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Planning and Implementing Safety Management Systems

JANINE DRYBURGH HAWKINS

Doctor of Philosophy

THE UNIVERSITY OF ASTON IN BIRMINGHAM

March 2001

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Summary

This thesis describes a study of the content and applicability of BS8800:1996 *Guide to occupational health and safety management systems*. The research is presented chronologically, with literature review and content analysis of SMS related guides and standards interwoven with two elements of qualitative empirical work. The first of these was carried out shortly after publication of BS8800 in 1996, a 'before-the-event' investigation of how organisations were intending to approach SMS implementation. The challenges faced by these organisations are reviewed against standard management theory, suggesting that the initial motivation for SMS implementation governs the approach organisations will adopt to guidance such as BS8800.

The second phase of empirical work was undertaken in the context of OHSAS 18001, an auditable protocol based on BS8800, which allows organisations to certify their safety management systems. A discussion of the evolution of certifiable safety management systems is presented, highlighting the similarities and differences between this, BS8800, SMS and wider management systems standards. A case study then reviews the experiences of a catering company that implemented 18001, motivated by the opportunity for certification as a business benefit.

The empirical work is used to comment on the guidance provided by BS8800, within its evolved role as guidance organisations may use for implementation of an SMS to be certified according to the specifications of OHSAS 18001.

It is suggested that optimal implementation is facilitated by initial status review, continual improvement and the use of annexes, where these are used to make changes to the existing safety management system. This thesis concludes with a discussion of these elements, highlighting pertinent areas within BS8800 where revision or amendment may be appropriate.

KEY WORDS: SAFETY MANAGEMENT SYSTEM, BS8800, CERTIFICATION, QUALITATIVE METHODOLOGY

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CHAPTER ONE

Introduction

We shall not cease from exploration
And the end of all our exploring
Will be to arrive where we started
And know the place for the first time.

T.S.Eliot, Little Gidding

This chapter provides an overview of the thesis, containing study objectives and the research and thesis structure. The research was conducted within a five-year span witnessing the first British Standard Guide to safety management systems and as a result, the first certifiable safety management system specifications.

1.1 Research Question

The aim of the research was to review the factors that determine the effective development of safety management systems. The research focuses on the part played by safety management system (SMS) guidance, most notably BS8800:1996 *Guide to occupational health and safety management systems* (BSI, 1996a), and its certifiable equivalent, OHSAS 18001 (BSI, 1999). The study focus was provided by two elements of empirical work:

- An examination of the early experiences of organisations attempting SMS implementation using BS8800; and,
- A detailed case study of a catering organisation implementing OHSAS 18001.

The findings are examined against management systems standards literature, to ascertain a description of optimal SMS implementation. This is then used to evaluate the efficacy of the content and information within BS8800.

1.2 Research Objectives

The objectives of the research were to:

1. Describe the legislation, management system models and safety management guidance providing the impetus for BS8800, to identify how the Guide developed from safety, environment and quality management sources;
2. Conduct a detailed analysis of BS8800 in order to establish departures from existing safety management guidance;
3. Examine the efficacy of BS8800, based on a study of organisations implementing safety management systems; and,
4. In light of the above, provide a critique of BS8800 in terms of both broad structure and explicit content, with a view to suggesting changes.

1.3 Justifications for the Research

1.3.1 Practical Justifications

The research process began with the imminent publication of SMS guidance from the British Standards Institution (BSI). The drafting process of BS8800 (originally 'BS8750') was bedevilled by political arguments as to whether or not there was a need for new SMS guidance, and thus, whether publication would indeed go ahead. After prolonged debate, the protagonists' perception was changed to one where the Guide was recognised as 'adding value', resulting in publication of BS8800 in 1996. The point of departure for this research was therefore to examine the extent to which the Guide met the role of assisting SMS implementation, and whether the new advice contained within BS8800 proved useful.

1.3.2 Theoretical justifications

Experts in occupational health and safety (OH&S) are now broadly able to identify and explain the reasons why some organisations have poor OH&S performance, and likewise explain why others perform well. The fact there are organisations hailed as 'benchmark' performers is linked to hindsight and the ability to establish cause and effect; with the effective safety management techniques providing the cause, and satisfactory accident /

incident statistics as the effect. An awareness of safety culture and the TQM¹ philosophy of 'continual improvement' have added to the expert's ability to recognise, not only static good performance, but also those organisations striving to improve their management of safety.

Secondly, there is reasonable confidence in any explanation of how an organisation with a traditionally poor history of OH&S performance has progressed to a pro-active approach. Again, this is an exercise conducted with the benefit of hindsight, and an evaluation of the steps taken to better safety performance. In simple terms, where the effect can be judged as improvement, the process identified as causal may be hailed a success.

However, what is not well understood, is what advice and information is optimal for companies *embarking* on the journey to improved performance, despite the ability to identify best practice as shown and experienced by other organisations. This thesis seeks to assist in addressing this latter challenge.

In their review of approaches to safety, health and environmental aspects, Hale & Hovden (1998) state that:

Many lines of research appear to be either entirely atheoretical or to be based on little more than a methodology linked to an explicit model of the accident process, to general systems theory or to the 'plan-do-check-modify' cycle derived from quality management (Deming, 1990). These are little more than principles for ordering and schematising SHE management systems, in particular their structural elements.

The thesis is not wholly immune from this stricture; a review of the SMS standard BS8800 has necessitated that investigation and discussion be conducted from an MS model stance in many places. However, it is stressed that an attempt has been made to widen the theoretical basis on many occasions; including the more general concepts of management, motivation and learning.

1.4 Research Structure

The work began with a detailed critical analysis of the content of a near final draft of BS8800 compared with contemporary texts. This study was carried out as a basis for locating the Guide within the plethora of existing management systems guidance and

¹ Total Quality Management

standards, and statutory health and safety duties. The BSI technical committee (HS/1) underlined the necessity of this exercise by utilising the findings (Booth and Hawkins, 1996) as evidence for proceeding with the publication of the Guide.

Following this theoretical evaluation of BS8800, the next stage was intended to be an empirically-led examination of the Guide, involving longitudinal case studies of organisations implementing BS8800. However, this was hampered by the instigation of the research so near to initial publication; organisations approached for study had made little progress. The focus of the study on ‘successful development’ relied on organisations persevering with, and successfully completing their SMS processes within the time span available for the research. The dubious start made by some of the organisations was felt to be too unstable to warrant conducting longitudinal studies; were the attempts to fail or be aborted, the research would be left without empirical data.

As a result, the decision was taken to halt the data-gathering phase, to allow an interim period of implementation to ensue, and then evaluate the process *retrospectively*. This was to allow guaranteed selection of an organisation that could comment on the implementation process authoritatively; one with a ‘story’ to impart, experiences to relay, and an approach to SMS guidance to disseminate.

Thus, the findings of the first element of research were evaluated in their own right, constituting a discussion of factors instigating SMS implementation. This led to interesting conclusions with regards the importance of the motivating factors for SMS implementation, with those internally driven appearing to adopt a more structured, confident approach to the Guide and its requirements than organisations relying on external factors.

The second phase of empirical work was to be a retrospective evaluation of BS8800 implementation, reviewing the process as described by those involved. Reference to the timeline in Figure 1 highlights the ensuing challenge; the four year period between the first and second studies had witnessed an un-predicted series of developments in the safety management field, including:

- HSE SMS guidance revision;
- Development of a number certifiable 'BS8800' specifications;
- Publication of an amalgamating, certifiable OHSAS;
- Revision to core OH&S Regulations; and,
- Publication of second tier guidance to the OHSAS.

The search for an organisation with which to conduct the retrospective evaluation highlighted the effect of this progress; it was found that SMS implementation in 2000 was very much concerned with OHSAS 18001. In order to ensure a relevant piece of research, it was decided that the evaluation of the efficacy of BS8800 could not ignore these developments, and would need to be conducted within the much changed arena of SMS guidance and certifiable standards.

As a result, these developments were examined in detail, constituting a review and discussion of the new OHSAS in relation to BS8800 and other MS standards. Whilst the continued relevance of BS8800 as SMS guidance was established, it also allowed a widening of selection criteria for an organisation which had 'developed its SMS', according to OHSAS 18001. This second element of empirical work thus involved a case study of an organisation that had implemented an SMS with the aim of achieving OHSAS 18001 certification.

The findings of this study were examined in relation to recent management systems implementation literature, in order to validate the approach taken by the case organisation in relation to those suggested by the wider quality and environmental, as well as safety field. The ensuing description of 'optimal approach to SMS implementation' was then applied to BS8800 in order to evaluate areas where its guidance may fail to fully impart best practice. The conclusions of the research utilise these findings as a basis for suggesting alterations to the Guide.

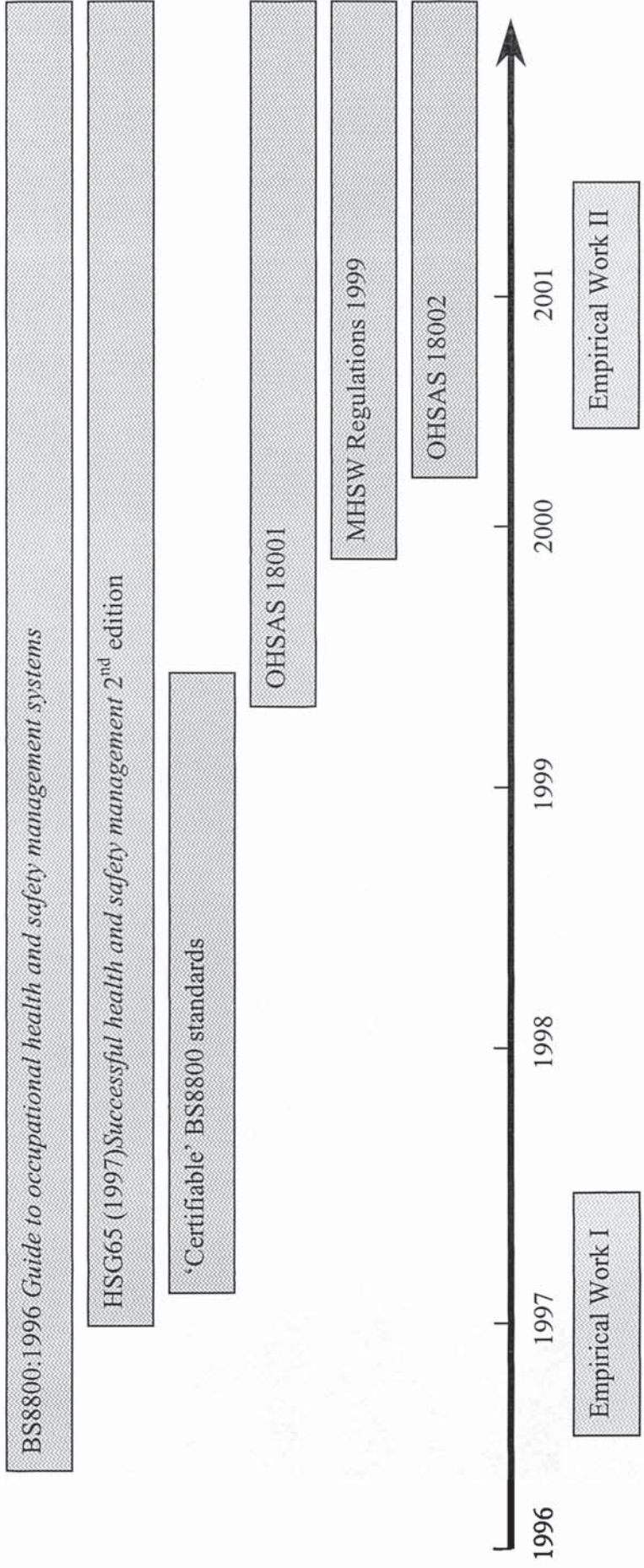


Figure 1: Research timeline; empirical work in relation to SMS guidance and standard publication

1.5 Thesis Overview

Modern health and safety legislation dates from the series of Factories Acts covering the period between 1878 through 1961, the latter maintaining the tendency of UK legislation to be occupation / industry specific (Leighton, 1991). The first non-sector specific statute was passed as a result of the work of the Robens' Committee (Committee on health and safety at work, 1972); the background to, and developments since, the subsequent 1974 Health and Safety at Work Act are detailed in chapter two. This is followed by a description of the management systems standards in the related fields of quality and environment, highlighting pertinent similarities and differences.

The third chapter is the first of three describing the evolution of safety management system (SMS) guidance and standards, with an examination of the development and core content of the HSE text *Successful Health and Safety Management* (HSE, 1991). Chapter four provides an account of the evolution of BS8800 and the controversies surrounding the production of the Guide. This is followed by an analysis of its content, many elements of which are compared to HS(G)65 (HSE, 1991). Both chapters three and four build on the foundations provided by chapter two.

The fifth chapter provides an overview of methodological considerations for the first element of empirical work, which is then described in full. This leads to conclusions with regards the importance of motivation for SMS implementation, and the key distinction between organisations that are internally or externally motivated. In order to ground this in the appropriate literature, chapter six relays the development of general management from Fayol (1916) through to the present day. This highlights the *management* elements of SMS guidance, both actual and potential.

Chapter seven brings the focus of the thesis back to SMS guidance and standards, describing the development of 'certifiable' versions of BS8800. The resulting OHSAS, 18001, is then discussed in full; in relation to the Guide, and the certifiable quality and environmental standards ISO 9001 and 14001.

Following re-consideration of methodological issues in chapter eight, chapter nine presents a case study of the catering organisation Admiral, and its process of implementing OHSAS 18001 in a single Unit. This is presented as a narrative account, from a failed attempt to integrate BS8800 with ISO 9002, through to OHSAS 18001 certification in April 2000.

Chapter ten, the first of two discussion chapters, takes the findings of the approach taken by Admiral, and compares and validates these against the safety, quality and environmental management systems literature. Chapter eleven then increases the level of abstraction, reviewing the thesis as a whole, ascertaining elements of SMS implementation that constitute an optimal approach. Each of these are discussed in relation to the guidance within BS8800, leading to the alterations presented in chapter twelve, alongside the wider thesis conclusions.

CHAPTER TWO

Development of Safety Management System Guidance: Scene Setting

As stated in the introduction, chapter four of the thesis provides a detailed content analysis of BS8800, comparing the Guide to existing guidance and other authoritative sources including statute. This aim of this and the next chapter is to set the scene for that analysis by describing events prior to the publication of the Guide in 1996.

BS8800 states that it provides guidance on the integration of health and safety into an organisations overall management system, to both minimise risk and contribute to business performance (BSI, 1996a). To achieve this a dual approach is offered, whereby organisations select a model for implementation based on either *Successful Health and Safety Management, HS(G)65*² (HSE, 1991) or the environment standard ISO 14001. This support for integration of management systems is further evidenced in annex A of the Guide, which outlines links with the quality management standard, ISO 9001.

It is these three issues of legislation and management system models with which the thesis begins, firstly via an examination of the development of health and safety legislation in the UK.

2.1 Legislative Developments

In current guidance; Smith et al (1998) comment on safety management as a legal and unavoidable responsibility, HSE (1991) summarise each chapter with a note on statutory compliance and BSI (1996a) suggests the meeting of legal requirements before aiming for continual improvement. Thus, attention is now focussed on the development and content of the statutory obligations providing the legislative backbone of safety management.

² Throughout this thesis, the distinction between the two editions of *Successful Health and Safety Management* is made by referring to their series titles, with and without parentheses; HS(G)65 (HSE, 1991) and HSG65 (HSE, 1997).

2.1.1 The Factories Acts

Following the report of a Royal Commission in 1876, the Factory and Workshop Act was passed in 1878 - arguably the first attempt at comprehensive factory legislation (Fife and Machin, 1982). Prior to this, legislature had been ad hoc, dealing with industry and sector specifics as the need was perceived.

Gradual amendment, and consolidation with other statute resulted in the Factories Act 1961 (Hopkinson, 1983), still applicable to this day, although perhaps more in name than in content. Broadhurst (1978) states how past legislation laid down achievable standards; the 1961 Act general provisions for Health, Safety and Welfare contained highly specific instructions for control.

Examples of such rigid prescription are seen in ss 2(5), 13 and 27, which cover the calculation to be used to assess overcrowding, the fencing of transmission machinery, and the periodicity of crane examinations respectively (Factories Act, 1961). Thus prescriptive and technically focussed, little statutory attention was paid to the human element, despite writers at the time hailing this as equally important as the 'hard' side of manufacture (see Saunders, 1967; Marsh, 1957)

With the Factories Act operating in conjunction with the Mines and Quarries Act (1954) and the Offices, Shops and Railway Premises Act (1963), legislation in the late 1960's remained 'fragmentary and far from comprehensive' (Cross, 1983), with occupation / sector focus exacerbating the issue (Leighton, 1991). Almost a century after 'the first comprehensive legislation', unification remained elusive; neither simplicity nor universality had been achieved. An attempt to address this was to be made almost immediately, through the appointment of a Committee of Inquiry in June 1970, Chaired by Lord Robens.

2.1.2 The Robens Report

Published in 1972, the Robens Report reviewed the 'provisions made for the safety and health of persons in the course of their employment'. The report examined whether changes were needed in either the 'scope or nature of the major relevant enactments, or the nature and extent of voluntary action concerned with these matters' (Robens, 1972).

The recommendations made in the Report can be examined under the two issues mentioned above; the abundance of disjointed statute, and the lack of attention paid to the human element. Indeed, Drake and Wright (1983) summarise the former as stated by Robens; the sheer volume of law was counter-productive, intricate, difficult to understand, and fundamentally, statute neglected the issues of attitude, performance and the organisational system. Of the human element, Robens suggested:

It is not to underrate the importance of physical safeguards to say that preoccupation with the physical environment has tended to dominate this field to the neglect of equally important human and organisational factors, such as the roles of training and joint consultation, the arrangements for monitoring safety performance, or the influence of work systems and organisation upon attitudes and behaviour.

The concept of 'self-regulation' was cited in the report as constituting the most fundamental conclusion of the Committees investigations. Whilst Robens had specified the concept and nature of a new regulatory agency, reliance on 'negative enforcement' from an external body was seen as a second line of defence. Instead, better standards of safety and health at work (Robens, 1972) were to be brought about by:

- Acceptance and exercise of appropriate responsibilities at all levels;
- Better systems of safety organisation;
- More management initiatives; and,
- More involvement of workpeople themselves.

Latter sections of this thesis highlight how these four core arrangements for the achievement of self-regulation have been maintained to varying degrees in both statute and SMS guidance. Incorporation into the former was first seen in the Health and Safety Work Act 1974, whose main content was initially published in *Proposals for a Safety and Health at Work Bill*; largely based on the Robens Report (Dept of Employment, 1973).

2.1.3 The Health and Safety at Work Act, 1974

2.1.3.1 General Duties

The objectives expressed in Part I of the HSW Act are in keeping with Robens' suggestion for a 'statement of basic principles', which are to: secure the health, safety and welfare of persons at work; protect others against risks arising from those persons; and to

control the acquisition and use of 'dangerous' substances (HSC, 1974). It is these general principles which changed the face of health and safety statute; the HSW Act is applicable to all, with sector / activity specifics transferred to accompanying regulations and codes of practice.

The elements of the HSW Act pertinent to organisational safety management are found predominantly in Part I; sections 2-9³ defining general duties of employers, employees, manufacturers and 'persons'. The term *so far as is reasonably practicable* (SFARP) accompanies those general duties requiring subjective assessment of the level of safety or absence of risk to be attained, in conjunction with the costs of achievement.

2.1.3.2 'So far as is reasonably practicable'

The HSW Act itself doesn't define reasonable practicability, although in a definition borrowed from the Common Law 'practicable' means 'feasible without any reference to cost' (Broadhurst, 1978). The phrase 'SFARP' was judicially determined and approved in the cases of *Edwards v. National Coal Board* and *Marshall v. Gotham* respectively (Drake and Wright, 1983). In the former case the Court considered the term 'reasonable practicability' thus (Hendy & Ford, 1998):

'Reasonably practicable', as traditionally interpreted, is a narrower term than 'physically possible' and implies that a computation must be made in which the quantum of risk is placed in one scale and the sacrifice, whether in money, time or trouble, involved in the measures necessary to avert the risk is placed in the other; and that, if it be shown that there is a gross disproportion between them, the risk being insignificant in relation to the sacrifice, the person upon whom the duty is laid discharges the burden of proving that compliance was not reasonably practicable.
[Emphasis added]

The underlined section holds the key to reasonable practicability; that effort made should be in proportion to benefits accrued, a cost-benefit computation based on tolerability of risk. Within the wider context of Robens and the HSW Act, a comment from Drake and Wright (1983) summarises the underlying message to be taken from SFARP. They suggest that it is 'flexible and fair', thus in keeping with Robens concept of self-regulation, but nonetheless 'fulfils its objective in catching the thoughtless and the indifferent'. Recent EC comment on the use of the term 'SFARP' suggests that reasonable practicability has become a tool for ascertaining feasible caveats as opposed to

³ With the exception of section 5 which has been repealed

rationalised actions; Drake and Wright failing to foresee the category of the amoral calculator introduced by Genn (1987).

2.1.3.3 Policy

As seen above, Robens concept of self-regulation was to be brought about in part by better systems of safety organisation. Under ss2(3) employers with over five employees must prepare and revise a written statement of their general policy for employees health and safety at work. This includes the organisation and arrangements in force for carrying out that policy, and the need to bring it and subsequent revisions to the notice of all employees.

This statutory requirement has become a core aspect of safety management models, which invariably start with an organisations health and safety policy, which is then implemented through subsequent aspects of the system from organising to audit.

2.1.3.4 HSW Act - an Implicit Management System

Taking the risk assessment element from the SFARP definition, and placing it alongside the requirement for a policy detailing organisation and arrangements provides three of the five core elements of both HS(G)65 and BS8800. Whilst this is an exercise carried out easily with the benefit of hindsight, an example of interpretation at the time shows how the management system element was indeed implicit.

In her practical guide to the HSW Act, Broadhurst (1978) offers readers a management process based on the 'PARF' loop; plan, action, results, feedback. Choice of acronym betrays the close alignment to the quality PDCA loop, as Broadhurst states that it is checking the results that lead into plan modification where appropriate (ibid).

Broadhurst (1978) provides an example of how the PARF process applies to hazard identification and control, but then retracts from this as a preferred model by suggesting that 'those who dislike anything which smacks of theory may omit all reference to the PARF loop'. The safety diagram provided later in the text simply depicts all aspects of the workplace covered by the General Duties, labelled as safe- working environment, egress and plant. This is encapsulated within a safe system of work as opposed to a

system for managing safety, thus informing readers of what compliance with the HSW Act will *look* like, rather than a systematic method of how to go about *achieving* such.

2.1.3.5 *Health and Safety Regulations and Approved Codes of Practice*

Section 15 outlines provisions for health and safety regulations described by Robens as 'subordinate', which may repeal or modify existing statute. Applied within the general framework of the HSW Act, these regulations and approved codes of practice (ACOPs) support the Act's basic principles of safety responsibility.

An ACOP imparts preferred means of compliance with, and describes desirable procedures and systems for (Robens, 1972), the Regulations which it accompanies. Fundamentally, a breach of an ACOP is not an offence. However, should a body be charged with breach of the Regulation or Act in question, the special legal status of the ACOP comes into play. The HSC recently reviewed the role and use of ACOPs (1995), and developed a status paragraph to be included at the front of each code of practice, stating that:

If you are prosecuted for breach of health and safety law, and it is proved that you did not follow the relevant provisions of the code, you will need to show that you have complied with the law in some other way or a court will find you at fault.

Compliance with the law by other means encapsulates guidance such as HS(G)65 and BS8800, indeed, the former states that its advice will be increasingly used by HSE inspectors as a basis for testing the performance of organisations against statutory requirements (HSE, 1991).

2.1.3.6 *Summary*

The HSW Act was said to have '... generalised the safety legislation and imposed safety obligations on all employers in every kind of work ... the administration of the safety laws is centralised in a single authority and will be simplified' (Munkman, 1978). The prefaces of two texts published within a decade of the HSW Act show how these changes in statute were received; Broadhurst (1978) explaining that this wasn't 'just another Factories Act', but the basis for a new system of health and safety in Britain. Such frustration at the old system was reflected in the introductory comments of Drake and

Wright (1983), also providing insight into the attitude held towards the volume of preceding statute:

No longer is it possible to think of health and safety obligations as simply complying with a mass of detailed requirements set out in old Acts or Regulations.

Hendy and Ford (1998) suggest that 20 years on, much of the earlier legislation has yet to be repealed, unified or extended; despite this being an explicit Robens recommendation (Robens, 1972). Despite the promise of the HSW Act, it was the impact of European Directives which drove the status of UK health and safety legislation forwards (Hendy and Ford, 1998; Walter and James, 1998). The main bulk of regulations implemented through the HSW Act in the last decade have come about as a result of European intervention.

2.1.4 The Impact of European Directive 89/391/EEC

⁴The first and most important post-1987 directive was the Framework Directive 89/391/EEC, which underlies all subsequent directives and regulations. This and the six 'daughter' directives that followed had to be implemented by member states by January 1993.

The Framework Directive consists of 19 Articles split into four parts including Employers' and Workers' Obligations, outlining general duties in relation to the management of health and safety at work, and a marked similarity to the objectives of the HSW Act. However, departing from the HSW Act, the EC rejected the term 'reasonable practicability', causing concern amongst British employer organisations that duties implemented under the Framework Directive would be more onerous than those in place under the HSW Act (ESN, 1992a).

Reference to the Directive highlights the increased obligations; risk assessment, appointment of external services, the provision of training and worker consultation just some of those not covered by Duties 2-9 of the HSW Act. Britain's answer was to leave the HSW Act intact, introducing a set of regulations that would closely follow the wording of the Framework Directive. Such a solution wasn't without criticism, as it was

⁴ This section draws heavily on the introduction of Hendy and Ford (1998).

seen to result in Britain's adopting a 'minimalist approach' to the obligations laid down by the EC (ESN, *ibid*).

The resultant Management of Health and Safety at Work (MHSW) Regulations 1992 saw two fundamental departures from existing law in this country. Use of the term 'shall' without the caveat of where 'reasonably practicable' witnessed a shift in focus from the cost/benefit computation used to ascertain compliance. The second shift was in the explicit requirement to carry out suitable and sufficient risk assessments, although the UK was criticised for the perceived inadequacy of its transposition of this Directive obligation (ESN, 1992b).

The source of the criticism, a TUTB report (Vogel, 1992) went on to acknowledge that duties not addressed in the Regulations themselves were elaborated in the 'associated guidance', the MHSW Regulation ACOP. The extent to which the 'special status' of ACOPs result in sufficient application of statutory obligations has been questioned since (for example, Hendy and Ford, 1998), and is addressed further below.

2.1.5 The MHSW Regulations and ACOP

The HSW Act imposes a general duty on employers to ensure employees' health, safety and welfare at work (ss2(1)), which is then extended to the duties in ss2(2) *without prejudice* to the generic duty of care in the first sub-section. Under article 6, the Framework Directive (enacted by the MHSW Regulations) adopts a similar generic duty, to 'take the measures necessary for the safety and health protection of workers'. This is immediately defined as including:

... prevention of occupational risks and provision of information and training, as well as provision of the necessary organisation and means. The employer shall be alert to the need to adjust these measures to take account of changing circumstances and aim to improve existing situations. (6(1))

In a more elaborate 'general obligation on employers', this paragraph taken as a whole summarises the changes in UK legislation brought about by the MHSW Regulations and ACOP.

2.1.5.1 Risk Assessment

Regulation 3(1) states that every employer shall make a suitable and sufficient assessment of (a) risks to the health and safety of his employees which they are exposed to whilst at work, and (b) risks to the health and safety of persons not in his employment which may arise out of, or in connection with, his undertaking:

... for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions.

And herein lies the key to the change in safety management brought about by the MHSW Regulations. For the first time, a risk-based approach was the means to achieve statutory compliance with regards the duty of ensuring health and safety at work. Whilst action is *implied* through the requirement to 'identify the measures', paragraph (3) specifies action with the need for assessment review where (a) there is reason to suspect that it is no longer valid, or (b) there has been significant change in the matters to which it relates.

The sub-section then imparts a duty to make changes to an assessment where identified through the review process. Article 9 of The Framework Directive requires employers to be 'in possession of the assessment of the risks' making no exception for size of undertaking. MHSW Regulation 3(4) states that only those with five or more employees shall record (a) the significant findings of the assessment, and (b) any group of employees identified as being especially at risk.

Thus, what is cited as the central feature of the MHSW Regulations (Hendy and Ford, 1998) is conferred in four paragraphs. In contrast, the ACOP stretches over six pages, culminating in the 'preventive and protective measures' that *should* (sic) be applied. As discussed below, these measures are outlined in 6(2) of the Framework Directive, preceded by the statement:

The employer shall implement the measures referred to ... on the basis of the following principles of prevention. [emphasis added]

The issue of Directive implementation is returned to below; the ACOP for Regulation 3 begins by stating the general principles for risk assessment, which 'should usually involve identifying the hazards present in any undertaking ... and then evaluating the extent of the

risks involved, taking into account whatever precautions are already being taken' (paragraph 5). Pertinent definitions are provided thus:

- (a) a *hazard* is something with the potential to cause harm (this can include substances or machines, methods of work and other aspects of work organisation);
- (b) *risk* expresses the likelihood that the harm from a particular hazard is realised;
- (c) the *extent of risk* covers the population which might be affected by a risk; ie the number of people who might be exposed and the consequences for them. *Risk* therefore reflects both the likelihood that harm will occur and its severity. [Emphasis added]

The ACOP then states that the detailed approach may not be necessary where hazards are known and risks can be addressed directly, although this is not quantified in any way by scale or severity. No advice is provided on how such a decision relates to the Regulation 3(4) requirement to record significant findings of assessments.

After specifying the purpose of risk assessment; fundamentally to determine what steps need to be taken to achieve statutory compliance, the ACOP sets out the definition of 'suitable and sufficient', one of the few criteria for establishing the actual adequacy of risk assessments.

'Suitable and Sufficient'

Paragraph 9 outlines measures of suitability and sufficiency; a latter section of the ACOP offering the following summary:

A suitable and sufficient risk assessment will reflect what is reasonably practicable to expect employers to know about the hazards in their workplace. (Paragraph 17)

Despite introducing reasonable practicability to the summarised definition, the three criteria stated in the ACOP are absolute. A suitable and sufficient risk assessment should:

- (a) identify the significant risks arising out of the work;
- (b) enable the employer or self-employed person to identify and prioritise the measures that need to be taken to comply with the relevant statutory provisions; and,

- (c) be appropriate to the nature of the work and such that it remains valid for a reasonable period of time.

The earlier note with regards definitions applies equally here; paragraph 9(a) suggesting that the broad purpose of risk assessment is to identify *significant risks*. BS8800 on the other hand states that in the same exercise *hazards* are identified, allowing risks to be assessed (or their levels determined, depending on the section referred to).

The MHSW ACOP suggests that it is prudent to revise risk assessments at regular intervals, review forming part of standard management practice, and a statutory obligation under Regulation 4. In practice, the risk assessment process should involve management, regardless of whether or not external consultants or advisers are employed. The ACOP goes on to explain three levels of assessment, for simple, intermediate and complex processes, requiring various levels of effort, complexity of technique and assistance. Whether a single or grouped assessment (ie, for different operations or hazards), the approach should follow a structured format, key elements of which are set out in paragraph 16. Fundamentally, the ACOP states that an assessment should:

- Ensure that all relevant risks or hazards are addressed;
- Address what actually happens in the workplace or activity (as opposed to what is believed to or should be the case);
- Include all groups of employees and others, including those who may be particularly at risk; and,
- Take account of existing preventive or precautionary measures (16(a-e)).

The remainder of the ACOPs advice on practice is devoted to the logistics of model and dual assessments, the latter including those required by other regulations (eg, COSHH).

Recording

Where an undertaking has more than five employees, significant findings of assessments should be recorded and readily retrievable, whether on paper or electronically. Paragraph 24 states that:

This record should represent an effective statement of hazards and risks which then leads management to take the relevant actions to protect health and safety. It needs therefore to be a part of an employer's overall approach to health and safety and

where appropriate should be linked to other health and safety records or documents such as the record of health and safety arrangements required by Regulation 4 and the written health and safety policy statement required by Section 2(3) of the Health and Safety at Work Act.

Here the emphasis on risk assessment as an instigator of action is reiterated, as the reason for recording given as providing the basis for management intervention. In terms of needing to record 'significant' findings, these are defined as including: the significant hazards identified, the efficacy of existing control measures and the population potentially affected by the significant risks or hazards. Paragraph 26 suggests that employers may also need to record details of the assessment itself, to demonstrate the assessment's suitability and sufficiency. It is also stressed that this is conducive to the review process. The last sentence of the paragraph is another example of dubious adherence to the Framework Directive, the latter requiring employers to be in possession of their risk assessments. The former states that:

Only in the most straightforward and obvious cases in which the risk assessment can be easily repeated and explained is a record totally unnecessary.

Whilst on the one hand this is binding in its insistence that there are 'only' some extreme cases where recording isn't required, it is misleading in its quantification of such. The Directive makes no exception for ease of repetition or explanation, similar to the earlier example where it makes no allusion to exemption on the basis of numbers employed. The author suggests that the superlative nature of 'totally unnecessary' provides an alluring caveat to Regulation 3(4).

Regulation 3 does not stipulate the measures to be taken as a result of risk assessments, simply that these provide the basis for management action with regards the preventive and protective measures. These form the final aspect of the Regulation 3 ACOP, and are discussed in detail below, in the context of their current review.

Earlier discussion drew attention to the 'minimalist approach' adopted by the UK in its transposition of the EC Directive. Regulation 4 is no exception; just two sub-sections and two paragraphs of ACOP. Where Regulation 3 imparts the *method* for safety management, the requirements conveyed in Regulation 4 provide the *framework* for its execution, the fundamental structure of SMS models.

2.1.5.2 Health and Safety Arrangements

As discussed earlier, the HSW Act requirement for Policy has become the initial step in most safety management models, with the MHSW duty to assess work-related risks providing the broad approach to actioning the Policy. Chapters three and four examine how sources of SMS guidance have incorporated these obligations into management arrangements, via the additional requirements outlined in Regulation 4:

Every employer shall make and give effect to such arrangements as are appropriate, having regard to the nature of his activities and the size of his undertaking, for the effective planning, organisation, control, monitoring and review of the preventive and protective measures.

With a focus on preventive and protective measures, the emphasis on the risk-based approach reappears; the ACOP states:

This Regulation in effect requires employers to have arrangements in place to cover health and safety. It should be integrated with the management system for all other purposes. The system in place will depend on the size and nature of the activities of the undertaking but generally will include the following elements which are typical of any other management function. [Emphasis added]

It is interesting to note that the code of practice does not appear entirely sure whether it is engaging with the concept of a 'safety management system', as the first sentence suggests that health and safety *arrangements* should be integrated into the management system for 'all other purposes'. Such arrangements duly become an 'it', which is then defined as a system encompassing the five elements from planning to review. Bearing in mind that the function of an ACOP is to impart the preferred means of compliance, the elaboration of the quintet of key terms is surprisingly short, providing what appear to be definitions as opposed to information on possible means of compliance:

(a) Planning: Adopting a systematic approach which identifies priorities and sets objectives. Whenever possible, risks are eliminated by the careful selection and design of facilities, equipment and processes or minimised by the use of physical control measures.

Part of the definition of a 'suitable and sufficient' risk assessment (ACOP 9(b)) encompasses identification and prioritisation of measures, a reiteration here that the assessment process should feed into planning health and safety arrangements. The remainder of ACOP 28(a) adopts the approach to risk control advocated in the Framework Directive preventive and protective measures. In terms of the vehicle for achieving required performance, the ACOP merely suggests and defines:

(b) Organisation: Putting in place the necessary structure with the aim of ensuring that there is a progressive improvement in health and safety performance.

Thus it is implicit in the MHSW ACOP that the risk assessment process feeds into the planning function, allowing objectives to be set and prioritised. This appears to form a starting point, 'organisation' then enabling a structured approach with the express aim of progressively improving health and safety performance. As examined in chapter three, the HSE text HS(G)65 suggests that there are 'four C's' involved in organisation, one of which is control, achieved by 'getting the commitment of employees to clear health and safety objectives' (HSE, 1991). This is far more action-oriented than the MHSW ACOP, which purely defines:

(c) Control: Ensuring that the decisions for ensuring and promoting health and safety are being implemented as planned.

As suggested above, the element of control does not tend to feature as a stand-alone in the SMS models described later in this thesis. The penultimate aspects to such systems tend to be:

(d) Monitoring and review: Like quality, progressive improvement in health and safety can only be achieved through the constant development of policies, approaches to implementation and techniques of risk control.

Recent models of health and safety management have witnessed the introduction of 'audit', a deeper, and more critical appraisal of the SMS elements (BSI, 1996a), sometimes combined (in terms of information provision) with review (HSE, 1991; BSI, 1999). Similarly, monitoring has become a facet of performance measurement, with its quality-like emphasis on continual improvement.

The ACOP alludes to the fact that the functions of monitor and review are to achieve progressive improvement, implicitly suggesting the existence of feedback loops to enable 'constant development'. Subsequent models of an acknowledged 'system' approach have provided the information links and feedback loops, also reiterating the notion of continual improvement (BSI, 1996a; HSE, 1991). Finally, again departing from the Framework Directive, the ACOP reiterates Regulation 4(2), which provides that only those with more than five employees need to record the arrangements made under 4(1).

2.1.6 Summary

This section has taken the reader through the development of legislative intervention addressing the general concept of 'safety management'. It has been seen that each piece of statute progressively focussed on elements forming the core aspects of a safety management 'system'; the chapter starting with a broad description of the prescriptive controls contained within the Factories Act.

The HSW Act instigated the requirement for a self-regulated approach, based on the defined policy, organisation and arrangements to meet employers' general duties. Such duties were wider than those seen in the Factories Act; incorporating the workforce related elements of information, training, instruction and supervision. This witnessed the utility of the employee as a means of striving for a safe and healthy workplace, as opposed to focussing on his interaction with hardware controlled by prescription.

