



Charles, Michael B., Furneaux, Craig., Pillay, Janet., Thorpe, David., Castillo, Cinthya Paredes and Brown, Kerry. *Uptake of an OHS code of practice by Australian construction firms*. In : CIB2007 World Building Congress, May 2007, Cape Town, South Africa. □□

The Participants of the CRC for Construction Innovation have delegated authority to the CEO of the CRC to give Participants permission to publish material created by the CRC for Construction Innovation. This delegation is contained in Clause 30 of the Agreement for the Establishment and Operation of the Cooperative Research Centre for Construction Innovation. The CEO of the CRC for Construction Innovation gives permission to the Queensland University of Technology to publish the papers/publications provided in the collection in QUT ePrints provided that the publications are published in full. Icon.Net Pty Ltd retains copyright to the publications. Any other usage is prohibited without the express permission of the CEO of the CRC. The CRC warrants that Icon.Net Pty Ltd holds copyright to all papers/reports/publications produced by the CRC for Construction Innovation.

CIB2007-093

Uptake of an OHS Code of Practice by Australian Construction Firms

Michael B. Charles, Craig Furneaux, Janet Pillay, David Thorpe, Cinthya Paredes Castillo, Kerry Brown

Acknowledgement: *This research has been conducted as part of a project funded by the CRC for Construction Innovation, Brisbane, Australia.*

ABSTRACT

The Australian construction industry is moving towards the implementation of a voluntary code of practice (VCP) for occupational health and safety (OHS). The evidence suggests that highly-visible clients and project management firms, in addition to their subcontractors, will embrace such a code, while smaller firms not operating in high-profile contracting regimes may prove reticent. This paper incorporates qualitative data from a research project commissioned by Engineers Australia and supported by the Australian Contractors' Association, Property Council of Australia, Royal Australian Institute of Architects, Association of Consulting Engineers Australia, Australian Procurement and Construction Council, Master Builders Australia and the Australian CRC for Construction Innovation. The paper aims to understand the factors that facilitate or prevent the uptake of the proposed VCP by smaller firms, together with pathways to adoption.

KEYWORDS:

Occupational Health and Safety, Codes of Practice, SMEs

1. INTRODUCTION

A VCP for OHS looms as a potential bridging mechanism between the currently inadequate OHS performance (Cole, 2003) and the mass of complex government legislation presently dominating the Australian building and construction sector (Lingard and Rowlinson, 2005). By enhancing levels of communication, collaboration and engagement in the construction supply chain with respect to project procurement, design,

construction and commissioning, a VCP has the potential to promote behavioural and cultural change. The safety management framework advocated in the proposed VCP provides a simple yet effective means of summarizing best practice in construction safety for clients, project managers, designers and constructors, that is, the entire construction process. Moreover, it promotes a level of regulatory consistency among the different states and territories that has not previously been possible and, in doing so, provides a foundation for future legislative reform.

This has international relevance since the high incidence rate for fatal accidents in the construction industry is globally consistent (Alvez Diaz, 1995; Suraji *et al.*, 2001). The development of a VCP also has significant implications for developing nations. Indeed, they stand to benefit from the painful lessons learned by the construction sectors of developed nations, especially with respect to avoiding the entrenched operational differences of those professions (such as project management, constructors and design) that have the potential to contribute to and bear responsibility for safety in an equitable fashion. Yet the readiness of construction firms to adopt and comply with the proposed VCP appears to be dependent on firm size and capacity. Whereas interview data indicates that larger firms will comply with a VCP, SMEs seem to be more circumspect, with the main motive for improving OHS being the fear that operations could be curtailed by regulators (Wright, 1998; Gunningham, 1999). With data collected from a CRC for Construction Innovation project on the promulgation of a VCP in the Australian industry, this paper outlines the barriers and enablers affecting adoption. The paper also employs the results of a survey of small builders and considers the strategies required to encourage the uptake of a VCP by smaller firms.

