an hour-long induction program (refresher), a two-hour program for quarry managers (practicing certificate holders - restricted), and a day-long workshop (practicing certificate holders – any class).'[349] The package provides not only a strong reminder of the need to learn from past deaths and disasters in NSW but recurring failure points that continue to occur up to the present, including those resulting in single fatalities and dangerous incidents. The failures identified in the existing case studies include a number (including warning signals ignored, concerns raised and poor communication) where stronger worker representation could well have an influence and affected the outcome. The package might be updated to include more recent incidents, including single and double fatalities (and maybe a retitle as the present version is not confined to disasters). But even as it stands, it is an excellent initiative by the NSW Regulator and one that should be copied by mine and quarry regulators in other jurisdictions.

There is a strong argument for extending the *Learning from disasters* package to the training of SSHRs and HSRs (and arguably workers more generally) in mining and quarrying. It is important to note that case studies that formed the basis of the book *Ten Pathways* included coal and metalliferous mines and included single-fatality incidents as well as multiple-fatality events, often referred to as disasters. The same ten repeat/latent failures were found in both single-fatalities and disasters. The relevance of this approach to single fatalities and serious incidents was demonstrated (as noted elsewhere) by Jackson's study of 51 serious mine

[347] See https://www.resources.nsw.gov.au/resources-regulator/safety/training-and-education-programs/learning-from-disasters

[348] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney

[349] *Annual Report Mine Safety Advisory Council 2018/19*, NSW Resources Regulator, 8.

incidents (coal and metalliferous) in NSW from 2004 to 2020.[350] This finding was reinforced by the updated serious incident analysis in the incident chapter of this report. Its relevance was also indicated by High Potential Incident reports prepared by workers, SSHRs, HSRs, ISHRs and others as part of the research undertaken for this report. The failures identified that are repeatedly associated with fatalities and HPIs are important lessons that should inform OHS training in mines and quarries.

It is worth noting in passing that these 10 failure points are not confined to mining but have been identified in fatal events in other high-hazard industries like construction, road transport, chemicals/manufacturing and tourist/leisure centres.[351] The hazards are not identical (and training in this regard needs to be industry specific as in mining), but the repeat failures/risks are, and there would be value in including this approach to training in other industries.

Representative Legislative Provisions

As noted above, the interviews/focus groups found evidence that the current coal mining model of HSRs representing workgroups, SSHRs representing the whole mine, and ISHRs representing all mines in a district is working well. There was strong support for this three-tier model. Participants in the metalliferous mining sector expressed the benefits of retaining HSRs supported by an SSHR and ISHR. Given the problems identified in this report, this approach should be extended to metalliferous mining.

To alter the regime would be relatively straightforward. First, the coal mining exclusion provision in the *Work Health and Safety (Mine) Act* (see Chapter 3) could be altered to change the exclusion from coal mining to mining and quarrying. This would match the legislative approach in New Zealand and Queensland. Second, then as with coal mining, legislative provisions for SSHRs and ISHRs would be introduced into the appropriate legislation covering metalliferous mining and quarrying modelled on those currently applying in coal mining (which are similar to pre-existing provisions in metalliferous mining. One difference with previous provisions was that (as remains the case in Queensland) metalliferous ISHRs were paid for by government, unlike coal mining ISHRs whose salaries and costs are paid for by the MEU. The interviews and focus groups undertaken for this project were uniformly of the view that ISHRs in metalliferous mining should be paid for the relevant unions (MEU and AWU or jointly the NSW Mine Workers Alliance) for a number of reasons, including clearly signifying their independence. At the same time, as is currently the case in NSW coal mining, it was seen as appropriate that the government provide a contribution to ISHRs for SSHR training and related activities.

One apparent difference between Queensland provisions as they currently apply to metalliferous District Worker Representatives (the term equivalent to ISHR) is that when a DWR uses their power to inspect a site, they must write a report and provide a copy to the mine operator of the site, but the same requirement doesn't apply to ISHRs in NSW.

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[350] Jackson H (2023) Pathways to single fatality and serious injury incidents in coal and metalliferous mining in NSW, Australia: Can we learn from multiple fatality incidents to prevent serious injury? *Safety Science*, 165(2):

[351] Quinlan, M. (2014) *Ten Pathways to Death and Disaster: Learning from Fatal Incidents in Mines and Other High Hazard Workplaces,* Federation Press, Sydney; Gregson S, Quinlan MG. (2024) Death at Dreamworld: Ten pathways to disaster and failure to learn. The *Economic and Labour Relations Review*. Published online 2024:35:436-453.

