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Health and Safety Management in the Public Sector

*A critical commentary and Public Works submitted to
Middlesex University in fulfilment of the requirements for the degree of*

Doctor of Professional Studies by Public Works

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Month and Year	September 2020

Acknowledgements

In preparing this thesis, I would like to pay tribute to any worker who has been injured, suffered ill health, or lost their life at work while delivering services in the public sector. I realise that no amount of words can ease the pain of loss felt by any family in such circumstances, but I trust that it may be of some comfort to you to know that someone cares.

While undertaking this piece of work I came to rely significantly on Professor Brian Sutton, my supervisor, for guidance and for support, and Dr Alan Page along with staff at Middlesex University London. To you all I say a most sincere thank you.

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Abstract

Health and safety management is a key corporate responsibility in any organisation. However, my practice focuses on health and safety management within a public sector organisation (PSO) setting. I consider health and safety challenges faced by line management that are common in any large public or private sector organisation and identify the need, in these circumstances, to rely on a systematic approach to achieve adequate health and safety risk control. I discuss how I have applied systematic principles to produce detailed health and safety guidance appropriate to PSO settings.

The Public Works submitted in parallel with this context statement were based initially on HSG65, 2nd Edition before using HSG65, 3rd Edition, published in “Managing for health and safety” (2013) produced by the UK Health and Safety Executive and grounded in the Plan, Do, Check, Act principle of continuous improvement to prepare the context statement. In reflecting upon the successes of the change initiative and looking towards further opportunities for enhancements of the guidance and my practice, I have reviewed the practical and philosophical evolution encapsulated within the latest iteration of the health and safety standards culminating in the publication of the British Standards (BS) ISO 45001 standard.

I reflect upon my experience of leading a major programme of change aimed at producing a significant shift in organisational culture with respect to health and safety management within a large PSO, and I provide practical examples that reflect PSO line management challenges and their possible solutions.

I seek to challenge the individual presuppositions within each of the Plan, Do, Check, Act pillars through critical reflection and academic scrutiny. Indirectly, this reveals the inescapable requirement to embrace self-supervision in the overarching needs of the host PSO where the health and safety management-of-change process took place.

This context statement seeks to scrutinise the line management principles of control, co-operation, communication and competence, within the overall remit of health and

safety performance measurement, in a fashion designed to engage members of any PSO senior management team.

Key words: Public Sector Organisation; Health and Safety Management; Plan, Do, Check, Act; and Leadership principles.

Abbreviations

AIHSA	Annual Internal Health and Safety Audit
H&S	Health and Safety
HSAAT	Health and Safety Advice and Audit Team
HSE	Health and Safety Executive
HSENI	Health and Safety Executive for Northern Ireland
HSG65	Health and Safety Guidance Number 65
IIRSM	International Institution of Risk and Safety Management
ILO-OSH	International Labour Organization – Occupational Safety and Health
IOSH	Institution of Occupational Safety and Health
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LTA	Lost Time Accident
NLTA	Non Lost Time Accident
OHS	Occupational Health Service
OHSAS	Occupational Health and Safety Assessment Series
OHSMS	Occupational Health and Safety Management System
PDCA	Plan, Do, Check, Act
POPIMAR	Policy, Organising, Planning, Implementing, Audit, and Review
PSO	Public Sector Organisation
RIDDOR	Reporting of Injuries Disease Dangerous Occurrences Regulations
SWOT	Strengths, Weaknesses, Opportunities, Threats
WTO	World Trade Organization

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1 My operational context

1.1 Introduction

I have been employed in the Northern Ireland Civil Service (NICS) for over 30 years, mainly in the Professional and Technical, and Civil Engineering disciplines dealing with roads, rivers, drinking water supply and wastewater treatment. In 2002 I was promoted to a Senior Professional position to manage health and safety in a department that employed about 2000 staff and maintained a supply network for drinking water and a wastewater treatment service for Northern Ireland. I have always been open to change in employment cycles, but this new health and safety (H&S) role ignited a particular interest in health and safety management, which encouraged me to uncover what lay behind people's (mainly employees') thinking when engaging with health and safety management in the workplace. This was particularly interesting for me because my own previous personal perception, and that of my peers, was that health and safety management was something that forced people to comply with rules but did not encourage them to think properly about the reason for having these rules. Dramatic headlines such as those that surrounded the Piper Alpha disaster on 6 July 1998, which resulted in the death of 167 workers, point to the significant consequences of a breach of, or inadequate procedures when things go badly wrong. Indeed, the official public inquiry chaired by Scottish judge William Cullen (Cullen Report 1990) pointed to gaps in safety rules and procedures and cited a lack of compliance as a major contributory factor. I became aware that a balance needs to be struck between obedience to rules and a more personal commitment to working safely, but that balance was not clear to me at the start.

Before getting into the detail of my Public Works I want to briefly examine my personal values and the formative experiences that gave rise to them.

1.2 How music shaped my personal values

Musical beginnings. My earliest recollection of playing music was in the home: it was seeing as well as hearing others playing instruments such as the harmonica or piano that made playing music very natural to me. No one was particularly brilliant at it and as a child it didn't matter: it was all about taking your turn and participating.

These early experiences have shaped my approach to life. I recognise that you don't achieve anything by wishing – you have to pitch in and have a go and be prepared to fail, or at least not do as well as you had hoped. In my professional life I am someone who sees opportunities to contribute rather than someone who criticises from the sidelines. I help people to learn by standing aside to let them have a go, but I am comfortable to step in to lead when required.

Musical standards and participation. I visited the home of a neighbour, and found that he could play the harmonica really well. This set the musical standard for me, but as I and my siblings grew, music playing became more structured, with piano and accordion topping the bill. To top it off there was competition on an all-Ireland basis where as a group of locals (about 25 people of all ages) we played the great Strauss waltz “Roses From the South”. I remember very well being a young musician of about 16: there was an older, very funny man who would say that his best playing days were over – in “Roses From the South” he had to strike the triangle only three times during the whole performance. We didn't win the all-Ireland that year but I clearly remember receiving our feedback, in which the adjudicator referred to the three strikes of the triangle. Such a small element meant so much to us all, and to him, teaching us that small, apparently insignificant contributions really do count. Seeing others excel motivates me to work on my own capabilities. Being in a group is inspiring. In a group every contribution is critical: what is important is the outcome. Each person contributes, everyone is capable of inspiring others, and in doing so everyone is a potential leader. The focus is on the end result, not on the process. In these formative experiences the foundations of my participatory approach to leadership were laid: I value everyone, listen to everyone, and recognise that anyone can be the triangle player in the orchestra and that person is as important as the CEO.

Adapting and respect for others. I got my first electric guitar at 15 years (a Fender Stratocaster). The first tune I learned was “House of the Rising Sun”, a lovely piece of music with changing pace that slows down and speeds up along the way. But this guitar caused major problems in my home (or perhaps it was the rock music that I started to play): my little amp was too powerful, so guitar playing had to be reserved for the small, 4-piece band practices in a neighbour's farm shed, well away from others. I came to believe that unless what I am doing suits the people around me, it

doesn't work. In my professional life I recognise the importance of context. The public sector organisation (PSO) where I practice requires watertight processes because that is the context of the public sector. By contrast the workers operate in dangerous situations with little direct supervision. For them, context means the need for open communication channels, and trust from management that they will strive to live and work safely. The ability to respond to context is at the core of my leadership. A fundamental tenet of participatory leadership is to recognise context and put the decision-making as close to that context as possible. Hence my dynamic risk assessment approach.

Musical reward. I learned early that success was sweet. That I could be a prime mover in bringing about success. But success is about outcomes: it is judged by the people who want the outcome – in a musical performance, those people are the audience. As a health and safety professional I am motivated not by accident statistics alone but by people doing their jobs well, working safely and going home safe and well to their families. The loved ones of the workers are the audience for my performance as a health and safety professional.

Music and use of talent. Music playing has taken all forms in my life but individual events and collective efforts even in large numbers make me realise that others appreciate what talent one may have. Only when I realised what I was given did I appreciate what I could do. A high level of performance can only be achieved consistently through diligent practice over a very long time; you can never let up despite setbacks. I carry this into my work: I am constantly striving to be better at what I do, to see more, see differently, honour all contributions and help others to achieve what they thought was beyond them.

Desert Island. If I had to be on a desert island with only one instrument I would choose the harmonica. I never learned to play it very well but its music comes so freely and effortlessly, it's so giving and it's so forgiving when a few wrong notes are played. It would be my sole musical companion. I don't need to be stranded on a desert island to realise that work is only meaningful if you are whole. Music is at the core of my being – I could not survive and function properly without it. Others have

different things that make them whole and form their core: I try to create space for others to have this contentment.

Meaning. The ability to play music by ear is core to who I am. In all walks of life, when we meet new situations we have to navigate through difficulties or respond to the situation – that is just another way of saying “playing by ear”. As a professional I listen to the situation, notice what others don’t, am mindful of the natural rhythm and tempo of performance and have to play by ear. My Public Works are the sheets of music: some workers need to read the dots to play but I can play by ear. I have the notes for those who need them but I am trying to instil in the workforce the confidence to play by ear.

1.3 Being promoted in the workplace

Promotion in the workplace can influence the individual who has been promoted in different ways, especially if the person concerned changes disciplines as I did (from civil engineering to health and safety management). It can alter a recently promoted employee’s perception of how to deal with or address work-based management issues that in the past would have been regarded as managerially routine. In my case, promotion and a change of disciplines caused a retreat into the sanctuary and security of learning, simply as a defence mechanism to address my need for professional security and a sense of competence. I had previously concentrated my academic interest towards science and engineering and had attained Fellow status from two of my professional institutions. I was also a well-established chartered engineer and a chartered environmentalist. However, this new employment role exposed me to new challenges, and new learning opportunities about staff and different health and safety cultures that prevail even within the wider public sector.

1.4 Personal career challenges

One of the personal career challenges that I faced in 2002 was that my employer believed I was already adequately qualified to carry out my duties in this new health and safety Senior Professional post. Privately, I had reservations about their position. To address what I considered to be my knowledge deficit, I developed a personal development plan with tentative support from my immediate line manager. I divided

the competence requirements for the duties that lay ahead into two categories: managerial and industry skills, and intellectual and professional qualifications. This was typical of my approach to new experiences, perhaps over-preparing and always searching for fresh learning opportunities in the course of routine day-to-day activities. I was always building knowledge reserves through work-based learning so that I would be prepared to transfer these skills to the next challenge. My approach towards experiential learning is similar to that of Cheetham and Chivers (2001), which centres on different theories, concepts and learning approaches that are particularly formative in helping practitioners become fully competent professionals in practice. This was the case for me at the time in respect to knowledge acquisition, and in particular the concept of knowledge engineering. This approach dominated my thinking, as I initially created rules-based systems to solve problems for myself and others. My approach was similar to how artificial intelligence has been developed and used within systems.

1.5 Lifelong learning

As a committed lifelong learner, I had already acquired a relevant health and safety professional qualification and I was part way through a primary degree in law in 2002. This certainly was the basis for my employer believing that I was already adequately qualified. I graduated in law in 2004; I had chosen to include a module on “Personal and Career Development in Engineering”, which permitted me to obtain a BA rather than an LLB degree. I considered that a BA would be more advantageous to me in my NICS career, and that I should keep my career options open because I anticipated moving into a further senior management role in the civil service on the next round of promotion boards.

1.6 Personal and career development planning

The academic part of my personal development plan directed me towards a master’s degree in Health and Safety Law and Environmental Law (LLM), which I gained from the University of Salford, Manchester, in 2008. With this academic milestone reached, and with six years’ health and safety experience in a Senior Professional post within the NICS water supply and wastewater treatment industry, my career moved on.

I was promoted to a post with responsibility for health and safety policy and management in a slightly larger NICS department that manages the Northern Ireland public sector road infrastructure. This infrastructure includes 25,000km of roads, 9,700km of footway, 5,800 bridges, 367 public car parks, and the associated development control issues connected to the road network and an inland ferry service. The overall annual budget is approximately £350 million, with an asset valued at approximately £26 billion. Arriving in this new department in 2009, meeting new colleagues and encountering unfamiliar practices presented me with challenges and opportunities. I therefore resorted to what had worked well personally for me in the past: I embarked on a new course of health and safety experiential learning in transport infrastructure, not really appreciating the wider context but knowing that experiential learning had worked in the past and should work for me again. Adapting, modifying and transferring acquired skills from former workplaces into new work areas was a key attribute that I had acquired from my previous NICS transfers.

I immediately used a SWOT (strengths, weaknesses, opportunities and threats) approach, as advocated by Coman and Ronen (2009), and analysis techniques to review my operational context and consider my options for action. This approach relied on the theory of constraints strategy and a core-competence tree to provide an action plan that generated leverage for me while protecting key risk areas. My analysis of the organisational imperatives and the inherited occupational health and safety management system (OHSMS) convinced me that I needed to do something radical with the new department. The alternative would be for the staff and the organisation to drift towards unnecessary risk and perhaps individual professional liability due to previous ineffective management of health and safety.

I engaged with UK national health and safety forums to strengthen my networking links. At the same time, I endeavoured to develop initiatives that would improve performance as proposed in Lawson and Price (2003), using the four key elements of purpose, rewards and recognition, skills for the new behaviour, and visibility. I also acknowledged that there were other, more fundamental deficiencies. My new department was not keeping pace with its own risk ratings and was approaching what I regarded as organisational health and safety paralysis. The first challenge and

opportunity was to obtain senior management support by challenging the status quo. The senior management team of the new organisation had confidence in my vision, and when I showed them the gaps in the existing health and safety management regime they supported me in the change process that I proposed. In return, they asked me to document this health and safety change project and publish it when complete. This agreement enabled me to develop a plan to deliver significant procedural and cultural health and safety change in this large PSO. The project was developed under the broad umbrella of “Health and Safety Management in the Public Sector” using the UK Health and Safety Executive Guidance Note number 65 (HSG65); my new department would be the host PSO where the project and the study would take place.

1.7 Developing a health and safety change team

I formed a change team with a particularly strong emphasis on communication. Central to the communication strategy was a requirement to provide regular updates to the staff about the change programme through a 360-degree feedback loop. This enabled me, as the system architect, to concentrate on developing the new knowledge-based system while keeping the organisation updated on progress. I also began to research and draft internal procedural guidance and instruction, commonly referred to as “arrangements”. These had to be legally accurate and business specific. These new arrangements would be a significant change for some staff, being more active than the passive arrangements that had prevailed in the organisation in the past. The health and safety change process and the circumstances that I created brought about a business metanoia for the organisation. As the system architect, I designed and introduced a new framework for managing people and new health and safety processes for staff to work within. I also had senior management support as a key ingredient. I brought this change about sensitively, because I detected in some management quarters that some staff were oblivious to their risks and therefore their needs. This made them particularly vulnerable to being intransigent and therefore reluctant to change – similar instances of this are described by Pieterse, Caniëls and Homan (2012), where lack of alignment between professionals in the airline industry contributed to resistance to change. Nevertheless, I needed to recognise individuals’ tacit knowledge (Polanyi, 1967), such as knowing, which had become embedded in the norms of behaviour: it was important that this institutional knowledge was not lost to the

organisation. Management of change was in itself a large part of the cultural shift experienced by staff.

1.8 Importance of feedback – peer review exercise

I recognised the importance and value of feedback to my health and safety standards, so I accepted an offer to have the Public Works peer reviewed by the International Institute of Risk and Safety Management (see IIRSM, 2001) under the scrutiny of Stephen Fulwell. The second blind peer review was conducted by Martyn Pinches (Welsh Government) through the Institution of Occupational Safety and Health (IOSH).

The peer review observations were extremely positive and endorsed all aspects of the Public Works. Two elements were identified during the peer review as being of particular interest because they were entirely new and innovative:

- the method of measuring health and safety performance in the public sector, advocated in the Public Works; and
- the incident analysis approach of dealing with adverse health and safety incidents.

My new method of calculating and measuring health and safety performance advocated in a large PSO is referred to as the Ten Point Health and Safety Performance Calculation Matrix. The incident analysis I devised is set out in the Tweed Public Sector Organisation Ratio of Incidents Model. The material that I had amassed through research challenged previously accepted norms for health and safety incident ratios, such as the Bird Triangle which had until then, in my opinion, been unrepresentative of the public sector environment. The Tweed incident ratio model, published in 2015, claims to take an all-encompassing approach to health and safety incident management. It suggests that all three approaches should be deployed simultaneously to fully manage the risk associated with health and safety incidents in the public sector workplace – in other words, a holistic approach to managing incidents. My approach was also praised because it set out management methods to target particular categories of health and safety incidents/accidents, and proposed a definitive approach to addressing these categories.

1.9 Public Works presentation to health and safety professionals

I presented the 2015 guidance to the health and safety professionals who make up the NICS Inter-Departmental Health and Safety Forum (representing about 25,000 staff) in 2015 and made similar presentations to the UK Four Nations (Health and Safety) Roads Forum. Both groups welcomed the findings. The final endorsement prior to publication is contained in the comments from Professor Ken Addley, medical practitioner and director of the NICS Occupational Health Service between 2002 and 2015, who wrote the foreword to the 2015 publication.

The Public Works referred to in this introduction were five years in development and were published in 2015. In 2010/11, following a period of reflection and critical examination about health and safety in an organisational context, my host PSO embraced the need for health and safety change. This included: (1) agreeing to set aside the existing OHSMS, which was based on International Labour Organization – Occupational Safety and Health 2001 (ILO-OSH 2001) and had been used for about 10 years; (2) developing new health and safety arrangements based on HSG65 “Successful Health and Safety Management” (HSE, 2nd Edition, 1997), with a policy implementation date set in 2012; and (3) embarking on a change in cultural attitude and behaviour towards health and safety management, with measurable elements to determine if the four “Cs” (control, co-operation, communication and competence) would achieve the host PSO’s corporate health and safety objectives. These decisions were not taken lightly, and they reflected a desire for strategic and long-lasting change. During the health and safety cultural transitioning and bedding-in period (after the policy was implemented in 2012) a number of factors influenced the change programme. Initially, the host government department reorganised to place greater emphasis on different modes of public transport, such as rail, bus, cycling etc., which necessitated internal departmental change. Secondly, the Northern Ireland government legislated to reduce the number of core government departments from 12 to 9. A number of public sector services were amalgamated as a result; these included an arms-length agency that managed rivers/arterial drainage and coastal sea defence assets, which merged with the road infrastructure department where I was based. These changes were all absorbed under the initial health and safety change mandate but with further critical assessments of alternative systems such as International

Organization for Standardization (ISO) 18001/ISO 45001 and HSG65, 3rd Edition (2013), which advocates a Plan, Do, Check, Act (PDCA) approach. There were other audits as well: one external health and safety audit, two departmental health and safety audits, and three internal health and safety audits. These audits acknowledged the ongoing organisational changes and were satisfied, after testing alternative safety management systems, that the current system based on HSG65, 2nd Edition (1997), should remain in place; this was despite the Health and Safety Executive revealing an updated version of HSG65 in 2013.