2. OHS IN THE AUSTRALIAN CONSTRUCTION INDUSTRY

OHS performance in the Australian building and construction industry is generally considered poor (Cole, 2003; Wild, 2005). Construction workers are susceptible to fatality rates three times the national workplace average and injury rates 50% higher than those experienced in other sectors; in fact, construction industry workers are 2.4 times more likely to be killed at work than those employed in any other industry (Cole, 2003). In 2002–2003, poor OHS accounted for 6.3% of Australian GDP (ABS, 2005a). In addition, the community benefits of prioritizing OHS will potentially amount to AUD2.3 billion annually (DEWR, 2005). The OHS performance of this sector is especially problematic given that the Australian commercial building and construction industry employs more than 775,000 people and accounts for approximately 6.8% of the nation's GDP (DEWR, 2005).

Legislation in this area is dispersed among the different states and territories. Although Australia is a signatory to the ILO OHS Standard (1992), individual States and Territories retain responsibility for developing

and enforcing OHS legislation. These regulatory authorities each adopt a three-tiered approach to OHS enforcement based on principles of broad overarching general duties, detailed provisions in regulations, and codes of practice (RAIA, 2004, p. 10). These existing codes, together with advisory standards, provide guidance on hazard identification and risk assessment processes. At a federal level, the National Occupational Health and Safety Commission (NOHSC) operates in an advisory role to Commonwealth, State and Territory governments, employer organizations and trade unions. NOHSC develops safety standards, codes of practice and guidance notes that, while not legally enforceable unless adopted as regulations by individual States and Territories, represent a significant attempt at a national approach to OHS. This is underpinned by the UK-based integrated approach to accident and illness prevention through regular enforcement, advisory provisions and teamwork, as espoused by Robens (1972), Latham (1994) and Egan (1998). More recently, changes to construction-related OHS legislation have been driven by the recommendations of the Royal Commission into the Building and Construction Industry, a federal inquiry into misconduct and malpractice in the sector.

The Commission found that the Australian building and construction industry is characterized by an entrenched culture of legislative disregard and that existing laws are ineffective (Cole, 2003). In particular, the literature indicates that construction SMEs are less compliant with existing OHS legislation than larger enterprises (Bickerdyke and Lattimore, 1997). Four hundred separate findings of unlawful conduct by individuals, unions and employers and potential breaches of 20 Federal and State Acts were specifically identified (Cole, 2003). It was concluded that behavioural and cultural change is fundamentally necessary and that the industry as a whole must work together in order to produce better safety outcomes (Cole, 2003). This would entail the prompt implementation of a national OHS system in which safety is regarded as equally important as time and budgetary considerations. Furthermore, OHS responsibility should be distributed equitably amongst all parties involved in a project, i.e., from initial design through to commissioning (Cole, 2001).

Under Australian law, employers have a duty of care to provide their workers with a safe workplace. The Supreme Court of Victoria (1992) has determined that "one of the chief responsibilities of all employers is the safety of those who work for them." Such a duty has been legally held to apply not only to direct employees of a firm, but also to a firm's subcontractors (Rozen, 2004). A common law approach, however, does little to inform employers of the specific ways in which they should go about ensuring worker safety. Thus many jurisdictions have implemented a number of standards that specify the methods of safeguarding safety in specific workplaces. Unfortunately, a specification approach results in a mass of detailed law that is difficult to comprehend or keep up to date (Gunningham, 1996). An alternative approach was the utilization of performance-based standards that focus on achieving outcomes, yet allow

individual firms to determine the best means to achieve such outcomes. A large number of performance based Australian and State-based codes of practice have been developed (see NOHSC, 2007).

The plethora of international, national and state standards, codes of practice and guidance notes, together with formal regulatory instruments, result in a bewildering array of regulatory instruments. Thus a VCP for construction OHS has been advanced as a way of ensuring that firms of all sizes are aware of their responsibilities under Australian law, together with practical guidance on how to implement such a safety system.

3. THE CODE AND GOVERNMENT'S ROLE

At an international level, both practitioners and scholars acknowledge that a VCP is central to safety reform (ILO, 1992; Durham *et al.*, 2002; Cole, 2003; Kelly, 2004). Through the principles of national uniformity embedded in the proposed VCP, such a code has the capacity to minimize confusion regarding the safety roles and responsibilities of construction parties. Durham *et al.* (2002) also argue that a homogenous, national OHS-focused VCP will yield economic elements, especially with respect to the time and resources expended in order to address different and often conflicting codes and regulations.

