

Rules and Procedures

Core Body of Knowledge for the Generalist OHS Professional

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The Manager, OHS Body of Knowledge

Australian Institute of Health & Safety, PO Box 2078, Gladstone Park, Victoria, Australia, 3043

Email: manager@ohsbok.org.au

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Bibliography

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Authors

Dr David Provan, Managing Director, Forge Works; Researcher, Griffith University.

Dr Andrew Rae, Senior Lecturer, Griffith University.

Peer reviewers

Dr David Borys, independent OHS educator and researcher based in the USA.

Kevin Figueiredo, Group General Manager – Safety, Health and Wellbeing,
Woolworths Group

Tim Fleming, Safety Director, Macquarie Group

Leanne Treadwell, Lecturer, University of Wollongong

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Rules and Procedures

David Provan BBehSci, MHLthSci, MBA, PhD, ChOHSP

Managing Director, Forge Works

Researcher, Griffith University

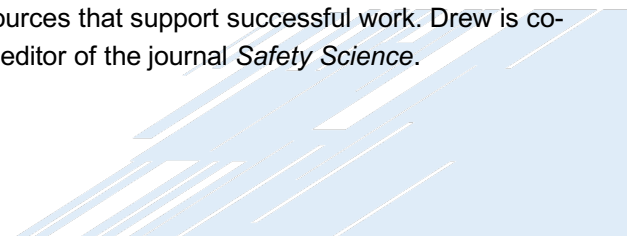
Email: david.provan@forgeworks.com

David is a safety professional with more than 20 years of experience as a director of health and safety within high-hazard industries, including oil and gas, construction and rail. He is the founder and managing director of Forge Works safety consultancy and a part-time research fellow at the Safety Science Innovation Lab at Griffith University. David completed his doctorate on the identity, practice and future of the OHS profession.

Andrew Rae BE(CompSys), PhD, PGCAP, FHEA

Senior Lecturer, Griffith University

Drew is a senior lecturer in the Safety Science Innovation Lab at Griffith University, where he teaches courses on safety engineering and supervises early-career researchers. Drew's own research brings a critical cross-disciplinary approach to the examination of myths, rituals and bad habits that surround safety practice. His recent publications challenge the common assumption that risk assessments and incident investigations lead to safer work. He suggests alternatives based on a better understanding of constraints that prevent safe innovation and resources that support successful work. Drew is co-host of the 'Safety of Work' podcast and associate editor of the journal *Safety Science*.



Consultation

The following people provided input to the chapter via consultative forums. The Australian Institute of Safety & Health is appreciative of their time and interest.

Adam Bernhardt	Senior Manager, Safety and Systems	Airbus Australia Pacific
Martyn Campbell	Executive Director	SafeWork SA
Kersty Christensen	Head of WHS, Governance and Sustainability	Brisbane Airport Corporation Pty Ltd
Robert Dival	Senior Safety and Health Advisor	West Gate Tunnel Project
Bill Fitzgerald	Principal	Bill Fitzgerald and Associates Pty Ltd
Julie Gratton	Health and Safety Manager, Australia and New Zealand	Aurecon
Geoff Hurst	Principal	ENGINEOHS Pty Ltd
Keith Hoskins	Head of Health, Safety and Environment	APA Group
Kevin Jones	Editor	SafetyAtWorkBlog
Phillip Kayler-Thomson	QHSE Manager – APAC	Senvion Australia Pty Ltd
Trevor Love	Principal	Aussafe Consulting Pty Ltd
Caitlin Purcell	Health, Safety and Environment Manager	Aroona Alliance
Simon Roberts	Operations HSE Manager	ConocoPhillips
Greg Stagbouer	Managing Director	Meridio Solutions Pty Ltd
Leanne Treadwell	Lecturer	University of Wollongong
Jenni Vaughan-Floyd	National Safety and Wellness Manager	Cochlear Ltd
Campbell Warren	General Manager, Zero Harm Transport and Infrastructure	Downer Group
Stephen Weber	Senior Safety Consultant	Safety Action Pty Ltd
Grace Westdorp	General Manager, Health, Safety and Wellbeing	Wesfarmers Industrial and Safety
John Whale	Systems and Compliance Lead	WorkSafe Victoria

Rules and Procedures

Abstract

Rules and procedures to control work have long been central instruments of occupational health and safety (OHS) management. Applying rules and procedures is consistent with top-down organisational strategies for managing OHS such as OHS management systems, behavioural safety and safety culture. Recent safety, social and organisational theories support a more nuanced understanding of the role of people within organisations and the uses and limitations of rules and procedures for supporting work. This chapter elucidates challenges associated with the use of rules and procedures in managing OHS and is a resource for OHS professionals as they seek to influence the management of OHS in their organisations. OHS professionals and senior leadership of organisations and industries may need to critically review their beliefs about, and approaches to, rules and procedures to ensure that they are useful in supporting the performance of frontline work.

Keywords

safety, OHS, rule, procedure, compliance

Contextual reading

Readers should refer to *OHS Body of Knowledge* 1.2 Contents for a full list of chapters and authors and 1.3 Synopsis of the OHS Body of Knowledge. Chapter 2, Introduction, describes the background and development process while Chapter 3, The OHS Professional, provides context by describing the role and professional environment.

Terminology

Depending on the jurisdiction and the organisation, Australian terminology refers to 'Occupational Health and Safety' (OHS), 'Occupational Safety and Health' (OSH) or 'Work Health and Safety' (WHS). In line with international practice, this publication uses OHS with the exception of specific reference to the Work Health and Safety (WHS) Act and related legislation.

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1 Introduction

Rules and procedures – both formal and informal – are all around us in everyday life and especially within the workplace. Formal rules and procedures are likely to be documented and sanctioned by an appropriate level of management, while informal rules and procedures are reflected in social norms and work routines. As central instruments in the management of occupational health and safety (OHS) risk, rules and procedures are used within organisations, and form much of the interface between organisations and stakeholders such as customers and regulators. Workplace rules and procedures related to safety can be specified within frameworks, programs and artefacts such as OHS management systems, policy, work permits, checklists, risk assessments, standards, high-risk protocols, golden/cardinal/lifesaving rules, etc.

