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Factors Impinging on the Effectiveness of the Mines Inspectorate

Professor Neil Gunningham and Mr Darren Sinclair

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Address for correspondence:

Professor Neil Gunningham
Regulatory Institutions Network (RegNet)
Second Floor, Coombs Extension
The Australian National University
Canberra ACT 0200
Ph (02) 6125 1516 Fax (02) 6125 1507
Email neil.gunningham@anu.edu.au
Web http://ohs.anu.edu.au

Introduction

The effectiveness of a Mines Inspectorate will be substantially dependent on a variety of practical matters: where and how it chooses to deploy its scarce resources; how it seeks to maintain its independence and avoid capture by various stakeholders; how it interacts with trade unions and worker representatives and seeks to harness their capacities; how it maintains its skills base and how it ensures that it has the capacity to discharge increasingly sophisticated regulatory tasks. This working paper addresses these practical issues as a necessary precursor two following working papers that examine how the inspectorate engages with its core tasks of inspection and enforcement.

The Use of Scarce Resources: Priorities and Targets

In our previous work on mainstream OHS regulation, Richard Johnstone and one of the authors examined the ways in which regulatory agencies can best use their resources to develop efficient and effective inspection and enforcement strategies (Gunningham and Johnstone 1999). Our starting point was to recognise that resources are severely limited and that much of OHS inspectors' time is necessarily taken up in reactive tasks such as investigating accidents, routine administration and complaints. In these circumstances, we argued, it is crucial that those scarce resources that are available for discretionary and proactive tasks are used so as to get "the biggest bang for the regulatory buck".

So how should those scarce resources best be deployed in the context of the mining industry? In particular, should inspections be targeted, rather than random or routine, and if so, what principles should underlie such targeting? For example, should the focus be on worst performers, large firms or small, and so on? Is there a particular role for what is now commonly referred to as "risk based regulation": regulation that seeks to prioritise regulatory activities and the deployment of resources based on an assessment of the risk created by particular activities or duty holders? (Hutter 2005**).** More broadly, what strategies will ensure that, in Sparrow's words, regulators "focus on the most important problems and fix them" (Sparrow 2002).

Evidence in the US construction industry and elsewhere suggests that, at least in the case of mature industries that have been subject to inspection for a considerable period, there are few gains to be made from focusing on large high-profile companies (which have often already achieved relatively high levels of compliance) and it would be rational to direct greater attention to more risky enterprises (Weil 2001). This conclusion might need to be modified in the case of the mining industry, where there is often substantial variation in OHS performance between mine sites, even within the same company, with the result that the key unit to consider is the mine and not just the company itself (Gunningham & Sinclair 2006, 92–100).

Nevertheless, the broader insight — that the best strategy for regulators is to focus on mines with the *highest level of OHS risk* — remains apposite, and is supported by a range of other studies (Food and Drug Administration 2000; Black 2005). Such an approach would provide the greatest incentives for the riskiest mines to comply voluntarily (since, until they do, they will be the subject of increased inspectoral scrutiny) and therefore lead to more efficient enforcement (Scholz 1991, 179; Scholz 1984, 115). Precisely such a strategy has been implemented in Ontario under that province's High Risk Firm Initiative which targets the bottom ten percent of firms in heath and safety performance and has achieved outstanding results (Ministry of Labour, Ontario 2006)**.** However, it is rational to retain *some* random component in

order to keep other mines "on their toes" because they might still be inspected, and indeed, because mining is so hazardous, *all* mines should be subject to regular inspection, albeit that the number and intensity of inspections should increase with the level of risk.

The biggest impediment to implementing such a targeted inspection policy lies in the serious inadequacy of the available statistics and other performance indicators. It is only if the inspectorate can confidently identify those with the highest injury and disease rates or risk that it can selectively target "worst" mine sites and enterprises. However, as numerous commentators and reports have pointed out, neither lost time injury frequency rate (Hopkins 1995, 33-35), nor the various workers compensation statistics, provide more than the crudest indication of actual injury rates and, even if they did, this might not be a helpful predictor of the likelihood of low frequency high consequence events such as the Moura or Gretley disasters. Only with adequate data collection and interpretation, can a targeted inspection program realise optimal results.