Instigated by the European Framework Directive, the MHSW Regulations provided the risk-based approach to the management of health and safety at work. Regulation 4 requires organisations to plan, organise, monitor, control and review the preventive and protective measures. Thus, legislative duties framing compliant health and safety management consist of the core elements of policy, health and safety arrangements and risk assessment; as is discussed in chapters three and four, these form the core elements of SMS guidance.

Other influences on SMS guidance (their models in particular) were stated above as quality and environmental management system standards, and it to these the chapter now turns. It should be noted that quality and environmental management system standards are also discussed, and experiences of their implementation examined, in chapters ten and eleven.

2.2 Quality Management Systems - ISO 9000 Series

Aboulnaga (1998) suggests that the current quality 'process' for managing products and services has been achieved through the following 20-year stages of change:

- Operator control (up to 1900)
- Foreman control (1900 - 20)
- Inspector control (1920-40)
- Statistical control (1940-60)
- Quality assurance (1960-80)
- TQM (1980 - now)

In the penultimate period cited above, a proliferation of QA management standards came about; which resulted in the birth of the ISO 9000 series of quality management (QM) standards in 1987, subsequently revised in 1994. Aboulnaga (ibid) states that these constituted a lowest common denominator in relation to the concept of TQM, resulting in a series described by Abraham et al (2000) as:

A set of generally accepted accounting principles for documenting quality procedures. It provides a framework for showing customers how products are tested, employees are trained, records are kept and defects are fixed.

Indeed, the model on which these standards are based is aimed at achieving customer satisfaction by preventing nonconformity at all stages through to servicing (BSI, 1994). This is an implicit reference to the 'plan-do-check-act' cycle, (Deming, 1990) as shown in relation to the ISO environmental systems model in Figure 3. The ISO 9000 series comprises standards 9001 - 9004, each imparting a different structure of clauses, depending on the required focus on design, development, production, installation and / or servicing (BSI, ibid).

The requirements and content of ISO 9001 and 2 in particular are discussed in the wider context of safety, and indeed, integrated management systems in chapters ten and eleven; and will be left here on the following note from Logothetis (1992):

The quality initiative has to start at the top, and many traditional views have to be substantially altered. A management commitment to a complete transformation of the current (bad) practices is absolutely necessary for survival and competitive success in this new economic age.

2.3 Environmental Management Systems - ISO 14000 Series

In 1993, the International Organisation for Standardisation (ISO) set up an 'Environment Management' technical committee with a scope covering 'standards in the field of environmental management tools and systems' (ISO/TC207). Impetus for this group came primarily from the widely acknowledged need for harmonisation; the Business Council for Sustainable Developments desire for a 'level playing field', echoed by COPOLCOs⁵ call for international harmonisation of eco-labelling (Hortensius & Barthel, 1997). Secretariat to various sub-committees was distributed between national Standards Bodies, initiating a three-year period of Standard drafting and development, culminating in the publication of the ISO 14000 series of environmental management standards in 1996.

The series is structured upon ISO 14001 and 14004; Specification and Guide to environmental management systems (EMS), supported by the remainder of the 14000 Standards, including evaluation, audit and product-oriented support tools. The EMS model provides a systematic approach to the evaluation of an organisation's performance in relation to the achievement of set targets and objectives. The ISO 14001 model is shown as Figure 2.

⁵ ISO-provided committee platform for consumer interests.



Figure 2: EMS model for ISO 14001 (BSI, 1996b)

Hortensius & Barthel (1997) expand upon the basic model shown above in the provision of a qualitative list of these requirements:

- The development of an environmental policy;
- Identification of environmental aspects;
- Establishment of relevant legal and regulatory requirements;
- Development of environmental objectives and targets;
- The establishment and maintenance of an environmental programme in order to achieve its objectives and targets;
- Implementation of an EMS, including training, documentation, operational control and emergency preparedness and response;
- Monitoring and measurement of operational activities, including record-keeping;
- EMS audit procedures; and,
- Management review of an EMS to determine its continuing stability, adequacy and effectiveness.

Even if compared simply to the statutory requirements of health and safety as previously outlined, the similarities between environment and safety management system elements are transparent, as will be further discussed in chapter ten in relation to SMS guidance. The last point in the list provided by Hortensius & Barthel (ibid) loses the centrality of continual improvement, which Roberts & Robinson (1998) recapture by looping the EMS requirements as shown in Figure 3.



Figure 3: Stages of ISO 14001 implementation (Roberts & Robinson, 1998)

On a level of superficiality, similarities between the ISO 9000 and 14000 series are unsurprising. The fact that the two standards share the common management principles of Plan-Do-Check-Act, in principle, allows organisations to base their EMS on an existing 9000 QMS (BSI, 1996b). However, differences in the *raison d'être* of quality and environmental management disallow complete unification (which Shilitto, 1997, suggests would result in 'effluent quality assurance'). ISO 14001 (BSI, ibid) neatly summarises a complex argument as to why:

...the application of various elements of the management system may differ due to different purposes and different interested parties. While quality management systems deal with customer needs, environmental management systems address the needs of a broad range of interested parties and the evolving needs of society for environmental protection.

This discussion is resumed in chapter ten, following the in-depth examination of health and safety management system guidance, whereby debate is resumed at a higher level of abstraction in the more pertinent context of safety management.

Chapter two's discussion of OH&S legislative impacts, together with an outline of associated management systems and standards now leads into the development and content of *Successful Health and Safety Management* (HSE, 1991), as a third formative influence on BS8800. The scene set, chapter three culminates with an introduction to the Guide, preparing the reader for the detailed comparative analysis of the format and content of BS8800.

CHAPTER THREE

Development of Safety Management System Guidance: HSE Publications

The previous chapter examined the growth of legislative duties; the two SMS guides used as the focus of the next two chapters refer to statutory obligations as the minimal objective. Having established these legal obligations in the previous chapter, the thesis now reviews the development of HSE SMS guidance, the first impetus of which imparted best practice found in organisations working under the ‘new’ duties of the HSW Act 1974. A chronological discussion is provided, culminating with the publication of HS(G)65 *Successful health and safety management* (HSE, 1991). The remainder of the chapter then critically reviews its content.

3.1 HSE Publications - Pre HS(G)65

3.1.1 Managing Safety

In 1976, the Accident Prevention Advisory Unit (APAU) of HSE began a five year study of how organisations were ‘coming to terms’ with the general requirements of the HSW Act (HSE, 1981). The above mentioned focus on policy, and the organisation and arrangements in place for delivering such called for senior management commitment and the ‘deliberate application of management skills’ (HSE, *ibid*).

The ensuing report *Managing safety* sought to disseminate the organisational features and management characteristics of those organisations seen to be successful in the standards of health and safety they had achieved. The APAU study revealed five factors thought to be prerequisite for achieving desired safety performance, detailed in Table 1.

Independent and nested goals set at all levels of the organisation	They have set worthwhile and understandable practical goals for safety at varying levels within the organisation. Strategic goals have been set by the managing board whilst successive operating levels have identified and promulgated their own aims within the overall strategy.
Employees are committed and motivated to safety as a team goal	They have motivated and obtained commitment from all their employees to recognise that the achievement of the agreed standards of safety depends on team effort.
Employees are resourced and encouraged to meet their safety targets	They have provided on a businesslike basis, the physical resources and encouragement to enable all employees to meet their targets in safety.
Employees accept their group and individual safety responsibilities	They have convinced all their employees to accept responsibility for safety insofar as they control it or need to contribute to group performance.
Safety standards are set, against which performance can be measured and acknowledged	They have developed ways and means of evaluating standards and marking approval or disapproval of the standard of safety achieved at each workplace. These means have varied from the use of incentive and reward schemes to more subtle integration of safety performance into the mainstream merits and promotion systems.

Table 1: Organisational characteristics for desired safety performance. Developed from HSE (1981)

The left-hand column in Table 1 summarises the characteristics of organisations considered by APAU to be demonstrably successful at managing safety; there are two features that are of particular interest to the thesis. The first is the generic nature of the characteristics; a report divulging some of the ‘secrets’ of successful safety management shows little focus on safety, more on management.

Also worth noting is the focus on employees. The role of management is limited to one of initial planning - goals are set with regards the overall policy of the organisation, and then delivered by the cogs of the undertaking, the employees. Of interest is that the employees aren’t actually seen as cogs; a micro example of the progressive move away from prescription seen in the evolution of legislation. Terms such as ‘committed’, ‘accept’ and ‘encouraged’ could equally read ‘made’, ‘told’, and ‘expected’; the scientific school of management would expect equally satisfactory results.

Robens suggested that statute be revised to include ‘more involvement of the workforce themselves’ (1972). The HSW Act has the implicit potential to include this, most notably with duties of employees to co-operate with employers in fulfilling their statutory obligations. Similarly, in the MHSW Regulations there are implicit references to

employee involvement, the latest review making this explicit for the first time (see chapter seven).

However, it was the APAU dissemination of 'best practice' which truly advocated employee involvement with a focus on the organisational structure in place as opposed to general duties (HSW Act) or method adopted (MHSW Regulations). Whilst the latter discusses health and safety arrangements (Regulation 4), this simply defines characteristics of a systematic approach without elaborating on roles to be played and by whom.

The MHSW Regulations imparted the risk-based approach to safety management, something that is not obvious when reading *Managing Safety* as a representation of thought twenty years ago. The text advises that hazards should be eliminated or controlled (sic) in order to achieve the standards of safety set by the organisation (HSE, 1981). 'Assessment of hazards' appears as a section heading a few pages before 'Setting worthwhile goals' (HSE, ibid). Taken in this order as two stages of managing safety, the APAU recommendations adhere to the philosophy of the MHSW Regulations more than ten years before their time.

However, risk assessment and safety management are not always overtly interrelated in the text. This is most apparent in the first appendix of the report, where managers are advised to ask themselves '... the essential question ... how does my department / organisation perform in health and safety?' Table 2 details the fifteen issues for consideration.

The author suggests that it is possible to answer all questions in Table 2 in the affirmative or with positive statements, yet make no explicit reference to hazard identification and risk assessment as key aspects of the organisations' approach. This is in marked contrast to the performance measurement / SMS review criteria adopted in current SMS guidance. Hindsight allows the luxurious consideration of all intervening factors; the MHSW Regulations have already been acclaimed as instigating the risk-based approach in statute, it is therefore unsurprising that subsequent guidance is based on the same.

1. Do we have a safety policy?
2. Is it up to date?
3. Do the subsidiary parts of our organisation have a policy?
4. Who is in charge of health and safety?
5. Are the technical problems of safety being handled by competent persons?
6. Do we have a system to measure safety performance?
7. What is the worst disaster that could happen?
8. If the worst happened could we cope?
9. Would our workforce know how to react in an emergency?
10. What do our employees think of our safety standards?
11. What are we trying to achieve?
12. How much effort are we putting into safety?
13. Is the effort in the right place?
14. Is there an efficient system of checking that the duties are being carried out efficiently?
15. What are our long term objectives?

Table 2: Key questions for managers. Developed from HSE (1981)

Thus when examined in today's terms, the APAU report was incredibly forward thinking, or rather, the organisations studied had developed approaches which involved far more than mere compliance with the Factories and HSW Acts. The importance of the two facets acclaimed above are illustrated in the report under the heading 'The importance of safety in management' (in itself an indication of a broader perspective on the management of safety), stating:

The effectiveness of a large organisation lies in part in the way in which it is able to co-ordinate the activities of its employees towards a common objective which they couldn't attain as individuals or small groups. Co-ordination is achieved by management and the success or failure of an organisation is largely determined by the quality of management effort. This applies just as much to safety as to any other objective.

The APAU report has been cited (Lindsay, 1999) as the precursor to the HSE publication *Successful Health and Safety Management* (HSE, 1991). One of the authors of the latter acknowledges this as the case, stating that the guidance booklet *Human Factors in Industrial Safety* was also instrumental in the adoption of the risk-based approach within HSE guidance (Byrom, 1999a).

3.1.2 Human Factors in Industrial Safety

Byrom (ibid) stated that this publication 'broke the existing mould of engineering solutions', providing managers with guidance pertaining to the 'human factor' and its vital role in the control of risk (HSE, 1989). The booklet (HS(G)48) warns managers away from the assumption that technological developments and automation provide predictability in the workplace, as there will be human intervention at various stages, including design, maintenance and operation. Whilst humans have capabilities, these exist alongside fallibilities; providing the reason for implementing a system which manages the human factor. One element of this involves predisposing people to *actively* interpret situations as opposed to simply *reacting* to events (HSE, ibid).

The guidance goes on to outline five types of human error, and how these can be prevented via the three influences on a worker, namely the organisation, the job and personal factors. The second section of HS(G)48 is devoted to a series of questions aimed at helping managers to identify the areas where the control of human factors may have a part to play in the safety of the organisation (HSE, 1989). However, where the document imparts 'best practice', it provides little information on how to *achieve* the state required.

Taking the core messages of the two HSE texts provides an understanding of the importance of a clearly defined management structure, the need to involve employees, and a necessity to combine the two in an effort to control the human factors which may pertain to workplace risks. These core factors were said to have provided the basis for the development of *Successful Health and Safety Management*, placing risk assessment within a generic management structure. The authors of the text saw risk management as 'the cornerstone', that there was 'no other rational way of operating' other than providing a generic management system (Byrom, 1999a).

3.2 Successful Health And Safety Management

3.2.1 Background and Development

The guidance in the HSE text 'HS(G)65' is set within the structure detailed in Figure 4, the six key elements connected by information and control links. This framework provided the 'bigger picture' of safety management, clarifying the series of unrelated detailed statutory requirements that managers had traditionally been confronted with (Byrom and Porter, 1994). Intended to be a practical guide for managers aiming to improve health and safety performance (HSE, 1991), Byrom (1999a) uses a footballing analogy to further explain the purpose of HS(G)65:

It gives you the rules of the game, tells you how big the pitch is going to be, and how many players there will be on each side. It lets you know what to expect, and what you should be doing in return. What it was never intended to do is tell you what to do when you're 2 - 0 down at half time.

HS(G)65 sets the safety management scene; imparting information on the management approach necessary to comply with sections 2 - 6 of the HSW Act (HSE, 1991). Where the referee has a rule book, the introduction of *Successful Health and Safety Management* states that the advice contained within will be used by HSE inspectors testing for adherence to legislative duties. This statement has since been solidified, with the revisions to the MHSW Regulations citing HSG65 in the ACOP; preferred means of statutory compliance.

Whilst the first edition of HS(G)65 was published *before* the UK enacted the Framework Directive, the edition the used for this study (sixth impression) states that it 'incorporates minor amendments' brought about by the MHSW Regulations. Consultation with Byrom (1999b) suggests that these amendments were indeed slight, 'crossing i's and dotting t's', altering references to the impending revisions to statute to be imposed by the European Commission. It is therefore suggested that the examination of the HSE text with regards the MHSW Regulation is justified.

Byrom (ibid) commented that no *one* company displayed all characteristics resulting in the development of the approach illustrated in Figure 4, the conceptual framework was produced using a 'mix and match' of what had been recognised as best practice by the

texts authors. Thus, it was not statute that imparted the risk-based approach into HS(G)65, rather an understanding of the necessity of the approach as tried and tested by the successful sector of 'UK plc'.



Figure 4: Key elements of successful health and safety management (HSE, 1991)

3.2.2 'Summary'

The first chapter of HS(G)65 is a two-page summary of all six elements, although audit and review have been combined. The fact that HS(G)65 was developed via dissemination of witnessed best practice is evident throughout, through repeated reference to those 'organisations which achieve high health and safety standards', and 'their aims' and the tools 'they use'. Such terminology reappears constantly, not least in the legislative summaries at the end of each chapter highlighting what successful organisations do in order to comply with the general duties of the HSW Act (HSE, 1991).

3.2.3 Policy

It is suggested that this second chapter of HS(G)65 provides a *philosophical* approach to health and safety policies. It is unclear throughout the chapter whether the subject matter is 'policy' as in broad plan of action, or 'Policy' in terms of written statement of commitment as per the HSW Act. Certainly, the latter is cited, but the chapter opens:

The health and safety policies adopted by organisations achieving high standards of health and safety display a number of common characteristics which reflect the values and beliefs of those who design and implement them. (emphasis added)

This sentence supports either view; Waring (1996) cites the written safety policy as being a true reflection of intentions and commitments towards health and safety. Can such be adopted? Alternatively, can a broad plan of intent be designed and implemented? The reader of this thesis is asked to bear this (unresolved) distinction in mind, as it is discussed further below⁶.

The guidance on policy formation reflects the foundations of the text, as it takes the key features of best performers and highlights how their policies reflect their commitment to health and safety. Each of these features has been expanded in its own section in the chapter, accompanied by statements 'which aim to sum up the beliefs which underlie each characteristic' (HSE, 1991). Both are shown in Table 3.

⁶ From this point on, 'policy' should be taken literally as cited in HS(G)65; the term 'Policy' is returned to below.

Policy characteristic	Underlying belief
The importance of people to the organisation	<i>People are our most important asset</i>
Avoiding loss - The total loss approach	<i>The preservation of human and physical resources is an important means of minimising costs</i>
Accidents are caused by the absence of adequate management control	<i>The majority of accidents and incidents are not caused by 'careless workers' but by failures in control (either within the organisation or within the particular job), which are the responsibility of management</i>
The importance of organisational factors	<i>Effective control of health and safety is achieved through co-operative effort at all levels in the organisation; Health and safety is a management responsibility of equal importance to production and quality; Competence in managing health and safety is an essential part of professional management; and, Effective health and safety management is not 'common sense' but is based on a common understanding of risks and how to control them brought about through good management</i>
A systematic approach	<i>All accidents, ill health and incidents are preventable</i>
Safety and quality	<i>Health and safety, and quality, are two sides of the same coin</i>

Table 3: Beliefs underlying policy characteristics, developed from HSE (1991)

It is suggested that the importance of these six elements lies in the texts admission that it disseminates the practice witnessed in successful organisations. Under the section 'The importance of organisational factors', HS(G)65 states that a positive health and safety culture needs to be developed, whereby health and safety objectives are regarded by all as aligned to other business goals (HSE, 1991). The first part of the ACSNI definition of safety culture (HSC, 1993) illustrates how the two elements fit together:

The safety culture of an organisation is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management.

Indeed, the report cites the written policy as a crucial element in the promotion and maintenance of a *positive* safety culture (HSC, *ibid*), which is defined thus:

Organisations with a positive safety culture are characterised by communications founded on mutual trust, by shared perceptions of the importance of safety and by confidence in the efficacy of preventive measures.

It is suggested that any organisation possessing the ‘underlying beliefs’ in Table 3 would be hailed as having a positive safety culture in relation to the ACSNI definitions. In summary, HS(G)65 details the commitment of organisations with successful policies on health and safety, not how organisations aspiring to such status can develop, implement and maintain such. The chapter states that it ‘identifies the main characteristics of successful policies’. An alternative is suggested here, that the main characteristics of policies *displayed by successful organisations* are identified; those organisations with a positive health and safety culture.

Inset 7 in chapter three of HS(G)65, *Organising for health and safety* provides an outline for statements of health and safety policy. This is reproduced in Table 4 as it is the one aspect of policy in HS(G)65 that matches the definitions and interpretations found in other SMS guidance, and will be referred to later in the thesis.

Written statements of health and safety policy should at the very least:

- set the direction for the organisation by communicating senior management’s values, beliefs and commitment to health and safety;
- explain the basis of the policy and how it can contribute to business performance (e.g. by reducing injuries and ill health, protecting the environment and reducing unnecessary losses and liability);
- establish the importance of health and safety objectives in relation to other business objectives;
- commit the organisation to pursuing progressive improvements in health and safety performance, with legal requirements defining the minimum level of achievement;
- explain the responsibilities of managers and the contribution that employees can make to policy implementation outlining the participation procedures;
- commit the organisation to maintaining effective systems of communications on health and safety matters;
- identify the director or key senior manager with overall responsibility for policy formulation, implementation and development;
- commit the leaders of the organisation to supporting the policy with adequate financial and physical resources and by ensuring the competence of all employees and by the provision of any necessary expert advice;
- commit the leaders to planning and regularly reviewing and developing the policy;
- be signed and dated by the director or chief executive of the organisation.

Table 4: Outline for statements of health and safety policy. HSE (1991)

It is interesting to compare the details in Table 4 with the guidance provided in the two texts cited as formative influences on HS(G)65 (i.e., HSE, 1981; 1989). The links between these documents and the statements listed above are plentiful, indeed, in some places the second section of HS(G)48 (HSE, 1989) asks managers to address these very questions.

To summarise this section on policy, the present author offers the following observation. The relevant chapter of HS(G)65 highlights best practice, detailing the characteristics that *render* organisations successful in their management of safety. Whilst the text seems successful in imparting these six elements, what is definitely *not* achieved is ‘practical guidance’ to achieve this status (HSE, 1991). A return to Byrom’s footballing analogy (1999a) raises the question of whether the ‘rules of the game’ were ever really meant to constitute such guidance; whichever, the fact remains that the chapter on Policy offers little help if you’re ‘2 - 0 down’.

3.2.4 Organising

The chapter synopsis is reproduced here, as it highlights a focus on culture which is not explicit in the Policy chapter. Whilst anyone familiar with the term would recognise it as the underlying message of the six elements, it is argued that the layperson may not fully grasp the concept. This is not actually a criticism; discussion later in the thesis and Hawkins and Booth (1998) suggest that some of the most important advice in guidance can be lost through terminology which is largely the ‘prerogative of the cognoscenti’. Whilst the term ‘positive safety culture’ appears in the following, it is contextualised within the actions that should help with its development:

Organising for health and safety involves establishing responsibilities and relationships which promote a positive health and safety culture and secure the implementation and continued development of the health and safety policy. This chapter examines the characteristics and processes which:

- *establish and maintain management **control** within an organisation;*
- *promote **co-operation** between individuals, safety representatives and groups so that safety becomes a collaborative effort;*
- *ensure the **communication** of necessary information throughout the organisation; and,*
- *secure the **competence** of employees.” (original emphasis)*

The '4Cs' form the crux of the chapter and are cited as summarising the activities necessary to promote a positive health and safety culture (HSE, *ibid*). The four elements of organising are interrelated and interdependent; for example, securing control involves communication with, and the co-operation of, a competent workforce.

Control

In line with the HSW Act (e.g., ss2(1)), and MHSW Regulation 4 (see ACOP 28(c)), management has the responsibility for controlling those factors which could lead to accidents, injury or loss (HSE, 1991). Such control is achieved by securing employee commitment to the health and safety objectives of the organisation, interweaving some of the employee duties of both HSW Act (ss 7) and the MHSW Regulations (Reg. 12). A senior figure is nominated to co-ordinate health and safety effort, i.e., employee commitment.

It is suggested that clarity of roles and responsibilities is achieved through performance standards and documentation; the latter consisting of the policy statement, working procedures and subordinate documentation. Performance standards 'link responsibilities to desired outputs and recognise that the achievement of goals is always based on specific work, the nature of which is defined and the effects of which are measured' (HSE, 1991). Such performance measurement furthers the facilitation of employee commitment, as rewards and sanctions can be attributed according to the achievement of objectives. Accountability for responsibility is thus achieved through performance monitoring and review.

Supervision is cited as involving (amongst other things) the development of individual competencies, reiterating the inter-relation of the '4C's'. HS(G)65 devotes a page to the definition and description of positive supervisory practices, levels of supervision reducing as competence is gained. This practice achieves the ultimate in self-regulation, as the worker commitment and competence developed replaces the need for external (supervisory) control.

Co-operation

Continuing the '4C's' inter-dependence, co-operation (the pooling of knowledge and ideas) is cited as a fundamental method of achieving risk control (HSE, 1991).

Ownership (commitment) is encouraged as health and safety becomes everybody's business; through employee participation, working procedures become relevant and accepted.

Co-operation between employers and their employees is achieved through the constructive use of safety representatives, committees and consultative bodies, over and above the bare legal requirements.

Communication

The bodies utilised to establish co-operation in the workplace depend on open discussion and communication policies, outlined as 'Information flows within the organisation', one of three categories of communication examined under the present sub-section. The first deals with information *inputs* to the organisation, 'health and safety intelligence' allowing the organisation to monitor legal, technical and best OH&S practice (HSE, 1991). Such sources are particularly relevant for those involved in the strategic planning and development of the organisation's safety policy.

Internal communication, information flow *within* the organisation, is necessary for the health and safety policy to be understood and consistently implemented (HSE, *ibid*). HS(G)65 suggests three directions of information flow, 'up, down and across', achieved by three interrelated methods. 'Visible behaviour by management and others' is fundamentally leading by example, with an awareness of behaviour, which may indicate insincerity.

The most important 'Written communication' is stated as being the health and safety policy statement, those identifying roles and responsibilities, performance standards and supporting information and procedures (HSE, 1991). Written sources of information should be appropriate to the needs of the organisation (warning off the creation of documentation for documentation's sake), and capable of being understood by those it is aimed at. Finally, 'Face-to-face discussion' allows an honest exchange of views, allowing employees to ask questions and make personal contributions (HSE, *ibid*). This is facilitated in (safety and/or general) meetings, and monthly or weekly discussions such as toolbox talks.

Flows of information *from* the organisation include that produced for the enforcing agency, or indeed, any other interested party. There is little guidance provided, other than that professional advice can be sought for clarification on media, format and so on (HSE, 1991).

Competence

The two-page inset on Training indicates one method advocated for securing employee competence, the purpose of which is stated as maximising their contribution to health and safety (HSE, *ibid*). Arrangements such as assessment on recruitment and monitoring of working practices allow training needs to be identified and then addressed. 'Experience of applying skills and knowledge' is recognised as an important ingredient in developing competencies, and the role of the supervisor is repeated as ensuring such are maintained once they have been acquired.

The role of safety advisors is the final aspect examined under 'Competence', and further detailed in a separate inset. It is suggested regardless of competence shown by managers, supervisors and employees, the guidance of advisers will sometimes be required and should be sought.

Discussion

Earlier, the five characteristics of successful organisations as suggested in HSE (1981) were cited, this being one of the texts formative to HS(G)65 (Lindsay, 1999). This influence is seen in the Organising chapter of the latter. As was suggested earlier, one of the key elements of the approach divulged in the APAU report was the initial role of management in goal setting, with the remainder of the focus being placed on employees. Indeed, the second of the characteristics is defined as motivating and obtaining commitment from the workforce (HSE, 1981), yet it is these two elements taken together which highlights a disparity.

In HS(G)65 the initial role of management is to secure control of risk factors via the commitment and competence of employees. As a *function*, this meets with HSE (1981) best practice, but as a *starting point* neglects the prior need to set worthwhile and understandable goals to which employees *then* become committed in 'the achievement of the agreed standards of safety' (HSE, *ibid*).

Whilst goals and objectives are referred to throughout 'Organising', the issue of setting them is left un-addressed until 'Planning', the fourth chapter. In terms of statute, the MHSW Regulations and ACOP furthered the necessity of planning (the precursor to control, monitor and review) providing an obligation to utilise a risk based approach to pre-empt possible risks to employees health and safety. This was in marked contrast to the Factories Acts prescriptive duties, imparted through sections categorised by potentially hazardous themes. In order to comply with statutory obligations, employers must assess the risks arising from their undertakings, this providing the first stage (in terms of statutory steps) in an action based approach to implementing risk controls. Such measures require a structured implementation process involving a *planned approach* within a receptive organisational framework.

3.2.5 Planning

MHSW Regulation 4 (ACOP 28(a)) states that planning involves:

Adopting a systematic approach which identifies priorities and sets objectives. Whenever possible, risks are eliminated by the careful selection and design of facilities, equipment and processes or minimised by the use of physical control measures.

The elements of objective setting and risk control form the core themes of Planning in HS(G)65, the chapter detailing the approach required to establish and maintain an effective system of health and safety management (HSE, 1991).

3.2.5.1 Setting objectives

There are three stages for which objectives should be set, the level of entry for an organisation depending on its current health and safety performance:

1. defining, developing and maintaining the health and safety policy;
2. developing and maintaining organisational arrangements; and,
3. developing and maintaining performance standards and systems of control.

Step '0' is an initial assessment of existing conditions and standards, the results of which will allow informed decisions to be made about the health and safety objectives of immediate importance. All organisations should attend to all stages, which should be the

subject of continual review (HSE, *ibid*), but there is an explicit suggestion that the three elements are attained in series, not parallel.

The immediate objective, in an organisation, which is doing little to manage health and safety, would be to:

... review and revise the health and safety policy (within say, one to three months). This would involve the aspects described in chapter 2 [Policy] and would include: re-defining the corporate commitment to health and safety; drafting a new statement of policy; establishing new approaches to top level decision making so that health and safety is a factor in all business decisions. [Emphasis added]

The objective here is the achievement of a positive safety culture, by an organisation doing 'little to manage health and safety' (HSE *ibid*). The author would make one observation, especially in relation to the non-italicised element: this to be achieved in approximately 56 days?

The second stage is no less time-restricted, three to six months allocated for objectives including, for example, assignation of responsibilities, identification of competencies, and development of information systems. Where the first stage has an emphasis on control, drawing on the Policy chapter, the second is focussed on organisational objectives outlined in 'Organising'. Whilst such goals may be familiar elements due to their mention in this previous chapter, there is little evidence of guidance to explain *how* these are set or achieved. The third stage requiring objectives is mainly concerned with control: devising performance standards, and implementing systems and procedures for their achievement.

As an organisation develops its health and safety management systems, objectives should include raising performance standards above the legal minimum requirements (HSE, *ibid*). Immediate attention however, should be focussed on achieving statutory compliance, and short-term measures should be taken to minimise risks where appropriate changes cannot be implemented straight away.

3.2.5.2 *Setting performance standards*

Performance standards were first introduced under the Control element of Organising, as a method for achieving accountability to individual roles and responsibilities. HS(G)65 suggests that there are two types; those for organisational procedures, and those for risk control. The objectives of organisational performance standards are to ensure: consistent implementation of plans and procedures, communication of the health and safety policy and improved understanding and control of risks. Types of organisational performance standards are illustrated under the areas of control, co-operation, communication and competence, the four facets of safety culture (HSE, 1991).

Setting performance standards for the control of hazards and risks involves four stages: hazard identification, risk assessment, risk control (selection of measures), and then implementing and maintaining control measures. It is interesting to note that this cornerstone of safety management (Byrom, 1999a), the fundamental basis upon which decisions should be made (HSE, 1991; HSC, 1992) appears within the realms of performance standards.

There is a difference between the stated purpose of risk assessment and control provided by the MHSW Regulations, and that found within HS(G)65. The former states that risk assessments lead to the identification of measures which should be taken to comply with statute (HSC, 1992), i.e. the provision of a workplace which is safe and without risks to health (HSC, 1974). As indicated, HS(G)65 suggests that performance standards should be used to control the risks arising from work activities, the four stages from hazard identification to implementation of risk controls allowing such standards to be set (HSE, 1991).

The broad outcome of the risk assessment process is the same (see below); whether risk controls are identified and then implemented through the 'health and safety arrangements' (HSC, 1992) or form the basis upon which performance standards are devised (HSE, 1991).

In instances where a recognised hazard presents a known risk and involves familiar control measures, decisions in all four areas will be made at once; more complex

situations demand the consideration of each stage separately (HSE, *ibid*). Fundamental to the following four sub-sections of this thesis is the equation used to determine risk, the first element reproduced at Table 5 which also shows the classifications for hazard severity and risk likelihood.

<p>HAZARD SEVERITY (HAZARD EFFECT)</p> <p>Established by applying the potential effect of the hazard [present authors interpretation] to the following rankings:</p> <p>3 - MAJOR (E.g., Death or major injury (as defined in RIDDOR)) 2 - SERIOUS (E.g., Injuries resulting in more than 3 days off work) 1 - MINOR (E.g., All other injuries including those resulting in less than 3 days absence)</p> <p>Harm will not necessarily arise, its likelihood depends on work organisation, effectiveness of hazard control measures and extent and nature of exposure. Likelihood is calculated thus:</p> <p>LIKELIHOOD (CHANCE OF OCCURRENCE)</p> <p>Established by application to the following rankings:</p> <p>3 - HIGH (E.g., Where it is certain or near certain that harm will occur) 2 - MEDIUM (E.g., Where harm will occur frequently) 1 - LOW (E.g., Where harm will seldom occur)</p> <p>RISK = HAZARD SEVERITY x LIKELIHOOD OF OCCURRENCE</p>

Table 5: Simple risk estimation procedure. Developed from HSE (1991)

Definitions

Here, '(a)' refers to the definitions found in the MHSW ACOP (first reproduced in Chapter 2), and '(b)' provides the interpretations as cited in HS(G)65:

(a) a *hazard* is something with the potential to cause harm (this can include substances or machines, methods of work and other aspects of work organisation);

(b) **Hazard** means the potential to cause harm, including ill health or injury; damage to property, plant, products or the environment; production losses or increased liabilities;

(a) *risk* expresses the likelihood that the harm from a particular hazard is realised OR *Risk* therefore reflects both the likelihood that harm will occur and its severity;

(b) **Risk** means the likelihood that a specified undesired event will occur due to the realisation of a hazard by, or during, work activities or by the products and services created by work activities OR **Risk** = Hazard severity x likelihood of occurrence.

There is a fundamental agreement on the definition of hazard; in a sense there is also agreement on the definition of risk insofar as neither text decides whether risk reflects likelihood alone, or encompasses severity as well. HS(G)65 settles for the latter definition (see Table 5 above).

3.2.5.3 Hazard identification

Hazards are identified through a critical appraisal of all activities within the undertaking; it is suggested that employees and representatives are consulted to enable a full understanding of the working situation (HSE, 1991). An understanding of what constitutes a hazard is gained through relevant sources, cited as statute, standards, guidance and personal knowledge.

A common sense approach is suggested; a single storey building won't involve hazards presented by stairs (HSE, 1991). More advanced approaches such as air monitoring and methods of machinery operation may be required at an intermediate level, and HAZOPs or specialist advice will be required for complex or high risk activities (HSE, *ibid*).

3.2.5.4 Risk assessment

The assessment of risks allows an evaluation to be made as to their importance, extent and nature; on the basis of this decision the method and adequacy of control measures can be selected and assessed. The importance of risk is determined as a product of the 'severity of the hazard and likelihood of occurrence' (HSE, 1991). It is suggested that this should read 'the severity of the potential *effect* of the hazard', which is the meaning inferred in the remainder of the guidance.

The text acknowledges that there is no general formula for rating risks, but suggests that they should be given priority in proportion to the severity and likelihood of their realisation. Whether qualitative or quantitative tools are used is a decision made in part by the relevant legislation; COSHH an example of the former, and quantitative methods are referred to in the Offshore Installations Regulations (1992).

3.2.5.5 Risk control

This third phase begins 'When risks have been analysed and assessed, decisions can be made about control measures' (HSE, *ibid*), a jump which it is suggested belies HS(G)65 as imparting best practice rather than practical guidance. In devising control measures, the legal requirements should be considered as the minimum appropriate; where these are accompanied by the term 'SFARP', the reader is given a definition in a separate Inset (HSE, 1991). One of the early criticisms of the UK transposition of the Framework Directive was in the continued dependence on reasonable practicability (see chapter two); this cost-based risk versus benefit computation returns in HS(G)65 (see below).

Primarily however, it is suggested that decisions about the reliability of risk controls should be based on the 'preferred hierarchy' as per the MHSW and COSHH Regulations. This is basically the general 'principles of prevention' from the Framework Directive, provided in summary in HS(G)65:

1. Eliminate risks by substituting the dangerous by the less dangerous;
2. Combating risks at source by engineering controls and giving collective protective measures priority;
3. Minimising risk by the design of suitable systems of working; and,

4. Minimising risk by the use of personal protective clothing and equipment, which should only be used as a last resort.

The cost-benefit computation then reappears, as the reader is advised to consider the degree and reliability afforded by the control measure along with the costs of both its provision and maintenance (HSE, *ibid*).

Implementing and maintaining risk control measures

The text warns that the implementation of risk controls may take time; that interim measures may need to be taken, relative to the importance of the risk as identified in the original assessment. Reiterating the requirements of statute, HS(G)65 provides that assessments and controls should be recorded, not least because this provides a means of ensuring their constant implementation (HSE, 1991). It is here that the macro-context of performance standards reappears:

Performance standards for risk control should be documented to a level of detail which reflects the degree of risk. The control of relatively minor risks affecting all employees, such as ensuring free passageways and gangways can be dealt with by a number of simply stated general rules. The control of more specific risks may require more specific standards and control procedures.

As was stated above, control measures have already been recorded as part of the need to comply with appropriate statute, so performance standards are not synonymous with risk controls. The text cites procedures, permit-to-work systems and 'general rules', thus the conclusion drawn is that performance standards are used to ensure and guide the *implementation* of risk controls. Reference to Inset 2 (HSE, 1991) reinforces this conclusion, detailing arrangements such as 'who, does what, by when', although it is suggested that this is by no means clear in the guidance.

The maintenance, monitoring and review of risk controls should be carried out in accordance to information established during the assessment process, resources for these activities should again be allocated on the basis of risk 'importance' (HSE, *ibid*). The chapter is concluded with a return to the focus on the human factor, suggesting that one way of ensuring employee compliance is to utilise the maxim 'what gets measured gets done'; measure performance in order to reward or sanction behaviour. Indeed, HS(G)65 returns to the subject of best practice, advising that successful companies recognise how

to motivate their workforce by using behaviour modification techniques to promote consistently good safety performance.

Discussion

The key aspects of the method suggested for 'assessing the relative importance of health and safety risks' was reproduced at Table 5 above, and imparts some of the information suggested as key to the risk assessment process. The HS(G)65 'Planning' process is in broad agreement with the MHSW Regulations and ACOP. Objectives are set in relation to the policy and arrangements held, and performance standards and risk control measures identified, by the organisation. Performance standards should be set in relation to both the organisation and the control of risks, it has been argued that the latter is a confusing environment within which to set the process of risk assessment.