Therefore, as agreed with the host PSO, the materials I produced in 2015 and that I present as my Public Works were published through the NICS publication scheme. The volume numbers and titles of the nine books, under the general heading of Health and Safety Management in the Public Sector, that make up my 2015 Public Works are as follows:

- Volume 0. “Project Development Plan”. ISBN 978-1-904807-55-1. This is a record of aspirations that other PSOs can use as a model when developing their own plans to develop and introduce meaningful health and safety change. (Linked to this context statement as an Annex, referenced as Public Works Volume 0)
- Volume 1. “Health and Safety Policy Statement in the Public Sector”. ISBN 978-1-904807-56-8. This volume is about the need to have effective policies, properly authorised and introduced, and to have the required authority to activate them in a large PSO. (Linked to this context statement as an Annex, referenced as Public Works Volume 1)
- Volume 2. “Organising for Health and Safety in the Public Sector Organisation”. ISBN 978-1-904807-57-5. This volume discusses effective organisational arrangements in place in the host PSO and sets examples that others can follow. (Linked to this the context statement as an Annex, referenced as Public Works Volume 2)
- Volume 3a. “Planning and Implementing in the Public Sector Organisation”. ISBN 978-1-904807-58-2. This describes how

- PSOs can plan and implement health and safety arrangements. (Linked to this context statement as an Annex, referenced as Public Works Volume 3a)
- Volume 3b. “Planning and Implementing in the Public Sector Organisation – Safe Systems of Work”. ISBN 978-1-904807-59-9. This demonstrates how PSOs can employ safe systems of work in the workplace. (Linked to this context statement as an Annex, referenced as Public Works Volume 3b)
- Volume 3c. “Planning and Implementing in the Public Sector Organisation – Activity Safety Controls”. ISBN 978-1-904807-60-5. This is about how PSOs can undertake and implement risk management controls. (Linked to this context statement as an Annex, referenced as Public Works Volume 3c)
- Volume 4. “Measuring Performance in the Public Sector Organisation”. ISBN 978-1-904807-61-2. This is about how PSOs can measure health and safety performance and benchmark statistics. (Linked to this context statement as an Annex, referenced as Public Works Volume 4)
- Volume 5. “Auditing and Reviewing in a Public Sector Organisation”. ISBN 978-1-904807-62-9. This demonstrates how PSOs can undertake audits and review systems that produce meaningful results. (Linked to this context statement as an Annex, referenced as Public Works Volume 5)
- Volume 6. “Project Reflection and Conclusion”. ISBN 978-1-904807-63-6. This major reflection exercise brought in the learning and experiences encountered during the five-year project. It also published new data that challenged earlier understanding of health and safety data in relation to incidents in the public sector workplace. (Linked to this context statement as an Annex, referenced as Public Works Volume 6)

1.10 Next steps and engagement with academia

Having summarised my personal introduction and highlighted some key factors that influenced my 2015 Public Works, I move on in Chapter 2 to examine how the changing perception of health and safety and its strategic place in shaping an organisation's social, economic and environmental performance is bringing about a transformation in health and safety thinking. These changing priorities have led to subtle changes of emphasis within the international standards, and Chapter 2 identifies the key areas of difference as we move from HSG65 to ISO 45001. Using this understanding of similarities, differences and potential implications as a lens to critique my 2015 Public Works, Chapters 3 to 7 will analytically and reflectively engage with my Public Works to identify what is working well and where changes in substance or emphasis may produce better alignment with the current direction of health and safety guidance.

2 Contextualising the Public Works within the host environment

2.1 Background

This context statement explores the operating context of occupational health and safety, particularly with reference to the NICS and the requirements for occupational health and safety policy that are driven by the NI Assembly.

The workplace context has changed significantly over the past 100 years, with increased use of technology and the impact of globalisation (ILO conference 95th session) that has introduced new emergent risks arising from sedentary work, stress, shift patterns, and so on.

In the public sector, the management of risk is best undertaken through a systematic process. This could be a consequence of underlying risk aversion, failure, or predisposition towards systems-based solutions. This systematic approach is grounded on recommendation in ILO 2001, HSG65 2nd and 3rd Editions and, more recently, the acceptance of the PDCA concept in management models. My experience leads me to conclude that adoption of PDCA for health and safety purposes stems from total quality management systems (TQM) developed in the 1960s, which were subsequently advocated and included in HSG65 2nd Edition. Reflecting the IOSH position of 2014 (Wigston: IOSH, 2014), the TQM approach was teetering and craved “establishment” acknowledgement while seeking to address the issue of global health and safety failures and highlighting the importance of the new ISO 45001 standard for change and improvement. This support was subsequently obtained when HSE embraced the TQM idea in HSG65 2nd Edition. The HSG65 management model was subsequently accepted by the ILO in 2011, and stated:

“Implementation of Occupational Safety and Health Management systems is critical in helping to reduce occupational accidents, diseases and deaths.”

Others have also supported using systems to facilitate management and demonstrate that companies adopting OHSMS exhibit higher performance against all the topics. However, the support for OHSMS is not universally accepted. Robson et al. (2007), in their literature about systematics, could not find evidence of the effectiveness of the

OHSMS approach, due in the main to critiques of the methodologies employed in studies.

The move to systems-based approaches has resulted in a number of branded systems being developed over the past 30 years to cater for business preferences. Some are certified systems while others are not, some are sector specific, but all aim to follow a Plan, Do/organise, Check/measure, and Learn cyclical approach that includes feedback and organisational action. All claim to assist some form of organisational management (Robson et al., 2007) without definitely supporting an OHSMS.

However, a list of these key events serves to illustrate the timeline progression below:

- 1996, 2004, British Standards (BS) accredited BS 8800
- 1999 BS and other certification bodies developed Occupational Health and Safety Assessment Series (OHSAS) 18001
- 2001 ILO as part of a worldwide review developed ILO-OSH 2001
- 2018 BS ISO 45001 (2018).

2.2 Drivers for the Public Works

The impact of health and safety-based legislation cannot be overstated. For example, Article 4(3) of the Health and Safety at Work (NI) Order 1978 introduced a legal requirement for employers in NI with more than five employees to have a health and safety policy. This was a key factor in the development of the Public Works.

Alongside this, the EU's European Framework Directive in 1989 (89/391/EEC) Section II placed a duty on employers to take measures to protect workers. In light of this, the UK government produced the Management of Health and Safety at Work Regulations 1992. An approved code of practice that addressed planning, organisation, control and review was later published, and in 1991 the HSE produced HSG65 using the headings of Policy, Organising, Planning and Implementing, Measuring, Audit and Review (POPIMAR), on which the Public Works are based. This publication asked for feedback loops to secure continual learning; in doing so, it recognised the value of continual learning as had been embedded in practice since the early 1990s. Continual learning has been augmented in ISO 45001, which stipulates that certification requires evidence of continuous improvement.

One of the principal concerns with POPIMAR, as Leathley (2014) highlights, is the ordering of action: organising is promulgated before planning. This has been corrected in HSG65 3rd Edition and ISO 45001. It is also noted that the guidance was substantial, spanning 98 pages; the HSE subsequently decided to better refine and simplify the guidance through a Delphi study reported in “How management behaviours associated with successful health and safety performance relate to those associated with success in other domains” (RR744). This study helped bring about adoption of the PDCA concept in health and safety and is central to the revised HSG65 (3rd Edition, 2013).

Allied to the above is the critical importance of individuals within systems at all levels, including directors and organisational leaders. This is reflected in “Parting shots: Health and Safety management – RoSPA”, which at Chapter 6 states: “The fact that these tragedies (Bradford City, Hillsborough, King’s Cross, Clapham, Zeebrugge, Abbeystead, Piper Alpha) unfolded as they did was, in many respects, merely a matter of chance. In every case it was deemed that underlying SMS weaknesses were the fundamental cause.” This leads me to believe that an OHSMS is just one part of a systems-and-outputs equation. Catchpole (2012, pp. 17–18) suggests that improvement is a moving target and that the levers of improvement are “... aimed at those who want to improve health and safety in their organisations”; for me, this points to the inevitability of accidents rather than an absolute position of zero harm, and suggests that criticism tends to focus on flaws in the systems or ineffective processes when failings occur.

The refocused HSG65 3rd Edition (2013) claimed to bring about

“a better balance between the systems and behavioural aspects of management”.

Despite the simplified approach, HSG65 continues to argue that health and safety management ought to be

“an integral part of good management generally, rather than as a stand-alone system”.

2.3 HSE move towards Plan, Do, Check, Act concept

In recognising these points about the human dimension, the HSE expert Delphi study HSE (RR744) considered a number of management-related behavioural questions that are summarised below:

- What are the key health and safety management factors?
- How do the management factors relate to success or failure?
- Other management factors not linked to business directly; and
- How effective are the above?

In working within this scope, the HSE accepted that people were key to achieving their objectives, and that management, like systems on their own, could be fallible and flawed.

The Delphi study produced the following reflexive findings, and marked the key practical shift in approach to accept:

- Health and safety should be integral to productivity, competitiveness and profitability;
- Leadership, sound business process and competent employees should function in a trusting work environment;
- It is important to have a positive health and safety culture; and
- In-house influences outweigh external influences.

The Public Works have been very much written in this context. There is an internal culture within the NICS that expects comprehensive and detailed documentation; there was a need to translate my leadership position into documented form that could take forward my vision of safety culture and embed it within the array of job roles within the NICS.

2.4 HSE repositioning and move towards Plan, Do, Check, Act concept

This leadership theme is picked up as core element of the revised HSG65 (2013) and ISO 45001 and is embedded within all phases of PDCA, alongside management, risk profiling and the critical importance of organisational culture and worker engagement. Arguably, this approach is also more strongly reflected in BS ISO 45001 (2018),

which upgrades the previous OHSAS 18001 and demonstrates the maturing and settling of a preferred cyclical system of PDCA within health and safety management systems.

2.5 Impact and function of international standards

There are three main well-established international standards. They are the:

- International Electrotechnical Commission (IEC);
- International Telecommunication Union (ITU); and
- International Organization for Standardization (ISO).

These three groups seek to collaborate where appropriate, and aim for unified positions on conformity, consistency, operations, safety and quality while being mindful of the World Trade Organization's (WTO) scope and its membership's social, economic and environmental interests. This places an ethical imperative on companies and leads to government interest that moves into areas of social responsibilities covered by ISO 26000 (2010).

These developments propelled the professional community's drive for certifiable standards. These changes reflect a key tipping point towards a more people-centred approach to the use of safety management systems. In 2013, the British Standards Institute suggested to the ISO that OHSAS 18001 (1999) be considered as a base for an international standard; the ISO agreed, and published ISO 45001 in 2018. Some important similarities do exist between OHSAS 18001 and ISO 45001, but it is the alignment of HSG65 3rd Edition (as the regulator's voice) to ISO 45001 and the use of the PDCA model that have emerged as the foundational and established concept.

Correlation around PDCA: HSG65 3rd Edition (2013) and ISO 45001 (2018) together signal an overall correlation and alignment of expected elements of health and safety management systems, and both use the PDCA concept. This may not suppress voices opposed to a systematic approach to managing health and safety for the time being, but it may reflect a performance systems era that may peak when corporate social responsibilities become the norm. The present evolution of key

principles is set out in Table 1 and shows the alignment that has taken place to achieve this present objective of the now-settled preference for the PDCA concept.

Policy, Organising, Planning, Implementing, Measuring, Audit, and Review (POPIMAR) elements aligned to a Plan, Do, Check, Act (PDCA) concept					
POPIMAR elements		PDCA concept		PDCA concept	
HSG65 – POPIMAR elements (2nd Edition, 1997)		HSG65 – PDCA elements (3rd Edition, 2013)		BS ISO 45001 (2018)	
Policy is: HSG65 Chapter 2. Effective health and safety organisational policies	→	Plan is: • Determining the PSO health and safety policy • Planning for implementation of policies and arrangements	→	Plan is: • Planning □(Chapter 6)	Leadership is: • Health and safety leadership and worker participation
Organising is: HSG65 Chapter 3. Organising for health and safety as part of work activities	→	Do is: • Profiling the PSO Health and Safety risks • Organising for Health and Safety • Implementing the PSO Health and Safety plans/ arrangements □ Control □ Co-operation □ Communication □ Competence	→	Do is: • Support □(Chapter 7) • Operations □(Chapter 8)	□(Chapter 5)
Planning is: HSG65 Chapter 4. Planning activities	→				
Implementation is :- HSG65 Chapter 4.	→				

Implementing plans/ arrangements					
Measuring is: HSG65 Chapter 5. Measuring performance	→	Check is: • Measuring PSO health and safety performance	→	Check is: • Performance evaluation □(Chapter 9)	
Auditing is: HSG65 Chapter 6. Auditing systems and processes	→	• Investigating accidents and incidents □ The Four “Cs” □ Activity safety control checks □ Compliance audit findings			
Reviewing is: HSG65 Chapter 6. Reviewing systems and processes	→	Act is: • Review PSO health and safety performance • Learn lessons □ Feedback loops □ Capability audit findings	→	Act is: • Improvement □(Chapter 10)	

Table 1 – POPIMAR to PDCA to BS ISO 45001 Cross Mapping

2.6 Present-day appreciation of ISO 45001

I believe that the international status of this new standard on health and safety management systems will help ensure that health and safety receives the strategic attention, leadership and resources that it deserves worldwide. The macro aims of ISO 45001 as an international standard are to reduce health and safety failures and support occupational safety and health beyond compliance across organisations and their supply chains worldwide; to improve leadership and delivery of the social element of

corporate social responsibility and sustainability; and to foster the development of improved audit and performance reporting standards worldwide.

If it is embraced, it can escalate health and safety management within the organisation so that at the micro level as well as the macro level it will be part of strategic decision-making across an organisation. The emphasis on the need for strong and active leadership and worker participation is demonstrated through the prominent central positioning of this aspect within the ISO 45001 version of the PDCA cycle process. These particular qualities are identified and emphasised given their importance to the development and maintenance of a positive health and safety culture within the organisation (see Table 2).

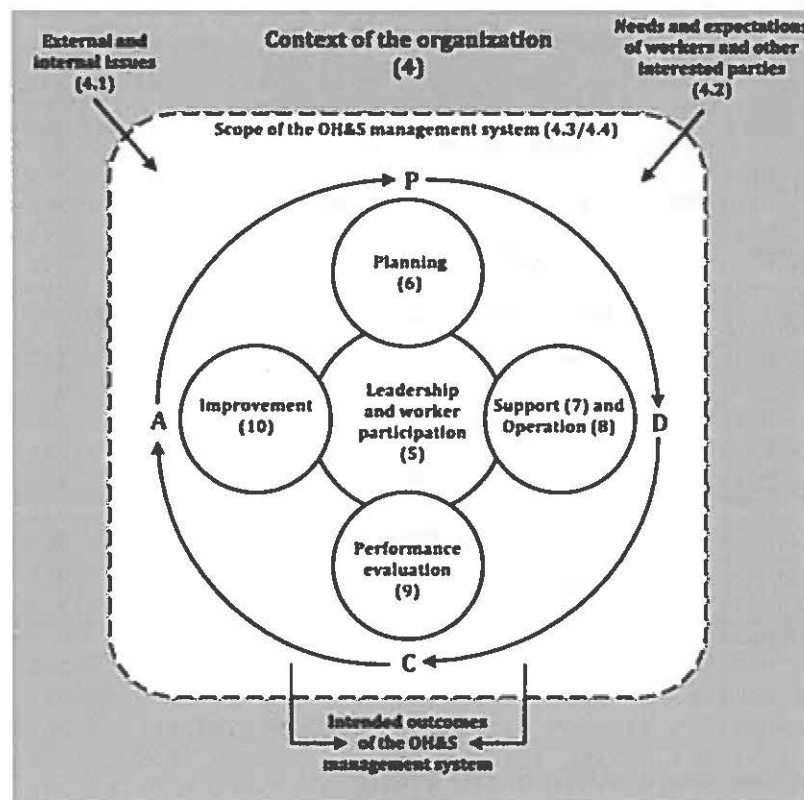


Table 2 – Relationship between PDCA and ISO 45001

The model emphasises the need for a proactive approach to risk management through application of the “hierarchy of control” at an earlier stage in the process. This enables effective intervention at the optimal time so that risk can be prevented or minimised. This fills a gap in POPIMAR, where “organisational” organising became

confused with “activity” organising; these are, in fact, two distinct activities where one learns from the other.

The PDCA approach shares a common objective of making the workplace safer and healthier, so it is not surprising that many of the key principles and methodologies proposed for achieving this goal are also common within many systems. However, there are subtle differences.

ISO 45001 aims to enhance organisational health and safety performance by recognising some fundamental principles that are summarised below:

- Context of organisation – there must be consideration of wider organisational issues;
- Leadership – top management need to take an active role;
- Worker participation – top management need to ensure more non-managerial participation and should support leadership and contribution from others;
- Hierarchy of control – the “hierarchy” should be applied at planning and operational stages, so that problems can be designed out as early as possible;
- Risk management – this requires ongoing assessment of risks and opportunities, both for the OHS and for the OHSMS itself; and
- Compliance status – a process is needed to ensure that relevant legal and other requirements are taken into account and kept up to date, and that compliance status is checked.

The publication of ISO 45001 has therefore generated a lot of interest within the industry particularly regarding the improvements to the management of health and safety that it will deliver. IOSH in “ISO 45001 and the evolution of occupational health and safety management systems” by John Lacey CFIOSH HFAPS FSIA MASSE MIIRSM and Richard Jones MSc CFIOSH EurOSHM FRSPH MIoD MCIPR AIEMA claims the new standard broadens the perspective of organisational health and safety by considering the context of the organisation and elevating its status for increased consideration in strategic decision-making. It could be argued that many of the other concepts noted were covered within previous frameworks, although

they might not have been implemented as intended (for example, organisational/business organising and activity/task organising). The increased focus on this core element in ISO 45001 is regarded as a positive step towards improving health and safety performance. In the NICS hierarchy, some might understand “leadership” to mean senior management and “worker” to mean junior staff, but I believe that leadership and engagement/participation in health and safety should function at all levels in a boundary-less paradigm.

The changes incorporated in ISO 45001, and the increased emphasis on key elements, have arisen not only from a cross-comparison and gap analysis with other health and safety frameworks but also from an assessment of how industry is performing with regard to health and safety, and the identification of shortcomings and areas for improvement. This could be a warning to professionals about the over-reliance on systems, a tendency that has in recent decades led companies to become very dependent on accreditation from third parties.

2.7 Summary

The differences between OHSAS 18001 and ISO 45001 have implications for organisations seeking certification and their advisers, and for auditors who are auditing to the new standard. These include the requirement for demonstration of leadership and adequate consideration of an organisation’s context. For example, auditors may need new levels of interpersonal skill in dealing with top management, and new technical approaches in dealing with an increased variety of information sources and researching organisational context. Health and safety practitioners may need to develop or refine their skills in helping managers to assess the internal and external factors affecting context (e.g. horizon scanning), ensuring effective engagement with relevant stakeholders and interested parties; and preparing CEOs and other senior managers to be audited to this new standard. The introduction of ISO 45001 also provides the opportunity for closer working relations between health and safety practitioners and senior management teams/CEOs and for organisations to show greater social responsibility.

In the next chapters, I will review my Public Works in the light of these changes and assess how my guidance may need to be nuanced to deliver the benefits of the philosophical shift brought about by ISO 45001. I am mindful that health and safety can be viewed through other, recognised lenses, and I acknowledge the systems-led approach that I adopted. Furthermore, the Public Works have been written with a defined envelopment of OHSMS in mind that in itself is an evolving process of continual improvement.

3 Plan: Actions required for effective health and safety policies

3.1 Organisational health and safety culture

Health and safety culture. To analyse the current culture in the public sector, I have to understand what I am looking for before I can determine what I am actually seeing. Subsequently I feel compelled to suggest that the culture reflects how things should happen if there were no formal rules or, perhaps if these rules were simply set aside and the workers were free to act instinctively, as if in their own home environment, and could make their own rules or conventions to live by. Such a workplace application would not be entirely correct because organisations form and develop cultures. Therefore, I am trying to identify the culture that the organisation has developed or let develop, while accepting that individuals buy into, undermine, or simply comply with these rules to make the working environment reveal the culture that I might be seeing. The principles that the organisation chooses to promote and the methods by which it achieves its workers' compliance with those principles reflect the type of culture that is prevalent and that it aspires to have (see Public Works Volume 0). Therefore, it is important to appreciate that cultures can evolve naturally (positively or negatively), or can be developed through deliberate intervention or directly in response to an incident.