This chapter focuses on the use of formal and informal rules and procedures in the management of OHS and the associated role of the generalist OHS professional. It considers rules and procedures to be *requirements and processes that operatives must comply with in the performance of their work tasks* and applies the following British Standards Institution (BSI) definitions:

Rule – a statement about what to do or not to do in a specific situation or location

Procedure – a specified way to carry out an activity or process (BSI, 2008).

Some industries such as aviation and rail transportation have adopted industry-wide approaches to standardised rules and procedures for safety. Other industries have rule and procedure frameworks that are adopted internationally; for example, Critical Control Management (CCM) in the mining industry (ICMM, 2015) and Life-Saving Rules (IOGP, 2018) in the oil and gas industry.

Within OHS professional and academic communities, rules and procedures are the focus of debate. There is wide disagreement on when, how, and sometimes even whether, rules and procedures are effective in the management of OHS. In an article with the provocative title “Follow the procedure or survive,” Dekker (2001) used examples from aviation to demonstrate that compliance with rules and procedures can have a negative impact on safety. McGinty’s (2008) description of the circumstances on board the Piper Alpha oil platform that resulted in 167 fatalities in 1988 provides another example of procedure following being “antithetical to safety” (Dekker, 2019, p. 43). Piper Alpha workers who followed the emergency procedures and moved to the accommodation module to await evacuation by helicopter died, while many workers who disregarded the procedures and jumped into the sea survived (McGinty as cited in Dekker, 2019). This example and others across all safety-critical industries raise vexing questions about when rules should be followed and when they should be ignored. Since these questions cannot be answered ahead of time, the issue really becomes a question of how people can use the procedures along with their experience and judgement to adapt to a particular situation.

This chapter draws on the body of research that is enhancing our understanding of work environments and how rules and procedures can be developed and adapted for compliance and safety. After brief acknowledgement of the historical perspective, sections 3 and 4 address the purpose of rules and procedures and their implementation within organisations. Section 5 proposes the object of OHS management as being either rule/procedure compliance or the work performed, and section 6 contrasts two models of organisational approach to rules and procedures in OHS management. Section 7 focuses on the role of the OHS professional, and the chapter concludes with a short summary.

2 Historical perspective

Examples of formal rules and procedures for religious, military and political work can be found throughout written history. During the industrial revolution, the extent and scope of rules began to increase as a way to standardise human behaviour for efficient production of goods and services. In the 19th and early-20th centuries, there was a trend towards standardisation of products and the machines and work processes that created those products (e.g. Russell, 2005). This reached its apex with Fredrich W. Taylor's efficiency techniques outlined in *Principles of Scientific Management* (Taylor, 1911) and Frank and Lilian Gilbreth's motion studies (e.g. Gilbreth & Gilbreth, 1916). Scientific management required managers to determine and enforce the best way of performing any given task to maximise efficient (and safe) use of human labour. As scientific management gave way to Total Quality Management (TQM), the idea of 'one best way' to perform work was replaced with the idea of continuous improvement. TQM retained an emphasis on documenting rules and procedures as a foundation for improvement (Black & Porter, 1996).¹

Throughout the 20th century, standardised safety rules and procedures (both formal and informal) were central to the management of safety. The emergence and growth of safety-related legislation in the developed world in the 1980s and 1990s spurred the proliferation of safety rules and procedures, particularly within high-hazard industries. Increasingly, organisations had to meet external requirements and rules and procedures, safety management systems and safety cases became the instruments for demonstrating compliance. Having neatly defined safety rules and procedures, organisations could focus directly on safety efforts internally and demonstrate their safety commitment and compliance externally. Also, organisational leadership and OHS professionals realised that rules and procedures (administrative controls) are less expensive and often operationally more efficient than modifications to plant or the organisation (Swuste, van Gulijk, Zwaard & Oostendorp, 2014).

¹ See also *OHS BOK* 12.1 The Organisation for a more indepth review of the development of management theory.

The last 20 years have seen the growth of a substantial body of academic research concerning rules and procedures in OHS; contributing factors include the complexity of work in modern organisations and recognition of a need for broader approaches to OHS management than traditional compliance. Increasingly, research findings and OHS theories (e.g. high-reliability organisations and resilience engineering) have questioned the usefulness of standardised rules and procedures in the management of OHS. Following significant advances in human factors and cognitive systems engineering in the 1990s, Dekker (2003) explored the unreconcilable paradox between procedural application as simple *if-then* following of rules and the need for context-dependent interpretations by people at work:

- If rote rule following persists in the face of cues that suggest procedures should be adapted, this may lead to unsafe outcomes. People can get blamed for their inflexibility; their application of rules without sensitivity to context.
- If adaptations to unanticipated conditions are attempted without complete knowledge of circumstance or certainty of outcome, unsafe results may occur too. In this case, people get blamed for their deviations; their non-adherence. (p. 235)

This observance that “people can fail to adapt, or attempt adaptations that may fail” (Dekker, 2003, p. 235) highlighted a complex truth about rules, procedures, work and health and safety in organisations.

In 2008, Reason’s *The Human Contribution: Unsafe Acts, Accidents and Heroic Recoveries* (Reason, 2008) provided a foundation for understanding rules in the context of work and worker. In 2013, Hale and Borys’s review (Hale & Borys, 2013) of the types and applications of safety rules and procedures created a framework for understanding the complexity of OHS rules and procedures and their relationship with OHS and work (see section 6). Bieder and Bourrier (2013, p. 4) described proceduralisation as the default or “reflex action” that organisations adopt for addressing safety issues. Lacking a deeper understanding of what creates safety in a given situation – or perhaps lacking the resources for any other intervention – the introduction of rules is viewed as a socially and legally defensible response to OHS issues. Bieder and Bourrier (2013) acknowledged the safety progress made possible via proceduralisation, but maintained that procedures had become a proxy for addressing safety issues and as such threatened safety progress.

Today many organisations have an extensive collection of rules and procedures that they administer in the pursuit of task conformity and in the belief that it will create safety for their workers. However, the increased complexity of work – due to, for example, technology, business models, supply chains and globalisation – challenges this approach, and safety science research (e.g. Hollnagel, 2008a,b; Amalberti, 2013; Hale & Borys, 2013; Dekker, 2014a) suggests broader ways of thinking about the role of rules and procedures in managing OHS.