This process is not in itself without elements of confusion; for example the three categories of likelihood are all based on the fact that harm *will* occur, the further classification of 'frequently' and 'seldom' lead to the assumption that 'high likelihood' means that the risk is definitely going to be realised unless action is taken. Without this extrapolation, the present author suggests that 'harm will occur frequently' appears more concerning than 'harm will occur'.

3.2.6 Measuring Performance

HS(G)65 warns against a fundamentally 'reactive' approach, stating that a historically low incident rate is not indicative that risks are being controlled, especially where hazards have been identified as major, yet likelihood is assessed as low (HSE, 1991).

Performance should be measured against pre-determined plans and standards, in order to assess their implementation and effectiveness and identify any need for remedial action. This is an example of where the 'performance standard' approach to risk assessment and control begins to make sense - a wider perspective on the goals the risk controls are intended to meet, i.e. the provision of a healthy and safe workplace.

Monitoring is stated as a line management responsibility, which signals commitment, and as such is an essential aspect in the development of a positive health and safety culture (HSE, 1991). HS(G)65 goes on to identify two types of monitoring system:

- *active* systems which monitor the achievement of objectives and the extent of compliance with standards; and,
- *reactive* systems which monitor accidents, ill health, incidents and other evidence of deficient health and safety performance, such as hazard reports.

Active monitoring systems

As suggested in the above definitions, active monitoring provides feedback on performance *before* accidents or incidents occur, ensuring performance standards are being met and objectives achieved to ensure optimal operation minimising potential for undesired occurrences. Reinforcing the importance of culture, the text states that the purpose of monitoring is to measure and reward success as opposed to the identification and penalisation of failure (HSE, 1991).

Monitoring performance is conducted within a hierarchical arrangement, reflecting organisational structure and (management) responsibilities for areas of compliance. In this sense, monitoring reflects the two overall contexts of the system; maintaining a positive health and safety culture, partly achieved by the organisational tool of 'control' (HSE, *ibid*).

The text outlines various forms and levels of active monitoring, all summarised below, with the exception of the final example which has been reproduced in full due to its importance later in this thesis:

- (managerial) monitoring of the monitoring activities in accordance with performance standards;
- monitoring achievement of objectives via reports;
- examination of documentation to verify implementation of standards relating to safety culture development;
- inspection to ensure the operation of hardware controls;
- environmental monitoring and health surveillance;
- operation of audit systems;
- reports at board level; and,
- [The] systematic direct observation of work and behaviour by first line supervisors to assess compliance with procedures, rules and systems - particularly when directly concerned with risk control.

In summary, the purpose of active monitoring is to ensure activation of the procedures identified (partly through the risk assessment process) which have been set as the structure necessary to achieve (a) optimal health and safety performance, and (b) the development of a positive health and safety culture.

Reactive monitoring systems

The description of reactive systems of monitoring encompasses what has become indicative of the 'traditional approach' to safety management. Such an approach (Booth, 1994) suggests that safety management is concerned with fixing problems after they have become manifest, in a sense, shutting the gate after the horse has bolted.

Accidents are investigated to ascertain what caused the incident (be it an unsafe act or condition) leading to the development of either a rule or a technical fix to prevent its recurrence. There are various problems with such an approach: investigator preconceptions and ignorance of multi-causality, these in addition to the obvious dubiousness of allowing loss and harm to occur as the initial stage in identifying where preventive action should be taken.

This wider context supports the aims of reactive monitoring as specified in HS(G)65, which suggests a system involving the recognition and reporting of:

- injuries and cases of ill health;
- other loss events, e.g. damage to property;
- incidents (including all those which had the potential to cause injury, ill health or loss);
- hazards;
- weaknesses or omissions in performance standards.

It is suggested that depending on how the latter example is manifested, this could equally be a result of active *or* reactive monitoring. Such a system depends on accurate reporting of incidents, regardless of severity (HSE, *ibid*), and depends on the facets of a positive health and safety culture, namely training, open communication and thorough checking of documentation as a second line of defence where verbal communication may not be appropriate.

Regardless of the method of identification of substandard performance, response systems need to be in place to act on information gained through the monitoring process; the final element in the three stage model.

HS(G)65 provides a model for responding to deficits in the health and safety management system, this section of the chapter briefly outlines the procedure, before continuing with the final elements of the text.

Both active and reactive sources of information should be evaluated to identify *immediate risks*; action should then be taken accordingly, up to the instigation of emergency procedures. The recurring theme of proportionality is no less appropriate to accident investigation, which should be conducted in relation to the *level and nature* of the incident. The purposes of investigation are to identify: reasons for substandard performance, underlying organisational failures, learning points and information to prevent recurrences.

Again, *investigation* responsibilities should reflect incident severity, management and specialist involvement increasing hierarchically in proportion to the scale of the incident in question. In identifying immediate circumstances and underlying causes, the investigation allows recommendations to be made appropriate to both management systems and performance standards. Elements for investigation cover the three aspects of the human factor, first seen in HS(G)48 (HSE, 1989), namely job related, organisational and the personal/employee specific details.

The use of report forms allows a thorough investigation and adequacy of documentation to be used as the basis of follow up action. This highlights a clear link between the information accrued, the subsequent *analysis*, and the proposed remedial steps to be taken. Interestingly, the *review* process is only explained in terms of the report forms, to ensure implementation of specified action. There is no mention of the necessity of reviewing the investigation procedure as a whole. Also not explicitly mentioned in the text is what should be done with the investigation results, although the summary states that:

information should be referred to the level of management with authority to initiate the necessary remedial action, including organisational and policy changes.

It is suggested that this aspect is particularly important, highlighting: management involvement and responsibility for the overall safety management system; the necessity for authoritative guidance in cases where remedial action involves a marked or sudden change in working practices; and, the implications (particularly cultural) in terms of the broader context of specific incidents in relation to the organisation or policy per se.

The need to review (eg, procedures, performance, standards, risk controls) appears many times in HS(G)65, and is an explicit requirement of MHSW Regulation 4 (HSC, 1992). Auditing however, does not constitute an obligation, and was one of the areas where the draft of BS8800 was criticised for instigating activities ‘over and above’ those accepted as elements required to manage health and safety (see Booth and Hawkins, 1996). This was despite the fact that auditing is the sixth element of the HSE model (HSE, 1991), and is explicitly dealt with under the final chapter of that text.

3.2.7 Auditing and reviewing performance

Examples of active monitoring, the processes of audit and review act as feedback loops, used to maintain and develop an organisations ability to manage risks to the fullest possible extent (HSE, *ibid*).

Auditing

HSE (1991) states that auditing ‘aims to provide an independent assessment of the validity and reliability of the management planning and control systems’. A comprehensive audit should examine (over time) the reliability and efficacy of the management system elements (see Figure 4), and provides information on where remedial action may be required for both organisational plans and performance standards. Two approaches (which should be used in combination) are defined, ‘vertical’ and ‘horizontal’, general activities or specific aspects of the SMS respectively.

Whether a single event or a rolling programme, a team approach or an individual task, conducted internally or by external means, the audit should be carried out by competent persons independent of the tasks being examined. HS(G)65 mentions the use of either proprietary or self-developed audit programmes, explicitly stating that HSE supports the

former (HSE, 1991). Regardless of the programme followed, audits should be tailored to the specific needs of the organisation.

Whether qualitative or quantitative, proprietary or in-house, methodologies need to be verified, not least where trends are to be plotted and analysed (HSE, *ibid*). As with all other elements of the management system, performance standards need to be set on the planning and implementation of audit practices, which again, should be monitored to allow review where identified as necessary.

Continuing the description of best practice, additional information on the characteristics of effective auditing systems is provided in an Inset, which reiterates the need to systematically address all elements of the management process from policy to review.

Reviewing performance

Review is concerned with the maintenance and development of policy, culture and performance standards, based on information provided by (both active and reactive) monitoring and the results of health and safety audits. Where auditing checks the system is in operation as it is stated to be, the process of review examines adequacy of actual performance, and specifies details with regards nature and timing of remedial action (HSE, 1991). Performance standards set for the review process enable ensuing action to be monitored, ensuring adequate and timely implementation. Action prioritisation is based on the familiar assessment of proportionality and ranking, determined by the degree of risk and availability of resources (HSE, *ibid*).

HSE (1991) suggests that 'successful organisations' use key performance indicators (KPIs) relating to *overall* performance and the management of improvements as the basis for reviews 'at the highest level'. The following four KPIs are listed as those which should be used at the very least:

- Assessment of the degree of compliance with performance standards;
- Identification of areas where performance standards are absent or inadequate (those areas where further action is necessary to develop the total health and safety management system);
- Assessment of the achievement of specific objectives; and,

- Accident, ill health and incident data, accompanied by analyses of both the immediate and underlying causes, trends and common features.

These indicators highlight the focus on performance standards found throughout *Successful health and safety management*, they are the basis on which the running of the management system is set and examined. The first three KPIs are concerned with the development and maintenance of standards and objectives, the last providing a (reactive) indication on how the system is performing in terms of the legislative aim of securing health and safety in the workplace.

This is the first time in HS(G)65 that KPIs are explicitly mentioned, despite the repeated reference to performance standards, objective achievement and the need to monitor and review performance. Whilst the text provides the four generic *system* KPIs, there is little guidance as to how the reader should ascertain further types of indicator. The author suggests an examination of the organisations overall policy, an examination of the core elements of achieving (SFARP) a healthy and safe workplace. Indeed, this opinion reflects the general KPIs provided, but it is suggested that indicators appropriate to sub-levels of the management system may be harder to identify in measurable terms.

Finally in the chapter on audit and review, HS(G)65 suggests that health and safety performance should be assessed against other organisations, allowing an assessment of performance against 'bench mark' criteria. This practice not only covers accident / incident rates, but also management techniques, 'to gain new insights on the management of similar problems' (HSE, *ibid*).

3.2.8 Summary

HS(G)65 has been shown to have three main influences; the APAU report on 'best safety practice', the HS(G)48 examination of human factors, and the authors' belief that risk management should provide the basis of safety management. Little adjustment was necessary for alignment with the MHSW Regulations in 1993; highlighting the broad similarity between HS(G)65 and the MHSW requirements - Regulations 3 and 4 in particular.

The content of HS(G)65 was examined in some detail, outlining the key elements of the guidance, from policy to review. Policy was shown to be used in a different context to that of the HSW Act; referring not to a written statement, but to the general approach to, and philosophy behind, safety management. 'Organising' comprises the four elements thought necessary for the promotion of a positive safety culture; it is suggested that the latter term is broadly synonymous with the term 'policy' as used in the first chapter of HS(G)65.

Planning involves setting objectives, performance targets and risk controls; the latter identified through the risk assessment process. The measurement of subsequent performance forms the penultimate chapter, whereby both active and reactive monitoring systems provide data used to ascertain system efficacy, shortcomings and any remedial action necessary. From its external position on the HS(G)65 model (see Figure 4), audit is explicitly combined with review. Their combined purpose is to maximise learning, ensure appropriate action is taken, improve health and safety performance and further develop the overall policy of the organisation (HSE, 1991).

CHAPTER FOUR

Development of Safety Management System Guidance: BS8800:1996

The previous two chapters examined the development of SMS guidance legislatively and through the growth of texts provided by HSE (1981; 1989; 1991). The latter of these, HS(G)65 forms the core framework of BS8800, and permeates the BSI Guide quite transparently as is seen in this chapter. The discussion of content follows a discussion of the Guides development; to which attention is immediately turned.

4.1 Background to the BSI Guide

The first section of this chapter draws largely from personal communication with the Secretary to BSI 'Technical Committee HS/1, Occupational health and safety management'. Information contained herein should be attributed thus, unless otherwise stated.

The greatest impetus for the drafting of BSI guidance was the MHSW Regulations; the HS/1 committee was first convened just three months after the Regulations were enacted in January 1993. The combined requirements of Regulations 3 and 4 were said to lead to panic in many organisations. Few companies understood how to approach or conduct risk assessments, and tended to go one of two ways; either 'panicking themselves into paralysis' (as a result doing nothing), or 'going completely overboard' (Cawkwell, 1999).

The HS/1 Secretary states that the latter approach was seen predominantly in SMEs⁷, the author therefore suggests that it is unsurprising that the Guide advises these organisations to tailor their approach according to size and activities (BSI, 1996a). With regards concerns over Regulation 4, few organisations had even vaguely organised approaches to health and safety, let alone an understanding of how to co-ordinate a *managed, systematic*

⁷ Small- and Medium- sized Enterprises.

effort. Thus the demand from industry had two main components; requests for advice on risk assessment, and guidance on how to implement 'safety management systems'.

At the same time, both commercial certification bodies and health and safety professionals were pushing for health and safety guidance to complete the triplicate of management system standards. BS 5750 for Quality and BS7750 for Environment had lead to the long-held expectation that '8750' would not be far behind. These groups were joined by consultants in citing another need for generic guidance; with an increased number of legislative obligations, company health and safety advisers needed a document to 'present to the Board', in an effort to secure increased authorities and resources (Cawkwell, 1999).

Trade Associations were voicing a similar request on behalf of their members, and had in fact started to take their own measures; the Chemical Industries Association (CIA) was making progress in the development of safety management guidance for the chemicals sector. Indeed, this trend is cited as a minor impetus for BSI guidance, brought about through the concerns voiced by large organisations dealing with more than one trade sector. Such dealings meant that, should other Associations follow the example of the CIA, companies would be in the position of having to comply with standards set by various sector bodies, which would not necessarily be complementary. This lead to the need to 'avoid proliferation and pursue harmonisation' (Cawkwell, 1999).

4.2 BS '8750' - Integration of 'Safety' into 'Management'

In February 1994, BSI committee HS/1 started the long process of drafting a Guide to 'integrated health and safety management systems'. The Consultant's brief stated that the purpose of the Guide was to:

provide all organizations in the public, private and voluntary sectors, irrespective of size, with guidance on how to effectively integrate 'health and safety' into their overall management systems:

- *primarily to minimise risk to employees and others*
- *secondarily to make a positive contribution to business performance.*

The Guide was to be in two parts; the main guidance supported by three substantive annexes on planning and implementing, hazard identification and risk assessment and measuring performance. The main text would provide organisations with guidelines on 'what to do', with the annexes providing the 'how to do it' detail - enabling development of sub-systems to achieve health and safety policy aims and objectives. A further stipulation was that the annexes should be 'generic' in nature, capable of being used by any of the range of organisations specified above.

By November 1994, *BS'8750' [Draft] Guide to Health and Safety Management Systems* had been published for public comment, based on the HS(G)65 model (see Figure 5) with the addition of initial and periodic status review. A fourth annex had been included (Audit), and the length of guidance on organising in the main text (7 pages) resulted in large sections being relegated to a fifth annex soon after. However, this simple, chronological account of the development of 'BS8750' betrays the complexities and machinations of the committee (and associated stakeholders), which are therefore outlined below prior to the discussion of the Guide as published in 1996.

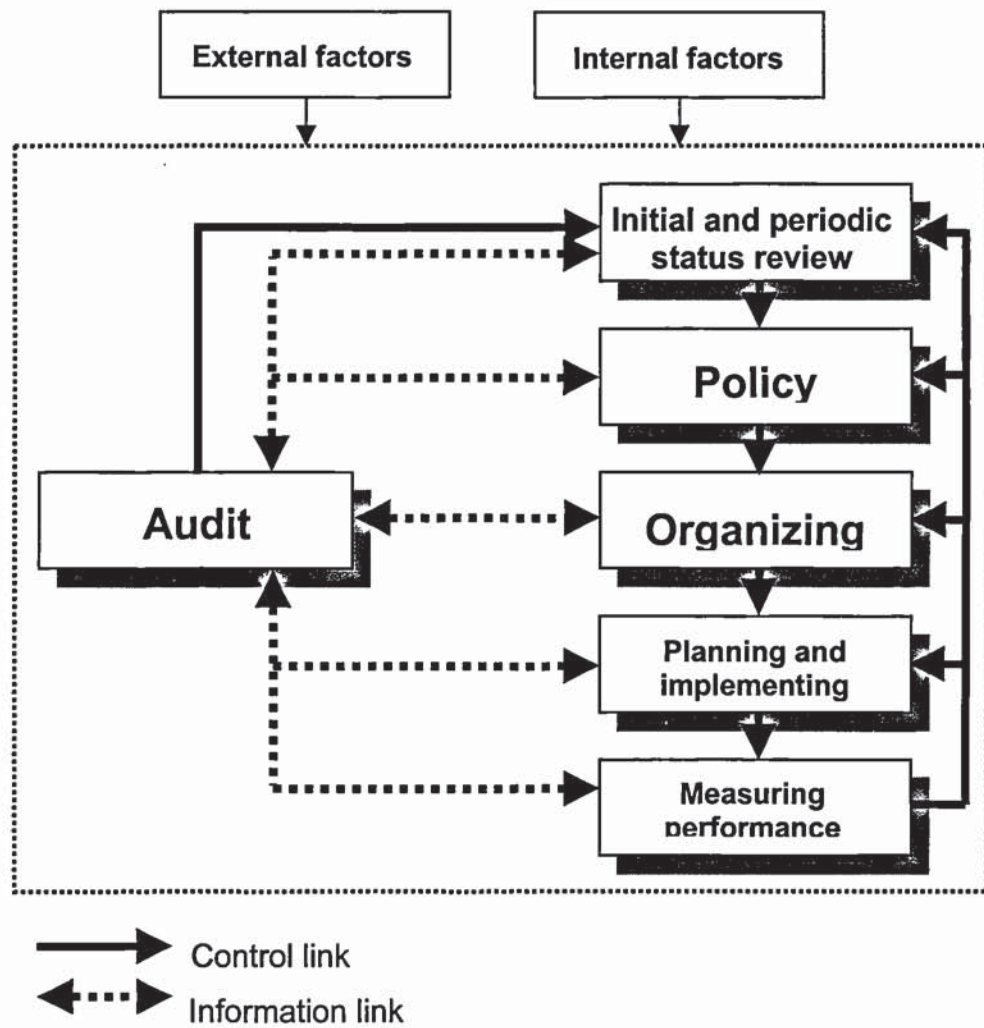


Figure 5: BS8800 - Based on the HS(G)65 approach

4.2.1 BS '8750' - The Hurdles

A primary bone of contention was the context of certification inferred by the Guides working title '8750', insinuating its position as the third management systems standard (joining British Standards 5750 and 7750). The existing expectations mentioned above meant that any health and safety guidance published with the '-750' suffix would be met with an assumption that it was certifiable, or would become so in due course. The committee addressed this issue by removing the (potentially) offending suffix, thus the series title '8800' was born.

In one of the first published opinions of the Guide, Mackmurdo (1996) provided an overview of the guide, detailing strengths and weaknesses and attempting a prediction of

how the Guide would be met by implementing organisations. In one of his (many) tongue-in-cheek comments, he highlights one of the issues which is seen throughout the next section of this thesis:

If you study BS8800, you will find it is quite clear. Whether you find it 'entirely clear' or merely 'clear to some degree' ... will depend on how you cope with the main weaknesses of the standard, most of which appear to result from reconciling the inputs from gurus, dunces and all in between.

It was stated above that BS8800 was to be based on the HSE text, HS(G)65; departure from this intention was the last major change before the Guide was published.

Committee members advocating an integrated approach had reacted negatively to this decision; preferring a management systems model to facilitate alignment with ISO 9001 and 14001. In order to satisfy these members (without retracting on the HS(G)65 format already reached by consensus), an approach based on the ISO 14001 model was added to the Guide. Thus a dual approach was born; the early pages of the Guide asking organisations to select a model according to their integration / health and safety implementation preferences.

The maintenance of the HS(G)65 structure in the annexes reflects the timing of the above debate as one of the final conflicts preceding BS8800 publication. The Chairman of the HS/1 committee described how it was simply 'too late in the day' to alter annex presentation to align with the ISO 14001 approach. It has since been argued that the annexes should be re-written to encompass the latter approach more effectively, a suggestion that is still being considered to this day.

4.3 BS8800:1996 Guide to Occupational Health And Safety Management Systems

In July 1996, BSI published BS8800:1996, consisting of a main Guide and six annexes. Apart from annex A, which highlights the links to BS EN ISO9001:1994 (Quality management systems), the annexes provide further guidance on aspects contained in the main guidance: Organising, Planning and Implementing, Risk Assessment, Measuring Performance and Audit.

The dual approach contained within the Guide is shown in Figure 5 (above) and Figure 6 (below). The actual guidance ('main text') is found on pages 3-8, taking readers through

OH&S management system elements from policy to audit. BS8800 contains two sets of Clause 4, *OH&S management system elements*, one following the HS(G)65 diagram, the other pertaining to the format of BS EN ISO 14001. On purchasing the Guide, organisations select which approach they will follow and remove the irrelevant set of pages 5-8. Thus they are left with guidance pertaining to one model only, and the remaining annexes which are equally applicable to those following either HS(G)65, or ISO 14001.

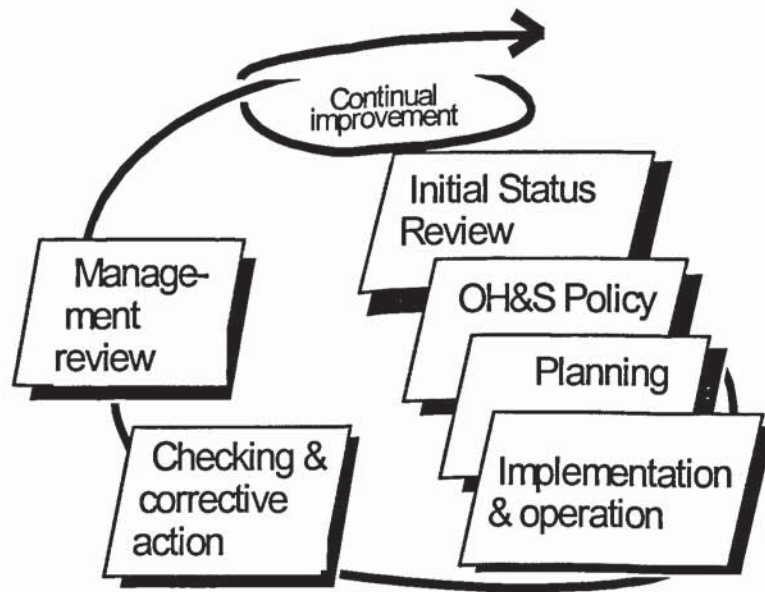


Figure 6: BS8800 - Based on the BS EN ISO 14001 approach

The introduction of the Standard states that organisations can use various approaches to implementation, two of which are presented for those familiar with (a) the HSE guidance, and (b) the environmental management systems standard (BSI, 1996a).

The guidance presented in each approach is essentially the same, the only significant difference being the order of presentation and either approach may be used to integrate OH&S management within the overall management system.

Closer examination of the Guide shows this to be true; when stripped of their different (sub-) headings, both models contain the same information, indeed, frequently the same sentences.

As detailed above, the drafting of BS8800 was a process complicated by debate on the nature and status of the guidance. The Foreword of BS8800 states that:

- it contains guidance and recommendations;
- it should not be quoted as if it were a specification;
- it should not be used for certification purposes; and,
- compliance with a British Standard does not confer immunity from legal obligations.

Having established the remit of the Guide, it is suggested that the standard is compatible with the MHSW Regulations ACOP, HS(G)65, BS EN ISO 14001 and sector specific HSC/E health and safety guidance (BSI, 1996a).

4.3.1 BS8800 - The Guide

Clauses 1-3 of the BS8800 main guidance are common to both models, detailing the introduction, scope, informative references and definitions. The introduction of the Guide contains the same key messages as its HS(G)65 equivalent; the need to manage safety as a core business objective, to protect employees and others (HSW Act), within a framework which recognises the importance of human factors. It is suggested that organisations adopt ‘a structured approach to the identification of hazards and evaluation and control of work related risks’ (BSI, 1996a), enforcing the MHSW Regulations risk-based approach more succinctly than the HSE guidance (1991).

The guidelines are based on the general principles of good management, designed to facilitate integration into the overall management system (BSI, *ibid*), the former in particular becomes a key component of this thesis in chapter six. The Guide then takes the reader through the need to select one of the two models, and provides an explanation of how the informative annexes complement Clause 4.

The scope is broadly defined as giving guidance on development of occupational health and safety (OH&S) management systems, and the links with other management systems standards (ie, those for quality and environment). The need for proportional implementation is underlined, suggesting that SMEs aim for legal compliance before attempting higher standards and continual improvement. Other publications are then

cited as informative references, before BS8800 provides a series of definitions for key terms used.

4.3.1.1 BS8800:1996 Clause 4, 'OH&S Management System Elements'

As mentioned above and in the Guide, there is little difference between the two models, the notable variation between them being order of presentation. The first two sections ('initial status review' and 'policy') are identical, and are thus examined in this chapter without reference to the macro-approaches. It is at this point the models differ, and thus will be examined separately until the 'review' element where the two converge in the Guide, and are thus reunited in the thesis.

4.3.2 Initial Status Review

Organisations should implement the system according to their needs, ascertained by reference to the size of, and activities and hazards within, the undertaking. An initial status review (ISR) asks the question 'where are we now', a similar process to that identified as step '0' in the HS(G)65 process of objective setting. However, whilst the purpose of such a review is broadly the same, HS(G)65 incorporates this as part of the Planning function, and as such doesn't introduce it until a third of the way through the text. The relevance of ISR information for the planning process is acknowledged in the Guide, but as one of a few applications subordinate to the need to establish a clear starting point.

BS8800 incorporates the ISR process into the general model (see Figure 5 and Figure 6), the main purpose of the review cited as providing an indication of the scope, adequacy and implementation of the current system (BSI, 1996a). In addition, this sets an internal benchmark from which progress can be measured as improvements are made.

The ISR compares existing arrangements with: requirements of relevant legislation dealing with OH&S management issues; existing guidance on OH&S management available within the organization; best practice and performance in the organization's employment (and other appropriate) sector(s); and the efficiency and effectiveness of existing resources devoted to OH&S management (BSI, 1996a). In the Content Analysis co-produced by the author (Booth and Hawkins, 1996), it was suggested that the inclusion

of ISR was 'added value', extending the concept introduced as step '0' in HS(G)65, allowing organisations to ascertain key gaps and thus priorities.

4.3.3 OH&S Policy

The guidance on policy suggests that it should be defined, documented and endorsed by the organisations most senior management (BSI, 1996a), and should include nine commitments which are then listed. The Guide's approach to policy is the same as that of HS(G)65; an underlying ethos as opposed to a written statement as per the HSW Act. The present author was in attendance at the HS/1 meeting where this was being discussed (22.02.1996), within a context indicating the certification controversies still unsettled at the time. It was noted:

If the BS [8800] were to become certifiable, organisations could be in a position where they may fail on Clause 4 as issues (a) - (i) are not included in the written policy. Thus, going to leave policy as such, as opposed to written policy statement." [original emphasis]

This highlights the issue of detailing 'policy' in preference to 'Policy', an issue debated in section 3.2.3 with regards HS(G)65's coverage of elements alluding to culture rather than the (HSW Act) written policy statement. The HS/1 committee members seemed to acknowledge the confusion, the only clarification offered is in the absence of the word 'statement'. It is suggested (especially given the certification context of the above notes) that this decision was taken in an effort to limit the accountability of the Guide, rather than as prompted by the needs of organisations. This assumption is further supported by the Guide's advice that the policy should be 'documented', again, alluding to HSW Act ss2(3) without committing itself to such.

The policy commitments in BS8800 broadly match the elements for inclusion in *written statements* found in HS(G)65. When compared to the *chapter* on policy however, the HSE text provides far more information on the facets of a successful policy, even though this is not recognisable as practical guidance.

4.3.4 'HS(G)65' Model

4.3.4.1 Organising

As per Figure 5, the next stage in the HS(G)65 approach is 'organising', covering the three elements of responsibilities, organisational arrangements and OH&S documentation. Ultimate responsibility for the SMS lies with top management; a senior figure should have particular responsibility for 'ensuring that the OH&S management system is properly implemented and performing to requirements in all locations' (BSI, 1996a).

In HS(G)65 (HSE, 1991) 'organising' is divided into the four 'C's' necessary to promote a positive health and safety culture; control, co-operation, communication and competence. This is not explicit in BS8800, in a reiteration of the importance of integrating the health and safety policy, the Guide outlines 'organisational arrangements' for the effective management of OH&S. However, when these are aligned under the four HSE categories there is broad agreement; as is seen in Table 6.

<p>Control</p> <p>(b) define the allocation of responsibilities and accountabilities in the management structure;</p> <p>(c) ensure people have the necessary authority to carry out their responsibilities;</p> <p>(d) allocate adequate resources commensurate with its size and nature;</p>
<p>Co-operation</p> <p>(h) make effective arrangements for employee involvement, and consultation where appropriate;</p>
<p>Communication</p> <p>(f) make arrangements for the effective and, where appropriate, open communication of OH&S information;</p> <p>(g) make effective arrangements for the provision of specialist advice and services;</p>
<p>Competence</p> <p>(a) have, or have access to [thus also falling within 'communication'] sufficient OH&S knowledge, skills and experience to manage its activities safely and in accordance with legal requirements;</p> <p>(e) identify the competencies required, at all levels within the organisation, and organise any necessary training;</p>

Table 6: Application of BS8800 organisational arrangements to HSE (1991) '4C's
Developed from BSI (1996a) and HSE (1991)

4.3.4.2 *Planning and Implementing*

'Planning and implementing' in BS8800 covers risk assessment, legal and other requirements and OH&S management arrangements. The general introduction to this section states:

It is important that the success or failure of the planned activity can be clearly seen. This involves identifying OH&S requirements, setting clear performance criteria defining what is to be done, who is responsible, when it is to be done and the desired outcome.

Where HS(G)65 uses performance standards as the facilitator for risk assessment and control, BS8800 incorporates the concept of performance criteria. The two approaches are broadly the same if the HSE text is examined in conjunction with the two performance standard Insets (4 and 10, HSE, 1991). As seen in the above quote, the 'who, what and why' context of performance criteria is explicit in the Guide, the setting of which is based on the three areas of risk assessment, legal and other requirements, and OH&S management arrangements.

The use of HS(G)65 as the basis for the first model in BS8800 is readily apparent, although it is suggested that the latter has achieved more clarity than its formative influence. Section 3.2.5 of this thesis examined how planning in the HSE text is split into areas relevant to the '4 C's' and then those pertinent to the control of hazards and risks (HSE, 1991). The comment that this seems to reduce the status of risk assessment is repeated when compared to the BSI guidance, which cites risk assessment as one of the fundamental aspects of setting measurable objectives.

4.3.4.3 *Measuring Performance*

This is one of the aspects of the Guide considered to 'add value' to the guidance provided in HS(G)65 (Booth and Hawkins, 1996). The Guide states that performance measurement should be conducted using qualitative and quantitative measures based on both pro-active and reactive monitoring methods (BSI, 1996a). Where deficiencies are highlighted, root causes should be identified and corrective action taken, a reiteration of the guidance found in the HSE text (1991). The more detailed information is found in annex E; the definitive BS8800 approach of imparting core guidance only, relegating specifics to self-contained appendices.

This skeletal coverage insinuates (accurately) that the approaches of HS(G)65 and the BS8800 model of the same name are similar in content; the 'added value' differences are outlined by Booth and Hawkins (1996) thus:

- BS8800 is more explicit than HS(G)65 on the differences between qualitative and quantitative methods;
- The BSI texts use of the term *pro-active* in terms of monitoring offers a better contrast with 'reactive' than the HS(G)65 terminology of 'active';
- In some cases the differences between the two types of monitoring are confused in the HSE text, BS8800 outlines the contrasting characteristics more clearly; and,
- The BSI guidance places more explicit importance on the need to rectify system deficiencies.

Indeed, this type of 'added value' was recurrent in the Booth and Hawkins (ibid) analysis, whereby models match, information corresponds and advice recurs. Often however, the BSI Guide was seen as taking core guidance and imparting it in a clearer, more systematic way, resulting in the conclusion that 8800 clarifies and interprets rather than repeats and glorifies (see Booth and Hawkins, 1996).

4.3.4.3 *Audit*

In the BS8800 HS(G)65 model diagram (Figure 5), the audit function is explicitly linked to all other activities, in the form of a two-way information flow. The function of auditing is verbalised in the Guide as enabling 'a deeper and more critical appraisal of all the elements of the OH&S management system' (BSI, 1996a). The reader of the Guide is referred to the auditing annex, the guidance mainly repeating HS(G)65 advice (see section 3.2.7 of this thesis). The Guide suggests four questions that audits should seek to answer, depending on their stated purpose at any given time (BSI, ibid):

- a) Is the organization's overall OH&S management system capable of achieving the required standards of OH&S performance?
- b) Is the organization fulfilling all its obligations with regard to OH&S?
- c) What are the strengths and weaknesses of the OH&S management system?

- d) Is the organization (or part of it) actually doing and achieving what it claims to do?

The final element of the HS(G)65 model is 'periodic status review', the 'management review' as detailed in the ISO 14001 model of BS8800. As mentioned above, this difference in title is the only area where the two disagree. Thus, the core structure of Clause 4 as per the ISO 14001 model is discussed below, before the common guidance on review is provided.

4.3.5 'ISO 14001' Model

The reader of the thesis is reminded at this point that this section builds on 'Initial status review' and 'Policy', described above as elements common to both approaches in BS8800.

4.3.5.1 Planning

Herein lies one of the most fundamental differences in the two models. The HS(G)65 approach imparts guidance on *Organising* after *Initial Status Review* and *Policy*. Readers of the Guide choosing the 14001 approach are met with a third stage of *Planning*. The text is the same as that in the HS(G)65 model 'Planning and Implementing', namely the purpose and content of performance criteria, and their application to the key areas of risk assessment, legal and other obligations, and OH&S management arrangements.

4.3.5.2 Implementation and Operation

Again, the fundamental advice matches the equivalent in the corresponding 'Organising' section of the HS(G)65 model. The guidance from the HSE model is cut and pasted under the following ISO14001 headings (BSI, 1996b):

- 1) Structure and responsibility
- 2) Training, awareness and competence
- 3) Communications
- 4) OH&S management system documentation
- 5) Document control
- 6) Operational control
- 7) Emergency preparedness and response

The links between the two standards (BS8800 and ISO 14001) are thus self-explanatory, the Guides attempt at assisting organisations preparing to integrate their management systems. It is interesting that one of the two ISO clauses omitted is ‘management manual’, the BSI OH&S management systems guidance veering away from this requirement of certifiable standards. When the Chairman of the HS/1 Committee was asked for the reasoning behind this omission, he cited the Guide’s declaration that it is appropriate for implementation in SMEs (Smith, 1999), that the requirement for a manual may be too complex for organisations with few employees.

4.3.5.3 Checking and Corrective Action

Again, the ISO model as formative predicts the sub-clause arrangement of BS8800. As before, no new information is imparted, no current advice from the HS(G)65 approach is deleted. ‘Monitoring and measurement’ is the same process (word-for-word) as the guidance on ‘Measuring performance’ (see above), and the need to rectify deficiencies in the HS(G)65 approach is stated under ‘Corrective action’ in the model aligned to the environment standard. The guidance within ‘Records’ suggests that these should be maintained, as does the same sentence under ‘OH&S documentation’ in the HSE model.

Where the HS(G)65 approach warrants the conduct of ‘Auditing’ within its own sub-clause, ISO 14001 incorporates the activity as the final function of ‘Checking and corrective action’. The same advice is provided as in the stand-alone element discussed above, again referring the reader to the informative annex (F). The final element of both models is broadly ‘review’, with the same guidance provided under adapted headings. Readers following the HS(G)65 approach ultimately conduct a ‘Periodic status review’ whilst organisations implementing their SMS according to the ISO 14001 model embark on a ‘Management review’.

4.3.6 ‘HS(G)65’ and ‘ISO14001’ Reunited - Review

The guidance in BS8800 suggests that periodicity and scope of reviews should be defined according to the needs of the management system, but should consider:

- a) The overall performance of the OH&S management system;
- b) The performance of individual elements of the system;
- c) The findings of audits; and,

- d) Internal and external factors, such as changes in organizational structure, legislation pending, the introduction of new technology, etc.

Where deficiencies are identified, remedial action should be instigated. Taken as a whole, the BS8800 guidance broadly agrees with the (revised) MHSW Regulations ACOP (HSC, 1999b), which suggests that one of the main purposes of review is an examination of the SMS to ensure continued effectiveness.

4.3.6.1 The Two Models Compared

The statement in the Guide, that the approaches are broadly the same, has been justified in the preceding sections. The main difference has been stated as the ordering of guidance on organisation and planning; as presented in the HS(G)65 approach, the other way round for those following the ISO 14001 model.

It is suggested that the structure of guidance based on the environment standard provides a more step-by-step explanation of SMS development, and is more recognisable as a route map than its HSE counterpart. A return to the formative influences provides a possible reason for the improved clarity; the HS(G)65 version of the Guide adopts the HSE style described as 'philosophical' in chapter three, the ISO 14001 model links closely with the core requirements fundamental to the ISO environment standard.

4.3.7 BS8800 - Informative Annexes

4.3.7.1 Annex A - Links to ISO 9001:1994, Quality Management Systems

This first informative annex states that 'the basic principles of management are common irrespective of the activity being managed', suggesting that organisations may wish to integrate systems or run different systems based on the same fundamental principles (BSI, 1996a). Annex A highlights the links between BS8800 and the quality systems standard ISO 9001 in matrix form, listing the clauses of the latter against the corresponding sub-clauses of the BSI Guide.

The only aspect of the OH&S guidance not paralleled with ISO 9001 is the initial status review, not a requirement of the quality standard. Whilst 4.1.3 of ISO 9001 states that

'management review' ensures the systems continuing suitability and effectiveness, it is to be carried out at defined intervals (BSI, 1994), not as a primary benchmarking exercise.

The annex claims that all twenty clauses of ISO 9001 have at least one 'connection' (BSI, 1996a) with the OH&S guidance; many of these falling within the clause on Planning (and implementing, depending on which 8800 approach is referred to). These links really are just connections, many of the core aspects of the quality system need to be considered through a planned approach, which is how the two standards fit together.