An OHS-focused VCP may also initiate greater levels of collaboration and engagement within the industry (Ryan *et al.*, 2006). Supply chain collaboration was traditionally regarded as a low priority, especially in an industry characterized by high levels of fragmentation and adversarial relationships (Dainty *et al.*, 2001). This is considered especially important since a) 80% of contract expenditure in OECD nations relates to subcontracting (Packham *et al.*, 2001), and b) the promotion of more rapid harmonization between project constituents will reduce time currently lost on adjusting to new work conditions and lead to projects being completed more satisfactorily (Stewart *et al.*, 2003).

Finally, an industry-developed VCP would help to define, in a court of law, what would be regarded as 'reasonably practical', i.e., the general standard required under duty of care (Gunningham, 1996). In other words, a VCP, developed by industry for industry, would *de facto* have the force of law since, "when the courts consider whether the duty of care has been met, they will turn to such codes as representing industry custom and practice" (Industry Commission, 1995, p. 50). Still, it is unclear whether such a code should be broad principles-based or prescription-based.¹

Government, especially at a federal level, has already signalled its intention to push construction OHS (Andrews, 2006), although the means

¹ Research on this topic is currently being undertaken by Australia's CRC for Construction Innovation.

to do so have not been finalized. Thus it is important to conceptualize the role of a VCP, and determine its long-term intention. This paper posits that a VCP could be an important driver of change regarding the way in which OHS is addressed and monitored by industry stakeholders, and government in particular. Indeed, a rigorous government enforcement of supply-chain-wide OHS principles by means of legislation and/or regulation would not be practicable at present, particularly when a) such a regime would result in significant drain on government resources with questionable results, and b) is likely to acquire *de facto* force of law on its own.

A sudden move towards a prescriptive supply-chain-wide OHS regulatory regime would have the potential to curtail the overall performance and growth of the industry. Moreover, failure to abide by these principles would conceivably lead to plethora of legal actions. Aside from this, an additional set of legislation cum regulation might also serve to stifle confidence and, without the normative accord of the industry, would probably prove ineffective (Gunningham and Kagan, 2005). Thus, if government-led reform of OHS is to ensue, there is a need to move towards greater industry led self-regulation, which would integrate OHS into global supply chains (Pearson and Seyfang, 2001). The VCP therefore needs to gain support throughout the *entire* industry, from major public or private sector clients down to small owner-operators.

4. A READY MARKET?: THE IMPORTANCE OF VISIBILITY

Interview data suggest that an OHS VCP for the Australian construction industry would find a ready 'market' within certain existing procurement regimes. For example, interview data gleaned from representatives of peak industry associations, government agencies and major constructors demonstrate that the main stakeholders are already aware of the importance of OHS and the benefits that a VCP could bring, e.g., "a national code will be one step towards having to stop saying the same thing in every state" (designer). In the interviews, it became clear that designers have become more aware that their role in OHS must go beyond what is currently regulated, e.g., "the code will be the first one overarching all the players and will include designers' responsibilities" (designer).

A VCP that leads to better client outcomes will obviously find support among those organizations procuring built infrastructure. A VCP could be used by constructors to demonstrate their compliance with best practice (Gunningham and Rees, 1997). More clients will presumably modify their selection criteria in order to include safety alongside more traditional criteria such as price and quality (Adetunji *et al.*, 2003). The landmark "Rethinking Construction" report also emphasized the requirement for the industry to help its clients to differentiate between best value and lowest price (Egan, 1998). Thus project management firms, it follows, will increasingly be selected according to their ability to mandate adherence to a VCP.

According to Wong *et al.* (1999), there is growing move from “lowest-price wins” to “multi-criteria selection,” which could include OHS performance. Sub-contractors working for the client’s principal agent will therefore need to demonstrate their commitment to an agreed-upon VCP in order to work on a project since contracted workers can legally be considered to be ‘employed’ by the lead agency (Johnson and Quinlan, 2006).

It seems reasonably clear that only a certain type of client will select project management firms according to their ability to mandate a VCP for project constituents. Public sector organizations will undoubtedly number among them. With the public increasingly interested in effective OHS, government looks set to embrace innovations that could lead to better health and safety outcomes. Indeed, safety in the workplace might be considered an increasingly salient public value (Wong *et al.*, 1999). Government will therefore expect that, if an industry-wide VCP is practicable and available, public sector organizations should modify their selection criteria accordingly (Gunningham, 1996).