3 Purpose of rules and procedures

The contradiction between the simplicity and standardisation of prescriptive work procedures and the complexity and infinite variability of work performed within organisations fuels current debate about the purpose of rules and procedures in managing OHS. The opposing ends of this debate are commonly labelled Safety-I (“avoiding that something goes wrong”) and Safety-II (“ensuring that everything goes right”) (Hollnagel, 2014; Hollnagel, Wears & Braithwaite, 2015). However, all OHS management theories accommodate rules and procedures, albeit with varying emphasis and organisational positioning.

Standardised, normative organisational approaches to OHS management – including OHS management systems (e.g. Amalberti, 2001), behavioural safety (e.g. Geller, 2005) and safety culture (e.g. Hudson, 2007) – fall with the realm of Safety-I. Such strategies defer to standardised rules and procedures, behaviour descriptions and/or individual responsibilities as the overriding methods of improving OHS. Although the emphasis of these approaches is subtly different, they all posit that accidents and near misses occur as the result of either deviations from prescribed rules and procedures or errors within the rules and procedures (Provan, Woods, Dekker & Rae, 2020). Therefore, the assumption is that improvement efforts should focus on getting the rules right, with increasing pressure for compliance. There is no accommodation of ‘positive non-compliance’ or variable performance of roles and tasks.

Some authors have suggested that improving OHS in modern organisations requires strategies that are significantly different to standardised ‘Safety-I’ OHS and organisational practices (e.g. Borys, Else & Leggett, 2009; Dekker, 2014b; Hollnagel, 2014). These alternative ‘Safety-II’ approaches – also referred to as ‘resilience engineering’ and ‘safety differently’ – stress the need to understand the complex functioning of organisations and to rely on people's expertise and insight to support normal work as done² (Provan et al., 2020). Rather than prescribing OHS requirements through rules and procedures and then managing conformance to eliminate OHS problems, Safety II argues the need to study how success is created every day and the local adaptations of rules and procedures that are necessary for this success (Hollnagel, 2014; Hollnagel et al., 2015). Generally, prescriptive rules and procedures are not conducive to the empowerment, opportunity, diversity and creativity required to manage emergence and dynamic processes. Deference to protocol should be balanced with deference to expertise in complex systems (e.g. Amalberti, 2013).

Another common purpose for safety rules and procedures is to demonstrate legal compliance to manage organisational and individual liability in the event of a workplace

² See section 5.

accident. This is despite some of Australia's most prominent OHS lawyers stating that written rules and procedures matter little in the preparation of a legal defence and demonstrations of due diligence (e.g. Tooma, 2013; Smith, 2018).

According to Rae and Provan (2019):

The administrative construction of rules and responsibilities provides a way [for organisations] to be doing 'the safe thing' even if those actions did not prevent an accident. Wastell (1996) suggests that in complex organisational environments, methodology acts as a "social defense" (p. 124).

Organisations that have regulatory compliance as their OHS management objective are likely to invest the majority of their OHS management effort into the development of rules and procedures and to use this as their legal defence in the event of an accident. Regulators often look for the presence of documented rules and procedures, and modern OHS legislation includes several practical references to types of required safety rules and procedures (e.g. Safe Work Method Statements, risk assessments, signage and safety data sheets). Consequently, OHS professionals spend a considerable portion of their time involved in the development and monitoring of rules and procedures for legal compliance (Provan, Rae & Dekker, 2019).

It is critical for OHS professionals to have a clear purpose for the development and implementation of OHS rules and procedures. The answer 'to keep people safe' is manifestly inadequate (Rae & Provan, 2019). The following sections describe six clear purposes for OHS rules and procedures:

1. To set hard boundaries and safety margins
2. To inform high-risk work
3. To provide a resource for action
4. To provide a repository of organisational learning
5. To provide coordination mechanisms
6. To institutionalise OHS practices.

3.1 Setting hard boundaries and safety margins

Rules and procedures provide a clear distance between the everyday performance of work and the maximum limits of safe work. These limits can be considered either hard boundaries or safety margins (e.g. Dekker, 2006):

Hard boundaries are absolute limits set on a task or situation so that workers do not cross safety boundaries.

Safety margins create operational buffers against productivity/cost pressure and dynamic operational situations that might otherwise increase the risk of an incident; they allow scope for workers to manage unexpected events and difficult situations.

Hard boundaries separate people from hazardous energy (e.g. hard limits for work at heights and the rule to never be positioned underneath a suspended load) or provide strict containment controls for that energy (e.g. locking out and isolating machinery prior to maintenance and the rule to always use a lanyard to secure tools while working at height that aims to contain the kinetic energy associated with a falling tool). Rules that directly target hazardous energy are useful for maintaining safety as long as they do not conflict with the achievement of work goals and tasks. Safety margins provide a resource for managing tasks or situations (e.g. limiting the hours of driving that a professional driver can perform in a 24-hour period, with associated heavy vehicle logbook rules and procedures, and the requirement for two pilots in the cockpit of a commercial passenger plane as redundancy in the event of worker incapacitation or an emergency situation).

According to Hale and Swuste (1998), rules are constraints established ahead of time to limit freedom of choice in a given situation. An advantage of rules is that they help resolve conflicting demands. Rather than asking each worker to trade off between, for example, safety and time, rules aim to create an inflexible limit beyond which safety cannot be compromised (Rosness, 2013).

Decisions about what is safe and what is unsafe must be made at some point. Who can legitimately and appropriately make those decisions? Within a highly predictable and closed system, agreed-upon rules that work in practice are desirable. Where there is a lot of variation due to circumstances or innovation, and where there is professionalism and experience at a local level, it makes sense to devolve rule making.

3.2 Guides to inform high-risk work

Rules and procedures guide and support high-risk work activity where reliable human behaviour is a critical control. People are high-performing but unreliable components of complex systems, therefore rules/procedures can increase task reliability in known situations. For this purpose of directing work, it is more effective to integrate the safety requirements within the overall work procedure than to have separate procedures for different task objectives (Hale & Borys, 2013).