This implies developing both better lag indicators than those described above and developing improved lead indicators in the form of positive performance indicators (PPIs). Unfortunately, on neither front are there grounds for optimism, at least in the short term. As to the former, numerous official reports have bemoaned the inadequacy of the current lag indicators and have called for the development of credible alternatives, but so far to little effect (Wran & McClelland 2005, recommendation 4). As to the latter, the picture is mixed. Certainly it is now common for the larger companies to consider PPIs such as OHS training, number of OHS committee meetings, number of hazards identified (and percentage controlled), various consultation indicators and the level of change in audit scores over time. But, while valuable, there is still considerable room for the manipulation of many of these PPIs (training, for example, may be token rather than substantial) and room for the introduction of more sophisticated alternatives (Step Change in Safety nd), including those with a particular focus on occupational disease (LaMontagne et al 2002, cited in ACiL 2005).

In the absence of adequate lag statistics or lead indicators, there may still be viable alternatives capable of ranking mine sites in terms of risk, competence and even motivation, but these depend on direct contact with the regulatee and so are more resource intensive.

For example, initiatives taken by the Health and Safety Executive (HSE) in the UK, to expand the range of inspection techniques and to improve the targeting of inspection, also provide a useful model. In essence, the HSE is seeking to concentrate its resources on those activities that create the greatest risk and to use techniques geared to weigh risk (including an emphasis on risk assessment and managerial competence and commitment) in order to secure maximum impact. For example, the Field Operations Directorate has implemented a Topic Based Inspection regime (TBI), which focuses on the activities most likely to cause death, injury or illness in workplaces (Chegini 2005, 4). The risk based ranking in turn enables priorities to be determined for proactive inspection and special programs (blitzes) that target particular types of company, based on incident rates or local intelligence (Hampton 2005, 95). Whilst this does not in itself an able the sort of responsive “tit-for-tat” enforcement strategy, once enterprises have been targeted, such a strategy can be applied.

A particular focus is on the enhancement of the inspection rating system (which substantially influences the frequency of inspection) and on the development of a

risk-based workload formula to assist management decisions on the deployment of resources (Hampton 2005, 89). Under the HELA (Health and Safety Executive/Local Authority) rating system, workplaces are rated on a scale of 1–6 (where 6 represents the worst situation) in terms of seven elements: safety hazard; health hazard; safety risk; health risk; welfare; public risk and confidence in management (HSE 2004). Enforcement under this approach is also designed to be proportionate, consistent and transparent (HSC 2002; HSE 2002).

A somewhat different approach developed by the Danish OHS inspectorate and known as "adjusted inspection", resonates with the point made earlier, that enterprises are far from uniform in their motivations with regard to OHS or their capacities to achieve improved OHS performance, and that this may be particularly important in determining how inspections should be targeted and focused. Under this approach inspectors assess the individual OHS performance of each facility and allocate a grade ranging from 1–3 based on their willingness and ability to comply. One is "above legislative requirements", two is just satisfying current legal requirements and three is falling significantly below those standards (Jensen and Jensen 2004). As will be apparent, these classifications closely approximate the categories of (i) those going "beyond compliance", (ii) "reactive compliers", and (iii) the recalcitrant and incompetent.

Clearly, if tools to classify enterprises could be developed, the Danish inspectorate would be able to establish a strategy aimed at moving enterprises towards group (i) by focusing resources on group (iii). The central tool developed for precisely this purpose is an industry-specific checklist in which major problems are identified and the inspector has to evaluate (i) the severity of the problems found; and (ii) the level of preventive efforts taken by the firm. In evaluating the severity, the inspector must pay attention to:

- Acute problems, causing "imminent, considerable danger" for which the inspectorate must prohibit activities, and must raise charges;
- Severe problems, which constitute major problems in the enterprise, must be listed in the report of problems in the branch in question, and are appropriate for official orders; and
- Problems where the inspector estimates that a formal response is required, and issues written directions (Jensen and Jensen 2004, 187).

According to Jensen & Jensen (2004, 190) the adjusted inspection approach "must presently be regarded as a success. It is a feasible tool for directing the resources of the Labour Inspectorate towards enterprises warranting attention. This is a policy supported by all political parties and other stakeholders". Indeed, so positive has been the experience with adapted inspection that it is now *the* major approach to inspection of the Danish inspectorate.