Public sector organizations will understand the value of a VCP with regard to ensuring the provision of quality, on-time and on-budget constructed facilities. This is especially the case given the high visibility of public works (especially critical infrastructure such as roads, bridges and railways) and the very real possibility of intense media scrutiny should OHS performance standards go awry (Cole, 2003; 2004). Thus a VCP readily fits into the short-term mindset of incumbent governments.

Aside from public sector clients, adherence to a VCP for OHS would also conceivably be expected by leading private sector organizations. This would especially be the case in public-private partnerships (PPPs), whereby arrangements are made that serve the interests of both the private sector and government (Hodge and Greve, 2005). This is an especially important consideration since allied government organizations could potentially demand adherence to a VCP during the negotiation phases of a partnership concerning infrastructure provision. Aside from this, public sector clients may view a VCP as a mechanism to improve their public image. Adherence to a VCP might thus form part of an organizational corporate social responsibility (CSR) strategy. In particular, highly-visible clients procuring infrastructure may wish to avoid injury or death on their construction sites in order to avoid reputational crises, even if construction is far removed from their core business. This theme is closely tied to the concept of relational capital, which has the potential to lead to sustained competitive advantage and even differentiation (Petrick *et al.*, 1999).

Enhanced reputational capital could also prove attractive to larger project management firms operating in high-profile construction environments. Interview data suggest this: “OHS is a very important issue from a client’s perspective” (constructor); although one respondent stated that “[the] ... reality is that most clients don’t differentiate in competition between organisations that have a good approach to safety” (constructor). The interviews made it clear that the client’s perception relates directly to

reputation, e.g., “they are more focused on what the general public will think” (constructor); “global clients and regional clients increasingly recognize that whether you can deliver on the safety aspect is ... more important than the price and all the other aspects” (constructor). General contractors such as the John Holland Group (JHG) and Bovis Lend Lease have affirmed their commitment to OHS. For example, John Holland has adopted a vision of “no harm” (Stewart, 2006), while Bovis Lend Lease desires to operate “incident and injury free” (Bovis Lend Lease, 2006).

The sort of firm discussed above is likely to buy into a VCP. Furthermore, the expectation of improved project outcomes could also be a factor regarding the promotion of a VCP by private sector clients. Indeed, a VCP that facilitates the formation and maintenance of harmonized relationships among project constituents should earn private sector support. Finally, larger firms conducting business on an international scale are generally keen to comply with global standards in quality, environment and safety (Reed Business Information, 2006). Numerous high-profile clients from both the public and private sectors would conceivably be interested in a VCP. Moreover, private sector organizations accustomed to managing projects on behalf of these clients would also see potential. Project management firms would operate according to a VCP in order to win the favour of important clients, especially if adherence to a VCP were factored increasingly into contractor selection criteria.

5. SME UPTAKE OF A VOLUNTARY CODE

In the section above, it was emphasized that clients will largely drive the implementation of a VCP, and that the larger project management firms acting as agents for these clients will also express interest. Interview data shows strong support for a VCP for OHS among the larger project management firms: “I think for the larger more responsible client organizations ..., if you’re not doing this stuff [OHS] you’re not working for them” (designer). It is uncertain, however, whether clients operating outside the sorts of procurement regimes outlined previously would be interested in pursuing a VCP for OHS. These include SMEs.

It is necessary to provide a brief definition of what constitutes an SME. While the definition varies according to the context, one reasonable definition of an SME in the Australian context might be a firm with less than 100 employees, or with an income of less than AUD5. This definition broadly fits with the size groupings of firms used by the Australian Bureau of Statistics in its 2003 survey of innovation in Australian businesses (ABS, 2005b, p. 14).

As part of the process of obtaining an industry viewpoint on such issues, the authors undertook a survey (by interview) of innovative practices, including OHS, in 20 small building contractors in South East Queensland, Australia, in 2006. It emerged that the main factors that would

persuade such firms to follow a VCP for OHS would be government legislation, in addition to its endorsement by industry associations. It was also noted that the firms themselves desired to adopt good OHS practice, especially on account of its potential to reduce incidence of injuries and lost time. A number of the builders did express concerns that legislation should embrace good practice and not be onerous.