4.3.7.2 Annex B - Organizing

In his examination of BS8800, Mackmurdo (1996) suggested that organisations:

will need a high level of commitment to interpret and apply the standard correctly unless their circumstances conform to an almost nineteenth century model of 'factory / warehouse / office-based' activities.

It is suggested that the organising annex falls into this trap, as many of the checklist elements provided for the clauses describe situations pertinent to 'text-book' cases of implementation, involving a multiplicity of staff at various sites depending on the stage of the production process they're involved in.

These checklists reflect HS(G)65 guidance, including the advice on approaches organisations may adopt in order to encourage full co-operation. The Guide suggests that understanding of 'responsibilities and accountabilities' is vital to comprehension of how the individual affects the SMS, and suggests that these should be allocated to reflect the responsibilities within the (general) management structure. Booth and Hawkins (1996) suggest that this elaborates on HS(G)65, reiterating the involvement of all, and the importance of OH&S management commitment mirroring that of the organisation.

Within clause B.3 there is further information on individual responsibilities for implementing the OH&S policy; listing practical aspects necessary for such duties to be fulfilled. Under 'employee involvement', the Guide suggests that 'the knowledge and experience of the workforce can be a valuable resource in the development and operation of the OH&S management system' (BSI, 1996a). However, no advice is imparted on how such communication is to be achieved, a second example of the Guide repeating the

tendency of the HSE text to suggest best practice without elaborating its importance, complexity or achievement.

The organising annex suggests that consultation and representation should be wider than safety committees and representatives, utilising the existing management framework to encourage the involvement of employees. It is suggested that this is one of the first instances where the BS8800 annex assumes positive safety culture, despite the lack of reference to such. Actually, the reference here is to positive *organisational* culture, presuming that the organisation is in a position where the management of other aspects of the undertaking have developed effective systems of consultation and communication. Where this culture is *negative*, BS8800 could be in a position where it is encouraging the tainting of OH&S with the same tarred brush as has been applied to other aspects of management.

The annex then provides a detailed checklist of elements to be included in organisational training programmes, within the general advice on 'Competency and training'. HS(G)65 suggests that 'risk assessments should be carried out by competent people' (HSE, 1991) but fails to state how such competence should be achieved. Not only does BS8800 cite the need for risk assessment training, but also suggests which personnel may be appropriate, a suggestion left open by the comment italicised above.

The first sub-clause of 'communications and documentation' provides a descriptive list of the arrangements necessary for effective dissemination of information. This builds on HS(G)65, which simply describes elements of the OH&S management system that depend upon successful communication networks. The majority of the guidance on communication is divided into the same elements as HS(G)65; inputs, flows within the organisation, and outputs (HSE, 1991). The Guide reiterates the need for 'feed-back and suggestions from employees' (BSI, 1996a) by adding it as a fourth category of communication as opposed to subsuming it as a flow 'within' the organisation.

Despite the fact that it is HS(G)65 that advocates 'communication' as a facet to develop a positive health and safety culture, the author suggests that BS8800 imparts more information appropriate to actually doing so. One of the general comments of Booth and

Hawkins (1996) was that BS8800 is easier to follow due to the extensive number of check- and prompt-lists provided throughout the annexes.

The prompt-list provided for effective communication is a good example of this; especially in relation to sub-clause B.6.1 (b) which imparts guidance on communicating pertinent OH&S information to all in the organisation who need it. The six stage process which follows is exactly that, taking the reader through an organised approach from determining information needs, ensuring its clarity and free-flow, to the necessity of constantly developing information through monitoring and review procedures. The author suggests that this exercise in itself would be one aspect of cultural development, requiring those with OH&S management responsibilities to acquire an understanding of organisational needs, employee receptivity, communication networks and reporting structures.

The basic guidance under the final sub-clause of the organising annex, 'Communication and documentation' reflects information provided in HS(G)65. Under 'specialist advice and services', the Guide states that:

Organizations should have access to sufficient OH&S knowledge, skills or experience to identify and manage OH&S risks effectively, and to set appropriate OH&S objectives.

The clause goes on to suggest that one or more of the following may achieve this: training managers; employing professionals; and/or, engaging external specialist support. There are two observations to be made at this juncture, firstly that BS8800 assumes that there is no in-house 'OH&S champion'. In a similar vein, the three suggestions above fail to capitalise on the value of the skills and experience that may exist in the workforce, despite including such in the sentence quoted.

There is an important link between the guidance and statute with regards MHSW Regulation 4, the duty to give effect to health and safety arrangements for the effective *organisation* of the preventive and protective measures (HSC, 1992). It was suggested earlier that the need for planning to feed into the organising process is implicit; risk assessments providing information for planning objectives, at which point 'organisation' allows the structured approach to be developed. This is explicit in the revised ACOP on

organising, that employees should be involved in the risk assessment process, via effective means of communication and consultation.

It is here it is suggested that the different ordering of the HS(G)65 and ISO 14001 approaches come into play. Following the former means that an organisation will *start* with the organising process *without having considered risk assessment or planning* - which form the subsequent stage in the HS(G)65 model. ISO 14001 disciplines encounter *planning* as the first stage after carrying out initial status review and policy development. Having read Clause 4 of the main Guide, they will be embarking on SMS development (BSI, 1996a) from a different trio of requirements; as detailed in annex C.

4.3.7.3 Annex C - Planning and Implementing

The planning and implementing annex is divided into two main sections. Clauses 1-3 provide a fairly philosophical discussion of the need to plan, various methods of doing so, and the interrelations with other aspects of management. The advantages of, and requirements for, pro-active planning are outlined, alongside an examination of the limitations of reactive OH&S management. The author suggests that this is one of the most favourable aspects of BS8800, imparting information that brings the reader 'up-to-speed' on why the ensuing approach is necessary. It was suggested earlier in the thesis that various sources of SMS guidance impart 'what' and 'how' information in varying degrees, the 'why' is rarely examined.

HS(G)65 focuses on the development of a positive safety culture to a greater extent than BS8800; the author suggests that organisations possessing such a culture have to a large extent grasped the 'why' of managing safety, as organisations with an all-permeating TQM approach to quality management understand the benefits to be accrued from effort expended.

The emphasis on prevention is highlighted with the statement that the management system supported by the planning procedure should promote continual improvement and ensure that:

(a) Appropriate arrangements are in place that are adequately resourced with competent personnel who have defined responsibilities, and that incorporate effective channels of communication; [Organising]

(b) Procedures are adopted to set objectives, devise and implement plans to meet objectives, and to monitor both the implementation and effectiveness of plans;
[Planning]

(c) Hazards are identified and risks assessed and controlled before anyone (or anything) could be adversely affected; [Risk assessment]

(d) OH&S performance is measured with a range of techniques, and an absence of hazardous events is not seen as conclusive evidence that all is well. [Measuring performance] [Terms in brackets added]

This has been quoted in full as it highlights two crucial issues. The first is indicated by the addition of elements of the SMS model; despite its claims to the contrary, the BS8800 definition of an OH&SMS follows the HS(G)65 approach. Thus, organisations following the EMS approach (ISO 14001) at the Clause 4 stage of the main guide are confronted with the HSE model when they proceed to annex C as the first informative appendix appropriate to them. Secondly, despite being produced to provide guidance on the MHSW risk-based approach (Cawkwell, 1999), the hazard identification and risk control element of safety management is imparted three-quarters of the way through the SMS summary provided above.

The overall approach to pro-active OH&S planning is provided diagrammatically at the beginning of clause 5, with each stage examined under the accompanying guidance up to clause 9, another example of the step-by-step approach hailed as beneficial by Booth and Hawkins (1996). The diagram is reproduced in this thesis at Figure 7, key aspects examined below.

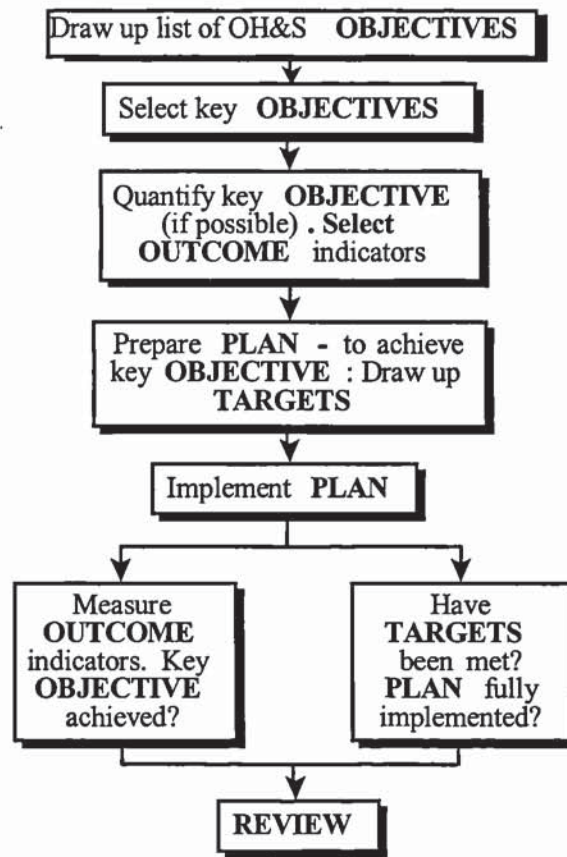


Figure 7: BS8800 annex C Planning and implementing model

The Guide suggests that systematic planning procedures are necessary for: changes shown necessary by reviews, risk control action plans and emergency arrangements, incorporating the risk-based approach to planning from the outset. In chapter three of this thesis, HS(G)65 was criticised for the complexity of advice provided on setting objectives and performance standards, in which it was suggested that the *implicit* link between the two could easily be missed. In reproducing the BSI (1996a) five stage model of planning the use of objectives is highlighted, as are two further ‘improvements’ (Booth and Hawkins, 1996) on HS(G)65. The annex C procedure involves:

- a) Drawing up a list of objectives; and selecting key (top priority) objectives from the list;
- b) Quantifying, if possible, one key objective and choosing outcome indicators that can be used later to determine whether the key

objective has been achieved; that is, whether the plan has been **effective**;

- c) Developing a plan to achieve the key objective. Planning targets should be drawn up. The targets can be used later to check whether the plan has been fully **implemented**;
- d) Implementing the plan; and,
- e) Measuring separately and reviewing the implementation and effectiveness of the plan. [Original emphasis]

As mentioned above, it is believed that the Guide's elaboration on the planning model provides a much clearer explanation of how objectives are used in the planning process, reiterated in point (c) where the relationship between the two is further clarified.

In the 'planning' clause in the main guidance (regardless of approach adopted), three facets of planning are mentioned, the first of which is risk assessment. Although broadly the same information is presented in the HSE text (1991), BS8800 *implicitly* highlights the risk assessment as one of the foremost elements of the planning process. When this status is applied to the process above, the information ascertained through the assessment process (ie, risk controls identified as necessary) could easily be applied to stage (a), thus the implementation of risk controls could feasibly constitute one of the initial list of objectives.

In this way, it is suggested that the Guide provides an approach to OH&S management which is far more 'risk-based' than HS(G)65, which deals with policy objectives as the 'first' stage (see chapter three of this thesis). Booth and Hawkins (1996) highlight one further distinction between the two approaches to planning, in relation to the Guide's specific acknowledgement of the distinction between reviewing a plan in its own right, in addition to reviewing whether the objectives in question have been met. Figure C3 in the annex stresses this difference, and is returned to below.

Objectives should be drawn up, selected and prioritised according to the acronyms 'IMRIE' and 'SMART', the first prompting definition of desired action, the second ensuring its feasibility. In accordance with Figure 7, organisations are then advised to *select key objectives*, considering those concerned with legislative compliance and those

which can be met easily and cheaply as priorities (BSI, 1996a). In relation to this, Booth and Hawkins (1996) commented:

Whilst there is some agreement on the nature of key objectives, the Guide's objectives are more 'down to earth' - dealing with practical and immediate problems. The development of the OH&S policy is not seen in the Guide [as] as important as dealing with practical and immediate problems. Partly this stems from the Guide's starting point: an initial status review, and HS(G)65's point of departure of policy development.

The accuracy of this quote depends on the interpretation of 'policy'; if policy is interchangeable with 'positive safety culture', it is probably the one of the most important objectives; to be achieved *through* the implementation of other organisational aims.

Regardless of level or nature of objectives, the planning procedure is the same (BSI, 1996a), whereby the next stages are to *quantify key objective* and *select outcome indicators*. Although HS(G)65 refers to performance indicators, these are not related to specific objectives, more as an aid to the review of the whole safety management process (Booth and Hawkins, *ibid*).

Annex C provides much information on the need for objectives and indicators to be appropriate; the use of the IMRIE and SMART lists, the assertion of the value of quantification, and finally, the importance of ascertaining a baseline measurement before implementation. It is suggested that this is one of the most positive aspects of the annex in relation to this thesis, that it provides the 'why' behind the 'what'. This is then presented in 'realistic' terms; how objectives should be selected, and in what format and level of detail in order for them to be effectively utilised to achieve organisational aims.

The guidance on *prepare plan to achieve objective, and draw up targets* highlights the guidance's distinction between the plan (what has to be done to achieve the objective) and targets (the steps to be taken to carry out the plan). Targets are defined as 'the detailed performance requirements that should be achieved in order to implement the plan' (BSI, 1996a) and align closely with HS(G)65 performance standards - the 'who does what, how by when, to achieve what result'. Booth and Hawkins (1996) commented on the value of the annex guidance thus:

This part of the annex gives step-by-step advice not covered elsewhere. The idea of starting with strategic planning and then moving to tactical planning ... is of course

commonplace effective management practice. But its application to OH&S management is new and aids the integration of OH&S planning with business planning generally.

This comment holds the key to what will become the core argument of this thesis, somewhat ironic that the author first commented three years ago on what has become her core understanding of the weakness of current approaches to OH&S management systems. More appropriate to discussion at this juncture of the thesis is how the Guide not only provides the ‘why’ before the ‘how’ of planning, it also takes readers through the concept of a two-stage process; deciding what you want to do before embarking on the issue of how you’re going to achieve such.

The final stage of the planning process reflects the equivalent in the overall SMS model; that of *review*. The annex utilises a figure to highlight the various combinations of whether plans have been achieved and objectives met, reproduced in this thesis at Table 7. The impetus behind the matrix is the need for organisations to review their process by asking three questions: have we implemented our plan, (if so) was it the right plan, and, for a continuing programme, are the objective and plan still relevant? (BSI, 1996a).



Table 7: Planning and implementing review (BSI, 1996a)

4.3.7.4 Annex D - Risk Assessment

This annex has the same ‘why’ then ‘how’ structure as the planning and implementing appendix, thought to add value in assisting organisations to understand the reason for carrying out the procedure relayed in clauses 3-6. The first two clauses impart information on a ‘question - answer’ basis, explaining what risk assessment is, why it is considered important, when the procedure should be used, and what the basic steps are

(BSI, 1996a). The familiar suggestion of tailoring the approach appears in the introduction, along with a cross-reference to annex C in terms of planning and implementing risk assessment and risk control programmes.

Booth and Hawkins (1996) highlighted many compatibilities and distinctions between the annex and the HS(G)65 advice, one of the main issues being that risk assessment is covered to a greater degree in the BS Guide than in any other SMS guidance. The connections in relation to the MHSW Regulations and ACOP are also numerous, leading to the basic observation that the Guide both reinforces MHSW obligations, whilst imparting more detailed advice than had been provided previously.

Key terms

A recurring theme in this thesis has been the accuracy and compatibility of definitions of key terms, both within and between texts. BS8800 has its own interpretations of 'hazard' and 'risk', which are aligned with those provided in the MHSW ACOP and HS(G)65 below. In keeping with presentation in earlier sections of this thesis, (a) provides the MHSW definitions, (b) those found in HS(G)65, and (c) completes the trio with the addition of BS8800 terminology:

(a) a *hazard* is something with the potential to cause harm (this can include substances or machines, methods of work and other aspects of work organisation);

(b) **Hazard** means the potential to cause harm, including ill health or injury; damage to property, plant, products or the environment; production losses or increased liabilities;

(c) a **hazard** is a source of potential harm or damage or a situation with potential for harm or damage.

(a) *risk* expresses the likelihood that the harm from a particular hazard is realised OR *Risk* therefore reflects both the likelihood that harm will occur and its severity;

(b) **Risk** means the likelihood that a specified undesired event will occur due to the realisation of a hazard by, or during, work activities or by the products and services created by work activities.

OR

Risk = Hazard severity x likelihood of occurrence;

(c) **Risk** is the combination of the likelihood and the consequences of a specified hazardous event (accident or incident). A risk, then, always has two elements:

- (1) the likelihood that a hazard may occur
- (2) the consequences of the hazardous event

There is fundamental agreement on what constitutes a 'hazard', although the author remains unconvinced of how the 8800 definition extrapolates into a hazardous event being synonymous with an accident. The fact that an 'incident' doesn't have the connotation of 'undesirable' doesn't necessarily render it an appropriate example of a hazardous event either, as depending on your definition of 'hazard', is it the potential for harm, or the harm itself being realised?

Selecting the latter of both the MHSW and HSE definitions of 'risk' achieves compatibility of definition between all three texts, that risk is a combination of both the likelihood and severity of specified harm (HSC, 1992). The Guide reasserts the legislative necessity of risk assessment, suggesting that the procedure detailed could assist organisations to manage OH&S over and above the minimum requirements, explicitly enforcing the continual improvement message. The process is stated as useful where 'hazards appear to pose a significant threat' and it is uncertain whether existing or planned controls are adequate (BSI, 1996a).

The Guide suggests that when it is quite clear from preliminary studies that risks are trivial or controls are adequate, no further action is required. Here, the annex reiterates the MHSW ACOP advice that control efficacy (actual or potential) should be established and maintained, an important issue (Booth and Hawkins, 1996) not covered in the HSE text (1991). In relation to the former issue where preliminary studies may eradicate the need for action, Mackmurdo (1996) comments:

... some users of the standard will understand "quite" to mean "to some degree" whilst others will take it to mean "entirely" ... if the users are the company secretary and technical director in the same organisation and they cannot agree on the meaning, the firm will not get off to a good start in standardising risk assessment!'

Whilst the use of the term 'quite' is an issue in its own right for Mackmurdo, it illustrates the authors' comment on the importance of accuracy of definition. The term may have an obvious meaning for the HS/1 committee, member experts presumably having the

experience to recognise where further action is 'quite clearly' unnecessary. However, in a guide for organisations embarking on structured risk assessment for the first time, the term serves as confusion for the eager, and a loophole for the lazy.

The three basic steps of risk assessment involve hazard identification, risk estimation (a calculation based on likelihood and severity), and a decision as to whether the risk is tolerable; with the intention of controlling risk before harm occurs (BSI, 1996a). It should be noted here that HS(G)65 does not actually employ the term 'tolerable', and its incorporation into the BS Guide was thought to be added value (see Booth and Hawkins, *ibid*). However, 'tolerable' is linked with reasonable practicability later in the annex; now of dubious value in light of the EC comment that the UK relies too heavily on this caveat (see chapter two).

It is suggested that a systematic procedure based on a participative approach allows agreement that OH&S procedures are based on shared perceptions of hazards and risks, are necessary and workable, and will succeed in preventing accidents. Risk assessment should provide an 'inventory for action', carried out by competent people with practical knowledge of the work activities being assessed.

The diagrammatically represented process of risk assessment is reproduced here at Figure 8, highlighting the step-by-step process hailed as a positive aspect of the BSI guidance (Booth and Hawkins, 1996). Maintaining this approach, the annex takes the reader through practical requirements of the risk assessment process from the design of a pro-forma to criteria for review of the procedure, all to be considered at the outset. The author suggests this is particularly useful in relation to preparing organisations for the assessment process, imparting a realistic picture of what is involved, and maintaining an accessible route map for its achievement.



Figure 8: BS8800 annex D Risk assessment model (BSI, 1996a)

Having established detailed information about the work activity, the organisation is then required to *identify hazards*, answering the following three questions with the help of detailed prompt-lists (BSI, 1996a):

- a) Is there a source of harm?
- b) Who (or what) could be harmed?
- c) How could harm occur?

As highlighted at the beginning of this chapter, the determination of risk (sic) is achieved as a factor of harm severity and likelihood. The annex takes the reader through this process, with prompt-lists provided to facilitate the reader in their decision of which aspects should be considered. The Guide then acknowledges that this type of risk estimation is subjective, and goes on to state that any given hazard is more serious if it affects a greater number of people. This has the potential to render 50 stubbed toes as less acceptable than one severed foot. A comment from Booth and Hawkins (1996) is interesting at this point; it should be borne in mind that the content analysis was conducted *prior* to the Guide's publication:

We do not support the tentative suggestion in HS(G)65 that the number of persons at risk can be used as a risk 'multiplier'. This approach may lead to situations where a moderate risk to which 100 people are exposed becomes more urgent than an intolerable risk affecting one person. (The Guide rather ducks the issue that likelihood of harm is a function of numbers exposed). With hindsight, what the Guide should say is that where there is an equal risk rating ... priority should be given to the case where more people are exposed. [Emphasis added]

Despite the issue of 'stubbed toes versus severed feet' being acknowledged, and a caveat designed to accommodate the issue, this was never incorporated into the annex; something it is suggested is a weakness.

In order to *decide if the risk is tolerable*, the Guide provides a table, reproduced here at Table 8. More sophisticated approaches may be used (BSI, 1996a), but the matrix is cited as a reasonable starting point. Numbers may be exchanged for the qualitative descriptions of risk severity, although it is stressed that this does not infer greater accuracy of measurement.

	Slightly harmful	Harmful	Extremely harmful
Highly unlikely	TRIVIAL RISK (1)	TOLERABLE RISK (2)	MODERATE RISK (3)
Unlikely	TOLERABLE RISK (2)	MODERATE RISK (4)	SUBSTANTIAL RISK (6)
Likely	MODERATE RISK (3)	SUBSTANTIAL RISK (6)	INTOLERABLE RISK (9)

Table 8: 'A simple risk level estimator' (Numerical values added) Developed from BSI (1996a)

In the author's experience, some organisations choose to quantify risk levels for ease of communication, especially in relation to a continual effort of risk reduction. To progress from '4' to '2' on a scale of '9' is perhaps easier information to impart as an organisational objective than reducing risk from 'moderate' to 'tolerable'. However, when numerical categorisation is achieved by multiplying matrix cells, 'moderate' can be either '3' or '4' (see Table 8), and the difference in severity between a moderate risk (3) and a trivial risk (1) is not hugely apparent when rated on a scale of 1-9. Reference to the qualitative action definitions (see Table 9 below) suggests otherwise.

RISK LEVEL	ACTION AND TIMESCALE
TRIVIAL	No action is required and no documentary records need to be kept.
TOLERABLE	No additional controls are required. Consideration may be given to a more cost-effective solution or improvement that imposes no additional cost burden. Monitoring is required to ensure that the controls are maintained.
MODERATE	Efforts should be made to reduce the risk, but the costs of prevention should be carefully measured and limited. Risk reduction measures should be implemented within a defined time period. Where the moderate risk is associated with extremely harmful consequences, further assessment may be necessary to establish more precisely the likelihood of harm as a basis for determining the need for improved control measures.
SUBSTANTIAL	Work should not be started until the risk has been reduced. Considerable resources may have to be allocated to reduce the risk. Where the risk involves work in progress, urgent action should be taken.
INTOLERABLE	Work should not be <i>started or continued</i> until the risk has been reduced. If it is not possible to reduce risk even with unlimited resources, work has to remain prohibited.

Table 9: ‘A simple risk-based control plan’ BSI (1996a)

The definition of ‘trivial’ has since come under fire; the benefit of hindsight questioning the benefit of such a category of risk. On 6th March 1987, the *Herald of Free Enterprise* ‘roll-on-roll-off’ (ro-ro) ferry capsized approaching port (DoT, 1987); Mackmurdo conducts an after the event risk assessment thus:

... a ‘preliminary study’ might well have shown that the risks of a few inches of water on the car deck are trivial. Risk assessors may have begun their ‘what ifs?’ by asking ‘what if the seals on the bow door leak a bit?’ and answering ‘a little bit of water will get in’. They would then have asked ‘what if a little bit of water gets in?’ and may have answered ‘some feet will get wet when people go down to their vehicles’. When they went on to ask ‘what if some feet get wet?’ the answer might have been ‘let’s not waste time worrying about a little bit of water on the car deck.’ It is all too easy for managers to cut corners and say ‘it is quite clear that risks are trivial’ without a British Standard encouraging such sloppiness.

To what extent the author is seriously contemplating leaking doors, or is mis-quoting the causal factors in the *Herald* disaster is unknown, as is the extent to which the above pseudo-HAZOP is perceived to be a risk assessment process. What is important here is the last sentence, especially in the context of the present authors earlier comments on the practicalities of assessing (predicting) the unpredicted. Regardless of whether a ‘leak’ in a ro-ro ferry would realistically be categorised as a trivial risk, the underlying issue of rendering the unforeseeable as the ‘un-occurable’ remains.

Once organisations have ascertained risk tolerability, the annex facilitates their *preparation of a risk control action plan*. The categories of risk ascertained in the previous stage form the basis for deciding whether improved controls are required. The table reproduced in this thesis as Table 9 incorporates timescales for action required, the fundamental basis for which is ‘effort and urgency in proportion to risk’ (BSI, 1996a). A link with annex C highlights how the planning procedure can be used to facilitate the risk assessment as ‘an inventory for action’, which should be used to devise, maintain or improve controls (BSI, *ibid*). The final stage in the risk assessment process is to *review the adequacy of the action plan* prior to its instigation, broadly examining potential workability and efficacy.

It is suggested that the BS8800 guidance on risk assessment is clearer than that provided in its HSE counterpart, taking the reader through a step-by-step process having explained the reasons for, and how to ensure, a structured approach. In relation to the original aims of BS8800 as imparting guidance on the MHSW Regulations, Booth and Hawkins (1996) suggested that close adherence would result in compliance with Regulation 3; indicating that, in terms of necessary content at least, one of the Guides’ aims has been met.

4.3.7.5 Annex E - Measuring Performance

Under ‘responsibilities and competence’ the Guide states that annex E explains why performance measurement is necessary, the ‘why’ before the ‘how’ apparent in the previous two annexes. After guidance on the distinction, uses and abuses of proactive and reactive monitoring data, the annex takes organisations through the process of selecting outcome indicators; again, providing exemplary lists of both, suggesting they should be tailored to the needs of the organisation.

Following definitions and examples of ‘direct’ and ‘indirect’ indicators, clause E4.4 provides in-depth definitions of objective, subjective, quantitative and qualitative performance measures not provided in other sources (Booth and Hawkins, 1996), again, stipulating that a balanced combination achieves better monitoring possibilities. Clause E5 goes on to illustrate possible methods that can be employed to assess OH&S performance, distinguishing between ‘indicators’ and ‘techniques’, yet providing the

same broad content as the HSE text (1991). Ten examples are provided, including checklists, safety tours, sampling and attitude surveys. The last two listed here are particularly relevant to this thesis, firstly sampling, which is split into safety, environment and behaviour. The latter form of sampling is defined in the annex as:

... assessing workers' behaviour to identify unsafe working practices that might require correction, for example by work design improvements or through training.

The reader is asked to consider this technique of performance measurement in relation to the 'behavioural approach' to safety, as defined by Phillips (1999):

This includes systematically monitoring safety-related behaviour and providing feedback, in conjunction with goal-setting and/or another protocol for example training or some form of incentive scheme, to reinforce positive behaviours.

It is interesting to note that Phillips' adoption of a *positive* stance ('safety-related' being non-directional) renders the focus on 'un-safe' in the BSI Guide as almost *reactive*. However, the author suggests that Phillips' definition represents a structured format for the sampling suggested in the BSI annex (1996a). The two methods parallel in the requirements to observe (OH&S) behaviour and modify where required, whether modification be achieved through techniques and procedures (work design improvements), or focus on the behaviour of the worker (training, positive reinforcement). When the tools and techniques of the behavioural approach are examined (see Duff et al, 1993; 1994; Robertson et al, 1995; Cooper, 1998), the second of the highlighted BSI (1996a) methods, attitude surveys, provides another commonality⁸.

⁸ Cooper (1998) in particular takes the reader through the use of survey instruments, see pp 250-61

4.3.7.6 Annex F - Audit

This annex does not start with the ‘why’ to the ‘how’ of auditing, surprising as it is one of the only facets of (either) SMS model that doesn’t have a direct parallel in statute. The introduction states:

This annex provides guidance on how to set up and operate a health and safety audit system. It defined the key decisions and issues and how to address them. It does not provide a ready-to-implement system as it will in general be necessary to tailor any system to the needs and size of an organization. [emphasis added]

The author disagrees with the element above that has been emphasised; the guidance pertaining to ‘how’ to address key issues is never explicitly realised. Whilst many of the issues are brought up, they are never resolved, questions are provided, and organisations are left to seek the answers unassisted.

Section F2.1 ‘senior management commitment’ is reminiscent of the ‘policy’ chapter in the HSE text, HS(G)65 (1991). Best practice is detailed and appears to be achievable - in the sense that it contains no requirement for action, and is easily skimmed over. The annex states:

For health and safety auditing to be of value senior management should be fully committed to the concept of auditing and to its effective implementation within the organisation. This includes a commitment not to reject audit findings and recommendations without good reason and to take appropriate action within a reasonable time, according to the level of risk identified. They should recognize that once they have agreed that an audit should be carried out it should be completed without interference and without any attempt to influence or coerce the auditors. [Emphasis added]

It is suggested that all elements in italics are actions which would represent the existence of a positive (be that OH&S or organisational) culture. As such, this paragraph holds the key to effective auditing; it is an interesting exercise to apply the remainder of the annex to an organisation with such an ethos and find an element that *would not* form logic or common sense. The sub-clause on ‘co-operation with auditors’ is written in much the same vein, a text-book excerpt of best (culture-induced) practice, without engaging on how such is to be achieved.

Although F.2.1 (senior management commitment) imparts what commitment and agreement *look* like, the tools for their achievement remain elusive. The ‘preparation’

guidance is a step-by-step guide to the audit procedure, including elements of the process, functions to be addressed, performance criteria, sampling and question and checklist formation. The familiar advice to ‘tailor’ the system to both best practice and organisational needs provides the culminating factor.

Section F.7 details ‘data collection and interpretation’, and begins by stating that much of the decision-making here is situation-specific (to the organisation, work activity and audit being undertaken). In the authors’ opinion, the following comment is particularly ‘null’, and is included here as an example of how potentially ineffectual the non-guiding aspects of the annex can be:

The aim should be to obtain evidence that can form the basis of objective findings rather than subjective judgements about performance. The audit should, therefore, ensure that a sufficiently representative sample of key activities is included in the process of the audit.

Clause F.7.5 details inspections as another form of data collection, anything from ‘simple observations of work and behaviour, through to systematic inspections of premises, plant and equipment’, whether examining an operation in totality or in part. The reader of this thesis is asked to return to the Phillips’ quotation above momentarily, in order for the author to highlight a second connection between the SM methods in the BSI Guide and those advocated through the behavioural approach. It is suggested that the processes involved in ‘monitoring safety-related behaviour’ (Phillips, 1999) align with those carried out in the name of ‘observations’ or ‘systematic inspections’.

The final clause of the annex, indeed, BS8800 as a document, is F.10 ‘acting on audit results’. The findings of the report should be communicated to appropriate personnel; findings including recommendations where necessary. The only advice on ‘action plan’ is that this should be drawn up, specifying responsibilities, agreed dates and reporting requirements. The author suggests that it is surprising that the detailed annex D specifications for action plans are not cross-referenced here.

In a move away from the six element SMS model, F.10.3 suggests the final phase in the audit programme as ‘monitoring progress’. Before reading the paragraph quoted below, the reader of this thesis is asked to recall the detailed guidance on monitoring provided in

the preceding annex. Ignoring this wealth of information, the final sub-clause of the Guide reads:

*If the necessary actions identified in the action plan are not carried out expeditiously the entire auditing exercise may be worthless. Follow up monitoring arrangements have to be established to ensure satisfactory implementation of the action plan.
[Emphasis added]*

As mentioned above, this fails to capitalise on (or reinforce) any of the guidance imparted elsewhere in the Guide, particularly in the annexes. The italicised element encourages the most basic of approaches, again, ignoring established BS8800 practice. One of the key messages from the ‘planning’ annex was the necessity to maintain a parallel focus on the objectives *behind* the action plan, not pure implementation of the plan itself.

Compared to the HS(G)65 guidance on auditing, it is suggested that BS8800 annex F fares poorly, the core messages in both texts are basically the same, but the Guide gets bogged down in detail in places. Booth and Hawkins (1996) commented on the advice on both timetabling and data collection as ‘unprofound’, and struggled to defend the guidance on time management, whereby auditors are advised not to get ‘side-tracked’:

This comment [see F.8 in BSI, 1996a] has been criticised as banal, but in fact it is all too easy to go off at tangents when auditing, and the advice is a salutary reminder to auditors (particularly when interviewing busy and perhaps impatient auditees).

4.4 BS8800:1996 - Summary

This chapter has taken the thesis reader through the instigation, development and content of BS8800:1996, in order to establish the connections between the Guide, HS(G)65, and key regulatory requirements, as well as imparting a basic familiarity with the structure and approach of the BSI (1996a) SMS guidance. The main aim of this chapter, thought to be achieved through these objectives, is to establish the point of departure the present author had achieved when the empirical work was begun.

Because this chapter is lengthy, and detailed on a ‘micro-micro’ level in many places, a summary of the key elements is provided below. Whilst there have been many ‘key issues’ highlighted throughout the chapter, the author acknowledges and departs from some of them, only maintaining those which are pertinent to this thesis. This isn’t thought to de-value any aspects of the Guide, rather to reduce the sheer bulk of

information which whilst important, is perceived to have been discussed to its fullest (relevant) potential.

Purpose

The Guide was developed primarily to provide clarification of MHSW Regulations, most notably 3 (Risk assessment) and 4 (Management arrangements). BS8800 is non-certifiable, a decision taken after much debate, although is thought to be readily integratable with the quality and environment standards ISO 9001 and 14001 respectively. Based on the general principles of good management, the BSI guidance provides organisations with practical information on how to develop an OH&SMS, and is said to be relevant to all organisations, including SMEs.

Structure

The Guide and its annexes impart a risk-based approach to OH&S management, unsurprising given the impetus for its publication, and also contains implicit references to the requirement for a positive safety culture. Organisations can approach implementation via either an HS(G)65 model, or one aligned to the environment systems standard ISO 14001. The Guide suggests that each approach is broadly the same, although it was suggested above that whilst the *wording* is essentially identical, the order in which planning and organising appear is an important variable. The informative annexes align with the HSE model, and are thought to add value by providing additional guidance for organisations attempting BS8800 implementation.

Booth and Hawkins (1996) suggested that the use of prompt- and check-lists throughout the document rendered it more user-friendly, indeed, the three of five annexes providing the 'why' information before the 'how' guidance have been cited as additional positive practice. Indeed, the Guide provides many tools and techniques not always mentioned in other guidance; the advice on sampling, surveys and observations in particular was cited as beneficial, mirroring the 'behavioural' approach to safety management.

As was stated repeatedly in the discussion of the annexes in particular, the Guide tends to parallel the HSE SMS text (1991), and thus does not ask more of organisations, simply provides more guidance on the achievement of common requirements. Again, whilst

content is broadly similar, the BSI Guide provides more obvious links between the various SMS elements, again, highlighted in the main substance of this thesis chapter.

Content

One of the first distinctive elements of BS8800 is introduced at the very start of the cyclical SMS models, that of initial status review. Asking organisations to consider 'where are we now' before trying to establish 'where do we want to be', or even 'how are we going to get there' is a new approach to SMS development. On a 'micro' level, the Guide iterated and added to existing guidance in many places.

The Guide is more explicit than HS(G)65 on how risk assessment and control forms part of the planning (and implementing) function, and provides a much clearer, more in-depth procedure than found in any existing generic SMS guidance documents. The use of risk assessment as an 'inventory for action' is also considered added value, especially when conducted within the planning function, and the structured approach this achieves.

Whilst most of the Guide has been examined amidst relatively positive comments mainly with regards its compatibility with existing statutory and SMS guidance, or indeed provision of 'added value', the auditing annex represented the major exception to the rule. Lack of coherence, guidance, cross-reference or iteration of the BS8800 'philosophy' of safety management resulted in a poor review of both content and provision of the final annex.

Behind these three categories of summary lies the one message which provided the point of departure for the onset of the empirical element of the research. It was mentioned earlier in the thesis, that BS8800 'interprets and clarifies rather than repeats and glorifies', and it was this hypothesis which was to be examined. Having established *theoretically* how the BSI Guide may aid legislative compliance, risk assessment and control, and the development of a structured SMS, the aim was to 'test' the additional value in practice. This thesis now turns to chapter five; after an account of the methodological approach selected for the empirical work, the main content provides an account of the experiences of the case studies of organisations implementing BS8800:1996.

CHAPTER FIVE

Methodology and Empirical Work I

The legislative familiarisation process described in chapter two provided the researcher with a starting point in terms of the statutory framework underpinning the ‘minimal’ aims of safety management (eg, HSE, 1991; BSI, 1996). The theoretical work on HS(G)65 highlighted the potential benefits of using BS8800 as SMS guidance, and also a knowledge of key distinctions, which has formed the main body of chapters three and four. Chapter five now examines the first practical aspect of the study, based on the theoretical knowledge gained thus far.

5.1 Methodological Considerations

The section on methodology begins with an explanation of the original intentions for the empirical aspect of the study, alongside the rationale behind each of the research methods utilised. As mentioned in chapter one, timing of the first element of empirical work proved to be problematic, as it began within two months of the publication of BS8800 in May 1996. There were only a few published opinions of the Guide; including objective explanations of content (Smith, 1996) and critical analyses of its weaker points (Mackmurdo, 1996). The reason for the ‘crystal ball’ nature of these articles illustrates the issue faced by the researcher, there were no ‘stories’ to tell; UK plc was in the process of purchasing the Guide, very few organisations had started the implementation process.