Importantly, although the tool was developed to assist in priority setting, it has subsequently gained momentum for other reasons. Not least, it appears that companies have been extremely interested in the outcome, with top managers indicating that they want to get a "grade one" so as to demonstrate that they have a high standard of occupational health and safety (Hasle and Jensen 2005). This may well be because many firms now recognise the importance of maintaining their legitimacy, reputation and "social licence", and that they cannot do this without demonstrably improving their OHS performance to the satisfaction of the inspectorate. The broader lesson may be that inspection strategies that focus on legitimacy, and use credible quantitative and publicly accessible measures to rank

individual companies, will be more effective than most in bringing about behavioural change.

Although the strategies identified above primarily involve ranking of different mines according to risk, in some circumstances it may also be worth ranking mines according to the key hazards across the industry, and how firms have addressed those hazards. One such mechanism was implemented in the USA during the Clinton administration in the form of "focused inspections" for employers with strong and effective safety programs. Under this approach the regulator's intent is to identify the most serious hazards in an industry sector. These hazards are then given focused attention during inspections, as a means of encouraging the adoption of effective safety and health programs. For example, if an inspector conducts an inspection and finds an effective safety program operating on-site, then the remainder of the inspection will be limited to the top four hazards that kill workers in that industry (Clinton and Gore 1995).

Against the backdrop of the foregoing discussion how have Australian Mines Inspectorates performed? Some of the Mines Inspectorates have already taken steps towards prioritising inspections. For example in Queensland, the frequency of site inspections depends on the degree of risk and on an assessment of how well a particular mine is managing its risk, and a risk matrix is used to schedule and deploy its inspection/auditing services more effectively (Power 2002). Reforms to the Queensland Mines Inspectorate foreshadowed in 2005, particularly with regard to methods of operation and performance management (NRM 2005b) may bring further refinements to inspection strategies but no details had been released at the time of writing.

In New South Wales, the Department provides guidance for selecting priorities for mine inspections, using a combination of strategic initiatives (based on corporate and business plans), documented procedures and individual judgment and experience. It is also common for internal work teams to identify annual campaigns or targets (for example, machine guarding, overhead power lines, etc) to be included in workplans. Finally, a Risk Identification Management System had been developed which is the basis of individual inspector’s work plans, being prepared and reviewed annually. This involved developing a risk profile for each mine to be inspected in order that more important (risky) aspects are given priority.

There is also an overarching policy that requires visits to be planned on a high level risk assessment based on industry sectors and mine type, with different rankings for underground coal, open cut coal, underground metal, open cut metal/extractive and small mines (extractive). These ratios are a starting point for planned visits to mines. In addition unplanned visits may arise for mines where reportable incidents occur, where statutory documents and information required is considered insufficient or unsatisfactory and where complaints or other information is received. Other inputs used are performance reports that show the number of notifiable incidents on a current and historical basis and more detailed report of recent incidents. These are analysed and reviewed on a regular basis to identify trends/concerns both in relation to common features (ie. plant or activity) and in relation to particular mines. However, it is the *combination* of the complete range of data and the knowledge that inspectors/MSO’s pick up in the field that determines responses and priorities.

In Western Australia, at least at the time of the last independent review, the inspectorate lacked any credible targeting strategies (Ritter 2004, Appendix 4). It failed to distinguish between different sorts of organisations and engaged in “a

largely mechanistic approach under which, seemingly, 'one size fits all'" (Gunningham 2005, 302).

Even the best of the above approaches, that of New South Wales, while relatively sophisticated and representing a substantial advance over the last decade, still does not approach international best practice, and all jurisdictions would benefit considerably from further refinement of their targeting practices along the lines of those suggested above.

A particular challenge, given the focus of contemporary mine safety legislation on risk assessment, OHS management systems and hazard management plans, is to find ways by which a Mines Inspectorate can tailor its inspectoral focus to the quality of the firm's implementation of systematic OHS management (OHSM). As Johnstone (2004b) puts it: "how can inspectors use diagnoses of the quality of a firm's occupational health and safety management to ensure that 'good' firms with sound OHSM systems are left to self-regulate, and 'poor' performers receive greater attention from the regulator?". Some guidance may be provided by the approach of the Swedish inspectorate (see Box 1), from which Australian Mines Inspectorates have much to learn.