Whereas larger construction companies appear keen to embed safety as a priority, smaller firms have traditionally proved more reluctant to do so. Indeed, these firms are much less likely to comply with existing legislation (Westwick-Farrow, 2006). A number of factors appear to preclude the uptake of better OHS practices. Smaller contractors are reported to feel inhibited by small profit margins and a lack of financial reserves (Gillen *et al.*, 2004). Indeed, construction industry SMEs can generally be characterized as “price takers” (Miller *et al.*, 2001). In addition, they lack the human resources and management commitment necessary to improve OHS performance (Lin and Mills, 2001; Hasle and Limborg, 2006). Smaller contractors also generally have minimal onsite involvement on construction projects. They are thus generally less committed to safety (Holmes *et al.*, 1999). This is especially the case for self-employed persons, who are two times more likely to suffer from work-related deaths than others in the industry (Mayhew *et al.*, 1997). Furthermore, construction SMEs often do not focus on safety because they a) fail to recognize the economic returns of OHS, b) generally suffer from poor scheduling of work, and c) hold that workers are capable of protecting themselves (Mayhew and Quinlan, 1999). Smaller firms also adhere more to the widely reported “culture of cost cutting” (Ferguson, 2004, p. 3).

Not all clients procure high-cost and highly visible constructed facilities. Consider the hypothetical case of a master builder hired by a future homeowner to coordinate the construction of a suburban dwelling. Although a small project, it is a construction project nevertheless, with a designer, client’s agent (project management), the principal agent’s employees, and various subcontractors. The client presumably has little interest in mandating improved safety and may thus assume that OHS is up to the individual, or else the principal contractor. This sort of client may not know what CSR is, let alone have any active interest in pursuing it. What is more, the client would surely list cost, quality and completion time far ahead of safety.

The principal agent hired by the client may also feel that adherence to the sort of VCP espoused herein makes little business sense. The likelihood is that safety would not be one of the agent’s principle concerns. Practitioners and scholars generally agree that the operating context of smaller firms is such that limited economic and human resources are available with respect to implementing OHS management systems over and above what is currently required by law and regulation (Kim, 2004). Moreover, it is plausible that adherence to the principles of a VCP would be

viewed as an additional burden diverting the business from its core competencies.

This view is supported by the results of the survey of 20 small building firms previously mentioned, in which several referred to what they felt were quite onerous requirements imposed by legislation (as opposed to good practice). Examples quoted by the builders included perceived over-emphasis on scaffolding (one firm claimed that the cost of scaffolding can be as much as AUD30,000, or more, for certain residential houses) and the need to re-examine electrical leads every three months.

While there is some debate regarding the degree to which low margins prevent SMEs from innovating, what does seem relatively clear is that SMEs, even though they might desire to innovate (O'Farrell and Hitchens, 1988; Lefebvre *et al.*, 1997), do not always have the financial or human resources capacity to do so (Industry Commission 1995; O'Farrell and Miller, 2002). This could also be perceived as a barrier to introducing a VCP for OHS, especially if compliance to the constituent principles results in added cost, an increased time expenditure, and unwanted complexity, all of which concerns were voiced by the smaller constructors interviewed. According to Gunningham (1999, p. 27), SMEs fail to view health and safety as an investment; rather, they view health and safety as a cost.

Now, if SMEs do not generally (if at all) work with the larger project management firms dealt with previously, or else work for public sector clients keen to mandate leading practice, it will be difficult to 'sell' the VCP to this sector. Yet, without that sector effectively engaged, there is a good chance that, if the principles of the code do eventually become mandated, problems that may have a detrimental effect on the entire industry could ensue. This is especially the case since, according to figures provided by the Australian Bureau of Statistics, 90% of Australian construction firms have an annual turnover of less than AUD1M (ABS, 2003; 2005a).