The British Standards Society (BSS) ran a series of ‘8800 roadshows’⁹ shortly after the Guide was published, and the first phase of the empirical work came out of these. This first phase was unofficial, unstructured ‘networking’, attending these seminars to ascertain how the Guide was being received, why people were attending the courses, and what their plans for implementation were.

⁹ *Occupational Health and Safety Within an Integrated Management System* in Chorley, Glasgow, London and Warwick

As a result of 'testing the water', it was decided that an ever-decreasing approach would be adopted, primarily because of the limited knowledge of, and thus access to, organisations that had purchased BS8800. BSI's sales lists were confidential (in any form other than number of Guides purchased); the only known potential research population consisted of organisations attending the BS8800 seminars. Although the researcher had mused whether the case study approach (see below) was the best way forward, a questionnaire-based methodology was the most obvious in terms of reaching the entire sample of organisations quickly, directly and relatively easily.

The reader is reminded here of the author's intention to establish which aspects of the Guide led to successful SMS implementation. This aim emphasised the need to reach the entire (known) research population, which indicated a questionnaire, yet paradoxically, the typical information to be gained through this technique didn't bode well for the in-depth study that was planned. The concept of conducting an 'ever-decreasing' inquiry was mentioned above in relation to participating organisations, and appeared to serve the purpose of contacting all at a superficial level in order to have the widest possible source of information on what resulted in 'implementation failure'.

At this stage it was confirmed in the author's mind that a qualitative approach should be adopted, an investigation based on 'low advocacy, high enquiry' (Argyris, 1995), allowing an in-depth examination. Standard methodology texts define this approach as allowing an inquiry lead by the research participants and their experiences, with the aim of extracting an interpretive narrative of the situations encountered (including Strauss and Corbin, 1990; Sommer and Sommer, 1991; Cassell and Symon, 1994; Miles and Huberman, 1994).

Although a broad research *question* had been formulated (Aiken, 1994), the researcher had no particular hypothesis to be tested; thus it was decided that the research would constitute a holistic examination (Miles and Huberman, 1994) of the process of implementing a safety management system as per BS8800. Three forms of data collection were to be employed, namely, questionnaires, semi-structured interviews and longitudinal case studies.

Thus, a three-phase approach was embarked upon. The passing of the phases was not only to indicate a reduction in the number of organisations being studied, but also an increase in the amount of data collection from those remaining as part of the study.

5.2 Research Process - Planned

Phase (a) was to involve all organisations known to be implementing the British Standard Guide. A basic questionnaire was to be used to ascertain initial reactions to, and experiences of, BS8800, designed within the remit advised by authoritative sources (eg, Lockhart, 1984; Oppenheim, 1992). Specific targets for this phase of the study were to:

- Ascertain what influenced the decisions of those organisations choosing *not* to use the Guide;
- Establish initial 'raw' opinions and interpretations of the Guide;
- Begin to collect data on the various approaches organisations were planning to adopt for the implementation of the Guide - personnel, responsibilities, planning, objectives etc.;
- Gather enough 'rich' data to allow the development of a question set for the interviews in phase (b); and,
- Establish a rapport with a significant number of organisations to reduce the research population and continue into the subsequent phases.

Phase (b) was to involve semi-structured interviews with those organisations that were implementing the Guide. A comment from Cohen and Manion (1980) summarises the reasons for this choice:

they are flexible; they allow the interviewer to probe ... they enable the interviewer to test the limits of the respondent's knowledge; they encourage co-operation and help establish rapport; and they allow the interviewer to make a true assessment of what the respondent really believes.

The aim at this stage was to gain more in-depth information regarding the implementation process as interpreted and executed by each sample organisation. It was envisaged that more than one interview would be carried out at each, this being dependent upon size of organisation, approach to implementation, number of 'key informants' and the quality of data obtained. Specific targets for this phase of the study were to:

- Gather further in-depth data on how organisations related the theory of the Guide to the practical elements of the implementation process;
- Establish how implementation was to be approached;
- Establish solid relationships with between 3 and 5 organisations, Sufficient to enter the final research phase; and,
- Obtain a more practical understanding of SMS development to enable more efficient organisation of the final study phase.

Phase (c) was to be the detailed part of the study, the main component of the empirical research. It was intended that phase (b) would identify a number of organisations (3-5) who were committed to implementing BS8800, and were willing to have this process observed and documented. The methods involved in this 'case study' phase were intended to provide detailed, blow-by-blow accounts of how each SMS developed in accordance with the approach suggested by the Guide.

Case studies (see Yin, 1993; 1994) were chosen to allow the research to draw comparisons and highlight similarities without relying on preconceived theoretical notions (Strauss and Corbin, 1990; Hartley, 1994), in a similar format to research conducted by Bresnen (1988) into construction project organisations. The case studies were to arise through those organisations prepared to be examined over the two year period available for the research, and information would be obtained through semi-structured interviews, attendance at meetings, examination of relevant documentation and so on.

Sampling was to be conducted purposively (Robson, 1993), to provide a handpicked selection of organisations complete with different variables and factors which had the potential to allow for the detailed study of BS8800 implementation. The information required for the sampling process was to be gathered through phase (a), whereby organisations volunteering to participate further provided additional information (plans for BS8800, work activities, size and nature of undertaking etc). It was thought that this data in conjunction with the detailed information gained through phase (b) would allow the considered selection of case study organisations.

Crabtree and Miller (1992) cite four possible methods of qualitative inquiry as; quasi-statistical, template, immersion and editing. This research was to adopt the latter, whereby the researcher edits and reduces the data until the remaining summary 'reveals the interpretive truth'. Within this spectrum, 'grounded theory', developed by Glaser and Strauss (1967) was selected for phase (c), whereby the key feature of editing is its cyclical nature, allowing the author to constantly check emerging interpretations with the original contextual data. Layder (1993) describes the main feature of grounded theory:

... as an ever developing entity which can be extended and modified ... [which] should be viewed as a constant and flexible accompaniment to the incremental collection of data and the unfolding nature of the research...

This process is suggested to be perfectly applicable to research where case studies form the main source of data collection (Hartley, 1992). Turner (1981) further supports the use of the case study method with grounded theory, suggesting that the latter is put to maximum use when applied to data gained from a qualitative inquiry of this kind. There is one final aspect of this methodology worth mentioning here, namely criticisms of grounded theory as a 'soft science', due to its openly interpretive, somewhat narrative style (for example, see the discussion offered by Bryman, 1988).

Turner and Martin (1986) suggest that the opposite is true, that the analytical discipline required of the grounded theorist leads to an account produced via a high degree of rigour towards the handling and interpretation of data. The reader of this thesis is directed to Glaser and Strauss (1967) and their discussion of the nine stages of grounded theory, which highlights the cyclical, reiterative nature of such analysis, and the rigour required for the successful adoption of this approach.

5.3 Research Process - Actual

It is useful to reproduce Creswell's model of the inductive mode of qualitative research here (Figure 9), as it summarises the intended process of the empirical work of this thesis. Whilst it was the intention that the three-phase approach (as described above) would take the researcher through all five stages, when the researcher arrived at the second of Creswell's boxes, a dramatic re-think of the research question was undertaken. This resulted in the re-focus of the study as mentioned in the thesis introduction (see chapter one).



Figure 9: The Inductive Mode of Research in a Qualitative Study (Creswell, 1994)

5.3.1 Phase (a)

The first phase involved 100% of the research population, derived firstly from the BSS seminars. However, it was felt that using solely BSS members was a huge potential for bias; by definition organisations in attendance had some awareness of British Standards, had received ‘extra’ tuition, and had had the opportunity of networking and gaining a feel of ‘best practice’. In an attempt to widen the population, a research synopsis and invitation to participate was placed in the editorial sections of popular OH&S magazines¹⁰.

A covering letter and pre-paid envelope accompanied the questionnaires; questions were mainly open-ended, with a final section to be completed by those willing to participate in later stages (phases (b) and (c)) of the research. These data were collected in conjunction with responses to the journal “advertisements” requesting the same ‘raw’ experiences and opinions. The problem of timing was stated in an earlier section of this chapter; the

¹⁰ The Health and Safety Practitioner (IOSH), Occupational Safety and Health (RoSPA) and First Choice (Federation of Small Businesses)

returned questionnaires proved this anxiety to be well founded. The response rate was poor (approximately 20%), and the generality of comments highlighted the infancy of both the Guide and organisational actions for its implementation. Table 10 outlines the responses from the first five questionnaires returned, the content of which are representative of most of the responses¹¹.

Examined against the original aims for phase (a), the only objective achieved was in the number of organisations offering themselves as participants in latter research; just over 60% stated that they were open to further contact. Three organisations contacted the researcher through the request for research participants posted in OH&S magazines; together with the questionnaire respondents, forming the sample taken through to phase (b).

¹¹ The responses have been numbered 1-5, consistently indicating organisational responses to all questions.

<p>Q1 Why are you interested in BS8800?</p> <ol style="list-style-type: none"> 1. "To improve our H&S performance" 2. "Improve our current H&S system" 3. "Developing integrated (H&S and QA) systems" 4. "To ensure a recognised and professional management system is put in place" 5. "I am attempting to try to use it as a guide for incorporating H&S into laboratory quality systems, eg either a lab as part of an ISO 9001 organisation, or a stand-alone lab (NAMAS accredited)"
<p>Q2 How has BS8800 been used in your organisation so far?</p> <ol style="list-style-type: none"> 1. "Not been used yet" 2. "Not yet" 3. "Not at all (as BS8800)" 4. "We are at the planning stage for its implementation" 5. "It hasn't"
<p>Q3 If BS8800 hasn't been used so far, why?</p> <ol style="list-style-type: none"> 1. "Only just attended the seminar" 2. "Only just aware of it" 3. "Only recently aware of standard (but not of the areas it covers)" 4. "The company did not exist two years ago and hence we were building systems (business systems). Health and Safety was applied but grew at such a rate a stable system was not possible" 5. "Insufficient time and I needed the clarification provided by the Warwick seminar before getting started"
<p>Q4 What further use will be made of BS8800?</p> <ol style="list-style-type: none"> 1. "Unknown as yet" 2. "Formalise system" 3. "Expect quite considerate - here today to check on its use" 4. "Reinforce training, adherence to legislation, improve H&S awareness, support our employees and customers" 5. "Too soon to say"
<p>Q5 If you are not planning to use BS8800 any further, why?</p> <p>[All five responded N/A, or simply didn't answer]</p>
<p>Q6 What is your opinion of the <i>Guide</i> (ie, the first 8 pages of BS8800)?</p> <ol style="list-style-type: none"> 1. "Reasonably clear and informative" 2. "Clear and concise" 3. "More reasonable than most! But the two alternative approaches could confuse" 4. "I found it extremely useful. Although I am concerned about BS8800 and its differences with HSG65" 5. "Initially rather confusing, but better now that I have attended the seminar. As a matter of principle, a BS shouldn't need a seminar to explain how to use it"
<p>Q7 What is your opinion of Annexes A-F?</p> <ol style="list-style-type: none"> 1. "Annex A is confusing, B to F very good" 2. "Excellent" 3. "Looks OK (haven't read it). We have modified our risk assessment forms to adopt some suggestions" 4. "They are extremely useful and gave further information" 5. "Reasonably clear, especially after the seminar"

Table 10: Selection of early BS8800 questionnaire responses

5.3.2 Phase (b)

A pro-forma was designed for the semi-structured interviews, the content of which was at a lesser level of abstraction than intended, due to the paucity of information achieved through the questionnaire and the few voluntarily offered responses (as generated through the request in OH&S press). The pro-forma was designed according to published best practice (including Turner, 1981; Creswell, 1994; Marshall and Rossman, 1995). This allowed consistent content of interviews (Sommer and Sommer, 1990; Miles and Huberman, 1994) which were flexible enough to gain an understanding of the nuances of implementation approaches and experiences (Cohen and Manion, 1980). In relation to the original intentions for this second phase of the research, the revised aim of the interviews is summarised by Hawkins and Booth (1998):

The purpose of the interview was to establish: the background, function and structure of the organisation; the approach to safety historically; the reason for considering BS8800; impressions and experiences of the Guide; the status of the current '8800' OSH [OH&S] management system; and plans for the future (quantified in terms of the research period).

These aims link much more closely to those originally cited for the questionnaire stage of the study, and highlight one of the initial problems faced by the researcher. It had become apparent that collection of what was considered even the simplest of data would need to be unearthed by more detailed interviews.

By definition (according to the research plan), the interviews were to be conducted with organisations who claimed to be some way towards adopting the Guide, which was considered a positive point due to the potentially increased wealth of data to be gained. However, in order to have a research baseline consisting of the maximum number of participants possible, all those offering themselves were accepted for the second phase, boding for a more time-intensive study.

Thus, arrangements were made for initial interviews at all prospective case study organisations; linking the original phases (b) and (c) far more than had originally been intended. The main interview was conducted within an office environment, followed by a tour of the premises where agreed by the interviewee as a potential source of further information. The shortest visit lasted three and half-hours; the longest a full working day.

The notes from these interviews were utilised according to grounded theory methodology: re-examining data and contexts in an attempt to draw inferences to be investigated further. This process is also cited by Yin (1994) as fundamental to the case study process, where he suggests that 'as you do your fieldwork, you must constantly ask yourself why events appear to have happened or to be happening'. In accordance with the technique tried, tested and advocated by (amongst others) Turner (1983; Turner and Martin, 1986) the researcher kept a series of 'fieldnotes', containing the observations, hunches and pointers considered noteworthy.

The next few pages summarise the information gleaned from each organisation, a narrative account developed from interview data¹², supporting documentation provided by the interviewee where appropriate, and the present author's field notebook. These are presented in the order they were conducted, again in order to develop the chronological story imparted in this thesis.

On a broad scale, the first seven interviews outlined below were considered to have been successful; all resulted in the identification of variables and situations which appeared promising in relation to their potential as case studies. However, as time and the eight interviews passed, the researcher became progressively more anxious about the time taken for progress to be made. This anxiety snowballed, until the eighth interview, which witnessed the early culmination of the longitudinal approach to the empirical work.

The last interview was different in focus from the outset; an SMS consultant with vast experience of SMS implementation, offering these experiences rather than how he was intending to use, and what he thought of, BS8800. The 'interview proper' was concise and unearthed little information of the nature intended, but facilitated the decision to abort the first element of empirical work.

This meeting is discussed in full below, following the summarised accounts of the first seven organisations visited. The categorisation of the main areas discussed reflects the format devised after each interview, extremely early examples of the classification

¹² All quotations are from the interview transcripts, unless otherwise stated.

processes required of the grounded theorist. Each interview is presented according to the impressions and intentions recorded at the time.

5.3.2.1 Organisation 1

Organisation	<i>Manufacturer of timber garden products. Approximately 350 staff, including office and shop floor. Split process from the saw-mill to final delivery.</i>
Context	<i>Just implemented ISO 9002, attempting to integrate quality and safety via BS8800, with a focus on training programmes.</i>
Interviewees	<i>Health, Safety and Personnel (HSP) Manager Quality Manager</i>
Contact source	<i>BSS Seminar</i>

Health and safety

The current SMS had been implemented over four years, and was seen by ‘management’ (sic) as needing upgrading. The first stage had been to implement the safety policy “within an organisation which is largely reactive”, going on to conduct risk assessments within the philosophy of “deal with the hazards first, then worry about the documentation later.” Because of the organisations experience with ISO 9002 implementation (see below), the interviewees wanted a structured approach which was easy to follow, stating that:

we don't want to use consultants as such, we want the implementation process to be our own this time. Having said that, we're going to need advice from time to time on areas which become stumbling blocks. I'm not being negative, I just know things will be sticky from time to time.

Quality

The interviewees suggested that the implementation of ISO 9002 was a ‘natural progression’, that it was a fairly straightforward process. The Quality Manager stated that they had no prior knowledge of ‘QA’¹³, which is why consultants were contracted in to implement the system; the use of the term ‘implement’ was used to describe the production of written manuals and documentation. The Quality system was stated as being almost completely in existence, but the documentation had to be produced in order to achieve certification.

¹³ Quality Assurance

Environment

The interviewees said that there was little in the way of 'an official management system', that management were thinking about implementing ISO 14001. The fact that the "NRA¹⁴ are overseeing things at the moment" was seen as a reason to focus on SMS implementation first.

Integration

Both managers suggested that they would appreciate one set of manuals which would encompass everything, which was cited as one of the 'plus points' for integrating health and safety with the quality system. The first step towards integration had been to integrate non-conformance sheets, although the Quality Manager mentioned that this had caused 'some confusion'.

At several points during the interview, the two interviewees stopped to bicker amongst themselves, the comment about the confusion with non-conformance sheets elaborated by the same interviewee, as "... people are losing track of what's quality and what's safety." When asked their personal opinions about integration, the source of the unease became clearer, as the HSP Manager wanted to reduce accident rates, the other interviewee stating his objective as wanting 'to achieve decent production rates'.

It had been stated that the training procedures were to be the next vehicle for integration, the HSP manager commented that:

at the moment, the training forms for the quality manual are fairly simple. There's no task breakdown, no area for the evaluation of training effectiveness, competence achieved, review or areas for improvement.

The Quality Manager seemed to take offence at this, responding that "... they got through the 9002 audit okay." The interviewees were in agreement that they would use the process of training amalgamation as an exercise, before taking the integration project to the Board for approval.

¹⁴ National Rivers Authority

The organisation

Whilst many nuances were noted in the fieldnotes (see below), the only comment on the organisation was that “people on the shop floor like structured systems and a systematic approach, they liked the 9002 manuals.”

Summary

As the first ‘real’ interview, the interviewer was left feeling that she hadn’t gained much in terms of the approach the interviewees were intending to adopt. In some ways, they seemed unsure themselves. The fieldnotes summarised the present author’s feelings and intentions:

Like talking to Tweedledum and Tweedledee! [I] Feel uncomfortable - there was an underlying tone that they wanted me to be their ‘sticky situation’ consultant, am worried that they may have found me rude when I avoided giving an opinion.

It will be interesting to see how they fare without consultant input; they actually seem to underestimate how much of the 9002 system was in place and just needed structured documentation. NB - it was the Q [Quality] Manager who seemed to do this the most. Fatigue from over-familiarity? HSP Manager seems to think the process was fairly painless.

Nice focus on training - follow this up! MHSW Reg 11 (?), thus can look at 3 issues of legislation compliance, system integration, and competence. Need to find out more on 8800 - which approach, why and how?

5.3.2.2 Organisation 2

Organisation	<i>Manufacturer of paint-spraying equipment. 180 employees, split (approximately) equally between offices and factory floor</i>
Context	<i>SMS informal and unstructured. Interviewee given the lone task of implementing a formal SMS. When initially contacted, the intention was to integrate with the 9001 system. By the time of the interview, this intention had been withdrawn.</i>
Interviewee	<i>Health and Safety Advisor</i>
Contact source	<i>Magazine</i>

Current status

At the time of the interview, the organisation was undergoing a restructuring process, there were said to be ‘communication problems’ with regards the nature of the change

and the processes associated. The Quality Manager¹⁵ was due to retire, and the interviewee was anticipating an imminent change in his job title, to 'Quality and Safety Manager'. The organisation had ISO 9002 in place, and was due to be audited for ISO 9001 two months after the interview. The interviewee thought it was "... dubious that we'll get 9001; that's if we manage to keep 9002." When asked about the change from intending to integrate the systems, the interviewee responded:

The idea of integrating health and safety aims with quality aims is a nice idea, but unrealistic. Quality and safety are detached; you can't do one and expect to achieve the other automatically.

He went on to explain that he felt that his post existed to keep client organisations happy, that implementing a health and safety management would be dropped once he was given quality to manage.

BS8800

The opinion of the standard was that 'it confuses the issue', 'adds little bits here and there' and 'causes complications' (in relation to this latter comment, the interviewee explained that he favoured the HS(G)65 approach, the Quality Manager preferred that of ISO 14001). Of annex A it was suggested that:

... it's confusing. The numbers at the top which refer to the Guide are complicated, you need to keep flicking back to find out what they refer to. Some aspects of the guidance aren't there - what does this mean? That they automatically apply? That they don't apply?

Integration

Apart from the reference to Annex A (links between BS8800 and ISO 9001), the only comment on integration was that the organisation wanted to keep safety and quality separate. It was acknowledged that there would be overlaps, but that:

If the two are kept separate, it won't become confusing if you're dealing with a safety issue or a quality issue." [For the organisation] "Quality is the main issue, as at the end of the day, you lose 9000 registration and you lose customers. You don't have to worry about safety too much as you can bluff.

Environment

Environment issues were beginning to come to the fore, as the interviewee and his line manager had been looking at the MS triplet (ie, 8800, 9000 series, 14001). The

¹⁵ The interviewee's line manager

interviewee commented that the company was “... worse on the environment than we are on safety.” Despite there being no official responsibility existing for environmental management, the interviewee stated that when his line manager retired he would probably be ‘in charge of all three’.

Quality

The interviewee was reluctant to discuss quality matters, other than those summarised above. At a point resulting in the interviewer changing tack, the interviewee said:

Look, at the end of the day, it doesn't matter what he [Quality Manager] does, it's ignored. God knows what'll happen when we're audited in January. He's responsible for engineering standards - when he vetoes bad design with his quality hat on, it still goes through to meet targets. Nobody listens.

Health and Safety

One of the first comments was that the interviewee felt that he was ‘sitting on a powder keg’, reasons for which were then elaborated, grouped under headings by the present author.

Accidents

The organisation had a good record in lost time accidents (interviewee claim). However, the remainder of the interview unearthed:

1. One worker had lost the end of his finger *twice* between the chain and sprocket of a machine. The interviewee stated that the two incidents occurred under different circumstances whilst working with different colleagues, and resulted in over three day's absence on both occasions.
2. The organisation was “possibly due for an occupational asthma case”; iso-cyanate paint being cited as the causal factor. No PPE had been used, and COSHH assessments hadn't been carried out.
3. The maintenance foreman was said to be ‘electrocuting himself on a regular basis’ - the interviewee commented that he was “worried about the regularity he's doing it”.
4. The site manager was said to have asthma, that “... as soon as they start spraying he has to leave the site - so he can't do his job”. The interviewee was aware that the person concerned was considering further action, and commented “The site manager

has got more records than we have! Actually, it's not funny - we've got no organisational records saying when, how and what he was working with."

5. The interviewee summarised that there are also 'many near misses', although he was unsure of exactly what, as the organisation doesn't have any official reporting procedures. Returning to an earlier example, he stated "The maintenance foreman receives enough electricity to kill himself, takes the afternoon off, then goes back to the same work the next day."

The interviewee stated that he'd tried to do an accident review, which hadn't been accepted. He'd sent forms out to try to establish more about the current situation in the organisation; which were never returned. He commented "... people aren't concerned with their own safety, they're more worried about sales."

Legislation

Aspects of legislation listed here are those cited by the interviewee, those aspects he was aware of as non-compliances:

1. CDM Regulations. "I have to fill out the health and safety bits of client questionnaires on behalf of [the organisation]. I don't do it honestly. We are complying with the CDM Regs, but not in the way people expect."
2. COSHH. "PPE is ad hoc; if the need is recognised by the department then PPE is made available. It's on a 'looks dodgy' basis, not on COSHH assessments."
3. MHSW Regulations. "Risk assessments are only done for contractual purposes. I have no involvement - the Contracts Manager uses the same format for all assessments."
4. HSW Act. "[Health and safety] pops up now and again, the law says you're protected if something happens. In reality this isn't the way, there are ways of getting rid of people, especially the young and inexperienced."
5. CE Marking¹⁶. "With product safety, you know, CE marking, I'm trying to get the system simple enough so that those involved can cope. The workers' attitude is 'why not just issue the certificate? I design machines for a living - why do I need all this?'" "Things go out of the door unsafe - I was asked to sign the declaration forms without seeing the supporting documentation, and refused. The MD does it now. I've warned

¹⁶ (Schedule II) Supply of Machinery (Safety) Regulations, 1992.

him why he shouldn't, but it's worth the extra 10% sales." "CE declarations don't exist. If the customer asks for it, it's not available, we try to write it retrospectively. Then we get problems, but what can you do? Say 'sorry, the machine isn't safe after all'? The forms are signed anyway."

Organisation

Whilst many inferences were made to the running of the organisation during the interview, there were more explicit comments, as outlined below. As earlier, these have been sub-divided into categories by the present author as opposed to the interviewee:

1. Poor communication. "The staff think management is incompetent, the management think the staff are incompetent. It's the worst 'them and us' I've ever seen."
2. Poor discipline. "The bad discipline comes from the top. The MD says 'the company has got to have 'x' by 'y'', and the next in line will break any procedure in order to get it. It's accepted practice." When asked for possible reasons for this, the interviewee continued "Most managers haven't got any formal qualifications or external experience. The MD and senior management keep this as a security layer; people are happy in a position of higher promotion than they would get elsewhere. They won't challenge the management 'cos they've got too much loyalty towards them."
3. Production focussed. "Sales will do anything to get the figures. They sell poor equipment to meet the targets, then get it back as a complaint in the following month's turnover. We had a product recalled because of a safety error a few months back. We sent out the new design and it was all okay until we pushed out the recalled machines again to bump up sales figures." "The only thing that gets this company excited is money."
4. Worker attitude. In addition to those aspects of this category mentioned above¹⁷, the interviewee stated "Some day there'll be a revolution, most staff here think the same way I do. But the MD's in a very strong castle - there are few fighters left, who keep quiet for their won sake." "You let it flow over you, or you stand in the way and let it flatten you." "You've got to be a yes man in this company to get on." "The MD says that now he's sorted this site out [with regards the restructuring], he's going to do the

¹⁷ Firstly the concept that people are more worried about sales than their safety, secondly that staff will 'do what it takes' to keep the management layer happy.

same in Europe. The opinion on the shop floor is 'now he's thrown this company into chaos, he's going to do the same in Europe.'

Health and Safety - the new system

The attitude towards quality, environment and safety in the organisation was summarised by the interviewee as 'bluff, lie, do what it takes.' The interviewee had been forbidden to seek outside assistance as "if HSE were informed of what we're doing, they'd come in, take a look around, see what we're not doing and we'd get into trouble." Whilst it was suggested by the interviewee that health and safety *are* on the organisation's page, it was joked that they appear 'at the bottom'. "Sales make money, so they're important. Accidents aren't costly 'cos we're getting away with them."

The interviewee was finding it difficult to gain support, stated partly due to the lack of interest in OH&S, and partly because "... key managers think the company revolves around them, and don't see the need for a separate health and safety section." The perceived problems of implementation were also cited in relation to past experience, "We had signs that said that people had to wear eye protection. They were taken down as no-one took any notice. The 'no smoking' signs are totally ignored, but I think we put them up to satisfy the insurers."

The insurance context was repeated at another stage of the interview, where the interviewee was mulling over how to best gain management support. He stated "The old adages don't work anymore if you're trying to sell health and safety to management. Insurance premiums are no longer a concern - fire and security are more of a threat. The economic argument just isn't true; we're getting away with it."

For such a detailed interview, the interviewee was saying very little about the actual potential for SMS implementation, focussing on the problems that had been encountered in the past. The only comment in relation to the future was:

I really want to get a proper system up and running, but it won't be used, so I don't know how I'll evaluate it. Like, the hot working system is a bit too tight, but it's not used, so there's no feedback, so I don't know which bits need changing.

At the end of the interview, the interviewer pursued the subject of further plans in relation to continued participation in the research. The interviewee responded:

To be honest, if I get Quality next year without any assistance, I'm going to forget health and safety because I can't run the two on my own. That's if we haven't gone out of business first.

Summary

This interview unearthed a wealth of information, and led the researcher to feel that this particular organisation had great potential as a case study. The many variables mentioned boded well for the grounded theory methodology in terms of classification and theory development, something illustrated by the early categorisation seen in the above narrative.

The interviewees (unsurprising) negativity was a concern however, as there was an overriding impression (and supporting examples) of how the implementation process would be an uphill struggle. The many illustrations of poor safety management seemed to be illustrative of a poor safety culture, to a text-book definition. This was further demonstrated in the interviewee having failed to identify any intentions for SMS implementation, each interviewer probe resulting in an example of how initiatives had failed to work in the past.

5.3.2.3 Organisation 3

Organisation	<i>One of the 'top five' Health and Safety Consultancies in London (self-acclaimed)</i>
Context	<i>The service offered by the organisation is to act as a 'competent person' for organisations wishing to implement an SMS</i>
Interviewee	<i>Managing Consultant</i>
Contact source	<i>Magazine</i>

Health and Safety

The interviewee suggested that the main problems her clients faced with regards safety management was not understanding Regulation 4 (MHSW). She commented "There's a problem in that people don't understand the concept of a management system. Health and safety is dealt with at an operational level, not a strategic level." The interviewee went on to suggest that the profession is undergoing a change, as health and safety moves up organisational ladders, shifting into a 'strategic mode'.

The interviewee suggested that where organisations can recognise the strategic context of safety management, there is still a restraining factor, that “Managing Directors don’t want to know until they discover that they’re personally liable.” To this end, one strategy used by the organisation has been to apply good SMS practice to Case Law, and highlight how such intervention may have prevented or altered the outcome. It was suggested that BS8800 “has given [the organisations] theory a grounding - people want to work to a standard.”

BS8800

With BS8800 as a focus, the consultancy acts as a ‘competent person’ for organisations developing safety management systems. The interviewee suggested that the ‘best bits’ of the guidance were the layout and the risk assessment methodologies. Indeed, she was in the process of revising the organisations risk assessment pro-forma, based on annex D, formatted into a nine-column checklist:

1. Activity / site / plant
2. Hazard / risk
3. Person(s) affected
4. Risk rating (1-5)
5. Corrective action
6. Timescale
7. Person responsible
8. ‘Procedure’ (cross-referenced to a procedures manual)
9. Legal reference (COSHH, HASAWA etc)

The fifth element was of particular interest. The risks are applied to a matrix, whereby they are rated from trivial to intolerable (as per BS8800), with an according risk rating of 1-5 (achieved through ranking the categories, as opposed to multiplying levels of risk, an example seen in Chapter 4 of this thesis). This allows the numerical representation to be used as an ‘Outcome Performance Indicator’, a quantitative rating of importance (‘down from a 4 to a 2’ for example). The organisation was in the process of developing a corresponding compliance matrix, allowing total information imparted to reflect (for example) 5 = Intolerable = HSE prohibition notice. Whilst there were still adjustments to be made (especially concerning points one and two), the interviewee felt that the Guide

had been 'extremely beneficial'. Other comments on the Guide were based on the experiences of the interviewees' '260 clients working with our systems before the BS was published'. It was suggested:

Those likely to be successful are those running 9000 systems. Quality oriented organisations will have no problems, as the process will be more integration than implementation. It's those unused to developing management systems that will have the problems.

The organisation was in the process of meeting with 'major insurance companies' whom had suggested that "... if they [the client organisations] get through 8800 and they are audited with a system similar to the 9000 process, they [the insurance companies] will offer insurance benefits."

With regards to the overall aims of the Guide, the interviewee maintained that the issue of 'competence' was of major importance. This emerged repeatedly during the interview, with regards the 'competent person' cited in the marketing literature. The interviewee asked "Do you need a competent person, or can you do it yourself?" The fieldnotes written later by the interviewer highlight the direction of the remainder of these issues:

She [the interviewee] had a big problem with the fact that the flyer leads you to think that you can implement 8800 yourself, as it talks about the DIY approach. She said that this causes confusion re the specification of 'competent persons' in regs and legs [regulations and legislation]. Need to check in relation to MHSW / HSW - can't a competent person be internal? NB, that's [the organisation's] marketing tool - that you have to employ someone else. Otherwise, is it really that important?

The interviewee finally offered a prediction of the success of certification, as she was aware of some of the politics within the HS/1 committee when the Guide was at draft stage. She suggested that "... if you're certifying the SMS, it's achievable, so certification is a distinct possibility. If you're looking for certification of compliance this will be a problem and the process won't work."

Summary

One of the overriding outcomes of this interview was the difference in level of abstraction gained from a consultant, also shown in the pre-occupation with the *strategic* issues, eg 'competence'. As seen in the fieldnotes, this latter point was also thought to be unsurprising based on the organisations stated *raison d'être*; the concern that

organisations would attempt to 'do it themselves' rather than employ external competence.

The perception of ISO 9001 implementation as a natural (experiential) vehicle for adopting the BS8800 guidance was also 'new', the previous two organisations having difficulty with, and scorn for, the idea respectively. However, the first organisation hadn't seemed to be approaching implementation on a strategic level, the attention being paid to conformance reports and training procedures highlighting the 'practical' aspects spoken of by the current interviewee. They also had limited experience of 'implementing' the *documented* aspect of their ISO9001 system, this having been conducted by a consultant.

With regards the opinions offered from the second organisation; ISO 9001 and -2 had been implemented, yet by the interviewee's admission, both he and the Quality Manager were experiencing difficulties. A distinction was thus tentatively drawn between the experiences of organisations from the point of view of staff responsible for implementation, and those offered by an external (consulting) body.

In terms of potential as a case study, the researcher had mixed feelings. Whilst the interviewee had offered some detailed interpretations and opinions of the Guide (and related subjects), these were based on years of SMS experience. The interviewee had offered ongoing information with regards her 260 clients and their implementation processes, although the fact that these would (a) be implementing the same adaptation of BS8800 (provided by the consultancy), (b) have the security of consultancy experience, were only two concerns. The third was in the lack of opportunity to study these organisations *first hand*, and the huge potential for bias through collecting information through the implementing consultant.

5.3.2.4 Organisation 4

Organisation	<i>Small safety consultancy (2 employees, 10 client organisations)</i>
Context	<i>Safety management advisory service, assisting client organisations to become 'legally compliant and industrially competitive'</i>
Interviewee	<i>Safety Advisor</i>
Contact source	<i>BSS Seminar</i>

The interviewee stated that organisations have a problem with meeting their SMS commitments, that the old tri-partite system (policy, organisation, arrangements) led to an SMS which was non-cyclical and 'crying out for audit and review'. The consultancy had developed an SMS diagram based on HS(G)65, sub-sections of which were completed by client organisations whenever they were tendering for new work. The interviewee suggested that "BS8800 has a lot of potential - we use it as a sales tool, then our clients do the same." The organisation's advertisement repeats this statement, also highlighting that the SMS model used is based on the HS(G)65 approach as interpreted by BS8800.

The interviewee explained the organisation's interpretation of the Guide thus:

1. Initial Status Review. "For most of our clients, we get them to start playing with this from day one. However, with large organisations there is the potential of them being embarrassed to be seen to be getting anything wrong. This is in my experience where it fails; it's sometimes worth running a virtual system to iron out the bugs."
2. Policy. "The safety policy statement, basically no more than one page, and definitely no reference to HASAWA [the HSW Act]."
3. Organisation (sic). "This is the organisation chart, with specific incorporation of control, co-operation, communication and competence."
4. Planning and Implementing. The interviewee summarised this as a two-phase process; risk assessment, then risk management procedures.
5. Measuring Performance. This was cited as more important than audit - the latter being contextualised by very clear guidelines by the interviewee. "External audits must only be undertaken by experienced safety practitioners and then only those who

have actually experienced development of BS8800 safety management systems.”
Performance measurement wasn't further defined, just stated as vital.

6. Audit. When asked whether he felt that he was auditing for BS8800 or an effective SMS, the interviewee replied “They're one and the same. You develop a management system personal to the client, but need to refer to 8800 to check that it hasn't fallen out of synch. The system should be adapted to fit the organisation, but not out of all recognition as a 8800 system. We basically hang their system on the 8800 model.”

The interview culminated with the interviewee summarising the future of the Guide in three points. “One, it's a case of use it or lose it; Two, I think that BS8800 could very easily be abused; and, Three, I can also see it becoming a standard before it is ready.”

A few weeks after the interview, the researcher accompanied the interviewee on an audit of three of his clients' sites. These audits were of construction, demolition and asbestos removal sites respectively, and unearthed valuable insight into the processes associated with such undertakings.

The men on the sites visited seemed to have little respect for the consultant, and were scathing of the documentation he had provided in preparation for the audit. The interviewer found it hard to relate the detailed SMS diagram to the processes used on site, and gained the impression that the former is primarily a sales tool rather than a direct reflection of the service the company provides.

The interviewee seemed unaware of the flippancy he was shown, and remained highly enthusiastic throughout the 'audit'. This term has been placed in inverted commas owing to the lack of rigour employed; consisting of a standard pro-forma of questions ranging from accident occurrence through use of toe boards to a section where it was noted how many of the workers weren't wearing bump caps. Occasionally, (seemingly at random) the interviewee/auditor spoke with workers about to be recorded as 'guilty parties' with regards imminent documentation of non-compliances. Where the worker could provide an explanation of the situation, these were omitted from the records on the proviso that it would never happen again.

At the last site visited (asbestos removal from the basement of a hospital about to be converted into a hotel), the audit was terminated on the basis of the bad score being cumulatively achieved. The consultant pointed out the 'failures'; arranged for another visit in six weeks time, and the tour was continued as a matter of interest. The interviewee was left wondering how some of the issues would be addressed in the six week interval, for example, the need to obtain a certificate from the HSE allowing the asbestos removal to be started. The asbestos removal was well under way, and the site manager had pointed out the impossibility of obtaining such a certificate in relation to the timescale allowed for the project.

Summary

The first (rather shallow) aspects noted were in the interviewees' interpretation of 'policy' as the written statement as per the HSW Act, and 'organisation' as tweaking the organisation chart to *incorporate* the HSE (1991) '4C's'. There was no engagement on *how* such cultural elements would become manifest. The second point of interest was in the method of utilising BS8800 as a 'sales' tool; the concept of making organisations 'industrially competitive' used by both the consultant and his clients. There was also a distinct difference in the attitude towards BS8800 held by this interviewee and that of organisation four. Here there was an insistence that the fundamental skeleton of the Guide should permeate the SMS and be constantly visible (to the point of auditing both SMS and BS8800 as one and the same exercise). In contrast, the previous consultant had taken what she saw as the beneficial aspects of the Guide, and incorporated them into her own system.