For example, the aviation, healthcare and energy industries use rules and procedures to specify work activities where deviation from, or omission of, a critical step can result in

catastrophic safety consequences. Also, there is some empirical support for the idea that surgical checklists improve teamwork and reduce safety-related errors (Lyons & Popejoy, 2014). Gawande's (2010) *The Checklist Manifesto* provides a useful framework for how to think about checklists (and by extension rules and procedures) in the workplace; it describes simple, complicated and complex problems that require different management strategies – from defined step-by-step procedures for simple problems to guidance principles for complex undertakings. However, it is not possible to specify rules and procedures for all situations and contexts, and there is concern that proceduralisation has been adopted well in advance of the evidence base, and that procedures can improve compliance without improving performance or safety (Pelegrin, 2013).

3.3 Resources for action

Rules and procedures are resources for action in time-critical situations that may be outside the knowledge and experience of the people involved. They create more predictable behaviour in time-critical situations and can effectively regulate human activities that occur close to the source of a hazard (Rosness, 2013). Rules and procedures can enable the documenting of knowledge about degraded system functioning where time and resources may not be available for problem solving and decision making (e.g. in-flight occurrences in aviation, alarm responses in nuclear power station control rooms, and emergency response and evacuation procedures more generally).

A study of pilots' usage of the *Quick Reference Handbook* to manage emergencies and non-normal situations in-flight found that:

...some situations encountered by pilots are far more complicated than the procedure anticipates [and] in order to cope with these situations, pilots employed strategies that interleaved a range of resources, often consulting fragments of the QRH checklists rather than following them from start to finish. These findings suggest that emergency checklists should be divided into smaller units that can be followed independently, and that procedures should sometimes provide pilots with choices rather than mandatory instructions. (Carim et al., 2016, p. 147).

3.4 Repository of organisational learning

Rules and procedures provide an institutional repository for learning about tasks, technology and work situations that can be shared across teams. This purpose is particularly relevant for organisations that have multiple independent units performing similar activities.

Repositories enable the transfer of collective knowledge beyond those who have personal experience with the situation or issue. Sometimes this learning stems from the investigation of serious incidents, hence the common reference to rules and procedures as being 'written in blood.'

Weichbrodt (2015, p. 221) identified three functions of rules in organisations: “as a means for organizational control, as coordination mechanism, and as codified organisational knowledge.” On the topic of organisational knowledge, Weichbrodt (2015) explained that organisations develop routines to solve known problems. Instead of reinventing a solution each time a problem occurs, important information is formalised into rules or procedures. While such processes are not the complete solution, they do capture key information in a form that can be taught, communicated and applied to new situations.

3.5 Coordination mechanisms

Rules and procedures provide mechanisms for coordination of interdependent activity across individual, team and organisational boundaries. Integrated and continuously operating organisations need dependable role and task performance that is understood across teams for the pursuit of work objectives. Rules and procedures can support and enhance these interfaces (e.g. communication between pilots and air traffic control, and shift-handover processes in operational environments such as healthcare).

3.6 Institutionalising OHS practices

Institutionalisation of OHS practice is a necessary part of modern OHS management (Rae & Provan, 2019). Rules and procedures enable formalisation of practices within an organisation either as part of a task flow or as separate OHS practices (e.g. pre-start risk assessments and permit-to-work systems and, more broadly, OHS management systems that prescribe practices such as OHS training, incident investigation and audit). With rules/procedures as part of an administrative framework that allows safety to be monitored and audited, organisations and OHS professionals can meet their OHS accountability obligations to internal and external stakeholders.

Notwithstanding the advantages of rules and procedures in improving OHS and organisational performance, there are often unintended consequences associated with their volume, management and enforcement. OHS professionals need to focus on getting the content and positioning of rules and procedures right within their organisation.

4 Rules and procedures within organisations

Medium and large organisations have developed extensive libraries of operational rules, procedures and documentation in the pursuit of safety, compliance and reliable work

performance. Complex business models – including contracting, subcontracting, franchising, outsourcing, consortiums, joint ventures, etc. – create opportunities and challenges for documenting health and safety requirements and processes. The challenges often arise from lack of clarity, duplication or gaps in the related parties' understanding of their legal responsibilities and how to discharge them.³

Further complexity arises from increasing regulatory requirements imposed by state and federal legislation, industry regulators (e.g. Office of the Federal Safety Commissioner, Australian Commission on Safety and Quality in Health Care), self-insurance and workers compensation, third-party certifications (e.g. ISO 45001:2018)⁴ and customer obligations. In the absence of clarity and alignment of requirements, organisations fill the gap with paperwork.

The necessity for, and appropriateness of, rules and procedures will vary across industries and different types of work. It is the responsibility of the OHS professional to diagnose the organisational role of rules and procedures and to establish effective development, implementation and monitoring mechanisms. With reference to the safety literature, the following sections address five critical considerations for OHS professionals and organisations concerning the development and enforcement of rules and procedures:

1. Where do rules/procedures fit in a safe system of work?
2. How should the rules/procedures be developed?
3. How many rules/procedures should we have?
4. How are rules/procedures monitored, updated and deleted?
5. How are the rules/procedures enforced?

4.1 Rules and procedures within a safe system of work

Rules and procedures are administrative controls for the management of OHS risks in the workplace. Administrative controls have a specific place and priority in the management of OHS risks in accordance with the hierarchy of control⁵ as required by health and safety legislation throughout Australia. Legislation requires organisations and therefore OHS professionals to follow a process in mitigating OHS risks that considers, in the following order, the options for:

1. Eliminating the risk

3 See OHS BoK 12.4 Contractor Management (in planning at time of writing this chapter).

4 See OHS BoK 12.2 OHS Management Systems (in development at the time of writing this chapter).

5 See OHS BoK 34.1 Prevention and Intervention.

2. Substituting the risk for a lesser risk
3. Engineering protection from the risk
4. Administratively mitigating the risk
5. Protecting the worker from the risk through protective equipment.⁶

It is important that organisations follow the hierarchy of control and do not default to administrative controls to manage OHS risks. Rules and procedures should be used to mitigate the residual risks after the work has been designed effectively⁷ and engineering controls have been implemented.

4.2 Development of rules and procedures

Careful consideration should be given to the development process to ensure that the content and positioning of rules and procedures within the organisation achieve the intended purpose. The development process needs to ensure four outcomes:

- Content is clear, relevant and matched to the reality of work
- Personnel who are required to follow the rules/procedures are actively engaged in decision making about the content
- Personnel with technical knowledge (e.g. engineering) and experience relevant to the content have an opportunity to provide input
- Opportunity to deviate from the rules/procedures is available should the work situation require it and it is safe to do so.