Investigation of this point is that this difference is of little practical importance. Our research for this project (and previously) indicated that ISHRs in Queensland prepare reports for both inspections and incident investigations, while in NSW, SSHRs are required to provide inspection results to the mine operator within 7 days of carrying out an inspection. Under NSW legislation, ISHRs are not required to prepare inspection or investigation reports. If ISHRs issue an order in Queensland or NSW as part of an inspection, they are required to do this in writing, including the reasons for taking such action. It should also be noted that under both Queensland and NSW legislation, SSHRs – who do the bulk of inspections at any mine – are required to prepare a report and provide this to the operator. This is a functional requirement, quite distinct from that pertaining to HSRs, and yet another reason why HSRs are not the equivalent of SSHRs.

Chapter 8: Recommendations

Key recommendations

ISHR related recommendations

1. The statutory position of Industry Safety and Health Representative (ISHR) (and a number of positions – at least two) should be re-established in metalliferous mining in NSW along similar lines and with the same powers and functions to those found in the coal mining sector. This report reinforces earlier suggestions by Bills and others in this regard. There are strong grounds for undertaking this measure, and the counter-arguments we examined are not persuasive on evidentiary or policy grounds. In particular, we found that the existing representative arrangements in metal mines are deficient, and HSRs often feel isolated and vulnerable, especially in a climate where fear of retribution is widespread. The ISHR provides the critical backup who cannot be intimidated because they are not employed by the mine. With coal as a guide, their presence is likely to build more constructive and closer relations with government inspectors.
2. Consideration should be given to changing the legislation to enable ISHRs in both metalliferous and coal mining to make unannounced inspections as necessary. Coal mining ISHRs already have this power and function in Queensland, and we believe this might help mitigate the fear factor that presently pervades the metalliferous mining industry, but whch is also found to some degree in coal mining. This issue will be examined in more detail in the second stage of this project, where representative mechanisms are examined in other jurisdictions.
3. The salaries and associated costs of metalliferous ISHRs should be paid for by the unions (MEU and AWU or NSW Mine Workers Alliance as appropriate). This is different from prior arrangements in NSW and the situation in Queensland in metalliferous mining, but was the overwhelming opinion of those we interviewed in the course of the project. A major reason given for this was the need to ensure ISHRs were seen as genuinely independent and representing workers.
4. The NSW Government should provide annual funding to assist metalliferous ISHRs run training updates and information sessions for SSHRs and HSRs. Similar programs operate for SSHRs in coal mining in both NSW and Queensland and are an important avenue for SSHRs to enhance their skills/knowledge and confidence in exercising their functions.

SSHR and HSR related recommendations

5. The position of site safety and health representative (SSHR) should be re-established in metalliferous mining, again along similar lines to those applying in coal and with the same powers and functions (as was also evident in metalliferous mine legislation prior to 2013). The legislative comparison and evidence collected in the course of this report made it very clear that SSHRs have coverage and functionary powers quite distinct to HSRs and, as in coal, could act as a coordinating and support point for HSRs who are limited to a particular workgroup as well as undertaking regular mine inspections (the original and still pertinent part of their activity) and preparing reports. Our interviews/focus groups in coal mining indicated this three-tier approach (if ISHRs are included) has not resulted in over-complexity or confusion, with SSHRs leaving HSRs to carry out their activities but being a reference point if difficulties arise.
6. Consideration should be given to legislative recognition of mechanical and explosives SSHRs in metalliferous mining. In coal mining, legislative recognition should be given

to mechanical SSHRs, consistent with the Bills' report and the evidence collected for this report.

MSAC and the NSW Resources Regulator

7. Both SSHRs and HSRs in metalliferous mining should receive dedicated and mine-specific training appropriate to the particular challenges of working in a high hazard industry and consistent with the proven quality of pedagogic methods employed in labour education. This should include the *Learning from Disasters* package. There should also be a focus on specific serious hazards in metalliferous mining, most notably inrush or inundation, ground or strata failure control, machinery fires, air quality (dust, lead exposure), explosives and heat exposure (see Chapters 5 and 6). These hazards should also form the subject of metalliferous mineworker inductions. This would be an extension of training already provided in the coal industry, noting that general WHS training is generally not fit-for-purpose in mining environments.