The final point to be noted here is highly unscientific; recorded in the fieldnotes after the audit of the three sites in London. The interviewer left with the impression that 'he doesn't know what he's doing', despite the contradictory impression gained from the interviewees sheer enthusiasm for his job.

5.3.2.5 Organisation 5

Organisation	<i>Medium sized (150 employees) organisation, manufacturing industrial lubricants, stains and non-slip floor paints.</i>
Context	<i>Integrating BS8800 with existing 9000 and 14001 systems</i>
Interviewee	<i>Safety, Quality and Environment (SQE) Manager</i>
Contact source	<i>BSS Seminar</i>

Background

The Board had asked the SQE Manager to integrate 'QESH' management and given him autonomy over the methods employed. Using BS8800 was the interviewee's own decision, which was 'fully supported' by the Board. The organisations quality system was described as two-tiered, a master manual ('the skeleton of arrangement') referenced to manuals which contain the detail ('what the systems are'). At the time of the interview, BS8800 had been in existence for eight months, and was 'live' at first tier level, and the interviewee was reviewing the (second tier) safety procedures against those for quality.

The organisation was due an (internal) audit of ISO 9001, checking for conformity. It was planned that a BS8800 audit would be conducted almost in parallel in order to establish applicability of the quality audit procedure.

BS8800

Although the interviewee had opted to use the Guide himself, he stated that "... it could have been worded better" and also that it should have been "tweaked to fit in with ISO 9001 more." Indeed, the interviewee took the interviewer through a list of 'improvements' on annex A which he had prepared in order to illustrate his point.

He stated disappointment that the seminar hadn't clarified these issues, but did suggest that he'd come away having decided that the "14001 version may be the way forward for management systems".

Health and Safety

The SQE Manager described how his job had grown; that he started with safety “then got environment, then got quality”. In explanation of the different (chronological) implementation order, the interviewee explained:

There's a different impetus for implementing. For 9000 people know it's good business through the '80's quality drive. 19 out of 20 companies are doing it anyway. With 14001 it's about external pressure - B&Q won't buy off us if we haven't got the certificate.

Despite having Board support for safety, the variation in the order of implementation was seen to reflect company priorities in terms of operating a business. The interviewee cited the BS8800 implementation process as relatively straight-forward:

We didn't do a status review - I knew we had some procedures in place, but not in an auditable format. Same for [risk] assessments and the controls we were using. The only other problem was the policy - I took the 14 pages and summarised it to half a page.

The interviewee suggested that the work on ‘the safety system’ was fairly easy because of the organisation “getting used to the whole thing through 9000 and 14000 (sic).” One example of a learning curve was cited as the process of getting staff to buy in to procedures, “when you can hear them moaning before you’ve even written them”. In order to implement a no-smoking policy a questionnaire was issued to all employees, and:

all responses were reasonable apart from two who said they thought questionnaires were daft. We wrote the policy with the support of the questionnaire answers, issued it with a letter explaining the policy's why's and wherefore's and how it came from what they had said. We gave them three months notice before it came into play, and I'm not aware of a single grumble or of anyone ignoring it.

Summary

The main points noted from this interview reflected the researchers’ eagerness to continue with this organisation as a case study. Despite the fact that BS8800 hadn’t featured much in the interview, it was thought that the correlation between the Guide and the SMS could be gained in further interviews. In relation to the second organisation, the value of Board support was noted, as was the interviewees knowledge and experience, demonstrating a thorough understanding of both ISO9001 and BS8800 in his correction of annex A. This knowledge was noted as a possible causal factor for the interviewees confidence in, and planned approach to, ‘his’ safety management system.

Also noted was the involvement of the workforce, and the interviewees method of producing and implementing the no-smoking policy. The workforce was also mentioned in relation to their acceptance of the SMS, possibly because of their familiarity with implementing ISO9001 and 14001, in agreement with the first consultant (organisation 3) and her expectation of the success to be gained through the variable of previous experience.

5.3.2.6 Organisation 6

Organisation	<i>Subsidiary of large Japanese company manufacturing electronic consumer goods.</i>
Context	<i>SMS in place, re-jigged to align with BS8800 (HS(G)65 route) should the Guide become a Standard</i>
Interviewee	<i>Safety Engineer</i>
Contact source	<i>BSS Seminar</i>

BS8800

The interviewee believed that the two approaches within the Guide ‘essentially amount to the same’, although he had stated that the organisation had adopted the HS(G)65 approach.

Health and safety

The interviewee explained his approach thus:

It's important to push the safety management method down the management line, so that when I go [the organisation] won't lose the system with me. It will be owned and maintained by the organisation.

He cited training as one of the most vital aspects of the implementation process, “making the employees understand the health and safety implications so they can take responsibility for themselves.” The implementation process had begun with policy implementation, the interviewees’ aim being to “transfer it from being my policy to [the organisations] policy”.

During the site tour, his philosophies were witnessed in situ, many notice boards communicating lost time accident (LTA) data, policies, and various health and safety initiatives. One of these involved the arrangement of the days in the month into a large

green cross, each one blanked out by a green card as days go by without LTAs. If the month goes by with an LTA rate of zero, the last day of the month is welcomed by large green crosses on the various notice boards throughout the organisation.

The company also employed the concept of 'CEDAC' (Cause and Effect Diagrams with Added Cards), whereby employees are given the opportunity to contribute to an organisation-wide system of trouble shooting. These suggestions are given a star rating according to workability - three stars show those ideas that have been implemented, and the worker in question is rewarded with a prize.

The interviewee suggested that one reason for the success of these initiatives resulted from the Japanisation of the company, as employees and management were familiar with such processes and had experienced their success. It was further mused whether this experience was a partial reason for the acceptance of the SMS, as it was implemented via tried and tested systems that the organisation was already working to.

In what seemed to be a text book example of a safety management system, there was one issue which arose from the tour of the shop floor. One aspect of the production line involved workers visually assessing the clarity of image on the television screens being manufactured, then adjusting this (where necessary) via a hand-held control box. The interviewer asked whether the Display Screen Regulations were applicable, and was taken away from the line to be provided with a (somewhat dubious) answer. The interviewee stated that the organisation was guilty of non-compliance due to the potential costs of providing eye tests for all staff. He then added later that eye tests are conducted annually by the in-house occupational nurse.

Summary

The impressions gained from this interview were similar in nature to those from organisation 5; that the interviewee was experienced, knowledgeable and thoroughly in control of the safety management system. In addition, whilst recognising his fundamental ownership, the interviewee was keen for this to be transferred to the organisation, line management and employees.

He underlined the importance of training in terms of workers taking safety responsibility, and was also adamant with regards the importance of their involvement in the running. The interviewer speculated whether this was a cultural facet of the organisation or a factor in SMS implementation, especially in the context of 'Japanisation' and familiarity with initiatives allowing their use with regards to safety.

There was also an implicit connection with organisation three (the larger of the two consultancies), that those organisations familiar with the ISO9000 process would succeed in the implementation of a safety *management system*; the commonality in italics type providing the basis for success.

The final point noted was in the possible non-compliance with the DSE Regulations; the observation that despite the successes noted, there was still room for improvement. The researcher was keen to return to this organisation partly for this reason, hoping the interviewee would address the issue, allowing the examination of the process employed 'when things go wrong'.

5.3.2.7 Organisation 7

Organisation	<i>Metropolitan Borough Council (MBC)</i>
Context	<i>12 months into the implementation of an improved SMS as per BS8800</i>
Interviewee	<i>Safety Manager</i>
Contact source	<i>BSS Seminar</i>

Background

The interviewee had joined the Council 12 months prior to the interview, a time he suggested was characterised by "poor culture, a policy dated 1980, and an environment where safety training competed with HR [human resources] training. Health and safety just wasn't taken seriously." The interviewee was familiar with HS(G)65 as an HSE text, and had implemented the SMS based on the five elements which could permeate the system at all levels (see below).

BS8800

The Contract Services Division (CSD) of the Council had adopted the BS8800 risk assessment procedure prior to the interviewees appointment; the classification of work activities having been recommended by the same department in another MBC. Prior to this, activities had been classified according to those covered in an index of activities provided by the Trade Union. The interviewee commented how this resulted in assessment of all activities “right down to replacing a toilet seat”. Advice had been sought as approximately 80% of the Divisions work is reactive, which was creating a problem for the planning of risk assessments.

Generic assessments are now conducted for reactive work, which are then printed out ‘as and when required’. The periodicity for review of these was under examination at the time of the interview. The familiarity with BS8800 in one area of the MBC was cited as one reason for its implementation, following the HS(G)65 approach for the interviewees reasons as outlined above.

Health and Safety

The interviewer was taken through the three-tier system, based on the Policy, Safety Plans and Procedures Manuals. The process of implementation began with the revision and re-issue of the Corporate OH&S policy, followed by the process of establishing safety performance targets. Four elements contributed to policy development; investigation of reportable accidents, safety plan development, collection of statistical information, and training initiated for the risk assessment programme (to be completed over a four-year period). An employee guide to the safety policy was then issued to all staff, described by the interviewee as a smaller version of the written statement and its supporting documentation. After this first tier of ‘policy’ was addressed, the interviewee had organised the safety plans.

These were produced in a format to be repeated down the line, each plan at each level providing guidance for programme areas. These plans are based on the five elements of HS(G)65, each issue having guidance on its policy, organisation in place, how it is to be planned and implemented and so on.

In turn, this is supported by the safety procedures manual (at the time of the interview, the interviewee was engaged in the process of reviewing and reformatting all codes of practice). The two main features of the manual were said to be that it is ‘user friendly and a living document’.

The introduction to the ‘mother’ document, the Corporate Safety Plan shows how the HS(G)65 approach is applied to each subsequent section. The *policy* acknowledges the MBCs responsibilities to employees and others, in meeting “both the spirit and the letter of the law”. The *organisation* section identifies the organisation within the Council through which the section policy would be implemented and managed. It states “Such organisations are designed to ensure the involvement and participation of all levels of the Authority’s staff while identifying key personnel in the organisation for the implementation of the policy.”

The methods for *planning and implementing* are stated as generally expanded in lower tier manuals. Standards against which the *performance is to be measured* is also provided in lower tier documentation. Under *monitor and review* the Chief Executive states that the MBC is subject to both internal and external audits, and has “undertaken to review all aspects of its SMS as appropriate”.

Parallel initiatives

Whilst the interviewee stated that the following hadn’t been ‘integrated’ with the SMS, he commented that implementation was being conducted ‘alongside’ the BS Guide to Project Management, and the Local Authority concept of ‘Best Value’.

Summary

Despite the fact that this was the third interview where the SMS was supported by a high level of documentation, this was the first time an interviewee had responded to the interviewer by describing the SMS as the manuals, rather than the practice they reflected. It was also the first time the interviewer had seen a documented system which reflected its (BS8800) HS(G)65 system so transparently, despite the second consultancies’ claim that this was one of their main objectives (see organisation 4).

The Contracts Services Division's (CSD) use of the Guide prior to the Safety Manager's arrival was noted of importance, especially as this was the only aspect of risk assessment the interviewee discussed. The researcher felt that this was a valuable area of further investigation, as there seemed to be two facets of the SMS. The practical side was only witnessed or discussed in relation to the CSD, whereas the 'strategic' manual application was said to permeate all levels of the organisation.

When the implementation process was considered *outside* the context of the SMS manuals, there was little evidence of any change. In a similar approach to organisation 4, the MBC safety officer appeared to have "taken the SMS and hung BS8800 on it" (quote repeated from organisation 4). Quite what the interviewee had achieved in terms of the improved management of safety was unclear, despite the many examples of improved documentation.

The Corporate Safety Plan (see above) was thought to be informative in terms of the overriding approach of the organisation; including references to law, the HSW Act context of 'policy', the charted approach to 'organising' and the vague commitment to 'review' as an 'undertaking' to be fulfilled 'as appropriate'. Whilst the system *looked* like BS8800, there weren't many examples of where its guidance had been adopted.

This was also apparent in the researcher's confusion as to whether the organisation was worth re-visiting; the SMS seemed to be well established despite the freshness insinuated by the documentation. The risk assessment training programme was one of the areas identified by the researcher as a reason to return, although timing was uncertain due to the ongoing problems with the human resources department.

5.3.2.8 Organisation 8

Organisation	<i>English subsidiary of an American consultancy, specialising in SMS implementation / system integration</i>
Context	<i>The interviewee contacted the present author, offering to discuss his experience of SMS implementation</i>
Interviewee	<i>Head of Unit, Management Systems</i>
Contact source	<i>Magazine</i>

The 'interview'

The interviewee refused to engage on the proposed structure of the interview, and wasn't prepared to give an opinion of BS8800. When the interviewer started taking notes, the contact asked her to stop; thus there is no primary data other than the comment memorised and noted afterwards:

The success of any SMS depends on a fresh look and a detailed process of risk assessment.

The fieldnotes reflected the post-hoc nature of the data recording. There are many comments relating to the main points made by the interviewee, but these are disjointed and lack the structure of the equivalent notes for the other organisations. As examples:

Holding company in Argentina - pilots for 8750, the first of 209 sites to do so ... He believes Turkey and Brazil to be the leaders in the field ... Getting requests to audit to an '8750' system as far back as 1994.

These entries also highlight the main content of the discussion as reflecting the interviewee's experiences of SMS implementation, (a) pre-BS8800, and (b) in large construction firms, mainly in South America. Despite the fieldnotes consisting of random 'non-BS8800' snapshots, the 'interview' was felt to be a success owing to its transformation into a discussion of the research thus far.

The 'meeting'

Once the interviewee had imparted the details of the projects he was involved in, the meeting changed tack *at the interviewee's* instigation. He questioned the present author on her findings thus far, and began to 'facilitate' her thoughts and anxieties; the timing of this interview belying the reason for the researcher's discomfort.

The researcher was feeling that she had almost exhausted the existing sample, all seminar contacts had received questionnaires (to which there was a poor response rate providing little information) and those willing had been interviewed. All magazine contacts had been interviewed, although 'all' is a misleading phrase; as again, these were few. This current 'interview' was the last of the organisations still to be contacted, and the researcher was on the verge of exhausting the original sample. It was felt that the only opportunity for continuing with the study was to embark on the case studies, yet reference to the original phase (b) objectives highlights the reasons why the researcher believed it was too early to focus on phase (c).

Data collected thus far had fulfilled some of the vital phase (b) objectives, in providing cases of SMS implementation, and aspects of BS8800 thought to be positive or negative. However, those organisations anticipating implementation hadn't imparted details of a planned approach (as assumed in the phase (b) objectives). Organisation 1 seemed to have an ad hoc style, interviewee 2 was unable to detach past problems with future plans, and the documentation system seen in organisation 7 was juxtaposed with minimal attention to actual action planning.

Those interviewees who had discussed their SMS's as being at least partly implemented fell into two distinct categories. There were those who followed the Guide loyally, resulting in a high degree of transparency as to the formative influence of their safety management system (ie, organisations 4 and 7¹⁸). Alternatively, organisations 3, 5 and 6 rarely referred to the BS guidance, and yet maintained confidence in their approach and appeared knowledgeable of actions required. The latter interviewees in particular (5 and 6) showed an understanding of *why* they were implementing *what* they were, and *how* this was done in relation to their organisations, all achieved *without* cross-reference to BS8800.

In summary, the researcher felt that she had achieved a decent *quantity* of data from the first visits, yet of dubious *quality* in relation to the aims of the research. The approaches

¹⁸ Organisation 7 is repeated here, as whilst the SMS was stated as still being developed, the supporting paperwork was complete at the highest tier, and in the process of review at subsequent levels.

adopted by the seven organisations seemed to have little to do with knowledge gained from BS8800, which was only obviously followed step-by-step on two occasions (4 and 7). These interviews had resulted in fieldnotes stating that one interviewee didn't know what he was doing, and the other had achieved an impressive system of documentation - but didn't seem to be engaging on much else.

These few paragraphs create a misleading impression of the interaction between the researcher and interviewee; the latter achieved his understanding of the situation through many interjections, repeatedly prompting: '*what* did you see?', 'what does that suggest?', 'what did he say?', '*why* don't you think it makes sense?', 'how do they connect?'.

The researcher explained that it seemed to be the *intangible* aspects of the organisations, things that were not necessarily offering themselves for solid categorisation, which were the informative elements of the research material. She discussed how the outcome of interviews was becoming predictable; nuances of the organisation, attitude of the interviewee, the perception of health and safety, reasons for implementing, all providing indicators of the levels of success being attained. The final question posed by the interviewee was the most direct yet:

What's the answer?

Thus, the meeting with the eighth organisation saw the first step in the revision of the purpose of the first phase of empirical work, the nature of the problem to be addressed, and the method of finding its solution. The decision was taken to review the findings of the empirical work thus far in relation to the instigating factors which seemed vital for the approaches taken and progress made.

Chapter one discussed the second effect of this; how the slow progress of the research was raising doubts as to whether any of the eight organisations would actually implement BS8800 within the timeframe of the research. The decision was taken to pause the data collection for an interim of three years, at which point re-selection of an organisation for the phase (c) element of the research could be resumed. Whilst this would no longer be longitudinal, phase (c) conducted retrospectively was to adopt the same aims; an in-depth case study of implementation, to establish the key elements of successful SMS implementation.

'Post-meeting' progress

The reader is reminded that the present author was originally attempting to establish which factors pertinent to BS8800 resulted in organisations experiencing difficulty with SMS implementation. To précis findings from the organisations visited:

- *Organisation 1* - Integration of quality and safety systems, especially with regards to documentation.
- *Organisation 2* - Poor organisational culture, lack of support, inability to ascertain the way forward.
- *Organisation 3* - Safety on an operational as opposed to strategic level. Companies unused to developing management systems.
- *Organisation 4* - Companies giving up at the initial status review. Dubious auditing system.
- *Organisation 5* - Integration of quality and safety systems, based on annex A information. The ranked importance of quality, environment and safety (in that order)
- *Organisation 6* - Possible non-compliance with DSE Regulations.
- *Organisation 7* - Battle with Human Resources Department.

None of the above issues could be attributed directly to the content of BS8800. The search for a solution in the Guide proves equally frustrating. When aligned with guidance found in BS8800, the only two areas where advice may be found would be for organisation 2 to carry out an initial status review, and perhaps for the interviewee of organisation 4 to review his auditing procedure against annex F. However, the latter has been categorised as a problem by the present author; the interviewee was quite content with his process.

With regards the ISR for organisation 2; the interviewee was aware of 'where we are now', yet was still facing difficulties as to the way forward. Also, the present author would suggest that this interviewee was on the verge of 'giving up' anyway, without undergoing a process recognised as a potential hindrance (see comment under organisation 4).

Whilst both the HSE and BSI guidance include advice on the development of a positive health and safety culture, the importance of an approach based on sound management techniques, and the advantages of system integration, it was demonstrated in chapters 3 and 4 that this is *implicit*.

The organisations displaying these very factors (ie, 3, 5 and 6) were simultaneously seen as those *wanting* to manage safety systematically and proactively. Grouped together, characteristics included: management commitment reflected in requests to be actively informed; an eager champion with responsibility for implementation accompanied by authority and resources; a work-force which was involved with day-to-day safety; and the encouragement to continue.

This was theorised by the present author as ‘natural behaviour’ for the organisation (as opposed to behaviour borne from the Guide) leading to an examination of the behaviour exhibited by those at the other end of the spectrum. Such characteristics included: a reluctant champion following BS8800 to the letter; inadequate resources; lack of support; confusion with some of the finer points of the Guide allowing distraction enough to freeze progress. The fieldnotes summarised this position:

There are those who use the Guide as a recipe for success (see Waring 1992; 1996), a quick fix demonstrated by the development of procedures and manuals. There appears to be little understanding of why they are doing what the Guide suggests, but a blind faith that this will achieve a pro-active SMS.

Conversely, there are those who almost ignore the Guide once they have given it, to their definition, adequate consideration. They read, internalise information, and then ‘get on and do it’. Perhaps ironically, it is these organisations who would not survive an audit to 8800 specifications. But their SMS is theirs. They know why they are doing what they have chosen to do, and would not need to consult the Guide when changes need to be made.

In summary then, the research thus far suggests that a visit to the organisations bookshelves would be more revealing than examination of its SMS manuals. Those using the Guide as a ‘bible’, the well-thumbed, highlighted, repeatedly photocopied versions are the ones with the problems. Where 8800 is filed in almost pristine condition, because its relevance has been extracted and applied, the organisations would seem to fare well.”

A return to the data was made in order to establish whether there was a pattern in the reasons for improving safety management in the first place. Six sources of motivation and their internal / external origins were identified thus:

- Senior management commitment - hierarchical motivation (internal);
- SMS champion - self motivation (internal);
- Business case - financial motivation (internal / external);
- Ethical case - moral motivation (internal / external);
- HSE intervention / legislative obligations - regulatory compliance (external); and,
- Safety culture - motivation from a committed workforce at all levels (internal).

These broad categories were formed from the data anonymously; when organisations were examined for their motivation sources there appeared to be a correlation between ownership and progress and the number of *internal* sources as defined above. To take two extremes; the interviewee from organisation 6 was enthusiastic with regards his remit and had Board support for implementation within an organisation displaying a positive culture. All sources of internal motivation, and on initial examination, an effective system of safety management.

The interviewee from organisation 2 was implementing due to a need to fulfil the expectations of client organisations (business case) and the fear of HSE intervention; two sources of external motivation. However, it would appear that the absence of internal motivation is a more immediate factor; without Board or organisational support, even with the external motivations identified, the interviewee was uncertain of the potential efficacy of implementation. The one source of internal motivation displayed, 'SMS champion' didn't appear to be a sufficient basis for progress.

The present author thus arrived at the stage where motivation for SMS implementation appeared to be a primary factor; external motivation resulted in grudging 'quick fixes' and a reluctance to exert effort when problems were encountered. Internal motivation seemed to require that organisations adopt the general philosophy and guidance of BS8800 and then adapt this to meet their own (considered) needs.

The author returned to the detailed content analysis of BS8800, to examine the Guide for motivational content. The Guide includes references to the internal sources of motivation identified by the present author; the need for a positive safety culture, management

'ownership', workforce involvement, a key figure with defined responsibilities. However, these are either implicit or dealt with as one aspect of the many checklists; a selection of the commitments from 'policy' highlight the point:

(4.1) Management should ensure that the policy includes a commitment to:

- a) Recognising OH&S as an integral part of its business performance;*
- e) Place the management of OH&S as a prime management responsibility of line management, from most senior executive to first-line supervisory level;*
- g) Employee involvement and consultation to gain commitment to the policy and its implementation.*

The bullet format betrays the complexity of the elements specified; the equivalents in the HS(G)65 policy chapter were concluded as providing benchmark qualities without guidance on their achievement (see chapter three of this thesis). Hawkins and Booth (1998) discussed the implications of this as follows:

It was noted that BS8800 sought to promote motivation ... but these explanations might only be recognised as such by those who are already looking for it - using the Guide as a 'guide'.

Continuing this theme via application to the organisations studied, it is here suggested that by definition, those interviewees from internally motivated organisations understood and displayed the fundamental characteristics dealt with so implicitly in the Guide. Ironically, it is those using the Guide as a 'bible' who appeared to miss such issues, instead focussing on the logistics of the practical advice.

5.3.3 A Return to the Point of Departure

On the basis that organisations were making fairly slow progress, and more importantly, it was uncertain whether these would continue implementation to its natural conclusion, the first element of empirical work was drawn to a close. It was decided that an interim period would be allowed to pass before resuming the research at 'phase (c)', with a retrospective examination of a 'success story.' Having examined the early findings from the eight organisations implementing BS8800 in the mid-1990's, the postulations on organisational motivation were noted and evaluated against the wider management literature. This discussion is now presented in chapter six.

CHAPTER SIX

Management and motivation

In the introduction to his book *Safety Management Systems*, Waring (1996) details problems associated with the contemporary approach to safety management, whilst implying the need for greater focus on the human element within an organisation:

A reduced view of management systems, emanating from engineering control models through 'quality management' approaches, has led to a number of interrelated problems. First, managers and safety professionals are often unaware of how incomplete their approach to SMS is. In following a simple recipe, they believe that they have done enough, have complied with legislation and that safety performance will improve continuously, which unfortunately it often fails to do. Where appreciation of group human factors exists, these are often ignored in practice as being beyond control or, conversely, are treated as just another nuisance factor to be 'ironed out'.

Waring's statement highlights the tri-focal nature of safety management: the debate between engineering controls, recipe style procedures and human factors, as suggested when the term 'SMS' was coined nearly a decade ago. In the Department of Energy report on the Piper Alpha disaster, Cullen (1990) described how the 'safety management system' should cover the achievement of safety via various elements, including design, procedures and management. Cullen's list includes 'involvement of the workforce', not only to achieve safety, but also to contribute to morale by taking worker's views into account and allowing them to feel that their contribution to safety is worthwhile.

It is to this human element of worker involvement, that the thesis now turns. This chapter examines how management and motivation theories and approaches have developed, and the implications for safety when it is viewed as one aspect of the wider task of 'management'. It will be seen that theory has evolved in stages that can be distinguished by the attitude management holds of its workforce (see Tannehill, 1970, for a discussion of the impact of the Hawthorne Studies on the acceptance of behavioural science). The author suggests that such approaches to management per se have relevance for

organisations attempting to develop a structured system of *safety* management; a discussion resumed in chapters ten and eleven.

6.1 The First Analyses - Of Management Theory and Practice

The study of 'management' has spread in tandem with the issues for concern, as vastly different academic fields have cultivated the subject for their own examination and application (eg, Koontz, 1961; Tannehill, 1970; Gray, 1984). Henri Fayol (1916) provides one of the first recognised analyses of the theory of management, which survives application to many current theories, whether aligned in agreement or opposition. The basic model of management comprises the following five elements (Gray, 1984) to:

- *Forecast and plan*: examine the future and lay out the actions to be taken;
- *Organise*: lay out the lines of authority and responsibility; build up the dual structure, material and human, of the undertaking;
- *Co-ordinate*: lay out the timing and sequencing of activities; bind together, unify, and harmonise all activities and efforts;
- *Command*: put the plan into action; set the work in operation; and,
- *Control*: monitor and correct; see that everything occurs in conformity with established rules and expressed command.

Fayol's five elements interlink in much the same way as aspects of current safety management guidance; command is a sub-function of managing, as setting objectives is a requirement for carrying out risk assessments. All five of Fayol's elements appear in both HS(G)65 and BS8800. However, unlike SMS guidance, Fayol suggests that planning comes *before* organising, deciding *where* you want to be before you choose *how* to get there.

As was seen in chapter three, HS(G)65 divides 'organising' into the four elements thought necessary to promote a positive health and safety culture, namely control, co-operation, communication and competence. Fayol separates the variants of HSE's famous '4C's' as distinct from organising, suggesting that 'building up the ... human structure' is a separate process from shaping and arranging the people working within it. Only when

the undertaking is organised, should attention be turned to 'unifying ... and maintaining activity ... within established rule and expressed command'.

Focus now turns to 'Taylorism', as perhaps the first true management movement (Clutterbuck and Crainer, 1990). Indeed, its impact is revealed by Waterman¹⁹ who suggests that many managers of the 90's still practice Taylorism without realising it (cited in Kennedy, 1991). Frederick Taylor is of the same generation as Fayol, publishing *Principles of Scientific Management* (Taylor, 1911), providing the bi-polar theory to Fayol who refused to believe in the possibility of such a science (Gray, 1984). Where Fayol describes a 'top-down' approach starting with management, Taylor sets out to define the task in hand (production), the worker responsible (personnel) and only then, the processes of supervision necessary (management).

Taylor's original purpose was to establish why conflict arises in organisations, given that workers and management are interdependent, both by definition, and in their common aim of increasing prosperity for all (Pugh and Hickson, 1989). In solution, Taylor (ibid) declared that the adoption of scientific management would address the three causes of non-maximum prosperity, namely:

1. The (false) belief held by workers, that any increase in output by either themselves or their machines, would result in redundancy;
2. The (common) defective systems of management allowing workers to function slowly - from the 'natural instinct and tendency of men to take it easy'; and,
3. The use of inefficient rule-of-thumb methods of working, as opposed to using the best method with the best implement.

In his four 'great underlying principles of management', Taylor suggests that a systematic study of the 'science of work' and subsequent development of roles for both management and workers will result in maximum prosperity and reduced opportunity for conflict. Despite this provisional agreement with Fayol's principles for 'working with the body corporate to achieve organisational goals' (Gray, 1984), Taylor provided a focus on specialisation, control and functional management (Kennedy, 1991).

The first principle is ‘the development of a true science of work’, the quantification of a large daily task, utilising a suitable worker and optimum conditions as a benchmark. ‘The scientific selection and progressive development of the worker’, the second principle, involves recruiting an appropriate workforce, and training them to maximum potential (as defined by the organisation).

Conciliatory in purpose, ‘the bringing together of the science of work and the scientifically selected and trained workers’, sees suitably developed workers matched with suitably defined tasks. Taylor suggests that workers are usually willing to co-operate in learning how to do a good job for a high rate of pay; reiterating the importance of incentive, and the role this plays in achievement of the third principle.

The penultimate of the four principles also serves a second function; to bring about ‘mental revolution’ in management. Taylor (1912) saw this as one of the two ‘absolutely essential elements of scientific management, which:

cannot be said to exist, then, in any establishment until after this change has taken place in the mental attitude of both the management and the men, both as to their duty to co-operate in producing the largest possible surplus and as to the necessity for substituting exact scientific knowledge for opinions or the old rule of thumb or individual knowledge.

The final principle sees ‘the constant and intimate co-operation of management and workers’; (reiterating interdependence) there should be hardly any act done by a worker which is not preceded and followed by a managerial act.

Taylor provides an illustration of the workings of scientific management via the example of the ‘science of shovelling’ (pig iron). Taylor (ibid) suggests that ‘the man suited to handling pig iron is too stupid properly to train himself’, that the shoveller alone will not be intelligent enough to develop the most efficient approach to the task.

Application of the four great principles, to achieve the *scientific* study of shovelling involves defining the optimum method of shovelling, selecting a competent worker and

¹⁹ Robert Waterman, co-author (with Tom Peters) of *In Search of Excellence*, purported to be the world’s best selling business text.

then uniting the system of work, the able worker and appropriate tools. A payment incentive scheme (high pay in return for high output) then provides the motivation for continued work. Taylor extends the principle of removing all extraneous elements (specialisation) to supervisors, suggesting that jobs are split into functions and supervised by personnel with expertise in that specific area. Such an approach is defined as 'functional management', and Taylor likens this to the use of subject teachers in schools, where area specialists are responsible for teaching their realm of expertise and no more.

Taylor's work has received much criticism for the way it reduces its workforce to little more than robots in need of control. Some leap to Taylor's defence, suggesting that his ideas were 'inadequately understood' (Pugh and Hickson, 1989). However, a Marxist perspective sees not a science of work, but a 'science of the management of others' work under capitalist conditions' (Braverman, 1974), and the inherent subordination and alienation thereby encountered.

This brings discussion back to the aims of the chapter momentarily; with the examination of attitudes to workers vis-à-vis their involvement in the 'management' process.

Although Taylor has been examined first due to the chronological layout of this chapter, his early appearance is convenient in highlighting the extreme management approach based on 'dehumanising' work (Clutterbuck and Crainer, 1990). However, management theory was to undergo a transition witnessing a greater consideration of human factors; a subject espoused within the research of Elton Mayo, the founder of the Human Relations movement.

6.2 Incorporation Of The 'Human' Factor

Mayo's 'Hawthorne Investigations' involved the five-year study of an electricity company in Chicago, resulting in a greater understanding of the importance of groups in affecting the behaviour of individuals at work²⁰. Mayo suggested that physical conditions have little impact where norms of co-operativeness and high output are established; when workers are made to feel 'important' (Pugh and Hickson, 1989).

²⁰ See also social facilitation theory, eg, Simmel (1950), who contended that when people associate in groups, their level of arousal heightens, with a positive effect on levels of output.

Rather than focus on the actual *task* of work (eg, Taylor, *ibid*), Mayo concentrated on the *relationships* between workers, examining the importance of non-economic satisfaction in employee activity (Clutterbuck and Crainer, 1990). This diversion from the theory provided by Taylor's third 'great principle' was to be continued in the work of Herzberg and other 'behaviourists' in the 1950s. In a somewhat scathing summary of this group of theorists²¹ (including the human relations approach), Koontz (1961) highlights their primary focus as studying individuals as socio-psychological beings and examining what motivates them (also Clutterbuck and Crainer, 1990; Vroom and Deci, 1992).

6.2.1 Worker Motivation

Herzberg's work on task reorganisation examined the effects job satisfaction and dissatisfaction have on motivation, and how such factors should be considered in the design of work. Where Taylor sought to improve work efficiency by simplifying and controlling, Herzberg concentrated on worker motivation as the key to efficiency via achievement of job satisfaction. In *One More Time: How Do You Motivate Employees?* Herzberg (1968) detailed events leading to job satisfaction and dissatisfaction. His work suggested that the former stems from elements of work related to peoples need to realise their human potential for perfection (see Maslow, 1970 and Argyris, 1957), with dissatisfaction rooted in factors relevant to the individuals needs to avoid deprivation (both social and physical).

Herzberg went on to list five aspects for each condition, summarising in later research that 81% of factors contributing to job satisfaction are motivators concerned with growth and development, with 69% of issues relating to job dissatisfaction are related to hygiene and general environment. The importance of Herzberg's work in relation to this thesis, is the introduction of a third element to a previously bi-polar argument. Job satisfaction and dissatisfaction have different causal factors; absence of one doesn't lead to the other, as they are each concerned with different ranges of human needs, prompted by different conditions (Herzberg, 1962; 1968).

²¹ [On the issue of attaching the term 'management' to the subject of social psychology] "But whether the field of human behaviour is the equivalent of the field of management is quite another thing. Perhaps it is like calling the study of human biology the field of cardiology."

Herzberg's work denies the application of the maxim 'if it ain't broke, don't fix it' to the subject of worker satisfaction. From the premise that the absence of job satisfaction is equal to 'no job satisfaction', and the absence of dissatisfaction is simply 'no dissatisfaction' (rather than the conditions being mutually exclusive), Herzberg developed 'job enrichment' (see Herzberg, 1968). In suggesting that the job be redefined to include elements conducive to growth and development, Herzberg focussed on the *achievement* of job satisfaction as a separate entity to the *elimination* of factors known to bring about dissatisfaction²². Thus, effective management addresses both entities, avoiding deprivation and encouraging worker fulfilment, as Pugh and Hickson (1989) summarise:

For management the challenge is task organisation to call out the motivators, and task support to provide adequate hygiene through company policy, technical supervision, working conditions etc. [emphasis added]

Although both Taylor and Herzberg focus on task organisation to achieve efficiency, the former concentrates on simplifying the task, the latter on 'enriching' it as a method of achieving job satisfaction. This then provides the starting point in a chain where satisfaction leads to motivation, resulting in high efficiency. It is perhaps ironic to witness the fact that Taylor and Herzberg start from the same premise, suggest very different methods of its achievement, only for Taylor (1911) to comment on the final aim:

No one can be found who will deny that in the case of any single individual the greatest prosperity can exist only when that individual has reached his highest state of efficiency; that is, when he is turning out his largest daily output.

The relationship between the work of Mayo and Herzberg is unsurprising as both concentrate on the behavioural elements of management and work. Summarising their views brings us to a stage where the 'emotional' aspects of the task as experienced by the worker are of more importance than physical conditions or monetary incentive. The optimum situation thereby becomes one where the worker (a) is engaged with his peers (b) in activity towards a common goal (c) of high productivity (d) which also allow the achievement of his personal needs.

²² See Herzberg (1968) on 'vertical job loading'

6.2.2 Theories X and Y - Management of the Worker; for Motivation?

The theories discussed thus far are represented in the work of the social psychologist, Douglas McGregor, who concentrated on the assumptions made about human behaviour, and the way this affects the methods management employ in relation to their workforce. His work is discussed here in quite some detail, due to the reliance on his ideas in later sections of this thesis; indeed, the relevance of McGregors work has already been established by authors in the safety field (see Cooper and Phillips, 1997; Petersen, 1988a). With Theories X and Y, McGregor (1957) outlined two approaches to the task of 'management' (see for example, Fayol, 1916), the former stating the 'conventional view', the latter taking account of theories of human nature and motivation. Indeed, Kennedy (1991) defined the styles of Theories X and Y as autocratic and democratic respectively, with Theory Z (see Ouchi, 1981) forming management by consensus-seeking. McGregor (ibid) stated:

We know the past conceptions of the nature of man are inadequate and in many ways incorrect. We are becoming certain that, under proper conditions, unimagined resources of creative human energy could become available within the organisational setting.

It was these 'past conceptions' that provided McGregor (ibid) with the insight for development of 'Theory X' - it is suggested that the work of Taylor is borne in mind at this point:

- 1. Management is responsible for organizing the elements of productive enterprise - money, materials, equipment, and people - in the interest of economic ends.*
- 2. With respect to people, this is a process of directing their efforts, motivating them, controlling their actions, modifying their behaviour to fit the needs of the organization.*
- 3. Without this active intervention by management, people would be passive - even resistant - to organizational needs. They must therefore be persuaded, rewarded, punished, controlled - their activities must be directed. This is management's task - in managing subordinate managers or workers. We often sum it up by saying that management consists of getting things done through other people.*

McGregor (ibid) believed that the human side of economic enterprise at the time was fashioned from propositions and beliefs as set out in Theory X; an assumption he saw reflected in conventional organisation structures, managerial policies, practices and programs. McGregor suggested that management could be 'hard' or 'soft' in its approach,

both with the ultimate aim of controlling behaviour (ibid). Where hard management is based on coercion, threat, close supervision and behaviour control, a soft approach is permissive, satisfying people's demands and striving to achieve harmony (ibid)²³.