A business's organisational culture can therefore influence its health and safety culture through the application of learned behaviour strategies in management or conflict management (Skinner, 1974). This position accepts the assertion that even when business organisations or communities have a common goal, occasionally methodologies are required to help resolve conflicts. In-depth interviews have been used to elicit data about how public relations tools such as dialogue, persuasion, negotiation, mediation and arbitration can work in managing conflict resolution. This can act as a force for good that encourages positive acts from the workers, or it can act as a deterrent, making the imposition of health and safety rules feel like a burden that the worker experiences whenever they are in a situation where the rules come into play (Liu and Chen, 2010). This study suggests that the constructivist theory benefits the knowledge recipient and the community of practice. In contrast to previous theories of learning, the constructivist theory engages the learner in a process

rather than positioning them as a passive receiver of knowledge. Since leadership is an important lever in management, managers should work in line with new approaches and alter the work environment accordingly. The health and safety professionals tasked with promoting a positive culture can use the organisation's culture as a model of professionalism or expertise (Lave and Wenger, 1991) to create leverage over practices that take place in the organisation and within the communities of practice (Lave and Wenger, 1991). It is this encouraging aspect of a positive culture that the health and safety professional can demonstrate by tangible examples of behaviour (Skinner, 1974) and the aspirations of the organisation; in turn, they can seek to inspire the workers to improve safety performance by influencing their attitudes and behaviour in relation to the organisation's health and safety performance (Choudhry, Fang and Mohamed, 2007). However, if the organisational culture is perceived to be negative, brought about by poor leadership, it will be necessary to adjust these leadership styles to engage with the varying cultures so that organisational commitments can be achieved (Lok, 2004). If this is not done, it can undermine the work of the health and safety professional as they try to encourage a "no rules"-based approach to managing autonomously in the workplace. There are some examples of organisations having both positive and negative organisational and health and safety cultures.

An organisation's health and safety culture can be manifested through a number of specific events or through management determinations, designed and developed to measure the effectiveness of a wide range of OHSMS activities (Redinger, 1998). I have seen this at first hand, following a chemical explosion at a water treatment plant: following the incident, no extra resources were given for new health and safety initiatives, but staff became more attentive to how management felt things should be done, and simultaneously offered their own ideas about how to avoid negative events. Nevertheless, the most common indicator of an organisation's health and safety culture is the number of personal injury and loss events and a potential avoidance strategy, which I suggest is a weak attempt at measuring culture. Measuring culture will be addressed later. It is a legal requirement to report accidents at work, and the subsequent potential enforcement is therefore regarded as a good uniform indicator. Conversely, it is also usually the first line of defence offered by the employer if their accident rate is low, in an attempt to defend their present balance of health and safety

investment against a request for additional investment. A better indicator of a positive health and safety management culture and its model of performance and behaviour (Choudhry, Fang, and Mohamed, 2007) is its company procedures that are not legally binding, such as health and safety near-miss incident reporting. The number of near-miss reports compared with similar organisation statistics may help demonstrate the prevailing health and safety culture. Another example of revealing the true health and safety culture is the profile of the organisation's business risk register or database, as used in some automotive companies (Patterson and Neailey, 2002).

It is possible to adjust an organisation's health and safety culture through a range of interventions, but at a cost; workplace-based occupational health and safety interventions require economic expertise to make this determination (Tomba, Dolinschi, and de Oliveira, 2006). In practice, the prevailing objective is usually the need to improve a health and safety culture. When I suggested to my chief executive that we needed to improve matters, I expected them to ask why. It was a legitimate question to ask, so I was required to demonstrate the business need using well-established legal, moral and financial arguments. My budget bid had to compete with other meritorious budget bids. One explanation was that the investment would deliver cost savings in the long term, but that was not the only driver. As it happened, my chief executive was appreciative of staff and understood the value of investment to save in this regard. However, other organisations may only wish to reduce costs: the investment will drive or sustain the desired health and safety culture anyway. When an organisation (for whatever reason) decides that it needs to improve its health and safety culture, investment is usually required. This investment can take the form of a financial commitment, or a commitment to the health of the workers which boosts the priority given to health and safety matters (Mearns et al., 2010). In most organisations, this commitment is part of a long-term strategy to achieve some targets such as the number of near-miss incidents reported or the number of personal injury and loss events recorded (see Public Works Volume 6).

To bring about a fundamental and irreversible improvement in its health and safety culture, an organisation must embed inclusivity in its management mindset and leadership. It is proposed that leader inclusiveness helps cross-disciplinary teams overcome the inhibiting effects of differences in status, allowing members to

collaborate in the process of improvement (Nembhard and Edmondson, 2006) on which its desired cultural aims are to be based. This creates a management memory impact that leaves an imprint, including data information and knowledge-type events, especially if the change is being driven because of a bad health and safety experience or death at work. The cause, whether by a management action or inaction, may need to be recounted – perhaps even immortalised – in the management memory through recollection or similar cyclical processes. It might be different if the reason for the change were the possibility of a criminal prosecution, as has been widely the case in the USA following the introduction of the Occupational Safety and Health Act (Cimino, 1992), or, more likely, prosecution under state criminal statutes in the USA. All these events are points of memory that remind the organisation that lessons must be learned and never forgotten.

There are, broadly speaking, two separate drivers of change. The first is a “big bang” event, such as the chemical explosion that I referred to; the second is an evolutionary process that affects the thinking and beliefs of staff. The big bang approach is based on a single event or combination of events that are so extreme that they compel leaders to spring into action and begin the change process. These events attract the attention of the whole firm, industry, country or even the world, and may ignite the emotion of an individual employee and therefore the behaviour of employees at all levels. Directors may start to focus on their health and safety duties as well as other corporate obligations. This has been evidenced in studies where directors have been shown to become more actively engaged, and non-executive directors have become trusted advisers to the executives (Stiles and Taylor, 2002). Designers and workers may start carrying out their work as the policies and procedures stipulate, and health and safety arrangements actually safeguard the health and safety of employees and the end users. In the evolutionary process, perhaps an individual passionate about their work gets a little support or encouragement from a previously uninterested manager, or perhaps a new line manager arrives in post and slowly starts the process.

Different organisations have different ways of determining that their health and safety systems and arrangements are delivering their desired results; this helps to support implicit assumptions that employees are discharging their obligations. Some organisations rely on audit; others prefer to subject the organisation to a stress test, to

identify shortcomings in a business strategy (Simons, 2010); and some use a combination of both. The decision whether to audit or to stress test the arrangement is determined by the severity of the scenario to be simulated, and the output provides the quantum of assurance derived from team work matched to the scenario included in the test.

The leaders will know when the organisation's culture has reached the desired point of acceptability and efficiency and when the stated organisational objectives have been reached, by using a SWOT approach. This offers a valuable assessment, whereby the strengths and weaknesses that might cause events to happen can be identified and assessed (Coman and Ronen, 2009). This applies when striving to reach the objectives through measuring and reading results, as in a procurement competition processes. The results materialise and are tested, perhaps by asking "what if [a particular event] occurs?"; or the organisation might consider the most responsible approach it could take to a particular event; or the reflexive behaviour of the individual during the event might be considered in terms of their role within the group. With an ever changing and evolving culture, cultural reflection cannot usually be measured against stated targets or financial rewards such as bonus schemes. This is mainly due to the continual moving of cultural normality and safety orientation activities within an organisation and developing a tool to measure safety culture and challenges associated with this (Håvold, 1986).

3.2 Factors that influence health and safety culture change

It can be seen that tools and techniques that were used to bring about health and safety change from existing work environments to new work environments feature auditing as significant change factors (see Public Works Volume 5). In the Public Works, I followed a number of key principles. First, I capitalised on the fact that there was evident senior management support and active leadership. I used an approach similar to that in Wu, Lin, and Shiau (2010), including informing (communication), caring by employers (co-operation), co-ordination and regulation (control) by safety professionals. Without this support, there would have been no change in health and safety culture. Behind this senior management support was a genuine and authentic commitment to a culture of safety, which would change the mindset of the employees

(Fernández-Muñiz, Montes-Peón, and Vázquez-Ordás, 2009). This was supported by the premise that an OHSMS can have a positive impact on safety, financial performance and competitive outputs for an organisation, as the Spanish study showed. My organisation was experiencing a combination of events:

- a recent external health and safety audit had been carried out that flagged up shortcomings (the warning indicator);
- there had been a recent successful health and safety prosecution of a local government top official (the “could have been me” indicator); and
- there was an impending change of staff at the top of the host PSO (“better change now before it is too late” indicator).

These issues created the opportunity and motivation for change that, in turn, converted to senior management support. The second key influencing tool was that:

- a realistic and viable management-of-change programme was prepared (the solution indicator).

Without this sensible proposal, an entirely different culture might have been the aim. These two approaches acted as a double lever and were the main influencing techniques applied to the PSO. However, international research indicates that internal organisational approaches to health and safety, such as health and safety committees, on their own do not have the intended impact on companies’ safety performance (Nielsen, 2014).

Having advanced the proposition that there can be pockets of differing health and safety culture and therefore misunderstandings about a prescriptive description of culture, I accept that it is an intangible concept that is shared through behavioural actions, and it can be subtly obscure (Guldenmund, 2010) even within a large organisation. In addition, there will be an interface between these cultures within the organisation that could even be internationally rooted and impact on risk perception and behaviour (Mearns and Yule, 2009). I see evidence of this even today at a local level, where staff based in a particular depot develop a negative attitude that is out of step with the mainstream, despite having all the key elements to satisfy their hierarchy of needs (Maslow, 1943). The pockets of differing health and safety culture can have legacy issues from positive or negative interventions or incidents where complacency

brought about unplanned and out-of-focus working practices without guidance from an OHSMS, or where large-scale systems approaches are transferred to localised parts of organisations (Makin and Winder, 2008). However, I do have personal experience of elevated motivation levels that are stimulated during a crisis, such as when departmental staff were requested to deal with the UK foot-and-mouth incident (2001). This incident produced a surprising response: with minimal systematic approaches, staff transferred their skills from arterial drainage to the control of infectious disease in animals, and major incident plans were developed on the ground by leaders in makeshift control points. Such incidents embed a deep sense of collectiveness without the formal trappings of a recognised system; after the incident, staff can retain this “can do” attitude. Another example might be where some heads of business units decide unilaterally to cease commitments to formally approved controls such as training, discussion, campaigns and bonuses (Gregersen, Brehmer, and Morén 1996) that were designed to sustain the desired health and safety culture. This might require a managed approach to address reduced commitments (which might have been reduced for legitimate reasons), but the result of the reduction might be to delay delivery of the initial well-founded objective. In this regard, a permanent legacy benefit can be evident without continuing investment if there is already enough momentum to carry the objectives through to completion either by focusing on softer issues or by using a river diagram survey that helps the practitioner develop OHSMS implementation plans more overtly (Gordon, Kirwan, and Perrin, 2007). However, with or without management commitment, staff may respond to initiatives in different ways: their receptiveness to new in-house initiatives can create or discourage efforts to improve health and safety culture.

Having established that pockets of different health and safety culture can exist, it is necessary to explore what happens at the interface of these different cultures. This includes the contribution of self-regulation, even in sub-cultures of industries such as aircraft maintenance (McDonald et al., 2000), especially the conditions that might exist immediately prior to a decision by employees to report, or not to report, a near-miss incident. When an unsafe event occurs where no personal injury or loss results, what will be the response from staff? Would the staff who witnessed or were involved in the incident report the near-miss event if it would otherwise have gone unnoticed

(as they should, according to company policy)? The part of the organisation that is thought to have a positive health and safety culture will aspire to report the details of the event as a near-miss incident, in order to learn from the event and to share the experience with the rest of the organisation. By contrast, the part of the organisation that has a poor health and safety culture will be oblivious to the opportunity to learn and may take an insular approach to self-assessment, including differing approaches to reducing injuries at work by focusing on organisational factors (Huang et al., 2006). They may even decline to report the incident at all, concluding that as no personal injury resulted the event did not constitute an accident at work. These two contrasting approaches and responses to admitting an involvement in a near-miss incident reflect positive and negative health and safety cultures. I have observed this, particularly on training courses: people who are away from their regular colleagues will reveal to other class participants the true reality of common workplace practices. This presents me with opportunities to use knowledge stimulation trigger techniques to guide, coach and mentor staff in the best direction for their situation.

The motivational factors that influence a changing health and safety culture are the past, present and future. The past may contain good and also bad health and safety experiences. Sadly, it is usually a bad experience, in sectors such as railway transport and rail maintenance, that draws attention to underlying failings (Farrington-Darby, Pickup, and Wilson, 2005). This points to a range of elements that contribute to the prevailing culture, including management style and close or remote actions connected to the seat of the incident. These combine to inspire an organisation or an individual to change willingly, or to entice an individual to take on a particular course of action and champion the cause of change (Chrusciel, 2008). Of course, it might also be a serious near-miss incident or a warning issued by the HSE that motivates the organisation to change. The present may contain the present-day concerns of senior managers, and this might propel them into taking affirmative action to address the present-day issues. These concerns may appear on the organisation's risk register under various tools designed to aid the management of project risk within a company (Patterson and Neailey, 2002), which might also be the catalyst for improving health and safety culture. Factors in the future may include new or previously encountered risks that the organisation must assess and plan for. This may require a new, improved

or refreshed health and safety culture, recognising that present cultural norms based simply on visible and active leadership are inadequate (see Public Works Volume 6).

The motivational factors that influence and inform a changing health and safety culture can be both negative and positive in origin. Bad experiences can be extremely difficult for organisations to deal with, but can also be used to bring about change in the organisation. Fatalities during work tasks, prosecutions, and convictions resulting in large fines or custodial sentences rank among the top negative motivating factors that propel change. Negative experiences that are less severe might include a critical audit report or HSE warning; this can, if received in the correct context, be an important motivational factor that brings about improvements in health and safety culture. An influencing factor with a positive origin might be the foresight of individuals who see the strategic benefits of investing in the present for the future. This approach is usually front loaded: investment is required to commence the change process, but once change has started, less investment is needed to sustain improvement.

3.3 Health and safety policy statement and health and safety culture

A health and safety policy statement should set out the overall health and safety objectives of the organisation along with commitments from particular directorates and groups (see Public Works Volume 1). The objectives will include how the organisation aims to comply with legal obligations, as identified by Granerud and Rocha (2011), and how certification supports wider learning, particularly at the lower end of improvement. Higher-level, more complicated improvements are connected to other organisational issues and management attitudes. In other cases, the policy statement sets out particular legal obligations pertinent to organisational undertakings, which might include social clause commitments. The commitment to certain aspects of work is where the organisation demonstrates what it intends to achieve, and how. Most health and safety policy statements will include some descriptive terms that reflect their organisation's ethos, such as the principle of prevention (under Appendix 1 of the CDM Regulations 2015) or, more generally, wider principles affecting hygiene (Rosner and Markowitz, 2002) as being a key element of its OHSMS. The health and safety policy statement may also refer to the particular health and safety

management system by name, because of the variety available, and most will mention incorporating the health and safety arrangements into day-to-day work practices.

Having a health and safety policy statement is critical for legal purposes. What contribution does it make to the health and safety culture of an organisation, and can an organisation properly function and manage its health and safety responsibilities without a health and safety policy statement? While there are good legal reasons for having the policy statement, the “steering” dimension that the health and safety policy statement offers is also valuable, and makes it the key empowering document that holds together all health and safety arrangements. Therefore, with or without a corporate document, signed by one individual, that converges all authorities into one, it is preferable to have the policy statement if only for this single purpose: as a communication mechanism for distributing the strategy. Business units and directorates risk deviating from the common strategy without this overarching document.

The purpose is to ensure that the organisation complies with the legislation in the jurisdiction where it operates. It also acts to frame the overall objectives and commitments of the organisations into one document. Having one document that collates all responsibilities in one location provides a focus point for the entire organisation.

3.4 Planning for managing health and safety in the workplace

Following the research that was part of the Public Works (Volume 6), the host organisation set out to follow these recommendations. The planning culture in the Public Works was based on six key principles of HSG65 2nd Edition.

In 2010/11, I recommended adoption of a system-based and line management-centred version of HSG65 (see Public Works Volume 6). It encouraged learning from mistakes, while being mindful of process-based and documentation-based debriefing methods and potential lack of willingness to learn from mistakes (Schindler and Eppler, 2003). However, I went further and stated: “It is never good enough that we learn from our own mistakes, we must also learn from the mistakes of others.” My

interpretation of HSG65 2nd Edition is unique to the host PSO and produced a new level of learning. It has particular attributes unused by any other PSO in Northern Ireland. It is balanced delicately between being prescriptive, and therefore rigid, and being flexible, therefore opening up opportunities for employees to work within a framework so that health and safety responsibilities can be managed at a local level and in a particular way that discharges the legislative obligations. The arrangements are unashamedly line manager-centred: this gives line managers responsibility – and also trusts them – to interpret all rules within the arrangements purposefully to enhance the positive health and safety culture that has been established. Where there is limited scope for interpretation of legal requirements, these narrow interpretations of health and safety law are reflected in particular aspects of the arrangements. It is based on the principle of having a safe point of reference for staff and managers to relate to within the community of practice.

3.5 Employee ownership of health and safety in the workplace

I recognise in my practice, and it is confirmed in ISO 45001, that staff engagement results in employees taking ownership of issues. This approach is not new to the host PSO, as it has already accepted the principles of employee-empowered self-supervision. At the same time it does not promote the financial costs or savings of self-supervision, including the wage differential aspect (Leonard, 1987). Self-supervision, on its own, can be an extremely toxic managerial mix, and also an opportunity for every employee who wants to take unreasonable risk and to cut corners on health and safety issues. Of course, the host PSO's bonus scheme requires that work should be of a certain quality – and the assessment of quality takes into account the level of compliance with health and safety standards (Bonner and Sprinkle, 2002). A question remains over the efficacy of monetary reward systems to drive outputs, which would merit further research. Nevertheless, the motivation to cut corners goes beyond mere financial rewards, and this can lead to unintended consequences. Supervision is a key requirement of the Health and Safety at Work Act 1974 and is used to develop a positive health and safety culture. While organisational commitment does not fully mediate the effect of job autonomy (Parker, Axtell, and Turner, 2001), the employer retains a significant legal obligation to discharge this duty to a reasonable standard.

The health and safety role of employees has a number of key elements, as prescribed in the 1974 Act. In particular, to comply purposefully and effectively with company procedures requires a certain attitude on the part of the worker, common to safety and to security in the workplace. Complying with company procedures and risk assessments requires the employee to select which procedures are relevant to the task being undertaken. Because of the dynamic nature and variety of tasks undertaken by all 2000 employees in the host PSO, selecting the correct procedures and risk assessments is critically important. Once the relevant procedures have been identified, they must be applied: this is vitally important because the procedures are rarely written in a site-specific nature – a dynamic risk assessment must be applied to the work activity for that particular site. This dynamic approach is similar to how some organisations manage data through an accident dynamic simulation. Identification is the first step, followed by application of procedures in line with organisational protocols; these are two key roles and responsibilities in the PSO that apply to all employees.