Commonly the authority to approve rules and procedures for work is assigned to senior management or the OHS professional. However, this is not necessarily the best approach. Work is a nuanced local activity that may be somewhat removed from the understanding of managers and OHS professionals. The people who perform the work are usually best placed to know whether and how the procedure will operate to support safe performance of the work. In highly technical safety-critical environments that are often 'tightly coupled' systems (i.e. where tasks and equipment are closely connected and dependent on each other) and where individual action can have cascading ramifications, multiple knowledge perspectives are required in the development of rules and procedures.

⁶ See *OHS BoK 34.1 Prevention and Intervention*.

⁷ See *OHS BoK 34.2 An Introduction to User-Centred Safe Design*, *OHS BOK 34.3 Health and Safety in Design* and *OHS BoK 34.4 Design of Work* (in planning at the time of writing this chapter).

Also, development of rules and procedures requires consideration of:

- Communication media (increasing the use of technology platforms and interfaces)
- Literacy and numeracy levels of the users
- Ability to receive feedback on the use and application of the rule/procedure
- Impact on operational goals (i.e. cost, resources and production)
- Integration with other OHS and operational practices and procedures
- Interfaces with equipment and engineering risk controls.⁸

As mentioned in section 1, some industries have adopted industry-wide approaches to rules and procedures for health and safety. The aviation sector has internationally defined safety protocols, rules and procedures that are followed by all commercial airlines (Amalberti, 2001). The mining industry, through the International Council on Mining & Metals (ICMM), adopted a standardised framework for Critical Control Management (CCM), which defines a methodology for developing workplace-specific rules and procedures (ICMM, 2015). The oil and gas industry, through the International Association of Oil & Gas Producers (IOGP), adopted a set of nine Life-Saving Rules for consistent implementation (IOGP, 2018). OHS professionals need to understand their industry approaches in the context of the literature on rules and procedures and determine what is appropriate for their organisation.

4.3 Avoiding ‘safety clutter’

As can be seen from the varied purposes of rules and procedures in supporting health and safety (section 3), there is a real possibility that organisations can become overwhelmed by the volume of their OHS-related documentation. There are many reasons and lots of opportunities to add to the number of rules and procedures within an organisation and examples of voluminous documentation are common (e.g. an 800-page work pack for an excavation, a 2000-page organisational safety management system, and a 50-page safe work method statement). While it is generally understood that such paperwork is excessive and that it is unreasonable to expect the workforce to review and understand it all, many organisations continue to maintain this status quo. More is not necessarily better. Too many rules and procedures for safety make the risk control and compliance environment opaque and difficult to manage (Reason, 2000).

Rules and procedures that are clear, flexible and directly applicable to the nuances of work performance are helpful, however these are rare and organisations often find themselves overwhelmed with ‘safety clutter,’ defined as “the accumulation of safety procedures, documents, roles, and activities that are performed in the name of safety, but do not

⁸ See also accompanying *OHS BoK* 12.4.2 Usability and OHS Procedures.

contribute to the safety of operational work” (Rae, Provan, Weber & Dekker, 2018, p. 195). It is common for rules and procedures to be developed based on certification requirements, industry standards and legislative regulations, rather than on the work process. This transposition of external requirements into work practices is often cumbersome and can result in duplication and contradiction.

Rae et al. (2018, p.194) maintained that “When ‘safety’ rules impose a significant and unnecessary burden on the performance of everyday activities, both work and safety suffer” and that safety clutter can:

- Damage workers’ ownership of safety through the way the organisation conceptualises their needs and patronises them through over-prescribed work
- Have a negative impact on adaptability of frontline environments and prevent workers from having the necessary autonomy to make decisions about their work
- Erode trust through the shifting of focus from safety to compliance; lack of autonomy and excessive emphasis on checking mechanisms (observations, audits, permits, inspections and investigations) can limit open communication about work and safety
- Create an unnecessary trade-off between safety and productivity if unnecessary compliance activities compete with operational work for time, attention and expertise (Rae et al., 2018).

These outcomes are common in operational environments with significant volumes of OHS rules and procedures and should be seen as an outcome of the OHS management system, not as a work-team compliance or cultural failing.

Rae et al. (2018, p. 201) attributed the prevalence of safety clutter to the “ratchet effect” whereby the number and complexity of safety activities in an organization increases over time” because:

1. It is easier to add or expand safety work, than to remove or reduce safety work.
2. There are many regular or ad hoc events that trigger the addition or expansion of safety work, but relatively few opportunities to remove or reduce safety work.

OHS professionals should be cognisant that additive mechanisms (e.g. audits, incident investigations, OHS strategies and plans, and regulatory change) can create exponentially more opportunities to add OHS rules and procedures than mechanisms to rationalise or remove them. OHS professionals have a critical role to play in ensuring that their organisations do not accumulate excessive rules and procedures for managing OHS.

Importantly, organisations should monitor the effectiveness, currency and continued need for each rule and procedure. There are numerous opportunities for OHS professionals to

monitor and update rules and procedures, including incident investigations, audits and inspections, OHS consultative meetings and periodic management reviews. Other organisational systems and programs, such as reporting databases, risk assessments and OHS training, can provide additional information on the effectiveness of rules and procedures.

4.4 Enforcement of rules and procedures

After development, rules and procedures need to be appropriately communicated across the organisation and workers need to be trained and supported in their use. Also, decisions need to be made about how the organisation will respond when work occurs that does not comply with these rules/procedures. Organisations desire predictability, and approaches to ensure compliance with enforcement strategies typically involve processes such as observations, audits, inspections and reporting mechanisms. Often organisations impose sanctions or disciplinary actions on workers and managers for non-compliance.

However, the situations that workers may face are infinitely variable and it is not possible to plan for all contingencies in documented rules and procedures. Organisations must accept that workers may resolve work situations in a manner that deviates from prescribed rules and procedures to deliver on their role and organisational objectives. When these situations occur, organisations can “punish, or they can learn” about work and how they need to support it (Conklin, 2019).

More than two decades ago, a model of rule-violating behaviour included the following classifications of violation:

- *Erroneous violations* – from a lack of understanding or experience; largely unintentional
- *Exceptional violations* – when unusual circumstances call for unusual actions; involve extreme risk
- *Situational violations* – in response to adverse conditions in the work environment
- *Routine violations* – shortcuts taken on a regular basis (Lawton, 1998).