Clutterbuck and Crainer (1990) highlight how the Theory X approach acts as a 'self-fulfilling prophecy', as workers resent the way they are being treated, resist pressure and do less work; proving that they need coercion, direction and control. Within a context borrowed from Maslow (1970), Drucker (cited in Clutterbuck and Crainer, 1990) explains the roots of this element of 'tantrum', stating that 'Theory X assumes immaturity', going on to suggest that Theory Y (McGregor, ibid) assumes that people want to be adults.

In his paper, McGregor (ibid) arrives at the presentation of Theory Y via a discussion of human needs, including physiological, social, ego and self-fulfilment, as motivators. It is within this context that the relationship between McGregor and authors such as Mayo and Herzberg is clarified. For example, the sub-sections of 'Ego needs', which focus on the achievement of self-esteem and reputation, list self-confidence, independence, competence, recognition and the deserved respect of one's fellows (McGregor, ibid). Qualifying his discussion of people's needs and motivation, McGregor (ibid) moves on to the need for Theory Y:

For these and many other reasons, we require a different theory of the task of managing people based on more adequate assumptions about human nature and human motivation. I am going to be so bold as to suggest the broad dimensions of such a Theory. Call it 'Theory Y' if you will"

1. *Management is responsible for organizing the elements of productive enterprise - money, materials, equipment, people - in the interest of economic ends.*
2. *People are not by nature passive or resistant to organizational needs. They have become so as a result of experience in organizations.*
3. *The motivation, the potential for development, the capacity for assuming responsibility, the readiness to direct behaviour toward organizational goals are all present in people. Management does not put them there. It is a responsibility of management to make it possible for people to recognize and develop these human characteristics for themselves.*

²³ For further detail, see Blake and Mouton (1985) who offer a critique of five management styles (the present author suggests that Theory X forms an 'authority-obedience' management approach, Theory Y a 'team' based style).

4. *The essential task of management is to arrange organizational conditions and methods of operation so that people can achieve their own goals best by directing their own efforts toward organizational objectives.*

There are several points for discussion here, which not only serve to culminate the examination of McGregor, but also allow an introduction to the concept of 'motivation'.

Appearing as the first point of both Theories X and Y, the aim of the organisation as a whole is in agreement with Fayol in terms of both definition (Fayol, 1949) and rank (Gray, 1984). Gray (ibid) suggests that although it was never stated in Fayol's work, the key element emerging was that:

the objective of a firm is to produce a product or service and successfully deliver it to its market or constituency. It is this product or service which justifies the flow of revenue to the organization...

The subjects of production and delivery bring discussion on to the workforce, and the perception that people are not passive by nature. Rather, it is their experience of work that makes them so (Herzberg et al, 1959; Herzberg, 1962, on satisfiers and dissatisfiers; Maslow, 1970 on the human need for self-actualisation; Argyris, 1957; McClelland, 1966 on the link between Maslow's theories and work). The third and fourth aspects of Theory Y bring us onto a discussion of motivation theories as applied to the individual worker; the 'human element' as cited by Cullen (1990) at the beginning of this chapter.

6.2.3 Management of the Worker - for Motivation

Tannehill (1970) discusses motivation within the context of 'management development'. The basic middle ground of the many perspectives on this can be summarised as the requirement for the organisations to *incorporate* systems allowing managers to develop (eg, Levinson, 1976), rather than relying on sporadic training programmes (Tannehill, ibid). Tannehill goes on to state that emphasis needs to be placed on the activities of managers that lead to the growth and development of those around them.

The human *need* for growth and development has been the subject of much discussion (Maslow, 1970 (originally 1954); McGregor, 1957; Argyris, 1957; Herzberg et al, 1959; Salancik and Pfeffer, 1977), the concept of 'need' forming the fourth model of motivation as arranged by Tannehill (ibid):

- Rational-hedonistic
- Instinct
- Drive
- Needs

Starting with the 'rational-hedonistic' model whereby man seeks pleasure and avoids pain, (see Taylor, 1911, McGregor's Theory X, 1957), the second model utilises the concept of 'instinct', attributed to Freud (1915) and his three types of instinct - sex, self-preservation and death. Woodworth (1918) supports the notion of the 'drive' model of motivation, whereby a drive is an instinct, but one acted upon within the context of the general environment. Linking man's surroundings with his needs for growth and development brings us on to the fourth concept, the 'needs' model.

6.2.3.1 Self-actualisation

The most widely accepted of the models, all of which are supported to this day (Tannehill, *ibid*), the fourth suggests that man has intrinsic needs, and his behaviour is largely determined by his attempts to satisfy them (Maslow, 1970; Herzberg, 1962; McGregor's Theory Y, 1957; Argyris, 1957; McClelland, 1966). Maslow (1970) coined the term 'self-actualisation' as the ultimate aim for an individual within a set hierarchy of needs, including those concerned with , for example, physiology, safety and esteem.

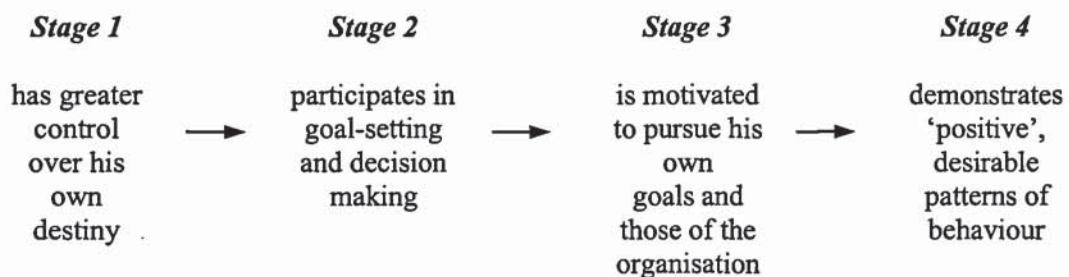
It is self-actualisation which highlights the relationship between McGregor's penultimate aspect of Theory Y, and the various 'need' based motivational theories. Schein (1985) supports Herzberg's notion of 'job enrichment', and McGregors 'Theory Y', in the third of his three (chronologically developed) models of how management's views of their workforce have changed. In this 'self actualising model', he suggests that management have removed the meaning of work, resulting in alienation, frustration and dissatisfaction (Schein, *ibid*). The fourth dimension of Theory Y details arranging an organisation in such a way as to capitalise on people's fundamental motivations, capturing Cullen's point (in the context of safety), that workers (a) have views, and (b) want to make contributions (Cullen, *ibid*).

Man does not have to be taught to grow towards, and strive for, self-actualisation (Maslow, 1970); developing the individual consists largely of releasing the potential

inside him (McGregor, 1957; Tannehill, 1970). This 'release' within an organisational context has been seen in the work of Herzberg, with McClelland (1961; 1966) stressing the organisational importance of harnessing the 'need to achieve' inherent within any workforce.

Argyris worked within a framework based on the assumption that 'organizational behaviour develops from the interaction of the individual and the formal organization' (1957), further examined in later research (1965) which lead to the identification of (case-specific) 'Factors that Facilitate / Inhibit Organizational Effectiveness'. In order to reduce the 'incongruence between the formal organization and the healthy individual' Argyris (1957) suggested 'job enlargement'. Here, an individual is given greater opportunity to use more of his important abilities (Argyris, *ibid*), via the re-combining of two or more jobs into one (Walker, 1950, cited in Argyris, 1957).

The suggested effect of job enlargement is that the individual will receive increased satisfaction from employment whilst contributing more to the organisation (see also Herzberg (1968) on 'job enrichment'). The increased congruence between individual goals and those of the organisation are highlighted when job enlargement is illustrated as a four-stage, iterative process, (developed from Argyris, 1957), where the individual:



Hamner (1974) examined the role of reinforcers in optimising individual performance, developing four steps by which these should be applied. Skinner (1953) defined a positive reinforcer as 'a stimulus which, when added to a situation, strengthens the probability of an operator response' (cited in Hamner, *ibid*). Hamner's third and fourth steps suggest that a worker needs to know what he can do to be reinforced, and should also be told what he is doing wrong. When used in combination:

Rules 3 and 4 ... should allow the manager to control behaviour in the best interest of reaching organisational goals. At the same time they should give the employee the

clarity he needs to see that his own behaviour and not the behaviour of his supervisor controls his outcomes.

Hackman and Oldham (1980) continue this discussion with the identification of differences in people that will dictate how they react to jobs with a *high motivating potential*. The authors suggest that 'internal' motivation requires three organisational conditions, similar to those described by Hamner (1974) in the context of reinforcers:

- The person must have knowledge of the results of his work;
- Experience responsibility for these; and,
- Must see the work as meaningful to his own system of values

This concept of individual difference within broader motivation theory was also proposed by Schein (1985), who suggested a fourth model of management assumptions, stating that earlier concepts (including McGregor's Theory Y) are based on conceptions which are too simple and general (Pugh and Hickson, 1989). The 'complex model' is based on the premise that human needs, life situations, personal development and motives fluctuate from person to person within additional variables provided by time and situation (Schein, *ibid*).

Indeed, Hackman and Oldham (1980) state that, depending on an individual's need to utilise his knowledge and skills, his desire to grow, and his level of job satisfaction, the response to the working situation will be different. This desire for growth has been discussed thus far in the context of 'self-actualisation', but can also be aligned with the concept of 'achievement'.

6.2.3.2 The Need for Self-actualisation - as a Motivator

McClelland and Burnham (1976) discuss desirable attributes for a good manager, suggesting the foremost as 'the need for power' based on the need to achieve, (ie, meeting organisational goals through others), building on the work of McClelland (1961; 1966). In *The Achieving Society*, McClelland (1961) poses the question of whether *n* Achievement (need for achievement) is a fundamental requirement for entrepreneurs, or whether the need is developed through pressures associated with *being* an entrepreneur. McClelland (*ibid*) cites six characteristics of entrepreneurship as the basis for his cause

and effect study, which Tannehill (1970) utilises to provide six steps for *developing* the achievement motivation. These are summarised below:

1. The end results or goals of the activity must be specific and made explicit;
2. Desired goals must represent a moderate degree of risk for the individual;
3. Goals should be adjustable by nature;
4. Individuals must be given accurate and candid feedback, the latter should be in-built, so the operator sees the results for himself, and is not dependent on others;
5. Individuals must be given responsibility for the successful outcome of their own efforts. This responsibility must be real, yet within an atmosphere which is supportive and encouraging; and,
6. Rewards and punishment must be properly related to the status of goals, significant reward for significant achievement, minimal punishment for failings, which aren't crucial.

Thus, it has been established that motivation is inherent to the character of an individual, and that organisations should capitalise on this for the achievement of organisational goals; combining the two, McClelland's work (1961) suggests that given individuals can be shaped into motivated achievers. Katz and Kahn (1978) cite three motivational patterns (each paraphrased by the author), 'rule-enforcement' (because you *have* to), 'external rewards' (because you're *tempted* to), and 'internalised motivation' (because you *want* to).

And herein lies a link with the empirical work presented in chapter five, and the declaration that organisations displaying, amongst others, management commitment, an SMS champion and a committed workforce also exhibit 'internal motivation'. Borrowing from McGregor (1957) allows the author to summarise:

The essential task of management is to arrange organizational conditions and methods of operation so that people can achieve their own goals best by directing their own efforts toward organizational objectives ... This is a process primarily of creating opportunities, releasing potential, removing obstacles, encouraging growth, providing guidance.

This sees a return to the empirical element of the research, resuming the process of ascertaining how BS8800 can best advise organisations implementing safety management systems. The role of motivation in this process is returned to in the discussion chapters ten and eleven; whilst the immediate focus is the developments in the SMS guidance field which occurred between the two elements of empirical work.

CHAPTER SEVEN

Development of Safety Management System Guidance: Certification

The purpose of this chapter is to outline the evolution of certifiable safety management system standards, resulting in the publication of the *Occupational Health and Safety Assessment Series (OHSAS) 18001:1999*. The chapter begins with a brief examination of associated developments, namely publication of the second edition of *Successful health and safety management* (HSE, 1997) and the revision of the Management of Health and Safety at Work Regulations.

The reasons for producing a certifiable version of BS8800 are then discussed, resulting in a proliferation of standards from some of the leading certification bodies, and ultimately in publication of the OHSAS. The main body of the chapter then describes the requirements of OHSAS 18001. This is presented as a description of the specifications, alongside comment on one or more of: the guidance within 18002; comparative elements of BS8800; and 18001's environment and quality counterparts, ISO 14001 and 9001.

7.1 Revision of Guidance and Regulations

7.1.1 Successful Health and Safety Management, HSG65 (HSE, 1997)

As a result of HSC's commitment to review HSE guidance, *Successful Health and Safety Management* was revised and updated in 1997, although the basic framework suggested for managing health and safety remains unchanged (HSE, 1997). Examination of the document shows this statement to be true; presentation has been altered, as have the status of some of the 'Insets' and Appendices, but the main addition to the 1991 version of HSG65 is the extent of guidance on risk assessment within Planning and Implementing (chapter four).

HSE have furthered their concept of 'risk control systems', designed to ensure that workplace precautions are implemented and maintained (HSE, *ibid*). These use the same management elements as the SMS as a whole; thus the organisation needs a policy on, organisation and planning etc for, the systems in place for specific risk controls. Performance standards and prioritisation of health and safety activities according to risk are also outlined in more detail than in the previous edition, whilst the advocated methodology risk assessment remains the same; broadly in alignment with, but less detailed than, that of BS8800.

7.1.2 Management of Health and Safety at Work Regulations (1999)

Chapter two of this thesis described the key elements of the 1992 Management of Health and Safety at Work Regulations (MHSW), as relevant to the legislative environment at the time of BS8800's development and publication. These Regulations (HSC, 1992) have subsequently been revoked, replaced by MHSW Regulations (HSC, 1999b), following a request for review from the European Commission (HSC, 1999a). The Commission queried the UK's transposition of Framework Directive 89/391/EEC, as a result of which the 1992 Regulations were found to be insufficient in a number of key areas (Gill, 1993; ESN, 1994; ESN 1992a). The four MHSW amendments pertinent to this thesis are the overall structure of the Regulations and ACOP, and the revised content of Regulations 3, 4 and 5, as outlined below.

7.1.2.1 MHSW: Regulations, Approved Code of Practice and Guidance

The HSC discussion document *The Role and Status of ACOPs* (HSC, 1995) concluded that ACOPs should be used on a more selective basis in support of health and safety regulations, provided clearly identified criteria are met (HSC, 1999). The MHSW 1999 ACOP has been rewritten accordingly, with some information previously having 'ACOP' status (i.e., practical guidance on how to comply with the law) relegated to 'guidance'.

Following guidance notes is not compulsory, but when adhered to should ensure that 'you will normally be doing enough to comply with the law' (HSC, 1999a). Whereas in a case of breach of health and safety law organisations not following the ACOP must prove compliance by alternate means, there is no requirement to meet the advice provided in the

guidance. Its status as third tier is reflected in the resulting format; Regulations in italics, the ACOP in bold type, and the guidance in plain type.

7.1.2.2 Risk Assessment

The revisions to Regulation 3 are in the ACOP and guidance, which provide a clearer, better mapped system of hazard identification and risk assessment, the former being addressed in its own right for the first time in the Approved Code. The supporting guidelines have been further developed in accordance with the HSE document 'Five Steps to Risk Assessment', also citing *Successful Health and Safety Management* (HSE, 1997) as providing guidance on good practice.

7.1.2.3 Principles of Prevention to be Applied

Principles of prevention has been inserted as Regulation 4, a one sentence statement that requires employers to implement preventive and protective measures in accordance with the principles specified in Schedule I. This hierarchy of control measures is taken from Article 6(2) of the Framework Directive, having previously been included in the ACOP of the 1992 MHSW Regulations. Schedule 1 lists the *General principles of prevention* as:

- (a) Avoiding risks;
- (b) Evaluating the risks which cannot be avoided;
- (c) Combating the risks at source;
- (d) Adapting the work to the individual, especially as regards the design of workplaces, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a pre-determined work rate and to reducing their effect on health;
- (e) Adapting to technical progress;
- (f) Replacing the dangerous by the non-dangerous or the less dangerous;
- (g) Developing a coherent overall protection policy which covers technology, organisation of work, working conditions, social relationships and the influence of factors relating to the work environment;
- (h) Giving collective protective measures priority over individual protective measures; and,
- (i) Giving appropriate instructions to employees.

7.1.2.4 Health and Safety Arrangements

Regulation 4 of the MHSW Regulations (1992) remains unchanged as Regulation 5 in those of 1999. The ACOP has been substantially expanded with regards the

implementation of health and safety arrangements. The first paragraph of the ACOP is largely unaltered, although it is interesting to note that the 1992 Code suggests that arrangements *should* be integrated with the wider business management system; the 1999 version less assertive in its statement that these *can* be integrated.

This paragraph cites BS8800 as providing an approach to implementing the necessary arrangements, referring to the British Standard (sic) on health and safety management systems (HSC, 1999b). This has implications for the HS/1 technical committee, as a BS8800 reference in the Regulations means that the spring-2001 meeting to debate whether to withdraw or review the Guide can now only consider the latter.

The ACOP goes on to provide far more detail on the intricacies of planning, organisation, control, monitoring and review; with a new approach separating the latter two elements. The five headings for health and safety arrangements are now considerably more integrated, focusing on the implementation of policy, and the overall system goal of developing protective and preventive measures as a result of the risk assessment process.

The *planning* process details implementation of the organisational health and safety policy (an element neglected in the previous ACOP) and proposes a systematic approach to risk assessment as a basis for setting and prioritising time-tabled objectives, risk controls and performance standards. The revised Code imparts information that is recognisably a systematic approach to safety management, and the links between arrangements are self-evident.

The amended Code for *organising* follows on clearly from the planning process, stating that employees and their representatives should be involved in the process of risk assessment and control, with effective means for communication and consultation to enable informed decision making by these groups. The Regulatory focus on training is captured in the context of competence, secured via information, instruction, training and its evaluation. Particular attention is given to those involved in the process of risk assessment and subsequent action, reinforcing the centrality of both employees and the risk management process.

The 1999 ACOP for *control* details the need to clarify and communicate responsibilities and ensure people understand and are equipped to meet these. Performance standards should be set for those with responsibilities, as a means for ensuring that such are successfully met. The considerable elaboration of the Regulation 4 ACOP is particularly apparent in the final element of *monitoring*. In the 1992 ACOP this was combined with *review*, stating that progressive improvement is dependent on constant development of the safety management process. Paragraph 36 illustrates the focus on the arrangements constituting a system of safety management:

Employers should measure what they are doing to implement their health and safety policy, to assess how effectively they are controlling risks, and how well they are developing a positive health and safety culture.

This is to be achieved through both pro-active and reactive means, which should be recorded to enable the monitoring activities to be analysed, leading into the last of the five arrangements. With regards to the final element of *review*, the revised ACOP simply states that this should occur on two levels; to prioritise remedial action identified through monitoring, and a periodic examination of the whole SMS to ensure its continued effectiveness.

7.2 BS8800:1996 ‘Certification’

[BS8800] contains guidance and recommendations. It should not be quoted as if it were a specification and should not be used for certification purposes.

As a result of the consensus view of the British Standards Committee HS/1, BS8800 was published as a non-certifiable standard, the above statement taken from the Foreword to the Guide (BSI, 1996a). Within a year of BS8800’s publication, certification bodies including Det Norske Veritas (DNV), National Quality Assurance (NQA), SGS Yarsley, Bureau Veritas Quality International (BVQI) and Lloyd’s Register Quality Assurance (LRQA) were offering non-accredited third party certification schemes for SMS.

Whether stated explicitly (DNV’s OHSMS), implicitly (BVQI’s SafetyCert) or not at all (SGS’s ISA 2000) each of these certifiable standards was based on BS8800:1996 (Stallwood, 1999; Cottam, 2000). Indeed, in 1998 the British Standards Institution itself released a draft Product Assessment Specification (PAS 088), again following the format of BS8800 (Jeynes et al, 1999).

The fact that each of these standards was based on BS8800 lead to obvious similarities, but BS8800:1996 had been developed as a *Guide*, not specifying minimum requirements. Thus each certification body had to transpose BS8800 guidance into an auditable specification, interpreting the Guide in their own way. It was the finer detail that resulted in anomalies between the schemes offered by the various certification bodies (Cottam, 2000).

Cottam (ibid) states how these differences had the potential to undermine confidence in the meaning and value of OHSMS certification; as a result, demand grew for a common specification for OH&S management which could be recognised worldwide (BSI, 1999; Manning & Palmer, 1999). In response, a working group was established in November 1998, including representatives of BSI, other national standards organisations and major certification bodies, with the aim of creating a single OHSMS standard capable of third-party certification.

As a result, *OHSAS 18001: Occupational health and safety management systems - Specification* was published in May 1999, unifying existing schemes and creating an auditable (certifiable) OHSMS protocol (NQA, 2001; SGS 2001). The OHSAS is clearly based on a combination of other management system standards, following the management model of the environmental MS standard ISO 14001 (see Table 12 below for the Policy example of alignment between elements of 14001 and 18001). Also transparent is the content of some of the 'certifiable BS8800's' developed by certification bodies, although most of these utilised 14001 as a framework, which further accounts for the similarities.

Of note, is 18001's status as an Occupational Health and Safety Assessment Series (OHSAS) as distinct from a British Standard. Oliver & Shutler (1999) suggest the main reason for this as the length of time it takes to register the latter (two to three years). The main driver for the creation of 18001 was the urgent request for a unified standard; the interim period of registration as a British Standard (as per *BS EN ISO 9000* and 14001) would have constituted an unacceptable delay to publication.

With the exception of BVQI, who maintain a dual option of certification to SafetyCert or OHSAS 18001, the latter has superseded the individual programs offered by certification bodies, thus succeeding in its aim to unify OHSMS certification. This unification has been further assisted by the publication of OHSAS 18002 *Guidelines for the implementation of OHSAS 18001* in December 1999, which outlines the requisite specifications to further ensure that all bodies are certifying in accordance with standard requirements (Cottam, 2000).

The OHSAS 18002 guideline provides generic advice on the application of OHSAS 18001 (BSI, 2000), reproducing the Standard clause-by-clause alongside notes on the requirements' intent, input, process and output, similar in purpose to an Approved Code Of Practice. Whilst OHSAS 18002 has been referenced as similar to ISO 14002 (eg, SGS, 2001), it should be noted that this standard has been registered in title only; *ISO 14002 - Environmental management systems, Guidelines on ISO 14001 for SMEs*. There is currently no draft or publicised version of ISO 14002, a need currently being assessed by a 'special project team' (Quality Digest, 2001). Thus the only ISO guidance on ISO 14001 implementation is that contained within annex A of the EMS specification, providing four pages of information on Clause 4 in order to 'avoid misinterpretation' (BSI, 1996b).

OHSAS 18002 is similar in format to ISO 14004 *Environmental Management Systems - General guidelines on principles, systems and supporting techniques*, although 14004 does not offer guidance to implementing 14001, but it's own key principles for EMS development. The content of the two support documents is structured according to key requirement (or principle in the case of 14004), accompanied by pertinent guidance for implementation.

Before examining OHSAS 18001 as a document, it is worth indicating the present impact of the specification. Benchmark Research conducted a study within the UK manufacturing industry, aiming to establish attitudes to OHSAS 18001 (BSI, 2001). Neither method nor population is disclosed in their summary, but the key findings included:

- 67% of businesses interviewed were aware of formal health and safety systems such as OHSAS 18001;
- Of the 56% that felt familiar with what 18001 could offer, 63% had introduced or were beginning to introduce a system;
- Of those companies that had a health and safety management system in place, 30% had it certified and a further 37% planned to have it certified within three years.

In the next section of the chapter, the key elements of OHSAS 18001 are presented alongside brief discussions of other SMS guidance and/or management system standards. The wider issues for OHSAS 18001 are then examined (accreditation and internationalism), ending with a summary of the OHSAS Series' implications for BS8800.

7.3 OHSAS 18001: Occupational health and safety management systems - Specification

OHSAS 18001 has provided an externally certifiable means by which organisations can state their SMS compliance and conformance to all parties, Cottam (2000) defining it's boundaries as:

The certificate testifies that an Organisation has developed an OHS management system containing all the elements required by the relevant standard, and that evidence from sampling indicates that the system is operating as defined.

Thus, certification makes no claims as to the actual OHS performance of an organisation, it merely offers assurance that all specified aspects of OHSAS 18001 are in place, and as far as can be gauged, are operational. Certification to OHSAS 18001 guarantees neither legal compliance nor satisfactory assessment and control of risks, merely that the appropriate systems for such are in place.

7.3.1 OHSAS 18001 Elements

OHSAS 18001 was developed to be compatible with the ISO 9001 (quality) and ISO 14001 (environment) management systems standards, in order to facilitate MS integration where this is desired by organisations (BSI, 1999). The Scope of the Specification states that it gives requirements for an OH&S management system to enable an organisation to

control its risks and improve performance, whilst not specifying performance criteria or design of a management system (BSI, *ibid*). The OHSAS 18001 management system model is transparently based on the six elements of ISO 14001 (see Figure 10), which incorporates the continual improvement and PDCA cycles of quality management.



Figure 10: OHSAS 18001 MS model (BSI, 1999)

Not only does the use of this model facilitate integration with certified environmental and / or quality systems, it potentially allows organisations to have their management systems certified on an integrated basis (Oliver, 1999; SGS, 2001). However, the success of this latter tactic remains to be seen, partly because organisations have voiced concern over whether loss of one certificate would nullify the attached system at the same time. Another inhibition to the acceptance of fully integrated systems is a result of the divergence in content of QESH systems, despite the unarguable wider similarities, an issue returned to below.

7.3.1.1 Initial Status Review

The only difference between the OHSAS 18001 model and the BS8800 system based on ISO 14001 is the loss of the initial status review in the former. Reasons for this are unclear; SGS Yarsley's ISA 2000 incorporated an initial review ('preliminary safety

management review’) as one of just three distinct phases, and the OHSAS 18001 model for Policy shows ‘management review’ as one of four inputs.

One viable reason would be in OHSAS 18001’s status as a Specification, stating what should be done, as opposed to how this should be achieved. In BS8800, the initial status review was cited as beneficial to answering the question ‘where are we now?’, thus more concerned with process than end product. Also worth noting is the certification bodies tendency to incorporate an initial review as part of the implementation / certification package. In some ways, the 18001 Policy input of ‘management’ as opposed to ‘initial status’ review has the benefit of emphasising the cyclical nature of the SMS, continual improvement based on monitoring and review.

OHSAS 18002 advises organisations of the possible benefits of carrying out an initial status review as part of the *Planning* process, in order to establish its current position with regards OH&S risks (BSI, 2000). However, this advice is limited to organisations with no existing OH&S management system (BSI, *ibid*), and whereas BS8800 advises consideration of overall SMS performance and management, 18002 limits this to a focus on organisational risk.

7.3.1.2 *General Requirements*

The management system model as the basis for the OHSMS is reflected in the General Requirements, by which ‘The organisation shall establish and maintain an OH&S management system, the requirements for which are set out in Clause 4.’ The Clause referenced is the model itself (Figure 10), directing readers to the six elements comprising an OHSAS 18001 safety management system. Whilst the Guide and annexes of BS8800 inform readers of how to go about achieving such a system, the remainder of the OHSAS simply defines critical aspects of the management elements, without any guidance as to their achievement.

It is here that OHSAS 18002 is intended to be utilised, providing generic advice on the application of OHSAS 18001 (BSI, 2000). Arguably, BS8800, with its intent to ‘assist organisations to develop an approach to management of OH&S’ (BSI, 1996a) provides a

third tier of guidance, similar to the structure of information provided in the MHSW Regulations 1999 (see Table 11).

	MHSW Regulations 1999	SMS 'standards'
1 st Tier	Regulations	OHSAS 18001:1999
2 nd Tier	Approved Code of Practice	OHSAS 18002:2000
3 rd Tier	'Guidance'	BS8800:1996

Table 11: Comparison of tiered guidance - MHSW Regulations (HSE, 1999b) and SMS 'standards'

Of *General Requirements*, OHSAS 18002 states that an organisation is free to choose the boundaries of 18001 implementation, which can be company-wide or specific to operating units or activities. The guidance states the 'typical output' of the General Requirements as 'an effectively implemented and maintained OH&S management system that assists the organisation in continually seeking for improvements in its OH&S performance'.

General requirements under OHSAS 18001 and ISO 14001 are the same, with ISO 9001 taking a more succinct approach. The QMS standard imparts *Quality system requirements* from policy to management review within the first clause. There are elements of the next eleven or so clauses which align with OHSAS 18001 and ISO 14001, but these are interspersed within elements not covered by the safety or environment standards (eg, Contract Review, Design Control).

7.3.1.3 OH&S Policy

The facets of OH&S Policy are outlined in Table 12, the elements potentially meeting employers' duties under 2(3) of the HSW Act. Table 12 also highlights the similarity between OHSAS 18001 and ISO 14001, indeed, most elements of the OHSAS follow the environment standard in this verbatim manner, optimising the process of system integration. In contrast to ISO 9001, the policy requirements of 14001 and 18001 are listed and almost identical, and whilst the QMS is far less specific, the broad requirements are the same, reading like a précis of its environment and safety counterparts.

The OHSAS 18001 policy must be authorised by the organisation’s top management, clearly stating overall health and safety objectives and a commitment to improving health and safety performance (BSI, 1999). Thus, unlike BS8800, which states that the policy [should include a commitment to] the setting and publication of OHS objectives (BSI, 1996a), OHSAS 18001 requires organisations to disclose their overall objectives as an integral part of the policy.

ISO 14001 (1996)	OHSAS 18001 (1999)
5.2 Top management shall define the organisation’s environmental policy and ensure that it:	4.2 There shall be an OHS policy authorised by the organisation’s top management, that clearly states overall health and safety objectives and a commitment to improving health and safety performance. The policy shall:
a. Is appropriate to the nature, scale and environmental impacts of its activities, products or services;	a. Be appropriate to the nature and scale of the organisation’s OHS risks;
b. Includes a commitment to continual improvement and prevention of pollution;	b. Include a commitment to continual improvement;
c. Includes a commitment to comply with relevant environmental legislation and regulations, and with other requirements to which the organisation subscribes;	c. Include a commitment to at least comply with current applicable OH&S legislation and with other requirements to which the organisation subscribes;
d. Provides the framework for setting and reviewing environmental objectives and targets;	d. Be documented, implemented and maintained;
e. Is documented, implemented and maintained and communicated to all employees;	e. Be communicated to all employees with the intent that employees are made aware of their individual OH&S obligations;
6. Is available to the public	f. Be available to interested parties;
	g. Be reviewed periodically to ensure that it remains relevant and appropriate to the organisation.

Table 12: Similarities between ISO 14001 (BSI, 1996b) specifications for ‘Policy’ and those of OHSAS 18001 (BSI, 1999)

Such requirements for policy are far more action-oriented than in BS8800, a definition of environmental policy (Roberts & Robinson, 1998) applying equally to OHSAS 18001:

A formal and documented set of principles and intentions with respect to the environment. Essentially, the environmental policy is the guiding document for corporate environmental improvement and adherence to it is fundamental to the integrity and success of the entire EMS.

The publication of objectives in conjunction with the requirement for periodic review to ensure relevance and appropriateness (BSI, 1999), ensures that the OHSAS 18001 policy is a living document; meeting the specification of a guiding statement of intent, integral to the management system (Roberts & Robinson, *ibid*).

The OHSAS 18002 guidance on Policy lists the typical inputs as including overall business objectives, OH&S hazards, legal requirements and OH&S performance of the organisation, implicitly suggesting an initial status review.

7.3.1.4 Planning

The Planning element of OHSAS 18001 covers the same broad areas as in both versions of BS8800, and as per ISO 14001, namely:

- 4.3.1 Planning for hazard identification, risk assessment and risk control;
- 4.3.2 Legal and other requirements;
- 4.3.3 Objectives;
- 4.3.4 OH&S management programme(s).

The ISO 9001 clause in relation to *Quality Planning* has a different focus to those of its environment and safety counterparts. OHSAS 18001 and ISO 14001 require the element of risk assessment, planning to ensure the mitigation / elimination of any potentially adverse effects, putting procedures and controls in place to ensure that undesired events *do not* occur. The QMS standard however, focuses on planning as a prerequisite to meeting product specification, focussing on the procedures necessary to ensure that the end product conforms to its initiating specifications, ensuring that the process *does* have the desired result.

Wilkinson & Dale (1999) further this argument, suggesting that:

In 9001 the system provides a way of ensuring that products conform to specific requirements, but the EMS standard is concerned with the outcome of an organisations' activities and ensuring that it conforms to the environmental policy. There is no firm link between quality policy and objectives in 9001 and the standard is more concerned with control than performance improvement.

OHSAS 18001 as an interactive, dynamic management system is reflected in *Planning for hazard identification, risk assessment and control*. This sub-clause sets out the requirement for organisations to establish and maintain procedures for the ongoing identification of hazards, the assessment of risks, and the implementation of necessary control measures (BSI, 1999). The role of risk assessment as integral to the functioning of the whole SMS is reflected in the range of inputs and outputs, the latter in particular (see Table 13). In line with the MHSW Regulations, organisations are required to document assessment findings, and following an outline of requirements for risk assessment methodology, are directed to OHSAS 18002 for further guidance.



Table 13: Range of OHSAS 18001 risk assessment inputs and outputs (from BSI, 1999).

OHSAS 18002 (BSI, 1999) describes the purpose of its guidance on Clause 4.3.1 as to:

Establish principles by which the organisation can determine whether or not given hazard identification, risk assessment and risk control processes are suitable and sufficient. It is not the purpose to make recommendations on how these activities should be conducted. NOTE For further guidance on hazard identification, risk assessment and risk control processes see BS8800.

The information provided under 'Intent' describes the principles and purpose behind the 18001 requirement for risk assessment and control. 18002 outlines factors to consider (eg, size of organisation, complexity of hazards, resources) and reminds organisations of the overall aims to be achieved for 18001 (eg, the importance of clearly linking the risk assessment outcomes with other elements of the management system). Interestingly, neither 18001 or 18002 state anything about hierarchy of control measures; the latter implicitly advises that risk control methodology should be defined, but this is the extent of its guidance on this area.

Whilst it is not an aim of OHSAS to ensure legislative compliance, most of the key elements of British law are interwoven as good safety management practice (eg, policy,

consultation and communication, health and safety arrangements and risk assessment). It is also not the intent of either OHSAS 18001 or 18002 to prescribe method, but simply to specify the elements that must be present in an SMS. With the insertion of Reg (4) *Principles of Prevention*, and Schedule I in the MHSW Regulations (HSE, 1999b), the author suggests that the requirement for specification of a risk control hierarchy is likely to appear in the OHSAS in due course.

As part of the hazard identification, risk assessment and control process, 18002 suggests that organisations *with no existing OH&S management system* can establish their current position by carrying out an initial status review (BSI, 2000). The process described is similar in approach, but different in focus, to that in BS8800, suggesting that an organisation considers all the risks that it faces (BSI, *ibid*). This information should then be used as a basis for establishing the OH&S management system (BSI, 2000), reiterating the centrality of the risk assessment process, and the general interdependence of all elements of the system.

The process of hazard identification, risk assessment and control within 18002 is closely aligned to that of annex D in BS8800, although its purpose as a document warrants that it simply imparts explanation as opposed to method. The risk assessment methodology should be appropriate to the nature and scale of the operation, the assessment itself should be proactive and documented; accompanied by written controls where appropriate (BSI, *ibid*). 18002 further states that the process from hazard identification to risk control should include the following elements (BSI, 2000):

- Identification of hazards;
- Evaluation of risks with existing (or proposed) measures in place;
- Evaluation of the tolerability of residual risk;
- Identification of any additional risk control measures needed; and,
- Evaluation of whether the risk control measures are sufficient to reduce the risk to a tolerable level.

This process is identical to that in annex D of BS8800, with the omission of the first step of 'classify work activities'. Interestingly, this classification step is one of four explicitly mentioned in the ISO 14004 equivalent for identifying environmental aspects.

The EMS guidance suggests that this is a four stage process; selecting an activity, product or service (which is how BS8800 suggests work activities should be classified) and then identifying 'as many environmental aspects as possible' (BSI, 1996c). Steps three and four involve the identification of environmental impacts and their subsequent evaluation.

The potential for integration of OHSMS and EMS assessments is explicitly stated in ISO 14004, which refers to the mixed processes of identifying OH&S impacts, and carrying out environmental risk assessments. The parallel to the OHSAS 18001 clause on risk assessment and control in ISO 14001 (4.3.1) is *environmental aspects*; the same process of hazard identification and evaluation. Thus, on face value, there exists great potential for integration of assessments, leading to the wider management system integration stated as possible in OHSAS 18001, an argument returned to below.

OHSAS 18002 goes on to describe the process of reviewing hazard identification, risk assessment and control, stating that periodicity of review is dependent on factors including magnitude of risk, changes in operations and methods of working. Finally, the guidance describes 'Typical Outputs' of Clause 4.3.1; fundamentally summarising the requirements of the specification as detailed in OHSAS 18001.

Within *Legal and other requirements* 18001 requires organisations to establish and maintain a procedure to identify and assess these; with gathered information to be communicated both internally and externally where relevant. OHSAS 18002 provides boundaries to the requirement, reiterating the term *applicable*, and warning organisations against compiling libraries of legal documentation that are rarely referenced or used (BSI, 2000).

The Planning requirement for *Objectives* states that these should be quantified wherever practicable, taking into account aspects including legal obligations, OH&S hazards and risks, business requirements and views of interested parties. The iterative nature of the 18001 management system is restated with the need for objectives to be consistent with the OH&S policy, and the commitment to continual improvement.

The *OH&S management programme(s)* exist to allow the organisation to achieve its objectives (BSI, 1999). The documentation required specifies designated (functional) responsibility and authority for meeting objectives, and also the means and timescale for their achievement. Again, phrasing of the requirements matches ISO 14001 exactly, far narrower than the BS8800 management arrangements for the system as a whole (as per the MHSW Regulations), reducing its remit to the programmes developed to meet specified objectives.