Box 1: The Swedish Approach to OHSM

In Sweden, since the early 1990s, the National Board of Occupational Safety and Health and the Labour Inspectorate (which merged a few years ago to form a single Work Environment Authority) have been developing "systems supervision" or "systems inspection" as a special method for checking whether the systems created for internal control within large and medium-sized companies are efficient.

Two inspectors conduct "systems inspection", aimed at ensuring that there is progress in the development of an OHSM system. For all except small organisations (which are subjected to traditional approaches to inspection), the Swedish inspectorate undertakes a "top down" approach, "whereby proactive enforcement is undertaken in pedagogical or instructive terms" (Von Richthofen 2002, 202). Inspection is targeted at high-level management, and focuses on the system of organisation of work, as well as discussions with safety delegates and random checks on actual working conditions to make certain that OHSM systems are being implemented (Swedish National Board of Occupational Health and Safety, 4/1989, 2/1994, 2/1995). The inspection establishes the level at which "internal control" has been established: level one (no internal control); level two (internal control has been adopted in principle, and risks have been identified, an action plan prepared and tasks allocated, but the system has not been implemented); level three (such systems have been implemented); and level four (there is evidence that internal control is actually having a positive effect on all aspects of the working environment (physical and psychosocial), and the level of work-related injuries and illness has been reduced. The inspectors' role at levels one and two is principally to demand progress to a higher level, but their role changes at level three, when the inspection needs to verify whether the system functions or not (see also Frick 2002, 227–228). This is a significant shift in the direction in regulatory approaches.

In an investigation of serious incidents resulting in injury or death, the Swedish inspectorate adopts a "bottom-up" approach (Von Richthofen 2002, 207–208). In the first stage, the inspector examines the event itself, and then in the second stage investigates the causes of the incident through interviews and inspection of the workplace. In the third stage, the inspector examines underlying causes (including general working conditions, such as methods, substances and tools). The fourth stage considers deficiencies in management and in internal control at management level. This "bottom-up" approach can also be used for proactive inspection, and follow-up inspections (Johnstone 2004b).

The Risk of Regulatory Capture

In each of the three mining jurisdictions disquiet has been expressed by trade unions that the Mines Inspectorate has become too close to the industry it is responsible for regulating (Laing 2004, 75; ACiL 1997; ACiL 2005). The implication is that the inspectorate has been "captured" by the regulated industry and functions in a manner that is unduly sympathetic to their interests. For example, in the view of some trade unions: the inspectorate too frequently gives advance notice of proposed inspections; conducts too few "surprise" inspections; and fails to consult with site safety representatives and local check inspectors on a regular basis.

The CFMEU, in its submission to the 2005 NSW Mine Safety Review, expressed particular concern regarding "the unique position of the Department as both an advocate for economic development of the mining industry [and] occupational health and safety police" and asked: "how do the same senior management of the Department ensure that the objective of ensuring compliance with occupational health and safety law is not influenced by considerations relating to economic growth and development" (CFMEU 2005, 78). A common view encapsulated in one interview with a trade union source was that; "because the inspectors have mine managers' certificates... there is a very chummy blokey atmosphere between mine managers and inspectors". This "revolving door" (for inspectors also sometimes subsequently become mine managers) was alleged to result in an overly "laid back" view of breaches of mine safety regulations and a failure to shut down operations or prosecute even where serious hazards had been identified.

The fact that each mines inspector usually has sole responsibility for a small number of mines (some five to eight sizeable sites in New South Wales) increases the risks that they will develop an overly "cosy" relationship with mine managers. So too does the fact that both the managers and the inspectors may have previously undertaken the same university course, perhaps at the same time, that (because of the geographical isolation of the mining industry) they may live in the same area, frequent the same social venues and so on. Some measures are already taken to counter these risks. For example, in New South Wales inspectors are rotated between mine sites periodically and are required to apply an audit tool designed explicitly to ensure that their relationships at each mine are with a spread of personnel and not just the mine manager. The Department is also experimenting with recruiting people from different backgrounds and career experience.