In 2007, an ethnographic study of road maintenance workers found that workers violated rules for three reasons:

- They understand the risk, but believe that they do not need to follow the rule to be safe and get the job done
- They use their judgement to respond to a dynamic situation and this results in non-compliance
- They do not think that the rule is related to a safety risk that they face (Iszatt-White, 2007).

Traditional rule-enforcement views consider any form of non-compliance as negative, irrespective of the OHS outcome. To shift focus from compliance, Surabattula, Landry and Caldwell (2019) proposed a framework based on improving understanding of worker decision making. They identified three categories of factors that affect worker compliance or non-compliance with procedure:

- Characteristics of the work environment
- Characteristics of the operator
- Characteristics of the procedure (Surabattula et al., 2019).

The complexity of decision making is obvious in Surabattula et al.'s (2019) synthesis of the procedure-following process when implementing procedures for a system-performance goal (e.g. safety) (Figure 1).⁹ Figure 1 highlights the association of both compliance and non-compliance with positive and negative outcomes.

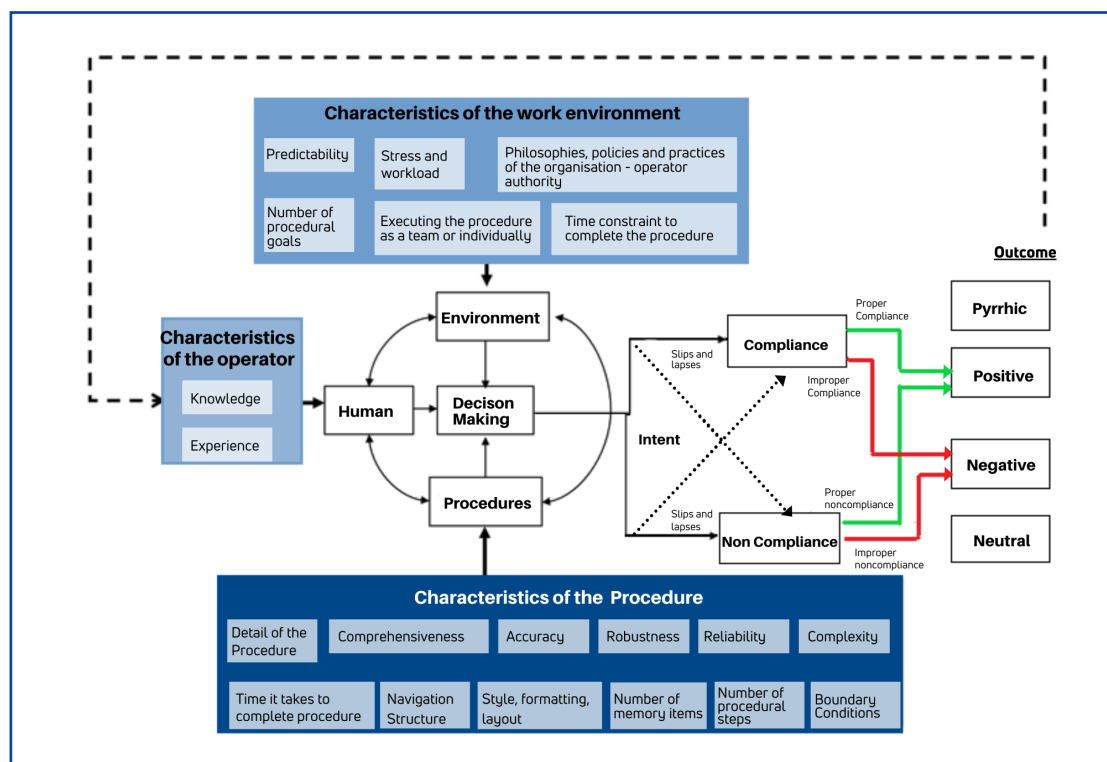


Figure 1: Procedure-following process when implementing single-goal procedures (Surabattula et al., 2019, p. 500)

⁹ Note that for implementation of rules and procedures with multiple goals (e.g. safety, quality and production) there are added trade-offs and feedback loops based on probability assessments of the attainment of individual goals and the relative value of achievement of each (Surabattula et al., 2019).

OHS professionals, in collaboration with users of the rules and procedures, need to understand the implications of both compliance and non-compliance. Workers may face situations where compliance with rules and procedures will expose them to more OHS risk than alternative work approaches and non-compliance will add a safety margin or resilience capacity (Woods & Branlat, 2011). However, predicting when non-compliance will result in 'normalisation of deviance' (Vaughan, 1997) or 'drift into failure' (Dekker, 2011) can be challenging. When should organisations require adherence to OHS rules/procedures and when should they encourage and support work variability to deal with emerging circumstances? How should organisations respond when rules/procedures are not followed but the work outcome is positive, and how should they respond when the intention of non-compliance was safety but the outcome was negative? These are not easy questions to answer for OHS professionals and managers who are removed from the frontline of their organisations.

A common organisational approach to resolving the compliance–non-compliance dilemma is to develop and implement an 'authority to stop an unsafe task' (Weber, MacGregor, Provan & Rae, 2018). The premise of this authority is that if workers encounter a situation that is unsafe, or that requires a deviation from procedures, then they are expected to stop and contact a supervisor or manager. This may seem like a logical and straightforward approach, however Weber et al. (2018) found it to be impacted by the complexities of OHS decision-making and compliance, and based on unrealistic assumptions about work.

Organisational responses to non-compliance and the management of non-compliance with rules and procedures are central to organisational culture and the development of OHS climate.¹⁰ To ensure effective OHS practices, frameworks, and supporting rules and procedures, OHS professionals need to understand work as done (section 5) at the frontline of their organisations then decide whether to require conformity or to support effective local practices (Provan et al., 2020).

5 The object of management – the rule and procedure, or the work

Sections 3 and 4 highlighted the need for, and the complexity of, developing and following rules and procedures within organisations. Informed by research into the role that rules/procedures play in OHS as an emergent property of complex systems, this section

¹⁰ See OHS BoK 10.2.1 Organisational Culture: A Search for Meaning and OHS BoK 10.2.2 Organisational Culture: Reviewed and Repositioned.

considers whether the object to understand and analyse is compliance with the safety rule/procedure or the work performed (e.g. Adler & Borys, 1996).