My Personal Safety Space Awareness concept, presently developed and deployed in the host PSO, is the outworking of staff engagement and participation as referred to in ISO 45001. It refers to a fresh concept, which is the expectation that employees will comply with generic risk assessments (Public Works Volume 3c), implement dynamic risk assessment (see above), and ultimately take account, at a personal level, of the envelope of safe space that surrounds them, typically but not exclusively on site. The concept relies on a proportionate level of individual responsibility and safety control envisaged and provided for a worker by an employer through generic risk assessment controls known as “activity safety controls” (see Public Works Volume 3c). The protecting envelope thus places the worker at the centre of a Personal Safety Space, and the external boundaries of the Personal Safety Space can vary depending on the type of risk linked to the task. Staff awareness of the boundaries of their Personal Safety Space relies on a continual, self-reflecting (dynamic) process of recognising that the risk of harm may come from any direction (from above – falling objects; from the side – from moving vehicles; or from beneath – underground utility services). Personal Safety Space Awareness recognises that risks to one’s own Personal Safety

Space can materialise in two main ways: first, when the risk penetrates the Personal Safety Space; and second, when the worker takes themselves into or onto an area of unmanaged risk, and in doing so, causes their Personal Safety Space to be penetrated.

The health and safety role of the line manager is to oversee the identification, application, and recording of the application of health and safety procedures by transferring instructions into actions that the worker will carry out. Ideally, this transfer should reflect the reciprocal relationship between manager and worker (Hale, 1995). The line manager is required to ensure that employees are aware of the relevant organisational procedures before they start a given task. In any given situation, whether the supervisor is on site or the employee is self-supervising, the line manager is responsible for discharging the key employer obligations set out in the Health and Safety at Work Act 1974 and the Health and Safety (NI) Order 1978 in Northern Ireland. This ensures that procedures are applied in compliance with legal requirements. The line manager has a further key supervisory obligation, to record checks carried out as part of an evidence-gathering exercise to ensure the stipulations of the Act and the Order are being complied with. The overall thrust of this aspect of health and safety management is that all employees, both workers and management, accept ownership of the health and safety arrangements so that management are not perceived as being dictatorial.

Senior managers and local line managers engage with a variety of third parties, some of which are stakeholders and have interdependencies. One of the groups comprises the representatives of the industry and the construction industry at large, and its connected life cycle. This broad approach to sharing experience is twofold. It provides an opportunity for the PSO to learn from private sector experiences when engaging in public/private partnerships (Bing et al., 2005), for example when dealing with procurement processes, risk allocation and research design. In return, the PSO can share public sector best practice with industry representatives. Both parties receive the appropriate benefits from each other in such a collaborative exercise.

A PSO engages with third parties in a range of ways, tailored to the needs of all groups. Client and industry engagement takes place through structured meetings,

where the role of chairperson is rotated meeting by meeting, as are secretarial duties. In doing so, a greater level of ownership of the benefits is established and taken on by both groups without creating an ownership advantage. In some instances, protocols are developed. This encourages individual supply-chain contractors to consider the protocol details; it also gives them scope to apply the details to their particular work environment in the most appropriate way without imposing positive or negative leadership behavioural aspect on them (Amabile et al., 2004), while accepting that leadership support in the work environment is positive for subordinates.

The PSO is encouraged to see interaction with third parties as a positive exercise and not as a one-sided conflict even though undoubtedly each party will have different objectives. Firstly, it is an opportunity for the PSO as a client or as a statutory body to receive feedback on their individual performance. Feedback is regarded as a valuable learning stream through which the PSO can learn. Secondly, it is an opportunity to learn about problems at an early stage in an interactive fashion, rather than using technology to identify either the problem or solution that might manifest later.

Having addressed the “Plan” aspects of managing health and safety in the public sector, I turn in Chapter 4 to the “Do” element of the PDCA cyclical framework.

4 Do: Actions required for effective change management and leadership

4.1 Preparing for health and safety change

I believe, based on experience, that PSOs can prepare their staff for health and safety change by engaging in meaningful communication. The public sector has structures through which it can communicate clear objectives and the processes required to achieve them. There are extensive opportunities to engage with staff participatively through trades unions and other staff engagement forums. By communicating a vision, the organisation starts from the position that it creates knowledge continuously, before moving on to understand its processes of creating knowledge, and then ultimately exploits its own new knowledge (Nonaka, Toyama, and Konno, 2000). This helps the process of planning for change, or a new approach to health and safety management may become an aspiration for the employees. The PSO may also engage with trades unions to seek their views or support for the proposals of change, and aim to acquire Trade Union Side support for the change. Early publication of properly developed plans for the management of change is key to providing employees with the opportunity to adjust their mindset to how the organisation might function in the future. The above are key elements and part of the duties of the change team.

Focused PSO leaders will know when to change by reflecting on past performance. The ability to know when to change is not just a function of intelligence or, indeed, experience: it is inextricably linked to an ability to reflect critically on experience and through that reflection to recognise one's own assumptions and propensity for action. A manager's capacity to lead change depends not just on intelligence but on the ability to think more broadly. However, all tests of intelligence or cognitive aptitude are based on optimal performance conditions, whereas measures of thinking dispositions are often based on typical performance conditions. The Cognitive Reflection Test is designed to measure the tendency to override a prepotent response alternative and is thus more reliable (Toplak, West, and Stanovich, 2011). Observing the behaviour of peers in a similar business sector and taking account of the advice from health and safety professionals can also help. Monitoring past performance

results usually provides an organisation with a reliable prediction of likely future behaviour (parallels may be found in financial circles) which, in turn, will provide the necessary health and safety insight into the required preventative or corrective actions. The behaviour of peer organisations can sometimes help an organisation to know about changing environments, such as preparing for impending legislation changes by horizon scanning. This encourages rigorous thinking about the future in a professional setting, but also recognises that decisions are made to influence the future; therefore, the decisions should be informed by robust evidence about the range of possible scenarios that might occur (Sutherland and Woodroof, 2009). Planning to embark on, or enhancing a new formal or informal training programme should take account of these principles while noting the relationship between the training programme's characteristics and the variable effectiveness of different training programmes (Bartel, 1994).

The business risks and uncertainty associated with health and safety change management should be handled in line with similar risks within the organisation, such as finance and human resources. However, undertaking a critical review of some of the main theories and approaches that can be used in organisational change management is an important first step towards constructing a new framework for change (Todnem, 2005). The risk profile of the health and safety-related undertakings will dictate the proportionate degree of care and due diligence required to successfully manage health and safety change in different work environments. This will include the power of directors to delegate areas of responsibility requiring specialist knowledge, and the degree of permissible reliance on professional advisers (Lowry, 2012). Another risk factor might be improperly rated risks that are already on the organisation risk register. This comes about in some cases because inexperienced employees underestimate the seriousness of some risks and downgrade the risk rating, lessening the importance placed on the particular risk item or product, such as fire-related external cladding. A final category is not having significant risks on the risk register at all (for example, a supply-chain risk).

Having led a change programme, I recognise that a management-of-change project in health and safety should be led by an individual with overall health and safety management responsibility as well as corporate, individual and moral responsibility in

the workplace. This supports the argument of a theory of responsibility which takes into account individual responsibility as well as collective and corporate responsibility (Soares, 2003). Of course, the person with overall responsibility will have professionals managing health and safety to advise them through power-sharing or delegation arrangements in a multi-method approach including morality, fairness, role clarification and power sharing (De Hoogh and Den Hartog, 2008). This includes their corporate responsibilities, and it is therefore very unlikely that any risk register review would be undertaken by the health and safety professionals under the corporate control and guidance of the most senior employee. Nevertheless, particularly in the public sector, new leadership understanding (Moynihan and Ingraham, 2004) of health and safety change management rests with the most senior employee, as in any evaluation of senior management leadership and governance (Middlehurst, 2004). It is therefore imperative that other styles of leadership in the public sector are catered for in a framework approach. Some writers speak of “charismatic” leadership (Javidan and Waldman, 2003) but I see this as just another way of expressing the key attributes that I associate with my own interpretation of participatory leadership, where my focus is on integrity, inspiration and innovation to express just a few.

- Integrity: Integrity in the public sector, particularly in relation to change and trust, is dealing with unpalatable decisions that are actually necessary and important for the organisation and the public as end users.
- Inspiration: Inspiration to lead employees through challenging experiences with passion for the process (DiPasquale, 2010).
- Innovation: Innovation in particular public sector areas might also be beneficial if savings can be made without the fear of job losses through outsourcing, and other key employee concerns.

The management of change in health and safety should be conducted in accordance with a number of universal principles about managing change (Burnes, 2004). This includes having overall alignment within an organisation to deliver a smooth transition of organisational change. The McKinsey model discusses this in terms of “seven S’s”: structures, systems, strategy (the “hard S’s”), shared values, style, staff and skills (the “soft S’s”). This alignment can be achieved by developing a balanced view of the organisational change in terms of hard and soft dimensions (Waterman,

Peters, and Phillips, 1980). Often the focus is on the hard elements but it is the soft dimensions that make change so difficult to deliver.

4.2 What is health and safety change management?

Managing change in health and safety is different to managing change in other business activities such as manufacturing, although there are a number of business similarities. For example, some health and safety practices rely on the application of rules, perhaps intuitively, by the individual worker. Furthermore, employees apply heuristic, non-prescribed rules and procedures to keep themselves safe, such as unwritten rules-of-thumb or their own interpretation of managerial messages. This intuitive application of rules can be further divided into a number of safety-related assumptions, which are related to human error, procedure compliance, protection and safety, root causes, accident investigation and “safety first” (Besnard and Hollnagel, 2014). This can result in a system that relies on the skill of an experienced individual; when the experienced individual leaves, an inexperienced employee will be introduced to the system and the gaps in their knowledge will be exposed because the approach to undertaking tasks is based on an incomplete set of rules. While the new (novice) employee is gaining experience they are more vulnerable to personal injury and loss events; they might even have formed a bizarre understanding of risk from their previous experience. This is a critical time: as the employee gains experience and absorbs local norms of behaviour, they need to be supported sensitively to gain an understanding of what it means to work safely. This is the essence of the risk management approach. This approach recognises the concept of health and safety risk rather than attempting to create a catalogue of every eventuality (McKenna, Clarke, and Glendon, 2016). The typical experience of learning a task is different to applying a devolved process, as explained above. Therefore, management of change, when uncertainty could pose an additional risk of personal injury, is different because of the moral as well as the legal conditions surrounding it.

A number of models for the management of change are available; of particular note is the management-of-change model used by Washington State Department of Labour Industries. It is based on a number of best practices:

- Risk Control Systems: effective risk control systems and the relationship between control systems;
- Communication: clear written communication of procedures, to ensure understanding;
- Training: training for staff unfamiliar with new processes; and
- Review: compiling and documenting the review process for future use.

In 2015, my approach to management of change was to apply an established but amended SWOT tool (Coman and Ronen, 2009) to the existing health and safety arrangements in the organisation. This exercise revealed:

- strengths – in tacit knowledge held by management (Polanyi, 1967);
- weaknesses – informal existing procedures were identified; staff rotation was not taking place, leading to a large number of experienced staff in post for longer than anticipated;
- opportunities – for example, the repercussions from the prosecution of a local authority; and
- threats – the possibility that operating procedures could be scrutinised by the enforcement authority.

My particular SWOT approach worked well because most senior managers in the organisation realised that the organisation needed to change. Blindness to change in some quarters and the erroneous inferences that could have been drawn regarding change blindness (Simons and Rensink, 2005) offered the senior management that were open to change the encouragement to bring it about. Therefore, individual members of the senior management team that supported change out-influenced the less enthusiastic members of the senior management team. The sense of reason won through, supporting the view that leader personality can affect organisational performance (Peterson et al., 2003).

4.3 Staff involvement in health and safety change

Key staff were the chief executive, the director of health and safety, the head of business unit, the principal health and safety professional and the health and safety team. The chief executive, as head of the organisation (Whatnall, 2014), gave approval for the change process to go ahead. Without this approval there would have

been no change process. The change team developed all health and safety arrangements and oversaw the work of the senior health and safety professional. Trades unions were also involved, representing the views of their membership as is common in many sectors, and they reviewed the new arrangements on behalf of their membership.

4.4 Health and safety leadership

As the principal responsible for health and safety policy in the organisation, I led my Public Works management-of-change programme for health and safety by using established project management techniques. This responsibility was delegated from the chief executive through the director responsible for health and safety to the principal, following a professionally critical management approach to delegation. It was delivered through a 12-point change programme.

The corporate oversight responsibilities allocated to me, as the principal change manager, were: occupational health and safety for direct employees; client responsibilities for the in-house contractor and the external contractor supply chain; and any other activities connected to the organisation's undertakings. These oversight responsibilities and my performance of them were scrutinised in turn by others. The PSO in-house contractor, a direct labour organisation, is a key risk area and requires significant risk management from an occupational health and safety perspective. The contractor supply chain required focused client responsibilities especially in relation to work being done in a workspace or an environment shared between the PSO and a private contractor. Finally, the PSO, along with many of its other health and safety duties, is responsible for maintaining a safe road network. This is an extensive obligation and occasionally brings internal directorates into tension – for example, when the needs of contractors are at odds with the needs of the general public (for instance, the contractors might require a road to be closed to make the site safer for their workers, but the closure might expose road users to greater risk because of a long and perhaps precarious diversion). Therefore, a proper holistic and systematic risk assessment is necessary for all factors in such circumstances to be included, and recognises the need for people involved in construction to undertake systematic and

effective risk assessments for different trades (Fung et al., 2010) within an overarching framework that deals with risk complexity.

4.5 Health and safety professional institutions

I selected two large professional bodies in the health and safety community to be involved in peer reviewing the 2015 Public Works (Volumes 0–6) change process. They are the International Institute of Risk and Safety Management (IIRSM) (Backhouse, 2016) and the Institution of Occupational Safety and Health (IOSH). They supported the legitimacy of the peer review process as in other professional disciplines, and their involvement also supported the challenges of negative health and safety perceptions, framed around the concept of legitimacy (Almond and Esbester, 2016).

4.6 Employee health and safety decision-making

I provided significant scope for individual decision-making within the Public Works health and safety arrangements; in fact, individual decision-making is a key component of workers working safely, as stipulated in ISO 45001. There are numerous national standards that the employees work within, even though they are also legally binding in the jurisdiction of the host PSO. However, application of these standards and how employees interact with the public are matters for the individuals in the workplace, so long as they comply with the law and with the interpretation of the law in the health and safety arrangements.

Typically, road workers have significant discretion in applying procedures and arrangements. This applies equally to workers on short-term or permanent contracts, but the limit of this discretion is to work within the rules. However, the client has a significant role in determining when the procedures are applied, by which work methods, and in particular how work-based activities take place, as verified under the Construction (Design and Management) Northern Ireland Regulations 2007 /2016 (see Public Works Volume 3a).

I developed organisational rules and procedures from legislation. In most cases PSOs do not have the necessary powers to go beyond what health and safety legislation

prescribes, and PSOs are required to manage resources within budgetary limits. Nevertheless, where organisational benefits are clear in how laws are interpreted, the host PSO will also take a progressive and purposeful approach to interpreting legislation without being accused of extravagance in the use of public funds. This may include taking into account the findings of significant reviews, such as “Reclaiming health and safety for all” (Löfstedt, 2011) which considered the cost to business of over 200 regulations and over 50 ACoP HSE-developed documents against the apparent lack of tangible health and safety benefits arising from them. The host PSO’s arrangements are therefore progressive and dynamic in their drafting of policies that generate collaboration across directorates, and in the application of these policies to site-based activities by distinguishing between policy managers and implementers who are encouraged to be creative.

In my opinion, the PSO has a cautious interpretation of health and safety law. It is positively risk-averse when complying with specific legislation. There are a number of reasons for this. In most quarters, PSOs are seen as health and safety role models because they are not motivated by financial gain. They are generally perceived as being resource-fit and not subject to the financial pressures borne by private sector companies, although this perception may be challenged because of the purchaser’s and provider’s management split in the public sector. There are, however, a number of PSO road authorities that have no health and safety discretion because of statutory procedures that are already in place; they cannot rely on self-regulation. An example of such procedures is Chapter 8 of the Traffic Signs Manual (Department of Transport, 2006), which aims to provide a basic understanding of the range of skills and techniques needed by a modern traffic engineer in the UK. It is therefore accepted that health and safety legislation has a very literal interpretation and is regarded as being absolute (see Public Works Volume 3, which deals with the Construction (Design and Management) Regulations (NI) 2016).

Incentives for complying with and creatively implementing health and safety procedures in a PSO have a number of strands depending on which part of the PSO is targeted. My research study had access to a large industrial workforce of 600 staff who participate in a productivity scheme that rewards completed work based on quantity of work delivered by these individuals. Historically in the host PSO, low

hourly pay rates were the norm that permitted the employer to provide additional financial rewards to employees who produced more work. The productivity scheme measured additional factors such as quality and health and safety aspects to ensure that the work was produced to a satisfactory standard and without unnecessary health and safety risk to employees or others. The balance between these sometimes conflicting demands, quantity versus quality and health and safety, is sometimes upset when rewards are provided or withheld on health and safety or quality grounds, meaning that well-intended plans can sometimes deliver unwanted results.

Barriers to innovation in health and safety come in a number of forms. These include the work environment being of a high-risk nature, therefore requiring very prescriptive methods of working, or the legislation requirements needing full compliance. High-risk work environments include high-speed roads, where in some instances workers are less than a metre away from passing traffic, protected only by plastic road cones. Obviously, road users are required by law to follow temporary traffic management (TTM) systems, but the employer is required to design these systems properly and the workers are required to deploy the TTM properly. In Northern Ireland, these obligations are absolute legal requirements and therefore restrict innovation, whereas in other parts of the UK this information is advisory, permitting trials to be carried out before they are proposed as workable solutions. Combinations of issues such as these inhibit the kind of TTM used in other jurisdictions from being adopted in Northern Ireland. Unfortunately, it is barriers such as these that have a negative impact on knowledge stimulation triggers.

The factors that influence planned outcomes in health and safety include medical conditions linked to work environment. Organisational performance depends on having a flexible, well-trained workforce that is healthy and fit. The following does not include particular issues relating to the Disability Discrimination Act that are caused by factors outside the employer's scope. The environment that the host PSO industrial workforce operates in, and where my research was carried out, is physically demanding and, some claim, physically destructive. The risk to health through vibration machinery and noise factors is prevalent and requires particular risk-based controls to offset the possibility of staff setting aside their long-term health interests

for short-term benefits. One can discern issues associated with masculinity in the present-day male-dominated industrial workforce that recall similar issues identified in the heavy industries in the period from the 1930s to the 1970s (Johnston and McIvor, 2004). It is a key requirement of the OHSMS to protect employees from occupational health-related issues such as hand-arm vibration syndrome; Pelmeier and Taylor (1994) set this out clearly when considering the risk to workers of repetitive strain and hand-arm vibration, noise-induced hearing loss or other, respiratory issues. It is therefore imperative that the PSO has a thorough health surveillance programme that monitors and protects employees' long-term health. If health conditions emerge, either work related or non-work related, employees are screened. On some occasions this screening can result in the employee being put on "restricted duties".

4.7 The role of reflection in the workplace

Organisational procedures for health and safety are predominately prescriptive, designed so that the end user will comply and thus be reasonably safe from harm. However, it is my natural instinct to create an environment where end users can be flexible in their application of the procedures, but any such flexibility must be rooted in thoughtful consideration of past experience and this speaks to the significance of teaching methods of reflection. As a policy maker I must take account of the end users' needs and seek to accept the relationship that exists between the policy maker and the end user. On the other hand, the end user is also part of the circular relationship in a cause-and-effect cycle: policy is written to safeguard the employees but must provide scope for them to be flexible in implementing it; it must also acknowledge that, on occasions, the policy may be a barrier to their short-term objectives given the situation and environment they face at that point.