Larger project management firms would obviously prefer as many SMEs as possible to embrace the VCP. This is because, if public and private sector clients begin to give equal weighting to safety as to price, quality, prestige, etc., project management firms acting as agents for their clients will desire a large pool of potential sub-contractors that have demonstrably adhered to the kinds of best-practice encapsulated in the code. This is important with respect to competition. Thus the means to demonstrate that adherence to a VCP would bring about considerable benefits need to be established. It will be difficult to argue for short-term benefits, especially if the SME operates outside high-profile contracting regimes. Yet it seems clear that the essential principles of a supply-chain-wide VCP would prove valuable to this sector. For instance, less compensation claims and legal actions may provide benefits over time.

6. CONCLUSION

It is likely that, when clients mandate adherence to a VCP for OHS, it will be necessary for potential subcontractors to demonstrate their adherence to the code to project management firms. This would thus constitute a kind of pre-qualified arrangement and would need to be carried out via formalized arrangements rather than word of mouth. The means to achieve this in a highly visible fashion need to be developed. To do otherwise would merely negate the benefits that a VCP could provide with respect to rapid harmonization of project constituents onsite. From a long-term viewpoint, even though the SME does not presently deal with project management firms that acting on behalf of high-profile clients, the firm should leave itself open to the possibility of entering these regimes if deemed appropriate. Moreover, at another level, the smaller firm may desire to coordinate a project for local government units, which, for public accountability reasons, promote the VCP for OHS. In view of this, it would make sense for the SME, and indeed the owner-operator, to abide by the code, if only for strategic rather than day-to-day business reasons.

7. REFERENCES

- Adetunji, I., Price, A., Fleming, P. and Kemp, P., 2003, Trends in the conceptualisation of corporate Sustainability. In *Proceedings of the Joint International Symposium of CIB Working Commissions*, Singapore, 22–24 October, Vol.2, 187–199.
- Alves Diaz, L.M. ,1999, Construction safety coordination in Portugal. In *Proceedings of the Conference on Construction Safety Coordination in the European Union*, CIB Publication 238, CIB Working Commission W99, Lisbon, Portugal, edited by Alves Dias, L.M. and Coble, R.J. 153–163.
- Andrews, H.K., 2006, A construction safety competency framework: improving OH&S performance by creating and maintaining a safety culture project. Department of Employment and Workplace Relations, available at:
<<http://mediacentre.dewr.gov.au/mediacentre/AllReleases/2006/September/AConstructionSafetyCompetencyFrameworkImprovingOHSpereformancebycreatingandmaintainingasafetyculturep.htm>> (accessed January, 2007).
- ABS, 2003 = Australian Bureau of Statistics, 8777.0 (Canberra: Australian Government).
- ABS, 2005a = Australian Bureau of Statistics, 5206.0 (Canberra: Australian Government).
- ABS, 2005b = Australian Bureau of Statistics, 8158.0 (Canberra: Australian Government).
- Bickerdyke, I. and Lattimore, R., 1997, Reducing the regulatory burden:

does firm size matter?

Staff Research Paper, Industry Commission, December.

Bovis Lend Lease, 2006, Health and Safety: Incident & Injury Free. Bovis Lend Lease, available at:

<http://www.bovislendlease.com/iiweb/bll/main.nsf/toprint/au_healthcommitment>

(accessed December, 2006).

Cole, T., 2001, *Overview of Private Meetings Held between the Honourable TRH Cole QC and Participants in the Building and Construction Industry* (Canberra: AGPS).

Cole, T., 2003, *Final Report of the Royal Commission into the Building and Construction Industry: Summary of Findings and Recommendations Volume 1* (Canberra: AGPS).

Dainty, A., Briscoe, G. and Millett, S., 2001, Subcontractor perspectives on supply chain alliances. *Construction Management and Economics*, **19**, 841–848.

DEWR = Department of Employment and Workplace Relations, 2005, *Reforming the Building and the Construction Industry*. Australian Government, Department of Employment and Workplace Relations, available at: <<http://www.workplace.gov.au/building>> (accessed February, 2006).

Durham, B., Culvenor, J. and Rozen, P., 2002, *Workplace Health and Safety in the Building and Construction Industry: Discussion Paper 6* (Canberra: AGPS).

Egan, J., 1998, *Rethinking Construction: The Report of the Construction Taskforce* (UK: HMSO).