Notwithstanding such initiatives, the structural conditions of the mining industry make the risk of capture a very real one. However, there is insufficient evidence available to reach a considered view at to what extent is occurs in practice. And of course many other stakeholders (not least many employers in New South Wales who believe the inspectorate is now *over*-prosecutorial) would strongly disagree the view expressed by the mining trade unions. Indeed, industry respondents would suggest that in New South Wales there has been a serious breakdown in relationships between the inspectorate and mine management, and that what they perceive is a draconian prosecutorial approach suggests that, far from being captured by the industry, the inspectorate is responding to political pressure generated by the trade unions.

At the very least, however, it can be said that there is a widespread *perception* of capture and that where the Mines Inspectorate is located within the department responsible for maintaining the productivity and economic success of the regulated industry, this provides fertile ground for such capture. Unsurprisingly, a Queensland report (ACiL 2005) suggested the desirability of relocating the inspectorate to the

Department of Industrial Relations (while maintaining it as a separate entity within that Department), and similar concerns have been expressed in New South Wales given the location of the inspectorate in a "resources" department rather than within NSW WorkCover.

Allegations of capture (and in some cases substantial supporting evidence) in such circumstances are common not just within Australia but internationally. Such a conflict of interest was the very reason that in the United Kingdom, responsibility for the regulation of North Sea Oil was removed from the Department of Energy to the Health and Safety Executive, following the Piper Alpha disaster (Cullen 1990). In a similar vein, the UK Mines Inspectorate also became part of the Health and Safety Executive following the enactment of the *Health and Safety at Work Act* 1974.

The risk of capture and heavy criticism of the West Australian mines inspectorate, led to its transfer, in 2005, from the Department of Industry and Resources to the Department of Consumer and Employment Protection. In 2006 it was announced that mine safety in Victoria would also be shifted from the Department of Primary Industries to WorkSafe Victoria, following the recommendations of the Pope Report (Pope 2006). It is arguable that similar action should be taken elsewhere to ensure the independence (and the perception of independence) of the inspectorates in the other mining states.

However, an alternative solution would be to provide for separate functions within the existing Mines Inspectorate.

Capture is most likely to take place at the level of interaction between individual mines inspectors and management, and the most challenging decision of all, and the one most at risk of compromising an inspector, is the decision to take enforcement action. In the context of a long-term relationship where rapport has been developed between the inspector and the mine manager, and where perhaps they both live in the same area and interact at social functions, the pressure not to impose some form of sanction even when it is clearly warranted, can be a strong one.

One means of avoiding this conflict would be to remove the decision to take enforcement action from the individual inspector and place this with a separate “arms length” unit within the Department. The most obvious unit to fulfill this role would be an expanded independent Investigations Unit which is currently charged with investigating fatalities.

There are a number of international precedents for such an approach and evidence that it can work successfully. For example, the following statement by a New York nursing homes inspector captures the essence of this approach:

> You can maintain the same demeanour when confronted with tension and stress, when the facility gets aggressive and unpleasant. You can be friendly if they don’t correct. You never have to be anything but assured and friendly. The enforcement system will take on the battle … the team leader just tells them what the repercussions are if they don’t correct. You just let the system take over. That’s all you have to do. A good team leader is confident, friendly, and explains consequences.

As Braithwaite, Makkai and Braithwaite (2007) point out: This assurance and composure of this New York inspector is underwritten by the capacity to “pass the case on” to [the legal unit] if formal action seems necessary, and enables accomplished New York inspectors to project a demeanour of inevitability about compliance, an inexorability about enforcement escalation when confronted with resistance, a capacity to communicate the (slightly misleading) implication that ‘if you want to go off and fight with the lawyers abut this, that’s fine and that’s your right. It won’t be my problem; it will be your problem and the lawyers problem’. When inspectors have productivity targets to meet and another inspection to start tomorrow, handing over a recalcitrant non-complier to the enforcement system can seem attractive so long as they will not also be later caught up in a hearing.”

An Australian model for such an approach is provided by the Victorian WorkCover Authority in its earlier incarnation. At one time a Central Investigations Unit had responsibility for co-ordinating investigation procedures, reviewing investigation reports and conducting prosecutions. During the seven years of its existence, as Johnstone’s research (2002, 73-74) reveals, “it was responsible for a change in the culture of the inspectorate and a dramatic improvement in investigation procedures. The most notable improvements were in the quality, thoroughness and comprehensiveness of investigation procedures and reports, greater attention to gathering evidence of systems of work … and greater use of [the general duties provision] of the OHSA”.