I have provided opportunities for managers to reflect on health and safety in the workplace on a number of fronts, such as policy development and policy implementation. Policy development in the host PSO is undertaken by the health and safety policy committee, but in reality, a policy change can start with the most junior employee performing a task and realising that he or she can visualise a better way of doing it. My form of bottom-up innovation can pose a conflict between established norms, stated procedure and the new possibility for action visualised by the employee.

Employees, working on their own or in groups, without direct line management supervision, may encounter a range of opportunities to be reflective. Strangely, when they are working without supervision, small groups of workers may be more creative, as they feel free to discuss the nature of a particular situation. It was one such discussion by road workers that came to my notice and eventually led to the “innovative cone taper”. A diagonal line of road cones is used for TTM purposes to give drivers the impression of a solid, transverse wall of cones across the lane. The road workers were debating the minimum number of cones needed for such a diagonal line along a motorway lane, and realised that they could create the *illusion* of a solid, transverse wall of cones. This is now adopted as the innovative cone taper within TTM systems.

I have developed a particular form of dynamic risk assessment. This is not an opportunity to compile and create a new site-specific risk assessment. Rather, it is the site-specific dynamic application of all previous training, instruction and application of information to the particular site in an unrecorded way. The workers approach their work within permissible rules and procedures to learn from normal work activities (Davies and Easterby-Smith, 1984) and then apply the best possible solution for the particular site-based task. I recognise that workers have a vast store of tacit knowledge built up of multiple individual experiences; this enables them to engage in a conversation with the situation, a process that Schön (1983) characterises as reflection-in-action. Although the application of existing organisation procedures is dynamic, there are limits to on-the-spot applications on a particular day. If they are unable to perform the task safely, workers are obliged to abort the task and seek guidance from line management.

The risk associated with being reflective in the workplace is that the universal application of rules is challenged, not only in the field of health and safety but also in government or large industries such as oil (Taylor, 1993). The challenge with developing and applying rules (including health and safety rules) is to enable them to be used as a framework that offers the best available advice and procedures at any given moment. However, the rules may become open to secondary interpretation over time, especially when they come into conflict with strongly held moral beliefs about

what is right in a particular situation. If I wish my workers to exercise reflective practice, I must expect that sometimes that very reflection will raise moral dilemmas. A key aspect of my leadership style is to create an environment where workers feel free to have dialogue within the group and approach management when they believe that published procedures are getting in the way of them doing the right thing. I believe that my approach is consistent with Moss Kanter's (2001) conceptualisation of participatory leadership as moving from ordering to inspiring. She sees this as developing abilities in the worker rather than the leader; for me, this understanding needs to be expanded to recognise that workers exercise their skills and knowledge within a personal framework of values, and that they will be motivated to act safely when processes resonate with their values. There is of course a potential danger when workers feel compelled to act solely on the grounds of their morality. Without checks and balances and careful consideration of wider systemic influences, local actions applied without proper trials can result in a catastrophic health and safety event, such as multiple road users involved in motorway collisions.

My study has revealed (Volume 6) that a reflective health and safety workforce is dynamic, flexible, and open to ideas and new theories about their business. Organisational change usually has a cost, but the cost can be offset by later benefits. The benefits are weighed against the immediate short-term costs before deciding to embark on the change. The duration, and hence the reviewing time, linked to the change is usually the influencing factor that tips the balance on any decision, as is the case in many business situations when considering whether change can be justified. Other factors affecting the decision-making process include the scale of replication and transferability, the influence that workers' autonomy can have on knowledge, and the effect that teamwork and increased workers' autonomy can have on transferring knowledge of change internally to other parts of the business (Molina and Llorens-Montes, 2006). All of these elements can come from employees who work in an organisation that has a culture of learning and is open to change.

My research recognises that procedures are usually written to be prescriptive, to avoid risk to health and safety while taking account of dynamic and uncertain environments, even in a construction project (Lingard and Rowlinson, 2005). In other words, the rules ensure that tasks are carried out in a way that controls the risks associated with

the delivery of those tasks. In some regards, prescriptive processes stifle innovation in practice, whereas performance might be improved through a flexible approach that could encourage innovation. Ideally, the procedures do not and should not stifle employees' creativity with regard to being reflective as part of undertaking a task. Reflection can work in harmony with prescriptive health and safety procedures if the procedures are designed to prescribe a process within a framework approach that does not compromise the health and safety of employees and others (see Volume 6). Striking the correct balance between these competing influences on workers' practices is key to ensuring that health and safety procedures do not stifle individual and group reflection and learning. This reinforces the point that a form of team-based reflective practice is positively connected to innovation (Schipper, West, and Dawson, 2015).

Having addressed the "Do" aspects of managing health and safety in the public sector, I turn in Chapter 5 to the "Check" element of the PDCA cyclical framework.

5 Check: Actions to establish and measure health and safety performance

5.1 Measuring health and safety

Volume 4 of my Public Works sets out the process of measuring performance output in line with particular behavioural principles. Some measures are determined, by senior management, as critically important indicators of overall performance, i.e. areas where we simply cannot rely on assuming adherence. These key measures are also regarded as points that reflect a wider body of activity within the organisation. Points of critical importance and connection with human resource management (HRM) are areas or activities that, when things go wrong, reflect the highest level of undesirability but do not always have negative occupational health consequences. This points to the importance of establishing an open and valued relationship between OHS and HRM for leaders who seek a broader understanding of the relationship and interaction between HRM principles, policies and practices, as well as a range of contemporary OHS issues (Boyd, 2003). Disjointed responses to staff incidents can be extremely damaging to the reputation of the PSO when they occur and may attract significant financial loss. By contrast, increasing productivity through health and safety approaches shows how ergonomics can be used to save money for organisations (Oxenburgh, Marlow, and Oxenburgh, 2004). However, severe incidents may also bring into question corporate and financial governance issues that may expose the most senior officials to be personally and criminally liable. This can happen when an employee or a person connected to the PSO's undertakings has suffered personal injury or loss, and their health and community care has been negatively affected because of governance failures (Ezzamel and Willmott, 1993). Points that reflect the wider performance measuring of other, similar work are selected because they represent wider activities including social interaction and exploratory talks. Some people believe that selecting one key measure from a broadly similar group of measures can provide a reliable indicator of performance in other non-measured activities.

I advocate a holistic form of measuring (Table 3) that takes account of qualitative and quantitative measures. It is considered that all activities undertaken by the host PSO

are subject to measuring under a framework that collates results and outputs, and that they are classified as health and safety performance contributions. This is referred to under three main headings: individual measurement, combination measurement, and infrastructure that can collate the data (Kennerley and Neely, 2003). These measures are broadly similar to the four behavioural aspects of control, co-operation, communication and competence that feature strongly in the Public Works. Performance is captured in the Ten Point Health and Safety Performance Calculation Matrix (Table 3) using numerical terms that together form an overall performance output (see Public Works Volume 6). Using quantitative data as a simple communication tool, in preference to a more qualitative approach, is supported by some experts particularly within communication fields. Studies have found that people accommodate communication modes other than their preferred mode if the situation warrants it (Wallsten et al., 1993). I selected numeracy as the unit of measurement because of its expression and clarity, rather than using a narrative that can be subject to greater interpretation and innuendo. Furthermore, the individual numerical performance results are then collated by adding them together and expressing the sum as a percentage. The percentage currency was selected as it succinctly expresses an organisational health and safety performance and allows annual performance values to be compared easily with performance in previous years. This approach is acceptable to my management and obviates the need for additional narrative explanation that other methods, such as accident frequency rate per 100,000 employees or injury frequency rate per million hours worked, would entail.

All employees are directly or indirectly involved in measuring health and safety performance through intra- and inter-relationships (Redinger and Levine, 1998). The employees that are indirectly involved in measuring, and who therefore contribute to improving the culture, may be unaware of the complex nature of all elements of that culture, including the extent to which employees are actively involved in safety on a daily basis (Young, 1998). They make quantitative performance returns and are part of the overall compilation of health and safety performance returns. The employees that have a direct involvement in health and safety measuring (Holt, 2007) are the employees that, when selected, participate in particular safety control management checks on health and safety activity; this approach is underpinned by research that

looks at some of the themes directing late 1990s research within the area of occupational injury and safety (Feyer and Williamson, 1998).

In practice, the authority to measure health and safety comes from senior management team decisions to measure at regular intervals against previously established targets. Measuring is therefore an intermittent but regular process of gaining data in a qualitative fashion that presents as health and safety performance. The authority from the senior management team is therefore transferred through line management structures to all parts of measuring undertaken by line management.

5.2 Health and safety targets

There are four main behavioural health and safety activities that should be measured. These are discussed in Public Works Volume 6, that deals with the Ten Point Health and Safety Performance Calculation Matrix. The matrix includes activities under the headings of Control, Co-operation, Communication and Competence (see Table 3).

The active health and safety measuring techniques that are advocated are systematic inspections and are used to reinforce health and safety management, arrangements and regulations. Partnership working on such matters is regarded as important because it generates mutual understanding and co-operation between the partners (auditor and auditee) and because significant differences between the partners' cultures could create barriers to mutually beneficial methods of working (Vassie and Fuller, 2003). The work activities, environmental monitoring and surveillance of staff health are part of the systematic audit regime. The systematic inspections advocated comprise a process of ASCs that are checked by line management at a frequency stipulated by the organisation in relation to the hazard profile of the activity. Monitoring of employees' work environment and of their health is advocated to detect early signs of adverse environmental factors that might affect the health of the employees in the long term.

Reactive health and safety measuring techniques advocated in Volumes 3 and 6 are responses to events and occurrences. These events provide opportunities to learn from incidents such as injuries, ill health, damage to property and omissions. The aim is to

bring together structure, operations and performance approaches to overseeing the reactive measuring techniques (Costella, Saurin, and de Macedo Guimarães, 2009). Such incidents usually require an appropriate investigation followed by a written report that can be absorbed into the business memory of the PSO. The written report may reveal failings and produce trends from which the organisation can learn valuable lessons.

The health and safety targets advocated in the Public Works are set by the organisation's senior management team, based on advice from the health and safety professional. The targets are compiled from ten key elements that were particularly relevant for the host PSO when I designed the Ten Point Health and Safety Performance Calculation Matrix. The individual targets are based on an increase in performance of each of these elements. The baseline from which the increase is measured is the average performance of each element over the previous three years, as a means of reducing inconsistencies or peaks and troughs. I chose to employ an average because selecting a single (perhaps the previous year's) result could have led to a distortion of the baseline figures. This approach to minimising data fluctuation is not uncommon and is used to promote more complete data. Therefore, when the previous three-year average was established, I set a sensible improvement target that was recommended and agreed.

The organisation's health and safety targets are recommended, agreed and imposed. Organisational targets are conceived and recommended by the principal health and safety professional, who takes account of all aspects of health and safety management within the organisation using their expert knowledge derived from staff monitoring. In setting an appropriate organisational target, I take account of previous performance and use professional judgement based on statistical analysis of areas of the organisation's activities that need to be challenged by setting a target above their current health and safety performance.

Health and safety targets are set at a strategic level by the senior management team as part of a three-year plan to improve performance. The targets are reviewed at key points within the period but a strategic review takes place at the end of each three-year plan. The rationale for setting the strategic review at the end of such a long

period is because I believe that encouraging the organisation to zoom out from its day-to-day monitoring and take a more strategic view delivers a better, more holistic perspective towards target setting.

I believe that health and safety performance should be measured constantly but reported upwardly on a quarterly basis. The constant monitoring is done by analysing the cause of all incidents that fall into the control elements of the Ten Point Health and Safety Performance Calculation Matrix. The quarterly monitoring provides a more general synopsis of trends, whereby comparisons can be drawn with similar performances in a similar environment – perhaps by comparison of the same quarter performance in a previous year.

Short-term health and safety targets are put in place to achieve short-term interventions, and although they can be effective, they should not operate in isolation; rather, they can be applied in conjunction with other initiatives to improve worksite health interventions for occupational health and safety (Baker, Israel, and Schurman, 1996). Short-term targets are usually restricted to a limited period in time and related to a particular work activity. The time limit is a fundamental attribute of short-term monitoring in any field. The benefit of these short-term targets is that the business units subjected to them are not hampered with the burden of continual data input; instead, the business unit absorbs the burden over the short term, knowing that relief will be had after the short monitoring period ends. An alternative might be to use software systems.

My narrow health and safety targets are terms used to describe very precise areas of work subjected to measuring. They can produce a very deep extraction of key data in a particular field, but lend themselves more towards a workplace that is centralised, such as in manufacturing. Deep extraction of data from inaccessible areas of the organisation can only be carried out if the subject area is precise and therefore permits the audit to be very specific. Without this focused extraction of data, generalisation will take place and may contaminate the information recovered. The second key aspect of narrow targets is that they need particular senior management support. Without this they may be ineffective, as the attempt to uncover information may be

thwarted by line managers who might not want the data to be revealed or who might not appreciate senior managers' scrutiny of that part of the organisation.

My broad health and safety targets are terms used to describe very general areas of work subjected to health and safety measuring. They perform a particular function for the organisation such as capturing large volumes of general health and safety data, sometime referred to as big data and big data analysis. These broad health and safety targets attract a lot of input from across the entire organisation and are usually seen as an inconvenience by the line manager. This type of target monitoring has an important function in addressing critical organisational achievements such as the level of training take-up that has been deemed mandatory by the organisation.

When I use health and safety key performance indicators (KPIs), I accept that they are pinnacles of a wider subject area. Their function is to reflect and condense health and safety performance activity into a manageable and understandable unit without losing the leadership aspect of the work (as often happens in other sectors). The reflection draws in the responses to the task being undertaken. Condensing data from a group's or associate's work activities can take place if there are significant similarities. To attempt to condense dissimilar data would distort the reflection and therefore would not provide a true picture of the response. Converting the reflection from the condensed data into a unit of measurement usually requires preferred units of measurement. While almost any unit of measurement can be used, I recommended that we assimilate all KPIs into one, overall organisational health and safety result. I prefer to express values as percentages because of their transferable characteristics, although I accept that KPIs and measuring are only a part of a system that in itself cannot improve health and safety performance. Indeed, a study conducted by Baird found that implementing an OHSMS did not necessarily lead to improvement in performance (Baird, 2005).

5.3 Why do organisations measure health and safety performance?

The burdens associated with measuring health and safety performance are felt mainly at the inputting /compiling stage and are linked to sustaining the regular upward reporting obligations. Inputting data usually is undertaken after an operational task

has concluded. Furthermore, the centre that manages data is asking for returns that might exacerbate tensions on the above issues. The input data is most effectively received in a central hub where it is distilled and formulated into a style of presentation that is submitted to senior management.

I see the benefits associated with measuring health and safety performance as an organisational awareness of performance and an appreciation of present-day status compared to previous performance that is regarded as being a predictable outcome of investment. Performance results may also alert senior management to trends that in turn can pose opportunities for preventative and corrective strategies. In understanding key indicators, or exploring organisational practices pertaining to tracking, analysing and applying information provided by key indicators, health and safety practitioners can improve health and safety performance generally, identify factors that enable more productive use of these indicators (Sinelnikov, Inouye, and Kerper, 2015) and eventually prevent poor performance.

My study revealed that frontline managers are the main group of staff who submit health and safety performance data as part of their behaviour-based contributions to performance. Moreover, it is the applications of these behaviour-based outputs that have potentially the most effective solutions to key health and safety challenges (Krause, Seymour, and Sloat, 1999). The reason that this group of staff make this contribution is that they have access to uncontaminated performance data, i.e. the results of carrying out an instruction to undertake the task safely. These staff directly oversee how tasks are undertaken and how health and safety is integrated into the delivery of the task. Their proximity to the task and their knowledge of the operations makes them best placed to submit the data.

Health and safety performance data is used by various parts of the organisation. This is a key participatory and engagement strategy. Health and safety professionals use the data to provide a deeper analysis of the behavioural aspects of the PSO. This analysis reveals the complexity of the prevailing culture as the culture interacts with the operational necessities of the business objectives. It will reveal the areas of business activity that require greater health and safety emphasis.

5.4 Benchmarking health and safety performance

The best health and safety performance data to benchmark is data that is similar in nature with the benchmarking partner's. I advocate sharing a percentage performance figure developed from a range of key activities. This approach provides an extremely accurate comparison when using a single percentage unit of measurement and thus avoids multiplying sequences of calculations that may have varying weightings. However, the approach can be extremely badly flawed if the ten elements (as used in the Ten Point Health and Safety Performance Calculation Matrix) have inconsistencies within benchmarking partners, which could result in users re-interpreting the results.

Suitable benchmarking partners are businesses that undertake similar work in a similar manner with approximately the same scale of operation. Similar work can include the same business sector. A clothing manufacturer could not be benchmarked against a construction contractor. Even within some sectors there are similarities that need to be matched. Work carried out by road contractors will rely heavily on mechanical means whereas other work will be less mechanical; these apparent differences can distort the overall results and lead to misrepresentation for benchmarking performance purposes.

The credentials of a suitable benchmarking partner are trust, in relation to inputting commitments, acceptance of the partner's cyclical difficulties, and respect for the partners in the benchmarking group. Trust is important in co-operative benchmarking: it gives confidence to all partners, that each partner is submitting data in accordance with scheme rules and that flawed, or under-reporting does not exist that might distort the overall results.

The data that is input is managed confidentially and with an understanding that behind every incident there is a person who has had an undesirable health and safety event. Confidentiality is an imperative for any PSO within the scheme when dealing with personal data. Personal data in many situations is protected by legislation and it should be managed in accordance with these laws.

5.5 What is health and safety auditing under the 2015 Public Works?

I have divided audits carried out in the public sector into two broad categories, capability audits and compliance audits. Capability audits, sometimes referred to as technology audits, are carried out by an external expert every fourth year. The purpose of this audit is largely, but not exclusively, to review the OHSMS and the key health and safety arrangements. The capability aspect considers the suitability of the existing arrangements to withstand a stress test against foreseeable events that the organisation is likely to encounter. It also considers onsite compliance with existing arrangements. Compliance audits are recommended to be carried out annually in the intervening years to detect whether the organisation is complying with its own arrangements and to identify any shortcomings in the methods used to implement the arrangements.

A prominent feature of my annual internal health and safety audit (AIHSA) is that it is led by the principal health and safety professional in the host PSO, performing the role of a lead auditor. The lead auditor is supported by other auditors drawn from within the organisation, who are part of the health and safety advice and audit team. Their interaction with the business units can significantly improve general performance.

The authority to audit must come from the corporate authority of the senior management team after it has taken advice from the health and safety professionals that has been approved by the health and safety policy committee. This committee comprises the health and safety professionals in the PSO plus one senior manager who reports to the director of health and safety. The advice the senior management team receives, via the health and safety policy committee, follows an analysis of previous audit results and a wider consideration of the performance of the PSO. These are key checks and balances that I have built into my Public Works.

5.6 Health and safety audit targets

The selection of topics for the AIHSA (Volume 5) will be determined by the risk profile of the PSO within the wider industry. In this case, almost all work activity takes place near to moving traffic; this type of work is the highest priority, followed

closely by general construction in off-road situations, followed by a range of garage, laboratory, depot and office activities. These are prioritised and pitched onto an annual five-year rolling audit programme. The priority will determine how often the audit topics are visited. The higher-risk activities might be audited every two years or even more frequently, whereas the lower-risk areas might be audited every five years.