Ferguson, A., 2004, Improving occupational health and safety in the building and construction industry: trade unions and safety. *National Occupational Health and Safety Commission National Conference Address*, available at:

<<http://www.cfmeu-construction-nsw.com.au/pdf/OHSNationalConferenceSpeech.pdf>>

(accessed February, 2007).

Gerking, S., De Haan, M. and Schulze, W., 2004, The marginal value of job safety: a contingent valuation study. *Journal of Risk and Uncertainty*, **1**(2), 185-199.

Gillen, M., Kools, S., Sum, J., McCall, C. and Moulden, K., 2004, Construction workers' perceptions of management safety practices: a qualitative investigation. *Work*, **23**, 245–256.

Gunningham, N., 1996, From compliance to best practice in OHS: the roles of specification, performance and systems-based standards. *Australian Journal of Labour Law*, **9**(3), 221–243.

Gunningham, N., 1999, CEO and supervisor drivers: review of literature and current practice. National Occupational Health and Safety Commission, Australia, available at:

<<http://www.nohsc.gov.au/Pdf/OHSSolutions/CEOSupervisorDrivers.pdf>>

- (accessed January 2007).
- Gunningham, N. and Kagan, R.A., 2005, Regulation and business behavior. *Law and Policy*, **27**(2), 213–218.
- Gunningham, N. and Rees, J., 1997, Industry self-regulation: an institutional perspective. *Law and Policy*, **19**(4), 363–414.
- Hasle, P. and Limborg, H.J., 2006, A review of the literature on preventative occupational health and safety activities in small enterprises. *Industrial Health*, **44**, 6–12.
- Hodge, G and Greve, C., 2005, *The Challenge of Public Private Partnerships. Learning from International Experience* (Cheltenham: Edward Elgar).
- Holmes, N., 1995, *Workplace Understandings and Perceptions of Risk in OHS* (Melbourne: Monash University).
- Hood, C.C., 1983, *The Tools of Government* (London: Macmillan).
- Industry Commission, 1995, *Work, Health and Safety: Inquiry into Occupational Health and Safety*. Vol.1 – Report. V.2. Appendices. Report No. 47 (Canberra: AGPS).
- ILO = International Labour Office, 1992, *Safety and Health in Construction Code of Practice* (Geneva: International Labour Office).
- Johnstone, R. and Quinlan, R., 2006, The OHS regulatory challenges posed by agency workers: evidence from Australia, *Employee Relations*, **28**(3), 273–289.
- Kelly, M., 2004, National safety codes set to move few steps closer, *The Australian*, September 8, 2004.
- Kim, J.-A., 2004, *The Role of Legislation in Driving Food Occupational Health and Safety Management Systems: A Comparison of Prescriptive-based Legislation*, unpublished PhD Thesis.
- Latham, M., 1994, *Constructing the Team – Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry. Final Report* (London: HMSO).
- Lefebvre, L., Mason, R. and Lefebvre, E., 1997, The influence prism in SMEs: the power of CEOs' perception on technology policy and its organisational impacts. *Management Science*, **43**(6), 856–878.
- Lin, J. and Mills, A., 2001, Measuring the occupational health and safety performance of construction companies in Australia, *Facilities*, **19**(3–4), 131–138.
- Lingard, H. and Rowlinson, S., 2005, *Occupational Health and Safety in Construction Project Management* (New York: Spon Press).
- Mayhew, C., Quinlan, M. and Ferris, R., 1997, The effects of subcontracting/outsourcing on Occupational health and safety: survey evidence from four Australian industries. *Safety Science*, **25** (1–3), 163–178.
- Mayhew, C. and Quinlan, M., 1999, The effects of outsourcing on occupational health and safety: a comparative study of factory-based workers and outworkers in the Australian clothing industry, *International*