Interaction With the Workforce

It is widely recognised that competent, well trained and well-motivated safety and health representatives (or check inspectors or others with similar roles) will add value to the minerals industry by assisting in the industry's approach to reducing accident and injury rates and eliminating fatalities. However, they can only play this role if they are empowered to do so, and part of such empowerment comes (or should come) from their interactions with Departmental inspectors. Yet in the mining states, there is reason to believe that safety representatives and check inspectors have not to date been used to their full potential.

The problem seems to be most serious in Western Australia. For example, a safety behaviour study survey (MOSHAB 2004) identified a need to develop a strategy to promote the role of Safety and Health Representatives (SHR) across the industry, and programs for the implementation by the industry to improve the effectiveness of SHR in mines. Yet despite recognition of the value of SHR and of their importance in empowering workers and improving safety, the record of the Western Australian inspectorate in this regard is a generally poor one (Ritter 2004, Appendix 4). Certainly there is a trend towards greater consultation — more recent reports are much more likely to refer to consultation with a SHR than older ones, or to representatives being asked to assist in responding to a questionnaire in systems based audits — but, even at the time of writing, such consultation is not yet routine. Similar concerns have been expressed by union representatives and in official reports in New South Wales, where consultation remains "a difficult area" (Wran & McClelland 2005, 184; see also ACiL 1997). In Queensland a 2005 report noted that the Queensland Mines Inspectorate:

> has a clear obligation to engage site safety and health representatives (SSHRs) when on site, to examine the effectiveness of worker representations at the site they inspect and to advise mines and quarries on representative processes. We found little evidence that any of these obligations was fulfilled satisfactorily. Instead, most inspectors interact with management representatives and exclude worker representations from their deliberations" (ACiL 2005, 31).

Given these deficiencies in how inspectors engage in consultation, it might be argued that rather than merely encouraging inspectors to meet with SHRs whenever practicable, they should be directed to do so, a practice that is well accepted in many other jurisdictions. (Johnstone 2004a, 510–511). Formal provision might also be made to ensure that a SHR has an opportunity to raise safety concerns privately with an inspector and for ensuring that a complaints register is kept up to date and in a form that enables it to be used as an effective tool for alerting the inspectorate to particular safety concerns and patterns of safety problems. However, it should be acknowledged that there may be practical difficulties in meeting with representatives at fly-in/fly-out and shift work operations that even the best designed legislation cannot fully overcome.

In Queensland and New South Wales in particular, there are indications that consultation practices may be changing. Responding to concerns about inadequate consultation, the Queensland mines inspectorate stated in late 2005 that "interviews with key stakeholders on site, including SSHRs [site safety and health representatives] will be conducted during inspections" (NRM 2005b, 6). In New South Wales, much seemingly still depends on the individual inspector. Some local union officials interviewed for this study pointed out that some coal mine inspectors go out of their way now to talk directly to the "checkie" without management interference, but that this practice was not the case "across the board". However, the introduction of a new assessment program for OHS consultation practices at NSW mines, including the introduction of a new Audit Checklist for OHS Consultation between employers and employees, may well have spin off effects on consultation between inspectors and worker representatives.

Resources and Training

It is apparent from a variety of reports and inquiries that the current skills base of the mines inspectorates leaves much to be desired, and that this issue is tied intimately to the broader question of available resources and appropriate pay scales (Hopkins and Wilkinson 2005; Wran and McClelland 2005; ACiL 2005). Salaries have dropped substantially below those necessary to attract applicants with the desired OHS management and regulatory skills and, for the most part, mines inspectorates do not have the level of resources necessary to fulfill their role effectively. This resources and skills deficit is likely to have profound implications for OHS. Indeed Hopkins and Wilkinson point out that:

> research on US coal mines shows that the fatality rate is inversely related to the size of the federal budget allocation to the regulator — the larger the budget, the smaller the fatality rate. Moreover this is independent of the nature of the legislation being enforced. *In short, a well resourced regulator is the key to reducing fatalities* (Hopkins and Wilkinson 2005, 31, emphasis added).