The active health and safety auditing techniques used in the PSO are shown in selecting and auditing high-risk areas within their undertaking and by focusing on supply-chain issues, particularly the attitudes of short-term or contingent workers towards safety and risk in hazardous work environments (Rousseau and Libuser, 1997). The selection of audit topics is based on risk areas that incur significant numbers of incidents or have a high level of control imposed on the operation to achieve the objective in a controlled and managed way. Planning of each audit within the overall audit cycle, using summative and formative auditing of practice audits (Derry et al., 1991) is therefore important to take account of processes at rest and processes in operation. The active element of the audit is to see both. A critical characteristic of the active audit regime is the choice of exactly where within the organisation the audit is undertaken, to ensure that the auditee is the appropriate person to be audited. Finally, the organisation may decide whether to announce the audit or leave it unannounced, or it may leave this decision to the discretion of the auditor.

When incidents occur, the leadership may consider that a wider sampling exercise is necessary to determine the root cause of the incident and the circumstances that led up to it; reactive audit techniques are commissioned in response to such incidents. The organisation will incur a large number of adverse health and safety incidents for which the cause may have been developing in the sector for a long time. It is possible that this shift in the pattern could be attributed to labour market changes over recent decades, differing work arrangements and modern processes adding to the incidence of occupational injury and disease (Quinlan, 1999), all of which will be investigated in line with in-house health and safety arrangements.

The health and safety audit target and the AIHSA regime is developed by the health and safety professionals and approved by the senior management team. The annual health and safety audit target is drawn from a five-year rolling audit programme. The programme has a number of provisional targets that indicate possible audit subjects, which helps to prioritise audit resources (Rankine, 2007). The senior management team and the business area recommended for audit will receive a proposal detailing the scope of the impending AIHSA. The methodology to be adopted as part of the audit will also be presented.

Following the senior management team's decision an AIHSA is undertaken, with associated terms of reference. The scope of the audit outlining the procedure to be followed is equally important (Rankine, 2007). The methodology of the audit should include the potential to identify non-compliances. The obligation to carry out the AIHSA then falls to the health and safety professionals, as auditors.

The health and safety audit targets for the five-year rolling audit programme (Volume 5) will typically include the in-year targets and the learning points noted from the past two years. This will form the five-year envelope for the rolling audit programme. Past and previous audits are important because they reveal particular aspects of how the organisation manages health and safety. Although the view is restricted to the audit subject, the findings contained in the previous audits, including the overall level of assurance, nevertheless weigh on the minds of those who conduct the next AIHSA. Any changes to the internal audit plans may be organisational, performance related (such as the number of health and safety incidents), litigation questions and/or legal disposals.

Short-term audits are carried out as provided for at the request of a business unit or on advice from the health and safety professional, and typically cover one year. A short-term health and safety audit may be requested by the head of a business unit who wants an external assessment of issues within the business unit.

Narrow health and safety audits, occasionally referred to as safety surveys, focus on subjects that are of particular interest. The narrow topics may be specialised because

of the nature of the subject or because the business area is a specialised part of the business.

Broad health and safety audits focus on particular topics that have a very common and general application to obtaining management assurance for the PSO. The broad topic areas will most likely appear in all business areas within the organisation, and their application will also be uniform. The benefit of undertaking these broad health and safety audits is that a variety of audit samples can be selected from a wide range of staff.

Health and safety audits are systematic processes of gathering evidence and collecting particular data in an inquisitive fashion through in-house enforcement and regulation. While KPIs are self-generating results, designed to reflect the wider effect of a cause, the findings of an audit, depending on the scope of the audit, can also be seen as a major KPI for the organisation.

5.7 What are the effects of health and safety audits?

The burdens and effort associated with organisational audits of health and safety are recognised in the Public Works, but they are seen as beneficial to business because they support a positive culture. First, there is the burden of planning, leading and undertaking the audit from the auditors. The organisation may regard this burden as an ongoing and unavoidable cost that is necessary to incur. Second, there is the cost to the business units that are subjected to the audit, because their attention and time is removed from their core activities and directed towards preparing for and participating in the audit as the auditee.

Although there are burdens associated with health and safety audits, there are also benefits to health and safety auditing across the organisation (Rankine, 2007). These are numerous, but they generally fall into two broad categories: opportunities to understand what is actually taking place in the organisation, and opportunities to provide assurance that existing policies are being complied with. The “lesson learned” opportunities, whether employee-to-employee or employee-to-organisation, are important for any organisation, but feedback is only one source of learning within the

community of practice and within the feedback loop of single and double-loop learning. The assurance that auditing can provide can be used to inform the organisation that its present strategy is on target and is delivering results in line with the expectations of the senior management team.

The relationship between the legal requirement to manage health and safety and the legal requirement to audit has to be contextualised. In the general health and safety field there is no precise legal requirement to audit. There is a legal requirement to manage health and safety, and it is strongly suggested that auditing is a key control that supports the legal requirement to manage health and safety, being a way for the employer to implement their obligations (Holt, 2007), and that makes an indirect connection between health and safety law and auditing. There are, however, specific requirements in some legislation regarded as health and safety law that specify particular health and safety and management checks; these can be either active or reactive or, as some suggest, a mixture of both.

5.8 Benchmarking health and safety audit results

Information shared from the audit samples must be objective, factual and accurate. Auditors have a particular and privileged role when undertaking audits: they observe and are informed about tasks and activities that line managers may not be privy to. It is therefore imperative that the auditors are objective and do not influence the source of information by their personal presence.

Sharing of the health and safety audit details and results depends on circumstances and the different stages of the audit cycle. In the first place, during a large audit where a number of auditors are reporting to a lead auditor, it is not necessary to reveal details about the person being audited; it is appropriate to share only what has been revealed. When the audit has been produced and accepted by the organisation, the organisation owns the detail and may choose to share the details of the samples.

It is critical that the credibility of any current audit does not adversely affect the next audit exercise. The auditor must be professional in their dealing with the employer and in particular with the senior management team. Unprofessional behaviour can

discredit an entire industry and taint the view of an organisation in the future. If an employer commissions a cold audit, that is, an audit without notification, subject to site-specific health and safety concerns, and the auditor informs the plant managers, thereby alerting staff to the impending audit, the process is undermined.

Some PSOs have several sizeable business units undertaking the same tasks. Auditors are aware that organisational norms might not be consistent and that random samples need to be drawn for all similar business areas, so that the audit results do not misrepresent the true picture.

I advocate a closed-loop approach to auditing as a means of ensuring that actions identified in the audit are fully implemented. As part of the process of identifying strength and weaknesses, audit findings will be compiled into an audit report. An action plan will be provided as part of the audit findings, setting out any deficiencies. The action plan will identify post holders responsible for implementing the findings, with recommended implementation dates. The closed-loop aspect of the cycle takes place when an appointed person, other than the person responsible for implementation, carries out a check to ensure that actions have been implemented.

5.9 Rolling health and safety audit regime

Health and safety checks and health and safety audits have key distinctive functions (see Volume 5). A health and safety check as part of an overall assessment of resilience (Costella, Saurin, and de Macedo Guimarães, 2009) is a standard exercise carried out by line management that verifies compliance with stated PSO policy and uses three approaches: a structural approach, an operational approach and a performance approach. It has no particular scope other than to assess how a given work activity complies with policy. The health and safety audit, by contrast, has a particular scope that can compel line management to produce evidence that uncovers the behaviour that is manifested in the workplace. In this regard, the audit is more dynamic and has a wider remit to identify underlying issues that an organisation can learn from; it therefore creates opportunities for improvement in a more reflexive manner.

Health and safety audits and health and safety checks, while different in nature, provide a similar result, in that a business unit and/or an organisation receives feedback about an activity that the audit or check is tasked to assess. However, there is a significant difference in approach between an external and an internal health and safety audit. Comparisons can also be drawn between taking an exclusively in-house approach, and participating in voluntary management accreditation schemes including audits for health and safety on (a) health and safety legislation awareness, (b) prevalence of quality management systems, and (c) senior management interests in managing health and safety (Vassie, 2000).

In some circumstances, it may be possible to bridge the difference between the strengths and weaknesses of an external auditor and the strengths and weaknesses of an internal audit regime. If the organisation is large enough to sustain an independent in-house health and safety audit capacity, it is possible to have the best of both options.

The overall style and appearance of the health and safety audit report may depend on the audit subject, but the basic content should be:

- factual in its findings,
- objective in its recommendations,
- un-camouflaged in its summary, and
- balanced in its conclusions.

The general style and appearance of the health and safety audit action plan will vary depending on the extent of the auditing and the audit subject, but a number of key elements should be included:

- proof that the recommendation has been accepted by the organisation;
- individuals identified to implement the findings;
- time limit prescribed to implement the findings and actions; and
- assurance through closed-loop monitoring that the actions have been addressed.

When the health and safety auditing exercise has concluded its sampling phase most audits will include an opportunity to agree facts with the client organisation. This dialogue is influenced by the experience of the auditor and the comments and

observation collated from the sampling exercise, and is supported by questioning if prior studies or assumptions about the subject area actually generalised into audit performance results (Tan and Libby, 1997). In some instances, these pre-publishing opportunities can provide space to consider the benefits of receiving a presentation of the audit report or simply to accept the draft audit findings and await receipt of the final agreed (or otherwise) audit report.

The health and safety audit report is prepared for the body identified in the audit commissioning instructions. For most organisations commissioning an organisational health and safety audit, the audit report will be prepared for the senior management team, which acts as the controlling mind of the organisation. There may be exceptions to this rule but routinely the reports go to the senior management team.

5.10 Health and safety compliance audits and capability audits

An external audit is carried out every fourth year. Its scope, broadly speaking, centres on the capability of the OHSMS to manage the risks connected to the organisation. In this regard, it audits the capability of the arrangements – if they are complied with – to meet the organisation's needs. The audit does consider compliance issues, but its focus is on the capability of the OHSMS. The annual internal audit carried out by in-house auditors therefore concentrates on compliance, and measures compliance against the external audit arrangements. Thus, the in-house audit focuses mostly (but not exclusively) on how the organisation is complying with its own arrangements. The annual in-house audits do consider capability aspects, but the responsibility for having adequate policies in place rests not with the auditor but with the health and safety policy committee. In this regard, there is a triple lock on inadequate policies that counteracts and limits the scope for unfounded assumptions.

A rolling audit programme should set out the timing of annual audits and a forecast of future audits, to be ratified by the senior management team. This setting out also focuses attention on the future date of the external capability audit, which will be brought forward on the recommendation of the health and safety professionals and/or the senior management team. The key attribute of the rolling audit programme is that it records what has been audited and includes possibilities for future audit proposals.

Having addressed the “Check” aspects of managing health and safety in the public sector, I turn in Chapter 6 to the “Act” element of the PDCA cyclical framework.

6 Act: Actions for effective systems and organisational reviews

6.1 What is an organisational health and safety review?

The review is the final stage of a cyclical management system that I have designed to periodically sweep the organisation for opportunities to improve practices.

Organisational review is a process of zooming out from day-to-day operational activities to consider whether the policies that drive those activities provide the correct direction. An actual break in routine activities is necessary, so that management and staff have the time to reflect on policies rather than simply to carry them out.

A review of procedures is carried out annually, at the end-period in a process, or following a significant event (negative or positive) in the organisation. The end of a process is a good time to review the entire process (start to finish) and perhaps the product. A review that is prompted by a significant event latches onto the organisational momentum caused by the event, to generate the momentary pause in a sequence that provides the opportunity to review key failings and procedures.

My organisational review, as set out in the Public Works, is carried out during a natural break in the five-year rolling audit programme, to take account of business improvement or changes in the OHSMS. The cyclical sequence in the OHSMS takes account of the business calendar: the timing of business events across the year determines the beginning (and therefore the end) of the processes, and this provides a natural break before the next year's actions commence.

The mechanism for initiating and recording an organisational review is a formal procedure, similar in status to any other arrangement. As a result, the formal process has a structure and with that the need to discharge formal obligations. One of the key formal arrangements is the appointment of an external auditor as an expert to carry out the capability audit as previously discussed.

The organisational review is recorded at different levels in Public Works Volume 5. The health, safety advice and audit team, the health and safety policy committee and

the senior management team plan and record that the organisational review is to be carried out in accordance with non-prescriptive rules that can be used in organisational change management as a first step towards constructing a new framework for change (Todnem By, 2005). The most significant recording forum is the senior management team. The senior management team approves the OHSMS, which in turn includes the formal reviewing arrangement. Therefore, the senior management team is securing its obligation and commitment to review its own OHSMS, just as it would in a relational contract.

The success of the review is measured through the number and significance of the findings of the external health and safety audit that forms the organisational review.

The frequency of organisational reviews should be scheduled as part of the rolling audit programme (see Public Works Volume 5). The current review will suggest the next review, in a rolling process that provides strategic context to the following reviews so as to increase the widest possible peripheral vision for the PSO.

The organisational review is predominately external, but decisions arising from the review remain internal and take account of experimental design techniques and conjoint analysis of how information has been recovered and analysed for the future.

6.2 Benefits of an organisational review

The benefit of an organisational review is that it creates the opportunity to pause and reflect on past performances. This reflection considers efficiency (engineering and science) and durability of linear programmes and projects a forward long-term plan for the business that includes other stakeholders' interests. The temporary break in normal business activity might not occur unless there were a requirement to pause and reflect. Feedback on past performance is critical if the organisation wishes to avoid past failings and possible inefficiencies. The cause – the event or incident that triggered the review – leads to forward planning, creating the pause that compels the organisation to search for new, better or more efficient ways of delivering a service or producing a product.

The benefits of an organisational review are tangible outworkings of the process. These are outworkings that create actions that management uses to deliver the changes envisaged and uncovered in the review. Without the initial review and the prospect of tangible benefits it might be difficult to implement the improvements envisaged by the organisational reviewer.

The value of the benefits can be evident in two ways: a financial improvement from a worldwide perspective, and a human service perspective based on organisational and job satisfaction. The financial reward can be seen in increased product profit or in reducing costs through sustainable production methods. The organisational benefits might come through greater job satisfaction, which might improve staff attendance and reduce staff absence costs, regarded as spin-off benefits.

All tangible benefits as described above are recognised as the main reasons for carrying out the organisational review. Staff awareness of the need to learn from past experiences can help develop the organisation's health and safety culture and, in turn, reduce or control the risk of injury or ill health within the workforce.

6.3 Burdens of an organisational review

The burdens associated with an organisational review are quite limited for the general workforce. The main burden falls to the business unit responsible for managing the scoping part of the external audit. After this, the load is spread to other parts of the organisation on a scale commensurate with the number and extent of the external audit findings.

The direct burden of organisational review can legitimately be transferred through the line management structure to the parts of the business that are in need of review. Areas that do not need review are passed by; during review stage, they will have been judged to be working to the preferred guidelines or company objectives. However, if there is significant organisational change it will affect all parts of the organisation.

Burdens that have a significant impact on business areas are referred to as "dead loads". There is limited literature on managerial dead loads; the term has an

engineering origin that relates to burdens of weight or mass that are absorbed by a structure without providing an uplift – they simply are dead load burdens. They tend to slow the organisation down in the short term. This is because those parts of the organisation may have been working faster by using inappropriate practices and short cuts that did not comply with the organisation's policies.

Some burdens are introduced following an organisational review; these are regarded as "live loads". These live load burdens are interventions designed to cause a managerial buoyancy, or uplift, to the organisation, and some suggest that the turbulence in the PSO is important to generate opportunity for this uplift. Just as a flotation aid will react with uplift to being pressed under water, so the managerial uplift is a direct reaction to absorbing the load. The organisational review provides the managerial uplift, and the live load acts as a means of elevating practices in all parts of the organisation. Its burden is therefore short term and the new norm.

The employer can capitalise on the benefit derived from an organisational health and safety review to generate an uplift momentum across the organisation. If the uplift is concealed because of a perceived discrepancy, or is not promoted, then the uplift momentum will simply dissolve and no wider benefit will be achieved.

An organisation's speed of operation is relative to existing agreed parameters. For example, a company might decide, for reputational or economic reasons, to embark on an accreditation scheme that may or may not deliver results through tendering competitions. At the same time, the production end of the business will have to continue absorbing the cost of delivering the products or services that satisfy the accreditation scheme. Therefore, in this instance the burden is a dead load and slows the organisation down.

The burdens linked to an organisational health and safety review that are live loads can generate positive impacts and act as a springboard for improvement in the PSO. The impact of a live load burden can cause a positive ripple effect throughout the organisation and can be accelerated by management enthusiasm towards the initiative.

This event and the supporting ripple effect can motivate others to spring into action, which can generate improvements throughout the organisation.

6.4 Organisational health and safety review of individual staff

The health and safety review of an individual's performance or self-assessment under the Public Works is carried out by line management. This allows the strengths and weaknesses of the individual's contribution to the PSO's effectiveness to be considered through a process of pause-and-reflect.

The performance review is initiated and led by line management and is carried out in pairs (immediate line manager and employee), each carrying out or being subject to a performance review.

Individual staff reviews are carried out at a specific point in the year to promote in-year reviews. This concentrates the attention of staff to the particular task through being mindful and using some of the attributes of mindfulness.

The individual reviews are recorded by the PSO as an electronic package. This enables the comments and observations of reporting officers and countersigning officers to be recorded, and any staff comments and opinions to be monitored.

A 180- and 360-degree feedback loop (Ward, 1999) is encouraged. This reflects the level of engagement from management and recognises that the preferred way is not always owned by line managers, but that line managers can learn about their own performance from the staff that they manage if they provide a forum where feedback can be expressed.

The individual reviews are a condition of employment – they are regarded as a learning and feedback opportunity so important that they are mandatory requirements. Individual reviews take place annually; this complements other cyclical activity linked to human resource management.

The individual annual reviews are recorded as part of the formal reviewing process. It is accepted that some managers will provide feedback in their day-to-day line management activity and will encourage workers to provide feedback themselves, but because of this interactive relationship they may not recognise the wider implication of their relationship. The value and importance of recording the discussions so that others could learn from them might be lost. It is therefore accepted that formal reviews are documented to support ongoing informal feedback.

Chapters 3 to 6 have addressed the Plan, Do, Check, Act aspects of managing health and safety in the public sector. The following chapter deals with leadership, which is a key element emanating from each of the four pillars of the PDCA cyclical framework as enshrined in ISO 45001.

7 Leadership: Health and safety leadership in the public sector organisation

7.1 Introduction to personal professional position

My professional position in 2019 demonstrates the need to have a variety of skill sets to use when dealing with a range of stakeholders to achieve my overall leadership goals. The main skills will be discussed later in this chapter, and I will show how these connect to my areas of professional responsibility, networking and community of practice. I have built up this professional network from across the UK and Europe over the past 10 years since moving into the infrastructure community, and this adds to my previous public sector experience of about 30 years. I now occupy a number of senior positions of influence in health and safety within this discipline both locally in Northern Ireland and nationally in the UK. The schematic at Figure 1 demonstrates my wide peripheral vision in health and safety circles and reflects a breadth of knowledge that allows me to meaningfully challenge accepted industry and professional health and safety assumptions and have my own conscious or unconscious assumptions tested and challenged by others, and to amend them if necessary. I am head of profession in health and safety in a large PSO that manages and controls high-risk activities in civil engineering and construction; I also oversee general employee-related health matters in the PSO such as potential respiratory diseases caused by employee choices such as smoking. I use a range of skills to influence better outcomes, operating within satellite groups that form part of my professional networking community of practice. This community of practice supports my personal position within a PSO that manages 2000 staff, has an annual budget of £305 million and maintains a public asset valued at over £26 billion. The schematic at Figure 1 includes key workplace activities as well as institutional activity. The schematic places me in the centre, from where I can disseminate knowledge to and draw in knowledge from the individual satellite groups (shown by the two-directional red arrows).