Further findings

These findings from our research may warrant further investigation or action by MSAC and/or the NSW Resources Regulator.

1. There is a strong cost/benefit case to be made for re-establishing ISHRs in metalliferous mining. Best estimates are that each serious injury and disease claim (of which there were over 2806 in the years cited in this report) costs over $120,000, and each fatality over $5m (see Chapter 3). If the presence of a single ISHR in metalliferous mining prevented only three serious injuries/hazard exposures or a single fatality in a year this would more than justify any costs associated with them (and note the report recommends these costs be largely paid for by unions, not government). What also needs to be considered is the immense human suffering of miners and their families and friends when a miner is impaired or killed at work. These consequences have been researched and are both profound, extend over years if not decades, and can have a severe impact severely on children. Any cost/benefit analysis that ignores this is deficient.
2. Some issues requiring more attention uncovered by this report were dust/lead exposure, the use of contractors, identifying and managing hazards associated with new technologies, and the failure to undertake or consult with regard to changes in work methods or staffing levels (especially in metalliferous mines, where consultation was construed as explaining changes to be done).
3. In the course of this report, a number of serious issues with regard to mine safety and health were identified. Further evidence of these and indeed other issues was uncovered but could not be reproduced in this report in order to protect our informants from identification. The last overarching and relatively comprehensive review of mine safety and health undertaken in NSW was the 2004-5 review, chaired by Neville Wran and Jan McClelland. Since then, there have been several reviews but with a relatively focused and partial agenda. While the question of worker representation does not in our view require further investigation, there are grounds for – after 20 years – a more general review of mine safety and health in NSW. The recent double fatality at Cobar reinforces this recommendation for a wide-ranging review of mine health and safety, especially with regard to metalliferous mining.
4. There is evidence of widespread fear among mineworkers of being victimised for raising and pursuing OHS issues. Not all mines were described as problematic in this regard, but these appear to be a minority, and the climate of fear was especially pronounced in some mines. This was a problem for HSRs and workers more

generally, which was stated in every interview and focus group we undertook. As Chapter 3 pointed out, problems of worker voice being heard are not new, were raised in the *Digging Deeper* reports, and have, at best, not abated in more recent times. These initiatives need to encompass both metalliferous and coal mining, with the problem appearing to be worst in metalliferous mines, especially amongst labour-hire/contractors and in weakly organised mines.

5. There is a need for industry-specific training for SSHRs in metalliferous mining in the principal hazards relevant to that sub-sector, including the storage, management and control of explosives. In the course of the project, a number of serious incidents were identified with regard to explosives.
6. Given evidence of the informality of HSR appointments, absence of training/accreditation, and gaps in coverage, there would be a benefit for the NSW Regulator to review HSR numbers and training/accreditation at all metalliferous mines in NSW.
7. HSRs in metalliferous mining are frequently not notified of inspections and their right to accompany the inspector on site visits is not facilitated. The Regulator may consider steps to promote HSR involvement in risk assessments and investigations; as well as reviewing circumstances where lack of worker voice contributed to serious incidents. Dissemination of consolidated targeted assessment and compliance inspection reports to HSRs/SSHRs for communication to workers in shift-start safety meetings (see Chapter 6) would be beneficial.
8. Workers report the widespread misapplication of personal hazard/risk identification tool and Job Safety Analysis (JSAs) et al instead of Safe Work Procedures/Safe Operating Procedures (SWPs/SOPs) in routine tasks in both coal mining and metalliferous mining. An audit of the current status and use of SWPs and JSAs in mines, and whether SWPs are to update (and the review/updating process) especially with regard to metalliferous mines, may be beneficial.
9. For reasons identified in this report as a follow-up to the *Wilkinson Fatality Review*, Ten pathways should be used as a self-audit tool by companies, as a guide to investigations into incidents, and as a tool for both ISHRs and SSHRs (which is already beginning to occur in Queensland), and as part of the enforcement/targeted assessment toolkit. This could be facilitated by the production of the guidance note explaining the pathways, how they align with both NSW regulatory requirements and sound mine safety and health management principle, and with self-audit tools and appropriate training/awareness raising.