This section will not repeat the sort of detailed suggestions that have been made elsewhere for improving the resources and skills base (Hopkins and Wilkinson 2005; ACiL 2005), but it will make a number of broader points.

First, notwithstanding serious resources deficits, some inspectorates have considerable skills in particular areas, such as in addressing physical hazards. Our own interview-based evidence, consistent with a number of independent reports, suggests that the dedication, skills and advice of individual inspectors is very highly regarded. As the 1997 Mine Safety Review pointed out "much seemingly depended upon which particular inspector(s) a stakeholder had had contact with" and some inspectors were described in very positive terms: "when we see Inspectors they are almost always helpful, open, genuinely interesting in improving safety, with a good willingness to assist with information based on their knowledge of other sites" (ACiL 1997, 43). More generally, it would be unfair to berate badly under-resourced inspectorates for failing to deliver on impractical objectives.

Nevertheless, a substantial number of serious and longstanding shortcomings in the training, qualifications and expertise have been identified. These include a lack of leadership and vision within the inspectorates, a lack of clear direction, confusion about inspectoral roles, poor conditions, low morale and variable inspectoral quality (AciL 1997, 50). As one review concluded, there is considerable difficulty in attracting motivated, competent individuals (Acil 1997, 42). More recent reports suggest that the position is little different today (ACiL 2005, Wran & McClelland 2005, Ritter 2004).

Indeed, the skills deficit has been exacerbated by the shift from prescriptive to performance based, risk based and systems based regulation described earlier. For example, the West Australian inspectorate, in its submission to the Laing Report (2004, 190), acknowledged that:

> the increasing focus on performance-based safety systems requires greater emphasis on auditing safety and health management systems. As well as technical skills, therefore, the Mines Inspectorate now needs skills in risk management systems, safe systems of work, safety promotion, behavioural safety, and effective communication. It also requires a capacity to understand the particular challenges in regulating such complex issues as fatigue, health hazards and shiftwork. This implies a broader mix of professional backgrounds than has traditionally been the case in mining.

The New South Wales inspectorate has also struggled with moving from prescription to process based standards. For example, the CFMEU, is its submission to the 2005 Mine Safety Review criticised the inspectorate because “They do not appear to understand, be positioned or prepared to properly regulate and enforce breaches in a company’s own safety management systems and are still focused mainly on narrow breaches of the regulations (CFMEU 2005, 52).

If a further shift takes place to a safety case regime with an emphasis on "goal setting" and meta-regulation, then the regulator's role will become even more demanding. Not only does the role of the inspectorate shift in emphasis from that of conventional inspection of the premises and plant to that of audit of the management system (a shift already under way within the inspectorate but with substantial limitations in its present form), but the inspectorate will have to rely on its judgment of the management system as well as validate that judgment by detailed examination of its implementation in specific contexts.

Experience with the Safety Case regime as it has applied to Australian off-shore oil confirms the need for highly skilled inspectors with risk analysis skills and a capacity to scrutinise the detailed requirements and operation of Safety Management Systems. As one highly experienced former Safety Case regulator points out:

> Safety Case is produced in the knowledge that it will be scrutinised by a competent and independent regulator … the operator will carry out the process of preparing the Safety Case in a rigorous manner, in the knowledge that if it is not done properly it will be challenged by the regulator. This competence is also essential if the installation operator and … those who may be affected by the installation are to have confidence in the judgements made by the regulator (Wilkinson 2002, 5).

Achieving such substantial changes will be challenging but not impossible. Here the Victorian experience is illuminating. In 1998, recognising that it had serious problems, the Victorian WorkCover authority "undertook a major upgrade of its field staff to optimise their role as agents of change in Victoria's workplaces" (Victorian WorkCover Authority 1999, 19). It upgraded the qualifications and salaries of field staff, declared all field staff positions vacant and sought to recruit "multi-skilled adaptable, health and safety professionals who can help workplaces create the solutions that will produce sustainable change" (Victorian WorkCover Authority 1999, 19).. It also sought actively to change the culture of the inspectorate, recognising that organisations frequently resist change and that an injection of resources alone might be insufficient. For example, the Victorian Central Investigation Unit's attempt to develop uniformly high quality investigations was initially hampered by antagonism from inspectors schooled in the traditional approach to investigation and enforcement. However, this difficulty was overcome when specialist investigators were brought together in the Investigations Unit and made responsible for all investigations (Johnstone 2002, 82). It should also be noted that a variety of other measures, including re-training and the use of a manual explaining how to approach the general duties and establishing procedures to demonstrate practicability under those duties, were implemented to achieve change.