Figure 1 – Dual Professional Positional Schematic

7.2 Public sector health and safety leadership overview

Having established my position within my professional practice, what follows is a self-induced critical review of my leadership style. I reveal the individual leadership characteristics that I use in work-based situations as a health and safety research practitioner in the NICS and in the wider UK public sector. This leadership style includes recognising the importance and enrichment of engaging with other professionals such as engineers and environmentalists, with my professional institutions and with industry groups. This approach requires me to use a wide range of skills and techniques for different situations. My present approach to leadership is

one of participation-through-engagement. This is the result of reaching professional maturity, which has come from the impact that my work environment has had on me and the reciprocal impact I have had on my work environment: I have developed inner resilience and self-belief from my experience, and that experience and self-belief have enabled me to impose my views on my work environment and my professional peers. I therefore now believe that I instinctively know what is required in particular situations and impose these views on my surroundings, even though I still have difficulty explaining some of the rationale for this. I intuitively approach opportunities that I have created or encountered by seeking to mould the workplace situations around my personal preferences and strengths in a reflexive manner.

Authenticity has emerged as a significant individual characteristic. I believe that my personal authenticity is not something that I have cultivated, developed, or learned solely in professional practice; rather, it is who I am, a way of being that I probably taught myself, observed or absorbed in childhood, or acquired genetically. I believe that my personal leadership style is very much a reflection and an adaptation of Ibarra's work in Harvard Business Review (Ibarra, 2015). Ibarra explains that authenticity has become synonymous with leadership but that we need to be adaptive to remain relevant and to survive; therefore, it is acceptable to change as a means of exploring our preferred orientation. Three strategies can help break free from a self-concept that is non-flexible: (i) observe/learn from diverse role models; (ii) strive for improvement; and (iii) be prepared to move from a previous position, i.e. be prepared to evolve. This published work is similar to my approach to leadership, which I have developed into what I now regard as participatory leadership. The published work on authenticity is widely available and taught in the NICS, but disappointingly it is practised knowingly only by a few. It is not surprising that this type of leadership has emerged, because civil servants are public servants – they act for the public and need to have an attitude of service to the public. I recognise and include key influencing and negotiation techniques that integrate with my leadership style. This is addressed more fully later in this chapter.

The purpose of my day-to-day leadership in health and safety is, through practical participation in the public sector, to enhance, contribute to, and develop better understanding of health and safety knowledge capacity across the NICS and the wider

health and safety fraternity in the UK. Accident prevention principles are at its roots; however, it also caters for strong defensive strategies for employers during litigation.

Many of my participatory leadership attributes are built around the core leadership behaviours set out in the NICS Competency Framework (April 2014, see Figure 2). These align with the principles of what the Framework calls “engaged leadership”, captured by the acronym FED (Future, Engage, Deliver).



Figure 2 – Northern Ireland Civil Service 2014 Competency Framework

I aim to:

- align my employment-based health and safety leadership style to that of the NICS Competency Framework and aspects of Future Engaged Leadership;
- examine the core elements of my leadership style that are key in building successful high-performing teams in today’s NICS and in the UK health and safety fraternity, and also in the sphere of my professional practice;
- make use of new and refreshed knowledge developed through interactive social constructivism to engage better with people, my staff, the teams that I lead or am part of, my stakeholders, partners, and my supply chain;

- participate in a wide and varied learning community ethos that builds on knowledge stimulation triggers derived from professional network interaction and contacts.

7.3 Participative leadership in action

My predecessor communicated health and safety using a simple “hearts and minds” approach with motivational messaging. My observation was that his approach to communication was at odds with his actual leadership style, which was autocratic in its delivery and very authoritarian in practice, characterised by his control over line management decisions, which accommodated very little scope for input from staff members. For me this demonstrates how theories espoused sometimes fail to match theories in use (Argyris and Schön, 1978). I, on the other hand – possibly because of my engineering and legal training – adopt a proportionate, rules-based approach to communicate health and safety practices. However, my deeply held personal values tell me that a purely rules-based approach will not necessarily lead to enhanced safety; in fact, if handled incorrectly, it could lead to paralysis of thought. I, too, am experiencing a dynamic tension between espoused theories and theories in use. My guidance may appear overly prescriptive, but in my practice I am striving to help people become more safety conscious, to work safely and for line managers to live and act safely while working innovatively within a set of boundaries that are permeable when certain conditions prevail. I have pioneered a number of key initiatives that show that I value and respect my workers and welcome their input into improving safety for all. This encompasses key elements of what I recognise as participatory leadership in my professional practice. The public sector approach to delivering services is changing in response to developments in society and a generalised move towards activism and collective action; our stakeholders want to join the conversation and demand a more collaborative approach (Magzan, 2011). Moss Kanter foresaw these changes when she recognised 13 key demands on leadership in response to a changing world. I recognise all these elements in my practice but of particular relevance to my context are: giving followers a greater voice; seeking information from more sources; and dealing with greater risks (Kanter, 1981). In my practice I value ideas from all levels, endeavour to devolve decision-making to the where the decision needs to be made (a level of empowerment), adopt a

two-way, open method of communication, and provide a level of flexibility to interpret rules to suit unique local situations – but within a broad framework. I also recognise that the concept of participation in management can be contested. Participation is often seen as time-consuming, there is inevitably a knowledge gap, workers may not necessarily have the knowledge to make decisions effectively or safely, and, of course, managers are often reluctant to give up their power (Kanter, 1981).

Greiner surveyed 318 executives (Greiner, 1973) who exhibited two different leadership styles, the “taught” approach, which can be cultivated by external factors, and the “born” approach, which derives from individual characteristics that are inherent and personal to the leader. One remarkable finding was that across both groups the characteristic that was rated most effective in improving performance was the leader’s desire to counsel, train and develop subordinates. This opens the discussion about leaders as teachers or coaches. I consider my health and safety practice to be fundamentally about developing the workforce so that they can make more thoughtful and safe choices in their work. While Greiner’s work is now a little dated, his basic finding is completely in accord with a long-term internal study conducted by Google, Project Oxygen, which found that being a good coach is the greatest differentiating factor between good and great managers (Grote, 2016). This desire to work with and through others and develop everyone’s talents goes back to my musical roots and is core to my being. I have developed a particular participative leadership style that is more at ease with my personal preference and part of an ever-evolving learning experience (Kolb, 1984), meeting-by-meeting, year-by-year and event-by-event.

Raelin argues for a more democratic leadership based on dialogue and deliberation (Raelin, 2012). This is also my personal preference when working in national committee settings. The lack of individual power at committee can be replaced by pragmatism and the call for a collaborative form of discourse prevails. In committee settings we collectively draw upon and share our individual experience and tacit understanding to co-create new levels of insight. Although some members of the national leadership committee may be more familiar with command-and-control and individualistic forms of leadership, I witness a willingness to set aside individual

preferences for the benefit of the group. This promotes a more egalitarian approach that acknowledges that one person's point of view is just one among a number that ought to be explored, just as the idea about a new cone taper was considered worth exploring. Without this degree of flexibility and accommodation committee paralysis may ensue.

With respect to my Public Works, the practical consequences of my genuine commitment to a participatory style of leadership is evidenced by my development and deployment of:

- near-miss reporting as a mechanism to kick start learning rather than collect data;
- a suggestion scheme and meaningful dialogue that engages workers in the shared purpose of improving operational safety; and
- dynamic risk assessment that recognises the uniqueness of many situations in road and waterways.

I see myself as the manager of the boundaries and that these boundaries are semi-permeable and open to flex and change as circumstances flex and change. I recognise Schön's assertion that practitioners do not just apply theory blindly to their work but that the uniqueness of each situation requires the practitioner to engage in both reflection-on-action and reflection-in-action as they create new theory and see the familiar in the unfamiliar (Schön, 1987).

My near-miss reporting builds on reflection-on-action to kick start the learning loop and generate valuable new insights that can inform and change practice and guidance. By asking employees to focus on near-miss events I am encouraging them to become more consciously aware of what is going on around them, to notice things they might otherwise have ignored. There is a clear link here to Kolb's experiential learning cycle (Kolb, 1984) and a recognition that encouraging noticing and thinking about events in order to capture them in a simple reporting format helps workers to make sense of experience and kick start the learning cycle. By contrast, my dynamic risk assessment approach utilises reflection-in-action (Schön, 1987) to help workers and local supervisors think their way through the unique aspects of individual situations.

In effect, I am giving them the leeway, where appropriate, to conduct mini experiments that develop their practice and evolve their safety understanding. A critical element of participatory leadership is devolving decision-making to the front line – I recognise that there is often an element of muddling through involved in adapting to local circumstances, and I trust my workers to exercise discretion appropriately but also to think through their actions and capture key learnings for the benefit of others.

I recognise that I am living a present paradox. My Public Works may appear to be heavily rules based and autocratic, even authoritarian, but my daily practice places far more value on participation, collective involvement in decisions, learning through experience and a desire to honour, value and respect the movement towards a workforce within which individuals can develop and achieve a level of self-actualisation. This sits with Maslow's notions of higher levels of the motivation pyramid (Maslow, 1971) but also speaks to Robert Kegan's work on adult mental development and the shift from level 3 – the socialised mind – to level 4 – self-authorship. Building upon Kegan's, work Magolda (2012) identifies three components within self-authorship: trusting one's internal voice, building an internal foundation and securing internal commitments (Magolda and King, 2012). In undertaking this detailed retrospective of my Public Works I believe that I am engaged in building a more solid internal foundation. I recognise that possibly half of my workers may be operating at the meaning-making level of the socialised mind and that they may be most comfortable within a strong culture of authority figures. In adopting a participatory style of leadership that promotes a personal safety consciousness I am asking them to develop an internal self-governing system. Although my approach is not without risk, I believe that this is the route towards living and working safely.

There follows an example of the application of my leadership in action, and a reflection of the proportionately rigid environment that I operate in; the example shows how innovation can take place while set in a national context.

Participatory leadership in practice

The creation and adoption of the innovative cone taper on the UK's high-speed road network is an excellent example of participatory leadership in practice. The innovative cone taper was initially contemplated by a road worker on site, whose main duties and attention were centred on the placement and removal of road cones. Nevertheless, the road worker believed an alternative layout could be deployed to bring about health and safety improvements, and he wished to share his idea. Others rightly saw the potential in his suggestion and elevated the idea to the national forums for consideration.

As part of the steering group for the UK Road Worker Safety Advisory Forum and as Chair of the UK Four Nations Roads Health and Safety Group, I was part of the leadership that ultimately took this idea from inception to implementation. The road worker was clearly the initiator, but it is important to recognise the various knowledge gatekeepers who played a refining and developmental role in its success.

The innovative cone taper layout

The innovative cone taper layout reduces the number of road cones required to complete a high-speed road lane closure. This reduces the time required to place and retrieve the road cones, which reduces the risk to road workers from live traffic as well as the associated manual handling burden (see Figure 3).

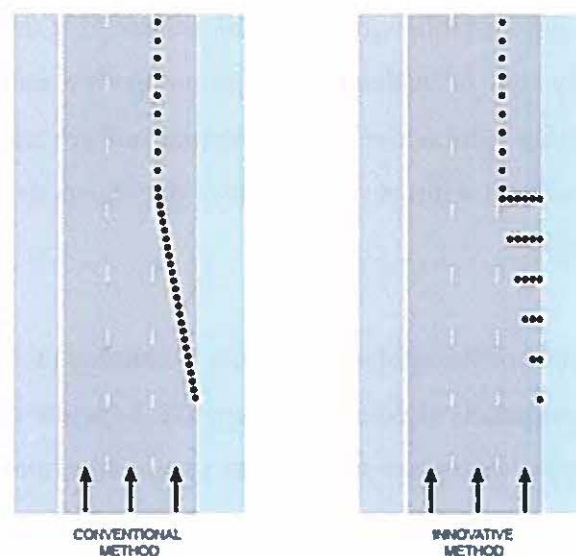


Figure 3 – Conventional Taper Method and Innovative Taper Method for a Lane Closure on Lane 3

With local support, the idea progressed to the national committees for consideration. The Road Worker Safety Advisory Forum was instrumental, first in providing the platform for the idea to be discussed in a national context by health and safety leaders in a recognised, participatory setting; second, for recognising the opportunity and being open to change; third, for engaging with key stakeholders in order to advance the process; and last, for recommending and seeking widespread approval for the concept.

A track trial was conducted at the Transport Research Laboratory, which simulated the concept in practice. Vehicular drive-through assessments were conducted and observed by the Road Workers Safety Advisory Forum's trial team leader. The findings were reported to the steering group where I was involved more influentially in considering the wider risks of motorway vehicle collisions at roadworks and the benefits to the road worker. The steering group fully expanded upon these issues, as they needed to empower the trial team to undertake the tests responsibly in conditions that would be typically encountered by drivers experiencing roadworks. The steering group concluded that even though safety concerns were raised, the innovative cone taper appeared at least as good as the standard Chapter 8 taper. Buoyed by this, the response stakeholders were empowered to progress to on-road trials of the new layout, which ultimately proved successful.

An Interim Advice Note (IAN) signalled the introduction of the new approach. The IAN permitted the roll-out in England, but because Chapter 8 was mandatory in Northern Ireland, a legislative amendment was necessary for Northern Ireland to benefit.

This example provides an insight into something that started as a simple idea and became a complex and multifaceted issue. It reflects my approach and the values that inform and shape my practice. I have put in place a rigorous approach to near-miss reporting, a suggestion scheme and a change request form, but these processes have only borne fruit because of my open and transparent approach to communication. I have built trust through listening, valuing and acting on suggestions, and granting people the flexibility to interpret rules intelligently to reflect prevailing circumstances.

I understand that good ideas can only flourish if my leadership creates a culture of continuous learning.

The innovative cone taper is clearly an example of how engagement with staff, coupled with a participatory leadership mindset, can bring about positive changes in the working environment. The physical change to the method of setting out the cone taper and the associated reduction in time and resources required to complete the operation undoubtedly present health and safety advantages for the road worker; if this vision had not been recognised, the ideas could have been lost.

The key message is that new ideas can come from sources other than those people in management or leadership roles. By encouraging innovation and leadership from within, organisations can stimulate creativity and identify talent that may have been outside the mainstream and otherwise overlooked.

7.4 The leadership agenda in government

The personal participatory leadership style is developed further by addressing leadership capability and some key obligations imposed on leaders within the health and safety profession. Therefore, while leading I attempt to:

- portray a strong, convincing, and rational health and safety vision for the future;
- personally take (and be seen to be taking) the hard health and safety decisions, and track their development rather than allocating the immediate unpopularity to others;
- develop and create mutual possession of the health and safety vision; and
- keep the health and safety vision fresh. Short, regular injections of impetus help when there is a long-term strategy that does not connect frequently with all groups.

For participatory leadership to be effective:

- my vision and strategy needs to be physically or electronically visible, accessible, and reflected in my own outward-appearing persona;
- I need to display honesty, integrity and self-assurance, while actively encouraging feedback on my decisions;

- I realise and appreciate attainment of ambitious health and safety results; and
- I generate and sustain a positive health and safety culture that promotes self-circulatory behaviours that seed further development.



Figure 4 – Leadership Agenda in Government, Cyclical Improvement Approach

When taking responsibility for leading health and safety change I must:

- be a health and safety role model and effective advocate at senior management team level;
- encourage the senior management team to accept the need for health and safety refreshment or change when necessary;
- initiate and drive health and safety work-based initiatives across new boundaries when necessary; and
- manage health and safety change effectively to address and overcome resistance.

When building leadership capabilities as a health and safety research practitioner I feel obliged to:

- identify and develop health and safety talent from within the PSO and across the four nations of the UK;
- develop and nurture the right skill sets in staff across the PSO to deliver the health and safety vision; and

- have individual and PSO health and safety performance objectives (agreed, initiated and sustained) that are aligned with the strategic objectives of the PSO and use power in a complex and sophisticated manner.

I must manage the health and safety performance of all staff in my PSO through rigorous deployment of the Ten Point Health and Safety Performance Calculation Matrix (see Table 3).

Table 3 – Ten Point Health and Safety Performance Calculation Matrix

TARGET :- By year 3 ensure an overall improvement of 7.5% on the previous 3 year average, which will be measured on an annual indicative improvement of 2.5%, in H&S performance across ten agreed elements contained within the H&S management system.

[illegible]

7.5 Channels of influence

Extensive research on how staff influence one another in work settings has revealed that staff return over and over to a relatively limited number of persuasion moves. Six main persuasion strategies dominate when I am influencing health and safety thinking, and I have found these to be effective in influencing leaders and political masters in the public sector workplace:

- Authority: reliance on authoritative health and safety rules;
- Rationality: reliance on the logic of using health and safety data;
- Vision: using inspiration and emotion to persuade others, based on shared purposes, hopes and fears;
- Relationships: building on the fact that we prefer to say “yes” to people we know and like;
- Interests: using interests, needs and incentives as a means to get things done;
- Politics: recognising and working with informal as well as formal sources of power and decision-making processes.

Three main influencing channels can be used to funnel the six strategies.

- Rapport Level: this depends on surface similarity.
- Reciprocity Level: this goes go beyond initial impressions to actual, observed behaviour.
- Trust Level: this applies when employees have gathered enough experience of a person to form solid beliefs.

7.6 Influencing upwards

Being able to get one’s health and safety point across and communicate persuasively with those at a higher level in the organisation is a critical skill for today’s health and safety leaders and research practitioners. A leader in the civil service is likely to have to influence a range of internal line managers and other senior officers as well as external parties such as ministers, partner organisations, business people and other stakeholders, all on a regular basis.

Reading signals and using emotional intelligence to pick up on the mood of the moment is important. I may have spent a long time preparing a detailed policy document or presentation but this does not mean I have to talk the senior official

through each step of my progress when all they want is the bottom line or anticipated consequences.

7.7 Personal influences and aspirations

Leaders and the people that they lead can be influenced by using the less obvious influencing channels. My relationship with the senior leader/political master is one of interdependence. They benefit from my ideas, feedback and support, but they also play a critical role in linking me into the broader web of organisational and stakeholder relationships.

Practical approaches to ensure that I make considerate use of my senior leader's time and resources are essential. For example, I might make selective use of what they have to offer, by carefully considering whether a minor issue needs to be raised. This ensures that when I do need to enter into more detailed discussions the leader may be more disposed to give freely of their time.

7.8 Negotiating in a health and safety situation or process

The issues on which health and safety practitioners may be negotiating include general health and safety issues, PSO policy, cost of personal protective equipment, and health and safety liabilities. Health and safety processes can involve one meeting or a series of meetings, two-party negotiation or several parties, a formal negotiation with minutes recorded or an informal negotiation. Furthermore, every move I make in a negotiation is not only a move in relation to the issue being negotiated but it structures the process by which I am negotiating. Examples of such might be engagement with trades unions on a particular new item of personal protective equipment, or new machinery that trades unions might feel will reduce the number of staff employed or result in worse employment conditions for their members.

7.9 Leadership summary

My leadership style is best described as neither pushing people to accept a new leadership style nor offering a leadership style that is alien to them. It has as its basis the "life cycle" theory of leadership, which adds the factor of maturity to the relationship (maturity being defined as relative independence and the ability to take

responsibility), plus an achievement motivation of an individual or group (Hersey and Blanchard, 1979). This theory describes the two most important leadership dimensions as building on an initiating structure (task) or fresh start, and moving on to consideration (relationships). While the overall aim is to provide effective health and safety leadership that will encourage self-reliant achievers, participatory leaders must be prepared to manage possible short-term regression in performance and thus be prepared to provide an appropriate leadership style to fit different situations at different times while maintaining their overall approach.

In this chapter I have addressed the leadership aspects of managing health and safety in the public sector. The next chapter provides an opportunity for a more general reflection on the learning that I have extracted from my journey on the DProf programme.