Organisations and OHS professionals regularly take their point of departure for OHS from legislation, certification standards, incident and audit reports, and hazard and risk registers. However, this information does not represent actual work within the organisation. As stressed by Hollnagel (2017), the departure point for OHS should always be the work performed and how that needs to be supported to be successful.

Rae and Provan (2019) referred to this distinction in OHS management focus as 'safety work versus the safety of work.' They categorised the development and application of rules and requirements for OHS as 'administrative safety':

Administrative safety is the enactment of controllable, repeatable and measurable safety routines... Administrative safety provides repeatability and certainty. It makes clear who is expected to do what, when. This is important for organisations to function effectively, and to manage their own performance. It is an important and open question, though, whether and when administrative safety work supports or hinders operational safety (Rae & Provan, 2019, p. 122).

OHS rules and procedures should directly contribute to the health and safety of workers and not merely serve administrative purposes and demonstration of health and safety to stakeholders (Rae & Provan, 2019). There is a popular perception across Australian industry that OHS rules and procedures are disconnected from the reality of keeping people healthy and safe at work, and may even deny basic personal freedoms and liberties. This perception has led to comments such as 'OHS gone mad' and references to OHS professionals as 'the fun police.'

It is critically important for health and safety that all levels of an organisation have a nuanced understanding of work on the frontline of their business.¹¹ This understanding enables the development of rules and procedures that support work as it is performed. The distinction between the descriptions of work in rules/procedures and the practice of work is described in the safety science literature as 'work as imagined' (WAI) versus 'work as done' (WAD) (e.g. Dekker, 2006; Hollnagel et al., 2015). These terms distinguish between the normative top-down view of work captured in management systems and behavioural safety programs, and the descriptive bottom-up view of how work is performed by workers. Narrowing the gap between WAI and WAD is essential for health and safety in complex systems.

¹¹ See *OHS BoK 4 Work* (in review at the time of writing this chapter) for a discussion on developing a model/mindset to enable an understanding of the implications of a changing work landscape for the design and implementation of OHS strategies and interventions.

The need to have rules and procedures to standardise work, but to not always follow these rules and procedures when adapting to emergent situations is a paradox that was identified decades ago in the organisational behaviour literature: "The great paradox of a social organization is that it must not only reduce human variability to ensure reliable role performance but that it must also allow room for some variability and in fact encourage it" (Katz, 1964, p. 132). Katz (1964, p. 132) maintained that organisations need innovative and spontaneous behaviour as well as dependable and predictable role performance:

No organizational planning can foresee all contingencies within its operations, or can anticipate with perfect accuracy all environmental changes, or can control perfectly all human variability. The resources of people in innovation, in spontaneous co-operation, in protective and creative behavior are thus vital to organizational survival and effectiveness. An organization which depends solely upon its blueprints of prescribed behavior is a very fragile social system.

Organisational control theories have included those of Friedman (1977), who argued that organisations maintain control of the labour process with one of two strategies – 'direct control' and 'responsible autonomy' – and Edwards' (1979) 'bureaucratic control,' which emphasised compliance with rules and regulations. In 2013, Amalberti (2013) proposed that safety is best managed by organisations finding a balance between bureaucratic control and worker self-management.

A recent study of high-risk offshore maritime operations revealed that an essential factor for good and safe operations was the ability of the team to balance structure and flexibility in the way that they worked (Jonassen & Hollnagel, 2019). Allowing and supporting flexibility in the application of rules and procedures to unexpected work situations poses a challenge to the hierarchical nature of organisational life. Jonassen and Hollnagel (2019, p. 116) identified five enabling processes that support effective team adaptation in that they allow rules and procedures to match dynamic work situations and reduce the difference between 'work as imagined' and 'work as done':

- Intervening in operations
- Communication, information and knowledge sharing
- Anticipation and proactivity
- Empowerment and autonomy
- Coordination and cooperation.

It should be noted that supporting compliance with dynamic team processes as well as rules and procedures may be neither easy nor comfortable for organisations and OHS professionals.

6 Organisational approaches for rules and procedures in the management of OHS

Some modern OHS philosophies, including Safety II and Safety Differently, have been interpreted as requiring the removal of rules and procedures in favour of reliance on worker expertise and autonomy to identify and manage OHS risks. This interpretation is not consistent with the theory. In a review of post-1986 safety literature, Hale and Borys (2013) juxtaposed two approaches to the application of rules and procedures for OHS management:

Model 1 is a *compliance-focused*, top-down approach in which rules and procedures are central to OHS management; OHS depends on all people understanding and complying with requirements all of the time.

Model 2 is a *people-focused*, bottom-up approach in which rules and procedures have useful purposes in managing OHS, but require translation and adaptation; operator competence includes the ability to adapt rules to specific situations.

Hale and Borys's (2013) summary of the strengths and weaknesses of these two models is provided as Table 1. Modern OHS management literature and the evidence base across OHS culture, OHS management systems and Safety-II, suggest that Model 2 (people focused) is the most appropriate strategy for the application of OHS rules and procedures.

Table 1: Summary of main strengths and weaknesses of models 1 and 2 (Hale & Borys, 2013, p. 218)

Model 1	Model 2
Strengths	
<ul style="list-style-type: none">• Makes rule making explicit and easy to audit• Makes consequences of rule violation explicit• Emphasises competence in rule making and role of subject experts• Logical, rational engineering approach• Works well for novices• Proven effectiveness for simple 'golden rules' (Behavioural Based Safety)• Emphasises the role of organisational complicity in rule violation	<ul style="list-style-type: none">• Recognises operators as experts central to rule making• Recognises social processes as key to rule use• Sees rule making as a continuous, dynamic process• Links rules to the crystallised competence of organisational memory• Recognises the importance of managing expectations and their link to violations• Recognises the centrality of experience
Weaknesses	
<ul style="list-style-type: none">• Sees operators as robots, lacking competence and social motivation and needing imposed rules• Encourages a blame culture and negative view of rules and violations• Sees rule making as a one-off static process, until accidents trigger rule modification• Fails to deal adequately with exceptions except as triggers for rule book growth• Tendency to bureaucracy and gap between rules and reality	<ul style="list-style-type: none">• Rule making and modification process lacks transparency for auditing and for novices learning the skills• Undervalues the need for the organisation to explicitly manage rule development and use• Hides differences of interpretation and competence

Many OHS professionals may find that their OHS management efforts can be characterised as Model 1 (compliance focused). This is commonly due to the focus of organisations in recent decades on compliance with legislation, management systems, certification criteria and customer requirements. The fundamental organisational logic for OHS rules and procedures in a compliance-focused organisation is a belief that these rules/procedures are comprehensive, applicable and effective in all work circumstances. This approach needs to be challenged to appropriately place rules and procedures within the broader context of work, health and safety. Also, it can be forgotten that rules and procedures are only part of OHS management.