Such a process of change appears to be going on within the mining inspectorates at the time of writing, although its outcomes remain uncertain. In Queensland, an internal report (ACiL 2005) identified a major skills and resources deficit. The inspectorate has responded by acknowledging the need for specific skills, training and access to expertise, and has identified a number of contemplated reforms. These include “effective competency-based education and training” and a broad team-based compliance approach (NRM 2005b). In New South Wales, responses to the 2005 Mine Safety Review are still being developed at the time of writing while in Western Australia further reorganisation likely awaits the final response to the MSIG report (2005).

Conclusion

This working paper has explored a number of essentially practical issues which it crucial to address if inspection and enforcement are to be engaged in effectively, and improved OHS outcomes achieved. Not all of these issues lend themselves to easy or immediate resolution in their entirety, but with each of them, there is, at the very least, room for considerable improvements on the regulatory status quo.

For example, effective targeting of inspections to achieve the "biggest bang for the regulatory buck" is difficult in the absence of credible lead and lag indicators of OHS performance. Progress in developing and implementing such indicators has been painfully slow and substantial improvement is unlikely to be achieved for some years ahead. In the meantime however, it is possible to identify a number of strategies that are not dependent on such indicators but which the evidence would suggest, are capable of achieving considerable improvements in targeting inspections and in OHS

outcomes. In particular, the UK Health and Safety Executive's techniques for weighing risk, the Danish approach to "adjusted inspection" and the Swedish approach to occupational health and safety management, have merit. All are based on risk rather than seeking to determine the motivation of the individual enterprise, which, prior to actual inspection, would be a wholly impracticable exercise.

The issue of regulatory capture is more straightforward. There is considerable evidence from a number of jurisdictions that agencies are particularly vulnerable to capture under particular institutional arrangements. Specifically, the location of an OHS inspectorate in a government agency whose primary responsibility is the economic success and productivity of the very industry it purports to regulate is a prescription for disaster. It gives rise to tensions that are not readily resolved and all too often results in OHS being sacrificed to considerations of short term profit and production (Gunningham 1987; Carson 1981). At the very least, mines inspectorates should be removed from this sort of pressure. The transfer in 2005 of the Western Australian inspectorate from the Department of Industry and Resources to the Department of Consumer and Employment Protection should accordingly be applauded.

The question of how to maximise the contribution of OHS representatives and check inspectors is more complex. The history of antagonism between employers and trade unions in the mining industry and the often-adversarial nature of worker-management relations militates against co-operation. The mines inspectorates do not have a capacity to overcome such historical antagonisms. They can however, ensure that the concerns of OHS representatives are taken seriously and that they are more effectively empowered to undertake their statutory responsibilities. In substantial part, this means ensuring that they are consulted, their views taken seriously, and their vulnerable position protected, when inspectors make mine site visits. Such has not necessarily been the case in the past, particularly in Queensland and Western Australia. In recent years, there is encouraging evidence of a shift towards greater consultation. This should be extended and "locked in" to inspectoral practice.

Finally there is the issue of resources. This is both the most mundane, and the most important issue of all. There is a long history of inspectorates which have been denied the necessary capacities to conduct their role effectively, but which serve as a convenient scapegoat when things go wrong. There are numerous ways in which inspectoral practices can and should be improved. In some respects, inspectorates, by engaging in "smarter" practices, could achieve considerable improvements in OHS outcomes even within existing resources. But in a number of others it will be difficult, if not impossible, for inspectorates to respond effectively in the absence of considerable additional funding. Should the mining states decide to follow the example of off-shore oil and Major Hazard Facilities and adopt a "safety case" approach, then the question of resources, and in particular the salary levels necessary to attract inspectors of the necessary caliber and with the necessary skills, will be of profound importance.

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