8 Summary

8.1 Systematic approach to management

My Public Works are dominated by five key pillars that form a system. The system was largely based on an interpretation of HSG65 2nd Edition (HSE, 1997) but in a style not published before, using Policy, Organising, Planning and Implementing, Measuring, and Auditing and Review as the pillars (see Figure 5).

The pillars form the main framework of the OHSMS (the “arrangements”) and the remaining internal elements act as subservient arrangements of the system, but all involve a proportionate level of learning via feedback loops. There are major feedback loops (external bold lines) for strategic learning and policy-amending exercises, and the model also caters for short-cut learning, shown by the dotted lines, demonstrating significant flexibility within the system.

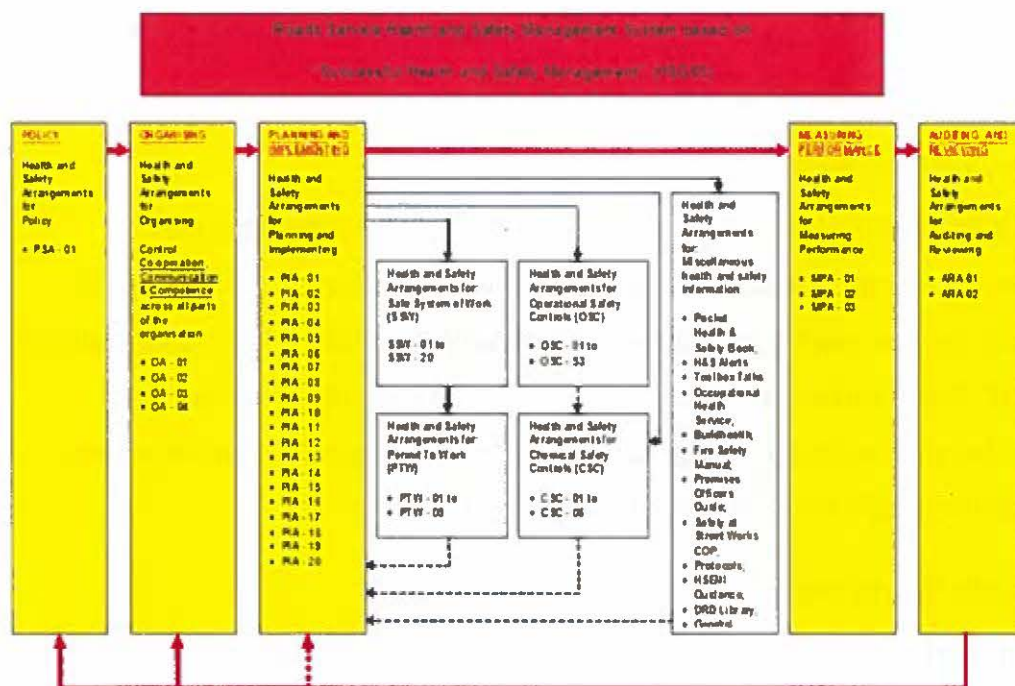


Figure 5 – 2012 Interpretation of the POPIMAR Model

Coincidentally, HSG65 2nd Edition (HSE, 1997), on which the Public Works was based, was updated in a refreshed, 3rd Edition that embraces the PDCA concept (see Chapter 2). If HSG65 3rd Edition (2013) had been published before the change process was prepared in 2012, when the decisions were taken to embrace a new system across the whole organisation, then the PDCA concept would have been used.

However, with commitments to change hard won in 2011/12 it would have been an unwelcome additional organisational turbulence. After due consideration, supported by management, it was decided not to seek further change, mid-stream, in the journey to change the organisational health and safety culture. At the time of the change, new departments were emerging, which meant senior managers were aiming for stability during a time of organisational transition.

It had been very difficult to extract the organisation from a previous OHSMS in 2011/12. There had been a commitment to HSG65 2nd Edition (which was then the HSE-advocated approach to health and safety management), and it was concluded that a further change would simply have been too high a burden over too short a time span. It was decided to defer adopting HSG65 3rd Edition until a more convenient time; instead, the POPIMAR model was heavily strengthened with PDCA-styled feedback loops (see Figure 5). However, this context statement differs from the Public Works in that it uses PDCA plus leadership elements that form an essential part of the perspective. The Public Works are therefore seen through this newly developed lens and are heavily influenced by ISO 45001 (2018).

8.2 Flexibility as included within the system

Flexibility in thinking about and performing tasks is a key tenet within the overarching principle that line management is ultimately in control. I believe it is incumbent upon an employer to demonstrate flexibility while working collaboratively with staff. This is catered for within most PSO health and safety management systems, but staff might not recognise the term “reflective practice” in this context (although they might very well be quite reflective by nature).

8.3 Public Works provision for knowledge transfer

In submitting this context statement, I set out to achieve several goals, a predominant one being to bridge the perceived health and safety gap between industry and academia. This question probably remains partially unanswered at this stage, because it will be for others to evaluate the benefit that this context statement and the Public Works offer to this discussion. I suggest that different terminology may create some barriers to this evaluation. These themes relate to both human and business decisions. Some approaches are strikingly similar, but industry and academia appear to be partially disconnected from each other, so the context statement seeks to bridge this

gap with the correct degree of influence from both groups. Some of the most elementary disconnections are seen in the use of terms such as Tool-Box-Talks, widely used in industry to mean a short, onsite, verbal briefing but not used within academia. “Discourse” is a term commonly used in academia to mean what would be called “conversation” in industry circles. In both cases, similar objectives are being achieved and with no less depth of thought connected to the purpose of the topic or the consequences from either side.

8.4 Self-supervision: high or low risk?

Self-supervision appears to be a key *modus operandi* and a cornerstone of the delivery technique used by the PSO at the centre of these Public Works. I had to ask, had it been created or had it evolved? The financial incentive of self-supervision is obvious, but it creates a higher-risk management strategy that is based on less frequent on site line management. The scope for non-compliance is quite real and there could be potentially catastrophic unintended consequences. I do, however, stand by my decision to support self-supervision prescriptively and advocate such an approach in some limited circumstances. Others may differ in their opinion of self-supervision, and on another day I might agree with them, but generally speaking from a PSO operational perspective, workers who are appropriately trained can and should be encouraged to take responsibility for day-to-day tasks without direct supervision on site. However, the “Report of the Independent Inquiry into the Construction of Edinburgh Schools 2017” (Anon, 2017) would appear to ask questions about the level of trust that should be placed in people. This further opens the question about the value of supervisors such as clerks-of-works on construction sites and matrons in hospital wards to instil an additional level of motivation towards agreed objectives. It perhaps also highlights the unintended consequences of the demise of these roles in the workplace today.

8.5 Leadership authority with checks and balances

Authenticity of senior management is a difficult question to address. Senior management need to be authentic in their communication and their actions should be congruent with their words. How we assess authenticity is still open for debate, as there is no fully accepted method of measuring how or when a manager is behaving authentically. Measuring authenticity in instances where managers focus (or are

perceived to focus) on being seen to do what is required, rather than doing it from a genuine commitment, is another question again.

8.6 Risk assessment approach to managing risk

Risk assessment and the overall risk control system advocated in the Public Works follows a standard HSE and industry-accepted approach, but there are other views that imply that the standard risk assessment approach is overly prescriptive and slightly mechanistic in the context of particular project-based risk management,. In addition, some consider that there is undue emphasis on the risk assessment techniques of the process rather than focusing on the most crucial areas of the exercise, which are to identify the key hazards, carry out an appropriate assessment and introduce proportionate controls (Chapman, 2001). However, using the outworkings of activity risk assessments, and assessments relating to Control of Substances Hazardous to Health regulations, in the form of safety controls is innovative and complements the ISO 45001 position on identification of risk. It also provides the basis of an assurance regime for management compliance, and communicates to staff the controls that are introduced as a result of the assessments. The use of a particular form of dynamic risk assessment is especially innovative, where workers are required to fully comply with the PSO's controls by applying information, supervision and instruction that they have received in training to their own work on site. If they are unable to fully comply with the procedures when on site, they are expected to abort the task and provide feedback to management, thus creating a live, circular working relationship with the policy makers who produce the risk assessments.

8.7 Dynamic risk assessment, innovation and reflection-in-action

Dynamic risk assessment, and the dynamic application of activity safety controls, is a key element of a reflective workforce. Almost every road maintenance work site is different owing to its physical and environmental characteristics, and workers simply cannot blindly rely on the standard control procedures. Workers are expected to assess the site-specific circumstances and respond to them in a reflective manner, reflecting-in-action to collectively guide their approach and reflecting-on-action to capture important learning and embed new levels of safe working; by working in this way they look after their own and their peers' safety and the safety of others, typically road users.

8.8 Measuring health and safety performance

Measuring health and safety performance using the Ten Point Health and Safety Performance Calculation Matrix in the 2015 Public Works attracts prominence within the culture of the host PSO. The novelty of the matrix lies not in how the information and data were initially established, or which baseline figures were used in measuring improvement, but in how the results were assembled. The previous three-year average was used to establish baseline figures, therefore avoiding possible comparison with a peak or trough performance from a single previous year. However, measuring was made particularly interesting in the matrix by including health and safety business activities within the supply chain in the overall measurement of performance, in an attempt to measure culture. This is novel and will contribute to a wider understanding of the value of measuring health and safety cultural performance rather than traditional performance measures such as accident frequency rates.

8.9 Future research and additional studies

Having critiqued my work, I believe that further in-depth studies into the following themes could benefit the wider development of knowledge within this discipline.

Systems and processes are required to manage health and safety in the public sector, but they could be developed in a way that would facilitate more creativity to accommodate reflection in the workplace. The alternative would be a retrograde step if we presume that workers are paid to carry out a particular task without tapping into their massive reserve of tacit knowledge, human intuition and the ability to work as part of a team, or to recognise their contribution to an organisation or to the wider public sector.

More research is required into the level of trust that can be placed on workers through the management concept of self-supervision, where incentives, particularly financial incentives, are an obvious temptation for workers and managers to cut corners and undermine the quality of process-based results. The other side to this discussion is to ask if it is fair and reasonable to expect workers to self-supervise if they are given minimal recompense for this responsibility.

Measuring performance should be more fully challenged under the auspices of a cultural performance measurement tool, perhaps as a development of the Ten Point Health and Safety Performance Calculation Matrix. This should engage more aspects of health and safety cultural performance, not only the trophy aspects of high-profile KPIs. This is all balanced with the need to be concise and precise when dealing with executive members of senior management teams.

Health and safety assumptions based on trust in this context are where particular actions are expected to take place, based on established working relationships. Sometimes the individual or group judges that a self-developed procedure is appropriate for a particular situation, which may or may not be appropriate; therefore, the value of the audit is in removing any uncertainty about evidence linked to unsafe assumptions or employee obligations to comply. This approach must be understood in light of the Health and Safety at Work Act 1974 in the UK, and legal requirements more generally. Nevertheless, why are accidents and injuries still occurring? Probably, in most cases, because of people who are unaware or unable to assess risk-in-action and calculate consequences. Therefore, assessing risk-in-action could be further researched along with employer assumptions that staff will follow their employers' safe systems of work. By contrast, one might ask whether poor management could be a result of unchallenged assumptions in the workplace and further exposure of a cultural issue in many industries and sectors: if so, the same question could be asked of health and safety management.

A variety of OHSMS are available. Most employers will select the most appropriate system for their organisations rather than having one imposed. This may include procurement credentials to enhance contract competition. Some of the factors affecting this decision will be the scale of the employer (in terms of number of employees), the risk associated with the organisation's undertakings and the individual appetite for assurance. In the host PSO, HSG65 (HSE 1997) fitted best in 2012 because the host had:

- sufficient in-house expertise to have a non-externally validated system in place, evidenced by the self-insurance approach undertaken;

- the capability to audit itself due to the size of its undertakings, which guaranteed adequate independence from the operational arms of the organisation;
- no contractor procurement requirements to meet, as it was not competing for contracts;
- substantial verifiable training records for its staff, as it was a direct labour organisation; and
- made use of external consultants to independently verify its system capability every fourth year, supported in intervening years by in-house independent compliance audits.

These factors together with the host PSO's track record supported an option to use the 2012 HSG65 2nd Edition (HSE 1997). However, considering the publication of HSG65 3rd Edition and ISO 45001 in 2018, both of which advocated the Plan, Do, Check, Act concept, it is very likely that the host PSO will adopt one of these more recent systems in its evolution of managing health and safety.

9 Reflection: What I have learned from the DProf

9.1 Old scene, new view

The more research I undertook during my DProf programme the more I realised that I already knew some aspects that I was uncovering, but I did not know that I knew them before embarking on the programme; at the time, I did not know them to be established theoretical concepts, theories and principles. Nor did I recognise them by their proper terms. This became a key underpinning principle of deepening my knowledge, as I recognised and connected what I already knew within a wider context.

9.2 Mindset adjustment

Reconceptualising my Public Works through research has helped me break free from my self-imposed mindset; it has reframed my professional thinking and given me a new lens through which to view familiar environmental circumstances. I have seen old circumstances in a new light within my overall specialism of health and safety management, but this can be applied to many other management disciplines. This new perspective is assimilated within my approach to work-based learning and has retained, at its core, a personal academic thirst for knowledge and understanding. As part of my doctoral programme I am now compelled to have a deeper understanding of issues when expressing my personal views to a wider audience.

9.3 Application of concepts, theories and principles

I have learned the value and importance of both practice and theoretical knowledge. Understanding the relationship between practice and theory has enabled me to widen my field of vision and think more broadly, particularly taking into account the tacit knowledge aspect (Polanyi, 1967) that I have gleaned from my associates, using principles alluded to in the SECI model of knowledge creation through the conversion of tacit and explicit knowledge (Nonaka, Toyama, and Konno, 2000). This approach includes my need to be transdisciplinary, as I associate with different groups within my community of practice; it relates to how I observe, store, think and practise, my reflexive approach to knowledge, and importantly how I interact with a wide range of different groups.

I have learned how to place myself in the role of a research practitioner and be better prepared to have my work more intensely critiqued. Now I reflect more effectively when I problematise situations, and this type of intellectual challenge supports a solution-based outcome while using both reflection-in-action and reflection-on-action (Schön, 1983).

I have come to appreciate the importance of professional expertise and excellence in my professional field. In particular, I understand that the best way to avoid mistakes is to take responsibility for them when they occur, rather than try to prevent them by foolproof rules. In bureaucratic societies such as the public sector, expertise (intuitive judgement) can be diminished through over-reliance on calculative rationality, contrary to the view presented in the stage model of developing expertise of knowledge engineers (Dreyfus and Dreyfus, 2005) and how this complements and integrates with health and safety organisational change (Coman and Ronen, 2009). Originality derived from meaningful verbal learning and discourse, while developing knowledge within the limits of the host PSO, is valuable to me professionally and also to others that I influence within my community of practice.

The impact of my work on others can be perceived as both positive and negative, depending on my output and how any new knowledge is imparted. I must endeavour to be a force for continuous knowledge development and improvement in others, similar to the impact that I achieved in the change process introduced in the host PSO. Similarities can be drawn from other large institutions where models of context support, team leader coaching, safe team psychology, and team learning behaviour all feature heavily (Argyris and Schön, 1978). The results of this study support the theoretical model of team learning and describe factors that are important for creating good conditions for team learning behaviour. I also need to be mindful of the wider difficulties linked to delivering change in my community of practice, recognising that strong managers produce predictability and order, but leaders create, communicate and implement visions of the future which enable companies to change themselves in a changing workplace (Kotter, 1990). I have reached a critical stage in my career in relation to my personal development, my professional standing among my peers and my knowledge claims within my field of expertise.

The value of working with others collaboratively and its contribution to my personal and professional development have been immense. Whether the other person or group is a supporter or an opponent, the interaction builds inner capacity and resilience (knowledge kineticism) as a reserve that can be released when required. This is a key learning attribute that I have developed during my DProf programme. It is particularly important when working with others who are operating at an intellectual level different from mine (both below and above) as I filter and absorb reusable knowledge. This includes all positions within what Nonaka, Toyama, and Konno (2000) describe as a “doing, saying, thinking, and seeing” knowledge transfer relationship as in: (i) the SECI process; (ii) “ba”, the shared context for knowledge creation; and (iii) knowledge assets, the inputs, outputs and moderators of the knowledge-creating process (Nonaka, Toyama, and Konno, 2000).

I now more fully accept the importance of research and development and its value in facilitating my own professional positioning within my community of practice. This includes using different methods of collaborative working and to facilitate my understanding and appreciation of the work of others as I strive to achieve better ways of operating within my own area of expertise.

I am now better equipped to articulate and defend my position to allies or opponents when it is challenged. Recognising that unjustified criticism can be damaging to my peers, and could be damaging to my own professional standing, I am mindful of the consequences of my actions and expressions. I also understand the necessity of being bound by rules, codes of conduct and standards of practice imposed by professional bodies, as well as living out by example the true intention of the requirements.

I learned more about the value of tacit knowledge (Polanyi, 1967), and on some occasions, this type of knowledge must be drawn out from familiar situations. Analysis and synthesis now feeds into my consideration of complex propositions. I can better appreciate the skills of others, and I can filter a wide range of information from other people to select what I need for my own greater knowledge and understanding of concepts and theories. This includes knowing that injuries were reduced during the study because employees had positive perceptions of a number of factors including the OHSMS. Those perceptions, in turn, appear to influence

employee decisions that relate to at-risk behaviours and decisions on the job (O'Toole, 2002).

I learned to accept and appreciate points of view from hostile or friendly critical groups and to understand when criticism was personal and when it was towards the theory or subject. I learned to appreciate alternative personal perspectives for the greater good of achieving longer-term and deeper understanding of knowledge in a variety of forums. I now continually appraise my propositions and professional standpoints to clarify what I read, view and absorb, because this may affect what I say, write or do, and what positions I might advance on issues such as industry assumptions.

I have learned to appreciate the value of planning and managing a variety of resources, while retaining my personal focus on clear, well-thought-out objectives. I am better equipped to know when to engage and make use of others in a style and manner that complements my target objectives of learning and managing opportunities.

I now professionally evaluate my own actions using feedback from others, and thoughtfully consider the value of engagement with these peers and stakeholders within my community of practice. I regard this as being the necessary oxygen of my personal professional performance; it improves my strategic planning and enables me to identify any necessary change to my present course of action or academic professional route map.

Being more mindful that research and learning should have a tangible benefit for society compels me to prioritise my resources. This includes time and money spent on learning about complex or specialist work that could have a foreseeable benefit in short or the long term, for others or for myself. It also introduces a new scale to measure executive leadership that is exercised within a strong framework of ethics and personal values, together with its impact on followers, organisations and the greater society (Reed, Vidaver-Cohen, and Colwell, 2011).

The resources at my disposal through professional and employment entitlements are finite. Opportunities to have time, finance, energy, relationships and chances to interact with others can be fleeting and should be valued and used wisely.

Communication, whether written, verbal, graphical or demonstrable, can be used to create an interest, present facts, and influence potential outcomes in teams and individuals. These outcomes include investment strategies in a competitive world and have to be handled respectfully. Being able to present a particular viewpoint to an audience of differing perspectives, through purposeful deliberation, with confidence and soundness of knowledge, is important to my community of practice. These positions of influence, if not handled appropriately, can negatively affect a previous positive relationship or culture that can be inadvertently dissolved very quickly, and rebuilding can be painstakingly slow.

I have learned that being a respected leader in my community of practice requires certainty and distinction in the subject field and the ability to persuade the community of practice of the benefits of following a particular line of reasoning. It includes having the wisdom to convert this reasoning into action – action that, in some circles, might be controversial but is nevertheless right. This is an aptitude forged in the fires of experience.

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