OHS professionals within compliance-focused organisations should work with management and employees to unpack the following logics to ensure that their organisations have a deeper understanding of rules/procedures and compliance, and the role of these in OHS management.

- *Having OHS rules/procedures does not equal safety.* Simply having rules/procedures does not mean that an organisation is healthy and safe. Managing OHS in complex systems is a social and technical undertaking far beyond the capacity of prescribed rules/procedures, which are only part of a safety management approach (Jonassen & Hollnagel, 2019).
- *Compliance with OHS rules/procedures does not equal safety.* Conversely, non-compliance with rules/procedures does not equal a lack of safety and may, in fact, be the best decision in the event of an unforeseen work situation. OHS professionals should be wary of forming views about the health and safety performance of their organisations based on evidence of 'tick in the box' compliance (Smith, 2018).
- *OHS rules/procedures may at times be detrimental to safety.* An important and open question is whether (and when) administrative safety work supports, hinders or has no impact on operational safety. OHS professionals need to consider whether there is the potential for their organisational rules/procedures or enforcement approach to negatively impact safety management (Rae et al., 2018).
- *OHS rules/procedures do not equal due diligence.* It is important for OHS professionals and company officers to understand that their due diligence requirements are not vested in pieces of paper, but rather in their actions within the organisation (Tooma, 2013; Smith, 2018). Managers are required to provide a safe system of work, and rules/procedures are only part of the hierarchy of control for managing health and safety risks.

7 The role of the OHS professional

OHS professionals should consider the development, application and maintenance of an appropriate and effective set of rules and procedures for OHS as a core responsibility of their role. This role may be challenging, particularly if an OHS professional's approach to rules and procedures differs from the position taken by their organisation.

Because the necessity to ensure compliance with legislation has been the most significant role-shaping factor for OHS professionals over the past 30 years (Provan, Dekker & Rae, 2017), many OHS professionals subscribe to traditional approaches to OHS management and focus on improving compliance with rules and procedures as well as the safety behaviour of line managers and frontline workers (Saari, 1995; Brun & Loiselle, 2002; Broberg & Hermund, 2004; Hill, 2006; Hollnagel, 2009; Olsen, 2012; Walter, 2012; Swuste et al., 2014; Manuele, 2016; Provan, Dekker & Rae, 2018; Provan & Pryor, 2019). Nearly 20 years ago in Québec, Brun and Loiselle (2002) found that OHS professionals perceived OHS as an individual responsibility and a question of worker attitude and behaviour, so argued the importance of modifying human behavior through precise work methods. More recently, Swuste et al. (2014, p. 24) reported that, despite the changing approaches to safety science, for OHS professionals in the Netherlands “human failure remained the dominant explanation for accidents.”

Some studies indicate that OHS professionals rely on rules and procedures to exert authority and influence in their organisations, however adversarial (Olsen, 2012; Daudigeos, 2013). Hill (2006) advised that a disciplinary approach to rule enforcement results in anger rather than in improvements to safety. According to Saari (1995, p. 188), “Talking about negative things [e.g. non-compliance] makes engineers and managers ignorant, defensive, or even hostile, toward OHS professionals.” Such negative connotations hamper openness of OHS professionals’ communication with workers and therefore their learning about work. It is hard for line managers and frontline workers to have the confidence to be open about the complex situations they face and their workarounds for inappropriate rules/procedures if the organisation and the OHS professional condemn non-compliance (Hale, 1995).

There are many indications in the safety literature that OHS professionals need to develop greater capability in the development and management of rules/procedures within the context of an overall OHS safe system of work that is matched to the context of frontline work in their organisation. Discrepancies “between scientific insight and practical application” (Swuste et al., 2014, p. 25) suggest that, with respect to rules and procedures, OHS professionals should focus on:

- Understanding the reality of work as done and what is required for it to be executed
- Collaboratively developing rules/procedures as resources to support work
- Integrating rules/procedures as part of an overall safe system of work
- Learning about work variability and instances of non-compliance to improve rules/procedures
- Removing obsolete rules/procedures from the organisation.

OHS professionals who remain focused on rule/procedure development and enforcing compliance will remain 'safety administrators,' and their reputation in the workforce will suffer.

8 Summary

This chapter began by considering the evolution of current rule/procedure practices from 19th and 20th century attempts to standardise human behaviour in work activities. Based on the premise that task conformity to rules and procedures will make workers safe and demonstrate management compliance and due diligence, the use of rules and procedures in OHS management is now entrenched in most organisations. This pervasiveness continues despite the development of a body of research that challenges the safety premise. Informed by this research, the chapter reviews traditional approaches to rules/procedures, clarifies the purpose of rules/procedures in managing OHS and presents some guidelines for their use.

The chapter challenges OHS professionals to critically review traditional approaches to the development and enforcement of rules and procedures within their organisation by asking questions such as:

- How do our rules/procedures support the successful execution of work?
- How do we decide when we need a rule/procedure?
- How do we develop our rules/procedures?
- How are OHS rules/procedures integrated into the overall safe system of work?
- How does our organisation understand and respond to non-compliance?
- How do we review and monitor our rules/procedures, and remove unnecessary rules/procedures from our system?
- And, fundamentally, what is the role of OHS professionals in the development and management of rules/procedures?

While there is little doubt that we need rules and procedures within organisations to enable work to be performed safely, there are complex associated challenges. Undertaking a critical review of the application of rules and procedures within an organisation is likely to yield wide-reaching benefits for health and safety, organisational culture, OHS professional effectiveness and operational performance.

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