- Journal of Health Services*, **29**(1), 83–107.
- Miller, C.J.M., Packham, G.A. and Thomas, B.C., 2001, Harmonisation and lean construction: acknowledging the role of the small subcontracting firm – WEI Working Paper 15. Pontypridd: Welsh Enterprise Institute/University of Glamorgan Business School.
- NOHSC = National Occupational Health and Safety Council, 2005, Index of National Standards Codes of Practice and Related Guidance Notes, available at:
<<http://www.ascc.gov.au/ascc/AboutUs/Publications/NationalStandards/IndexofNationalStandardsCodesofPracticeandrelatedGuidanceNotes.htm>> (accessed February, 2007).
- O'Farrell, P.N. and Hitchens, D.M.W.N., 1988, Alternative theories of small firm growth: a critical review. *Environment and Planning*, **20**, 1365–1383.
- O'Farrell, M. and Miller, C.J.M., 2002, The barriers to new technology diffusion in the construction industry of South Wales. In *Current Issues in Small Construction Enterprise Development*, Welsh Enterprise Institute Monograph No. 4, edited by Miller, C.J.M. and Packham, G.A., Thomas, B. (Pontypridd: University of Glamorgan Business School), 123–137.
- Packham, G.A., Thomas, B. and Miller, C.J.M., 2001, Partnering in the Welsh construction industry: a subcontracting perspective – WEI Working Paper 19 (Pontypridd: Welsh Enterprise Institute/University of Glamorgan Business School).
- Pearson, R. and Seyfang, G., 2001, New hope or false dawn?: voluntary codes of conduct, labour regulation and social policy in a globalizing world. *Global Social Policy*, **1**(49), 49–78.
- Petrick, J.A., Scherer, R.F., Brodzinski, J.D., Quinn, J.F. and Fall Ainina, M., 1999, Global leadership skills and reputational capital: intangible resources for sustainable competitive advantage. *Academy of Management Executive*, **13**(1): 58–69.
- Reed Business Information, 2006, How to Make a Profit with OHS, available at:
<<http://www.ferret.com.au/articles/16/0c041516.asp>> (accessed July, 2006).
- Robens, A., 1972, *Report of the Committee on Safety and Health at Work 1970–1972* (London: HMSO).
- RAIA = Royal Australian Institute of Architects, 2004, Options to Improve OHS Outcomes in Australia.
Submission to the Office of the National Occupational Health and Safety Commission, available at:< http://dev.architecture.com.au/i-cms_file?page=4104/RAIASubmission_NOHS_Feb2004.pdf> (accessed February 2007).
- Rozen, P., 2004, Of window sills and board rooms: an employer's responsibility to ensure the safety of its workplace. *Employment Law and Industrial Relations 2004: Session 9: Occupational Health and Safety* (Melbourne: Leo Cussen Institute).
- Ryan, N., Charles, M. and Hampson, K., 2006, Government policy and

- promoting collaboration in the Australian construction industry. In *Clients Driving Innovation: Moving Ideas into Practice*, edited by Brown, K., Hampson, K. and Brandon, P. (Brisbane: IconNet), 267–274.
- Stewart, R.A., Miller, C.J.M., Mohamed, S. and Packham, G.A., 2003, Sustainable development of Small construction enterprises: IT impediments focus – WEI Working Paper 32 (Pontypridd: Welsh Enterprise Institute/University of Glamorgan Business School).
- Stewart, D. 2006. *Health and Safety Policy*. John Holland web site, available at:
<<http://www.johnholland.com.au/SiteDocuments/doc73029.pfd>> (accessed July, 2006).
- Supreme Court of Victoria, 1992, in *Holmes v R.E. Spence and Co Pty Ltd* 5 VIR 119 at 123.
- Suraji, A., Duff, R. and Peckitt S.J., 2001, Development of the causal model of construction accident Causation. *Journal of Construction Engineering and Management*, **127**(4), 337–344.
- Westwick-Farrow Pty Ltd, 2006, *OH&S Compliance: No Longer an Option*. Safety Solutions, available at:
<http://www.safetysolutions.net.au/safety/feature_article/item_032006a.asp> (accessed July, 2006).
- Wild, B., 2005, Occupational health and safety – the caring client. In *Clients Driving Construction Innovation: Mapping the Terrain*, edited by Brown, K., Hampson, K. and Brandon, P. (Brisbane: Icon.Net), 22–39.
- Wright, M., 1998, *Factors Motivating Proactive Health and Safety Management: Contract Research Report for the Health and Safety Executive* (London: HMSO).
- Wong, C.H., Holt, G.D. and Cooper, P.A., 1999, *Lowest Price or Value? Investigation of UK Construction Clients, Tender Selection Process*, Built Environment Research Unit, School of Engineering and the Built Environment, University of Wolverhampton.