7.3.1.5 Implementation and Operation

OHSAS 18001 implementation and operation is divided into the same broad headings as ISO 14001, namely:

- 4.4.1 Structure and responsibility
- 4.4.2 Training, awareness and competence
- 4.4.3 Consultation and communication
- 4.4.4 Documentation
- 4.4.5 Document and data control
- 4.4.6 Operational control
- 4.4.7 Emergency preparedness and response

Structure & responsibility involves the definition, documentation and communication of roles and responsibilities of personnel whose activities have an effect on the OH&S risks of the organisation (BSI, 1999). The centrality of the management function to the OHSAS 18001 OHSMS is further enforced with a statement adapted from BS8800, that all those with management responsibilities *shall* demonstrate their commitment to the continual improvement of OH&S performance. This is one of few recognisable elements of the equivalent clause in BS8800; overall, *structure and responsibilities* within OHSAS 18001 has a far stronger focus on the management system than is found in the Guide.

OHSAS 18002 provides definitions of typical responsibilities for various levels of personnel, including the 'management appointee' ('representative' in ISO 9001 and 14001), a member of 'top management' (sic) who has a defined role, responsibility and authority for:

- (a) Ensuring that OH&S management system elements are established, implemented and maintained in accordance with [the] OHSAS specification;
- (b) Ensuring that reports on the performance of the OH&S management system are presented to top management for review and as a basis for improvement of the OH&S management system.

Training, awareness and competence is almost identical to the parallel clause in ISO 14001, significantly adding to the guidance within BS8800. The clause requires organisations to develop procedures to ensure that personnel are competent to carry out their designated functions (BSI, 2000). OHSAS 18001 specifies requisite awareness as including the importance of conforming to the OH&S policy and management system, OH&S consequences of work activities, roles and responsibilities relative to conforming with the OH&S policy, and consequences of departing from operational procedures (BSI, 1999). OHSAS 18002 describes key elements of an OH&S awareness and training programme, which should be established in order to address the elements necessary for 18001 compliance.

There is a marked difference in the focus of *Consultation and communication* in OHSAS 18001 and the original clause of ISO 14001. Cottam (2000) describes how EMS communication elements are concerned primarily with organisational liaison with *external* bodies, whereas safety management focuses on *internal* communication methods. This is further reflected in the title of the clause in 18001; the addition of *consultation and* to the singular requirement for *communication* in ISO 14001 (thus in agreement with the MHSW Regulations). The focus is on the employee (BSI, 1999), with OHSAS 18001 stating that they shall be:

- Involved in the development and review of policies and procedures to manage risks;
- Consulted where there are any changes that affect workplace health and safety; and,
- Represented on health and safety matters.

OHSAS 18002 describes how organisations should document and promote the arrangements by which it consults on and communicates pertinent OH&S information to and from its employees and other interested parties (BSI, 2000). This latter group are further defined as contractors and visitors, in agreement with the observation from Cottam (2000) of the difference in locality of those involved in the communication of environmental and safety issues.

Clause 4.4.4 in OHSAS 18001 specifies requirements for *Documentation*, a verbatim copy of the equivalent in ISO 14001. The requirement also matches the guidance in BS8800, described more succinctly in OHSAS 18002 as a requirement to ‘document and maintain up-to-date sufficient documentation to ensure that its OH&S management system can be adequately understood and effectively and efficiently operated’ (BSI, 2000). This information should be in either paper or electronic format, describing the key elements of the management system and their interaction, and direction to related documentation (BSI, 1999).

The requirement for *Document and data control* is summarised in OHSAS 18002 as ‘all documents and data containing information critical to the operation of the OH&S management system and the performance of the organisation’s OH&S activities, should be identified and controlled’ (BSI, 2000). The specification itself lists the same facets as required for EMS and QMS document control under ISO 14001 and 9001, including location, review, access and archival (BSI, 1999), without being prescriptive as to their exact nature.

The interpretation of *Operational control* in OHSAS 18001 is described by Oliver & Shutler (1999) as ‘massive in terms of significance’, and bears little relation to its BS8800 counterpart. The Operational control clause in OHSAS 18001 has furthered the centrality of the risk assessment and control process, explicitly stating a requirement to ensure the effective application of risk controls during operational activity (BSI, 2000).

Where the management system elements of OHSAS 18001 and ISO 14001 form the central elements of the two standards, it is operational control that drives ISO 9001; as highlighted in annex A of 18001 (which cites the parallels between the OH&S, environmental and quality specifications). The latter two state operational control

requirements within sub-clause 4.4.6, with ISO 9001 specifications permeating the whole standard, including:

- Quality system procedures
- Contract review
- Purchasing
- Customer supplied product
- Process control
- Servicing
- Statistical techniques

Despite the OH&S and environmental specifications containing *operational control* within just one sub-clause, the key differences between environmental and safety management has warranted additions to the specification as stated in ISO 14001. Operational Control is defined in OHSAS 18001 thus:

The organisation shall identify those operations and activities that are associated with identified risks where control measures need to be applied. The organisation shall plan these activities, including maintenance, in order to ensure that they are carried out under specified conditions by:

- (a) Establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the OH&S policy and the objectives;*
- (b) Stipulating operating criteria in the procedures;*
- (c) Establishing and maintaining procedures related to the identified OH&S risks of goods, equipment and services purchased and / or used by the organisation and communicating relevant procedures and requirements to suppliers and contractors;*
- (d) Establishing and maintaining procedures for the design of workplace, process, installations, machinery, operating procedures and work organisation, including their adaptation to human capabilities, in order to eliminate or reduce OH&S risks at their source.*

ISO 14001 only lists requirements (a) to (c), the fourth providing the OH&S addition under OHSAS 18001. Two observations are pertinent here; firstly that safety is largely concerned with aspects internal to the organisation, with environmental concerns focussing predominantly on wider aspects (Cottam, 2000). This accounts for the main difference between the third and fourth operational control procedures in 18001; the third,

from ISO 14001, dealing with the interface between the organisation and third parties, with (d) stating the requirement for procedures pertinent to the organisations' internal operations.

Baird (2000) makes a further observation with regards safety and environment, that operational control in terms of safety is concerned with a focus on operatives following and implementing safe systems of work; the 'software' issues covered by the reference to human capabilities in the additional specification. OHSAS 18002 describes typical outputs necessary for compliance with OHSAS 18001, simply as 'procedures and work instructions' (BSI, 2000), which is in accordance with this focus on the 'software' element of OH&S operational control.

OHSAS 18002 describes how the key inputs for operational control are OH&S policy and objectives; hazard identification, risk assessment and risk control results; and identified legal and other requirements (BSI, 2000), the key elements of the OHSAS management system. OHSAS 18002 summarises the intent of the 18001 clause on *Emergency preparedness & response* as:

The organisation should actively assess potential accident and emergency response needs, plan to meet them, develop procedures and processes to cope with them, test its planned responses, and seek to improve the effectiveness of its responses.

The actual clause in 18001 uses the term 'incident' as opposed to 'accident' (BSI, 1999), and other than this is an almost verbatim statement from ISO 14001. Whilst obviously still reactive in nature, this ensures that organisations revise procedures following near-misses, and not simply after the impact of an accident. OHSAS 18002 describes the process involved in meeting the 18001 specification, focussing on emergency plans, emergency equipment (including both warning devices and equipment necessary for dealing with an emergency situation) and practice drills (BSI, 2000).

7.3.1.6 *Checking and Corrective Action*

The components of Clause 4.5 in OHSAS 18001 are as per those in ISO 14001, although with slight amendment to ensure applicability to OH&S:

OHSAS 18001	ISO 14001
4.5.1 Performance measuring and monitoring	4.5.1 Monitoring and measurement
4.5.2 Accidents, incidents, non-conformances and corrective and preventive action	4.5.2 Non-conformances and corrective and preventive action
4.5.3 Records and records management	4.5.3 Records
4.5.4 Audit	4.5.4 Environmental management system audit

Within *Performance measuring and monitoring*, OHSAS 18001 requires organisations to establish and maintain procedures to monitor and measure OH&S performance on a regular basis (BSI, 1999), specifications broadly in line with ISO 14001 requirements (BSI, 1996b). Using a list borrowed from BS8800, OHSAS 18002 links this information back to aspects such as checking implementation of risk controls, achievement of OH&S policy and objectives, and evidence of organisational learning from management system failures (BSI, 2000).

The equivalent clause in ISO 9001 (4.11) details measuring in terms of test equipment, mainly specifying the need for accurate calibration of equipment (BSI, 1994). This requirement for calibration also constitutes one of the three paragraphs in ISO 14001, whereby monitoring equipment shall be maintained and the process recorded (BSI, 1996b). This is an area where translation of quality and environment specifications do not equate satisfactorily in the OHSMS standard, which has maintained the requirement for performance measuring and monitoring equipment (BSI, 1999).

The purpose of *measuring performance* in annex E of BS8800 is aligned with that in OHSAS 18001, yet only two (of 38) types of data required for performance measurement utilise monitoring equipment (BSI, 1996a). The remainder are broadly qualitative indicators, including:

- Plans and objectives being set and achieved;
- Publication of a safety policy;
- Effectiveness of OH&S training;
- Number of risk assessments completed; and,
- Compliance with risk controls.

This is an example of where the difference in focus of OH&S (which Baird, 2000, divided as hardware and software based), complicates the process of adopting the terminology and requirements of quality and environment standards. OHSAS 18002 recaptures the qualitative elements of health and safety performance measurement, reproducing some of the lists provided in BS8800, and also elaborates on the definitions of proactive and reactive monitoring given in 18001, advising that a combination are used.

Clause 4.5.2 of OHSAS 18001 details requirements for *Accidents, incidents, non-conformances and corrective and preventive action*, with the latter two in particular showing clear parallels with the specifications of both ISO 9001 and 14001. The place of *non-conformance* in the sub-clause title reflects its role in accident and incident causation, the term defined (BSI, 1999) as:

Any deviation from work standards, practices, procedures, regulations, management system performance etc. that could either directly or indirectly lead to injury or illness, property damage, damage to the workplace environment, or a combination of these.

OHSAS 18001 (BSI, *ibid*) improves on BS8800's simple statement that 'where deficiencies are found, root causes should be identified and corrective action taken' (BSI, 1996a), the OHSAS specifying that:

The organisation shall establish and maintain procedures for defining responsibility and authority for:

- (a) The handling and investigation of accidents; incidents; and, non-conformances;*
- (b) Taking action to mitigate any consequences arising from accidents, incidents or non-conformances;*
- (c) The initiation and completion of corrective and preventive actions; and,*

- (d) *Confirmation of and the effectiveness of corrective and preventive actions taken.*

In line with reasonable practicability, actions should be commensurate with the OH&S risk encountered (BSI, 1999), with 18001 also stating that proposed corrective and preventive actions shall be reviewed through the risk assessment process prior to implementation. The prime purpose of the procedure is to prevent further occurrence of the situation, by identifying and dealing with the root cause(s) (BSI, 2000), although in its description of the process of investigation, OHSAS 18002 reduces root of non-conformance to uni-causal (BSI, *ibid*).

The OHSAS 18001 clause on *Records and records management* is almost identical to that in ISO 14001. The only difference is that the latter specifies training records as among those for which ‘the organisation shall establish and maintain procedures for the identification, maintenance and disposition of [OH&S records], as well as results of audits and reviews’ (BSI, 1999). The SMS and EMS specifications are for procedures to ensure records are documented and maintained as appropriate, to demonstrate conformance to the OHSAS / ISO specification (BSI, 1999; BSI, 1996b). The QMS equivalent however, requires that records demonstrate both *conformance to specified requirements*, as well as the effective operation of the quality management system (BSI, 1994), highlighting the increased centrality of documentation within a QMS.

The author criticised the *Audit* annex in BS8800, and suggests that the guidance in OHSAS 18002 is much improved, providing a coherent, logical commentary on the 18001 requirement that:

The organisation shall establish and maintain an audit programme and procedures for periodic OH&S management system audits to be carried out, in order to:

- (a) *Determine whether or not the OH&S management system:*
- (1) *Conforms to planned arrangements for OH&S management including the requirements of this OHSAS specification;*
 - (2) *Has been properly implemented and maintained; and,*
 - (3) *Is effective in meeting the organisation’s policy and objectives...*

The phrasing of the specification is closely aligned to that of *EMS audit* in ISO 14001, and the requirements of both are broadly in agreement with those of *Internal quality audits* in 9001 (BSI, 1996b; BSI, 1994). The cyclical nature of the OHSAS 18001 SMS

has warranted the addition of clause (a)(3), for which there is no parallel requirement in ISO 14001. Although obviously based on the same PDCA cycle, the EMS standard makes no explicit requirement for the audit to ascertain the effectiveness of the management system as a whole.

OHSAS 18001 requires that the audit programme is based on risk assessment results and previous audit findings (BSI, 1999), a process which 18002 describes in detail, citing BS8800 and several ISO standards which provide additional guidance on auditing methodologies (BSI, 2000). One of several outputs of the audit process is evidence of the reporting of the results of OH&SMS audits to management (BSI, 2000), a process leading into the final element of the OHSAS 18001 management system.

7.3.1.7 Management Review

The 18001 specification is the same as that under ISO 14001, requiring the organisations top management to review the OH&S management system at pre-determined intervals, to ensure it's continuing suitability, adequacy and effectiveness (BSI, 1999). The second element of the specification (BSI, *ibid*) states:

The management review shall address the possible need for changes to policy, objectives and other elements of the OH&S management system, in the light of OH&S management system audit results, changing circumstances and the commitment to continual improvement.

Thus, 18001 specifies that a review shall take place, based on largely pro-active data, as a result of which, SMS changes may need to be made. The author suggests that the equivalent clause in ISO 9001 (4.1.3) provides clearer specification, stating that the review shall ensure the quality systems' continuing effectiveness in satisfying (for example) the organisations stated policy and objectives (ISO, 1994).

OHSAS 18002 states the typical inputs into the management review as including most of the 18001 outputs, including policy, objectives, risk assessment processes, accident data, records and audits, highlighting the review as a process revising the adequacy of the SMS in its entirety.

7.3.1.8 Annex A

The OHSAS 18001 and 18002 annexes are identical, highlighting *Correspondence between OHSAS 18001, ISO 9001 and ISO 14001*, as guidance for those organisations wishing to either integrate their management systems, or to base these on the same management principles (BSI, 1999; BSI, 2000). This is far clearer than the equivalent in BS8800 (which attempted to scope the OHSMS against ISO 9001), listing the exact clause-for-clause match between 18001 and 14001, and borrowing annex B from the EMS specification to conduct the same comparison with ISO 9001.

In BS8800, the comparison was conducted to first sub-clause level only, creating the impression that all elements of BS8800 had equivalents in ISO 9001. The more thorough comparison in OHSAS 18001 makes specific the requirements with no quality counterparts, including legal requirements and communication.

7.3.2 Summary of OHSAS 18001

The OHSAS 18001 management system model is the same as that used in the EMS certification standard ISO 14001, and other than the exclusion of *Initial Status Review*, reflects the structure and broad content of the according approach in BS8800. OHSAS 18002 provides generic advice on the OHSAS specification in a similar manner to the ACOP of the MHSW Regulations (HSE, 1999), defining its role thus (BSI, 2000):

OHSAS 18002 does not create additional requirements to those specified in OHSAS 18001 nor does it describe mandatory approaches to the implementation of OHSAS 18001.

The general requirement within 18001 is for organisations to establish and maintain an OH&SMS as per the six elements from policy to management review and beyond, a cycle outlined out in the management system model. An organisation's policy must clearly state the organisational OH&S objectives, and the commitment to continual improvement, inputs to which emanate from all other management system elements.

Planning incorporates an organisations approach to risk assessment and the meeting of legal requirements, the former becoming a far more central element than is conveyed in its guidance equivalent, BS8800. The methodology however, remains largely the same,

and, as with most elements of OHSAS 18001, has been thoroughly aligned with the EMS requirements to facilitate integration.

Implementation and operation within 18001 details those requirements found within *Organising* in HSG65 (HSE, 1997), specifying elements required for the effective operation of the management system. The concept of non-conformance has been introduced in more than name alone (as per BS8800) in OHSAS 18001, the specifications for checking and corrective action covering the broad elements required within the Measuring Performance annex of the SMS Guide (BSI, 1996a). Clause 4.6 details management review, reiterating the need for the management commitment required for the organisations' SMS to continually improve, specifying the review as an impetus for change where appropriate.

7.4 OHSAS 18001: Initial Experiences

British Sugar was the first UK organisation to achieve OHSAS 18001 certification, Bradley & Priddle (2000) citing some of the benefits as:

- An increase in the status of health and safety;
- A heightened awareness by everyone of their own role in health and safety;
- A major increase in the visibility of the board's commitment;
- A revitalisation of risk assessments; and,
- Enhanced status with external bodies.

These first two points, alongside the explicit desire to improve employee health and safety are broadly the primary reasons for SME interest in voluntary certification schemes (Vassie & Cox, 1998).

In her introduction to OHSAS 18001, the author iterated the vital boundaries of OH&S certification, that it is simply a declaration of a safety management system conforming to 18001 specifications, and should not be taken to represent legal compliance or superlative OH&S performance. British Sugar have acknowledged that certification to 18001 does not constitute a performance measure in itself, but believes that OHSAS compliance should imply (and communicate) improving performance (Bradley & Priddle, 2000).

Despite site certification to both 14001 and 9001, the construction company Carillion has published its sceptical response to OHSAS 18001, stating instead its own satisfaction with its OH&S performance, negating the need to take part in the ‘paper chase’ of certification (Moore, 1999).

Management system integration is specified as an option in OHSAS 18001, although early experiences suggest that this should be approached with caution. Cottam (2000) highlights some of the similarities and differences between safety, environmental and quality management systems, as outlined in Table 14

	OHSAS 18001	ISO 14001	ISO 9001
Based on PDCA	✓	✓	✓
Uses risk assessment	✓	✓	✗
Continual improvement	✓	✓	Weakly addressed
Communication focus	Internal	External	Both
Operations affected	All	Local (emissions etc)	All
Activities affected	All	Specific	All
Legislative basis	✓	Some	✗

Table 14: Comparison of focus within OH&S, environmental and quality management systems (based on Cottam, 2000)

Baird (2000) comments on the integration of safety and environmental management systems, suggesting from experience of integrated MS implementation that the two diverge in many ways, that some elements should remain separate. Interestingly, it is some of the key areas of similarity that Baird (ibid) suggests should not be integrated, his findings outlined in Table 15, with ‘communication’ and its internal / external focus proving the most difficult to align. However, in a review of LRQA organisations’ experiences of 18001 certification, Cottam (2000) suggests that on the whole, those ‘borrowing’ from either their environmental or quality management systems fared better than those attempting OHSAS implementation in isolation.

Further, Cottam (ibid) suggests that organisations find it difficult to meet the 18001 requirement to show that they are proactively manage risk, as opposed to doing so as a reaction to legislative requirement. In a paper imparting an 18001 ‘success story’, Polakowski & Santarelli (2000) describe their approach to 18001 implementation at

Lucent Technologies. One of the main drivers for implementation was the organisations' desire to seek and manage its health and safety risks.



Table 15: Integration levels of SMS and EMS (Baird, 2000)

7.5 OHSAS 18001 Accreditation and Internationalism

In January 2001, OHSAS 18001 remains unaccredited. The United Kingdom Accreditation Service (UKAS) are waiting for conviction that certification to OHSAS 18001 is being demanded by industry. In general, UKAS are not satisfied that all relevant stakeholders were represented on the 18001 working group, suggesting that the committee represents the biased view of certification bodies (Beaumont, 1999). Whilst this remains their (and other such bodies') view, in the absence of accreditation, 18001 certification remains unregulated.

An alternate option for increased likelihood for accreditation would be translation into an international standard, (hypothetically) involving the creation of ISO 18001. The International Labour Organisation (ILO) reviewed the SMS standards available internationally at the end of 1998 and concluded that an international standard was desirable (Stallwood, 1999). When the present author and colleagues prepared a report for BSI on this very subject (Jeynes et al, 1999), the International Standards Organisation (ISO) was undecided on the matter. In addition, technical committee HS/1 was largely divided on not only the issue international, but also in their support of a UK certifiable standard *despite* the existence of the two-month old OHSAS 18001.

Thus, in spite of transparent alignment with both ISO 9000 and 14001, OHSAS 18001 remains a *de facto* UK national standard. Cottam (2000) cites some of the arguments opposing internationalism as:

- The fear that the existence of such a standard would invite interested parties to specify certification as mandatory;
- The implications, in countries with highly unionised workforces, of the Standard's likely requirement for employee consultation; and,
- The lack of harmony between national OHS regulations.

This latter point is debatable; 18001 only states the need to meet and monitor legal requirements, as opposed to specifying what these are. However, to avoid becoming entangled in political debate, these discussions will be left here, having highlighted the current wider issues for OHSAS 18001.

7.6 The OHSAS Series: Implications for BS8800

OHSAS 18001 evolved from quasi-certifiable standards (Jeynes et al, 1999) developed by certification bodies in response to consumer demand for an OH&S equivalent to ISO 9001 and 14001. OHSAS 18001 was derived from a consensus of these, its dual inputs therefore consisting of other ISO management system standards and the guidance contained within BS8800. It has been widely claimed that OHSAS 18001 is the certifiable BS8800, which is a somewhat dubious declaration bearing in mind the far greater similarities between 18001 and 14001 than the former and the BSI Guide.

Until 1999, BS8800 was the only guidance stated to be a step-by-step guide to SMS implementation, thus on a superficial level, 18001 is indeed a certifiable version of this; the Guide now has an equivalent to which organisations can undergo third-party inspection. However, when the two are compared, there are many occasions where the specifications within 18001 meet those of 14001 far greater than those of the Guide.

Chapter four described the process of BS8800's development, one aspect of which was the creation of a dual model including both HS(G)65 and ISO 14001. The author explained how BS8800 was in fact created in accordance with the HSE guidance, and then 'shoe-horned' into the ISO 14001 model, with the latter model of 8800 showing no real resemblance to the EMS specification other than in title of clauses and their sub-divisions.

This is the key to the difference between OHSAS 18001 and the BSI Guide. BS8800 is transparently 'health and safety speak', both in terminology and content as based on HS(G)65. In the version of the Guide intended to facilitate integration with an environmental management system, the OH&S guidance is transposed onto the ISO 14001 EMS management model whilst maintaining its health and safety content and advice.

However, the author suggests that OHSAS 18001 was developed through a reverse process. This OH&S specification has started with ISO 14001 structure and specifications, applied OH&S terminology and content, resulting in a certifiable OH&S management system. The outcome is broadly the same; both BS8800 and OHSAS 18001 offer a step-by-step process conducive to implementing an OH&SMS.

The importance in the distinction is relevant where BS8800 is used as the third-tier guidance described earlier as similar to that of the MHSW Regulations. Organisations using BS8800 as a guidance document for implementing an 18001 compliant SMS will be confronted with various anomalies in focus, as exemplified within *Structure and responsibility*.

Consensus has not been reached within HS/1 as to whether BS8800 should be revised to facilitate certification, the committee is due to meet in March 2001 to debate this very issue. Cottam (2000) cites the key decision for the committee as whether to change the status of the document from guidance to specification. Before HS/1 decides on the status of the Guide, they need to reach a consensus on the wider issue of certification, an agreement that has remained elusive since the committees' inception in 1995. The author suggests that the status of the Guide is of lesser import than the issue of consistency of content between BS8800 and OHSAS 18001. This will be achieved by carrying out the vital step missed when the Guide was first developed, actually aligning BS8800 with ISO 14001 in more than name alone.

CHAPTER EIGHT

Methodology & Empirical Work II

This chapter introduces the second phase of empirical work, examining the wider considerations for the study brought about by developments in SMS guidance. Methodological issues are then examined, in a discussion that complements those in chapter five, leading into the presentation of the case study.

8.1 Context

One of the initiating objectives of the thesis was to '*examine BS8800 as a foundation for SMS implementation, based on a study of organisations following the Guide*'. As presented in chapter five, this was initially intended to be achieved through a series of longitudinal case studies, examining how organisations underwent and experienced implementation. The focus was very much on planned approach, and was intended to constitute an insight into the step-by-step process of following BS8800, witnessing successes and failures as they arose.

Chapter five also discussed how this early empirical work was hindered by the infancy of BS8800, how very few organisations had begun the implementation process, which in turn affected the sampling and response rates. This first phase of empirical work revealed the importance of motivation in the approaches of the various organisations to implementation. However, these postulations formed an aside to the above-mentioned research objective, so in March 2000 the decision was taken to resume the work begun in 1996. This case study was designed to *retrospectively* investigate the implementation process and the motivating and influencing factors apparent.

The research was inductive, following leads as they arose (Creswell, 1994) fitting into the broader context of qualitative research as suggested by Banister et al (1998):

Qualitative research ... is theory generating, inductive, aiming to gain valid knowledge and understanding by representing and illuminating the nature and quality

of people's experiences. Participants are encouraged to speak for themselves. Personal accounts are valued, emergent issues within the accounts are attended to. The developing theory is thus firmly and richly grounded in personal experiences...

8.2 Selection of an Organisation

Selection criteria for the case study organisation were defined as:

- A company which has recently implemented BS8800;
- If within the service sector, not simply office-based; and,
- If an SME, not less than five employees.

Success in meeting the latter part of the first criterion was to be judged by the organisations approached, who were to be asked if they had implemented the Guide (as opposed to stating that they were in the process of doing so). Whilst it was expected that companies would be adapting to change and identified areas for improvement (ie, continual review), it was important for boundaries to exist for the study to represent a retrospective examination of the *implementation* process.

The requirement for implementation to be 'recent' was developed on the likelihood that a more recent event would retrieve a greater wealth of data, as events would be fresh in people's minds, and incidental documentation may have yet to be discarded.

The remaining criteria were largely pragmatic; because of the centrality of the risk assessment and control process, it was considered pertinent to study an organisation with an element of process or manufacture on the assumption that such would present a wider variety of hazards for consideration. The preference for a 'larger' organisation was based mainly on the legal requirement to record risk assessments, although it also held benefits if one assumes that number of employees is proportional to complexity of operation.

Howitt & Cramer (2000) define quota sampling as a process whereby the researcher approaches those who appear to fit the categories specified for the research. Through the duration of this research, the author has built up a network of colleagues and associates involved in a multiplicity of health and safety activities. In descending order of relevance

these include HS/1²⁴ and OHSAS 18001 committee members, professionals working with BSI, HSE and RoSPA, 'Risk management' consultants, auditors and quality and environment professionals.

A survey of these colleagues was conducted and it was found that whilst a number of organisations had implemented OHSAS 18001 (or certification body equivalents), no-one could cite an organisation which had recently implemented *BS8800*. The same was true of companies the present author surveyed independently.

8.2.1 *BS8800 in the Wider Context of OHSAS 18001*

Chapter seven, *Development of SMS Guidance IV*, highlights the considerable developments that had occurred in the arena of OHS management system guidance and legislation in the period between the start of the research and the second phase of empirical work. This is displayed in Table 16.

²⁴ BS8800 Technical committee

	Status in 1996	Status in 2000
BSI Guide to Occupational Health and Safety Management Systems BS8800:1996	Less than a year in publication	At least four years in public arena
HSE Successful Health and Safety Management HSG65	First edition, some updates including reference to MHSW Regs and ACOP.	Second edition in 1997, revised to fully encompass requirement for risk assessment
HSC Management of Health and Safety at Work Regulations & ACOP	1994. Regs 3 and 4 requiring risk assessment, control and health and safety arrangements	1999. Updated to comply with EC Directive fully, new Reg 5 incorporating Principles of Prevention, also includes third tier Guidance.
DNV - Standard for Certification of OH&SMS OHSMS: 1997	Unpublished	In public arena from 1997 - 99. Superseded by OHSAS 18001
SGS - Safety Management Systems ISA 2000	Unpublished	In public arena from 1997 - 99. Superseded by OHSAS 18001
LRQA - Safety Management Systems SMS:8800	Unpublished	In public arena from 1997 - 99. Superseded by OHSAS 18001
BVQI - SafetyCert	Unpublished	In public arena from 1998. Still available as of Jan 2000. BVQI also certify to 18001.
BSI Product Assessment Specification PAS 088	Unpublished	In public arena from 1998 - 99. Superseded by OHSAS 18001
BSI Occupational Health and Safety Management Systems Specification OHSAS 18001:1999	Unpublished	At least a year in publication
BSI Occupational Health and Safety Management Systems, Guidelines for the implementation of OHSAS 18001 OHSAS 18002:2000	Unpublished	Less than a year in publication

Table 16: Developments in OHSMS related Guidance and Regulations occurring between 1996 and 2000

Whilst Table 16 includes the update of *Successful Health and Safety Management* and the MHSW Regulations, the real impact on this research has been the arrival of, and subsequent developments in, OHS management system certification. Whilst BS8800 is

still available to organisations seeking guidance for SMS implementation, this can now constitute the first step in a certification process, as opposed to forming an exercise in its own right in the mid-1990's.

It was decided that, to be worthwhile, the research should account for the changing environment within which BS8800 is being implemented. As discussed in chapter seven, BS8800 is still relevant to organisations seeking information on SMS implementation, despite the wider certification context, due to the tiered guidance format similar to the MHSW Regulations. Thus the issue of whether BS8800 provides sufficient guidance can now be evaluated within the wider context of OHSAS 18001 as the specification against which it will be judged (eg Stallwood, 1999).

The shift in focus is also justified by the fact that OHSAS 18001 has been widely acknowledged as the 'certifiable BS8800', indeed the former was originally based on the latter (Stallwood, *ibid*). In addition, BS8800 is referenced as one of two key sources of information (alongside OHSAS 18002) in the Specification itself (BSI, 1999). One final point should also be made here, that most of the major certification bodies who had published their own 'certifiable BS8800' standards were represented on the OHSAS 18001 development committee (BSI, 1999), with the aim of developing a 'single, unified document' (Manning & Palmer, 1999). This move to develop OHSAS 18001 was partly fuelled by the need to counteract the proliferation of certifiable standards from certification organisations; all of which were based (in whole or in part) on BS8800.

It was decided that the second phase of empirical work would maintain the dual premise of building on the first, constituting a study of SMS implementation. To establish the research as timely, a third aim was to capture the (considerable) developments in the SMS guidance field by acknowledging the place of BS8800 within certifiable safety management systems. Thus, the case study carried out as the second phase of empirical work was intended to explore an organisations' process of implementing an SMS to achieve OHSAS 18001. The research was intended to establish key elements of that process in order to allow comment on the guidance contained within BS8800.

8.2.2 Selection of a Catering Company

The selection criteria was widened to incorporate those organisations professing implementation of (indeed, certification to) OHSAS 18001. Re-consideration of the various organisations highlighted one that would provide an interesting case study. This organisation had implemented OHSAS 18001 within just one operating unit (as a pilot scheme), having:

- Started OHSMS implementation with BS8800;
- Attempted integration with the quality management system ISO 9002, but found this impossible;
- Audited to BS8800 with poor results;
- Employed a consultant to aid implementation;
- Moved to OHSAS 18001;
- Failed the pre-certification desktop exercise;
- Selected a different certification body; and finally,
- Achieved certification within nine months.

This organisation met the initial selection criteria as:

- Implementation could be verified as complete due to the achievement of certification (with the added bonus that the organisation had started with BS8800);
- The unit concerned has a primary function of preparing and delivering fresh food, thus was not simply 'office-based';
- The Unit employs 32 people.

In addition to meeting these simple criteria, it was felt that there was a 'nice story to be unearthed'; the attempt at integration with ISO 9002, the employment of a consultant, the failed desktop exercise and the eventual rapid achievement of certification.

8.3 Study Design

As mentioned in the introductory paragraph to this chapter, the following elements largely complement the methodological issues discussed in chapter five. However, they

have been developed and reviewed specifically for this element of the empirical work, and are thus presented as separate issues, to ensure that the differences between the two phases are clear.

8.3.1 Qualitative Research

Alongside their statement that qualitative research cannot appeal to a single definition, Banister et al (1998) suggest its components as:

- (a) *An attempt to capture the sense that lies within, and that structures what we say about what we do;*
- (b) *An exploration, elaboration and systemization of the significance of an identified phenomenon;*
- (c) *The illuminative representation of the meaning of a delimited issue or problem.*

This and other definitions of qualitative research (eg Miles & Huberman, 1994; Cassell & Symon, 1994) highlight its appropriateness for this case study. The aim was to gather a retrospective view of the process of SMS implementation; focussing on the accounts from individuals concerned, to explore the events considered meaningful in order to comment on BS8800 as a guide to SMS implementation.

8.3.2 The Case Study Approach

Within the broad context provided above, this research was to constitute a single case study, the use of which is pertinent when the aim is to obtain a holistic view of a specific phenomenon or series of events (Gummesson, 1991). The use of a case study can be classified according to design, in terms of the number of contacts with the study population and the study's reference period (Kumar, 1996).

The second phase of empirical work was to be *cross-sectional* (not measuring change) and *retrospective*, investigating past phenomenon (SMS implementation) on the basis of the data available for the period and the respondent's recall of the situation (Kumar, *ibid*). Sommer and Sommer (1991) further describe the relevance of case study research when the investigation is to be retrospective, as:

Where there is no opportunity for a controlled experiment or before-and-after observations, the researcher may still want to undertake a careful investigation after the fact. A case study is an in-depth observation of a single instance.

8.3.3 Case Study Design

In his description of four types of case study design, Yin (1994) describes single case studies as appropriate where, for example, the case is revelatory or exploratory. An exploratory case study should be preceded by statements about (a) what is to be explored, (b) the purpose of the exploration, and (c) the criteria by which the exploration will be judged successful (Yin, *ibid*).

No specific research question was stated as an impetus for the empirical work, other than the fact that the enquiry was, indeed, to be exploratory in nature. In relation to the initial objectives of the thesis, it is the third that shapes the second phase of empirical work; an examination of BS8800 as a foundation for SMS implementation. The case study was to explore the process of implementing a certifiable SMS, in order to allow comment on BS8800's content, and whether the guidance contained within is sufficient to assist organisations to achieve certification to OHSAS 18001.

Yin (1994) states that the case study design should specify a purpose against which the outcome can be judged successful, which provides the study with boundaries. The study purpose in this instance was to provide an account of an organisation's process of SMS implementation, with a view to commenting on BS8800 as a potential source of guidance. Yin's (*ibid*) third statement specifies the criteria by which the exploration will be judged to have been successful. In his discussion of this element of study design, Yin suggests that there are in fact two facets; knowing when the empirical work is complete (the boundaries of the research, when to stop data collection), and the researcher being able to answer the initial research question.

The boundaries of the research were provided by the research purpose; data collection would stop when the SMS implementation process had been fully captured. This was to be evaluated through the process grounded theorists refer to as 'saturation'; whereby further investigation elicits negligible, or no, new information (Glaser & Strauss, 1967; Dey, 1999). Indeed, Glaser & Strauss (*ibid*) describe how theoretical saturation is reached through the joint process of collection and analysis of data. They go on to explain how this process is depleted when no additional data are being uncovered which

develop the theory further; highlighting grounded theory as an example of the editing approach to qualitative research (Crabtree & Miller, 1992).

Data collection is described in more detail below, but to *establish an account of the SMS implementation process*, a mixture of semi-structured interviews with key informants, and SMS implementation-related documentation and records were to be utilised.

As Yin's third statement (*ibid*) intertwines the ceasing of data collection, and achieving an answer to the research question [research purpose], the present research was designed to do the same. The cyclical process of analysis and data collection would be judged complete:

- When an account of the SMS implementation process had been achieved;
- Where interviews and their analysis failed to raise new issues; and,
- Where inter-interview and documentation comparison yielded only incidental conflicts or issues.

The latter two bullets in particular provide the key steps to addressing the research purpose; once data saturation had been achieved, the account of SMS implementation would be considered complete.

8.3.4 Data collection

Yin (1994) summarises commonly used techniques for data collection in case studies as observation, interview, documentation and records. The latter three were selected for sources in the present case study, thus including in-depth interviews as one of the main sources appropriate to case study data collection (Gummesson, 1991). This multi-method approach (utilising documentation, interviews and a site tour as data sources) reduces the risks that can stem from reliance on a single kind of data (Banister et al, 1998) and also means that triangulation is possible (see below).

8.3.4.1 Interviews

Kvale (1983) defines the qualitative research interview as:

An interview whose purpose is to gather descriptions of the life-world of the interviewee with respect to the interpretation of the meaning of the described phenomena ... neither in the interview phase nor in the later analysis if the purpose to obtain quantifiable responses.

Yin (ibid) adds to the first element of Kvale's definition, stating that questions should be substantive; reflecting the actual inquiry. The question set devised for this research (see Appendix 1) followed the structure of a typical interview schedule (Robson, 1993) and included questions closely aligned to the SMS implementation process.

As the case study was exploratory in nature, semi-structured interviews were utilised in order to maintain common format with all interviewees. This approach maintains enough interviewer and interviewee freedom to explore relevant elements of the implementation process, without being restricted by a highly structured question set (eg, Cohen & Manion, 1980; King, 1985).

Interviews were conducted in either an office environment, or in the Unit dining room (at the instigation of the interviewees), which was empty on the occasions it was used. Interviewees were given an introduction and explanation as to the purpose of the research (see Appendix 1), and assured personal confidentiality. The interviews were then conducted following the question set, lasting between 45 minutes and three hours.

The issue of whether to tape or take notes of interviews was considered alongside considerations of reliability, time consumption and practicality. Whilst tape recorded interviews have the advantage that all material is recorded, these are time-consuming to transcribe, can be perceived as invasive by interviewees, and would not always have been appropriate (ie, for the interviews held in the dining room). The decision was taken to take detailed notes of the interviews as the interviewees spoke, and type them up the same day whilst abbreviations and shorthand notations were fresh in the authors mind. Further details of the interview process are provided under 'reliability' below.

The decision as to *who* to interview was an iterative process, provided by the boundaries set for the research within the case study design. The objective was to gain an account of the implementation process; the flow of leads is shown in Figure 11. Interviews were arranged with the organisational key contact (Health and Safety Manager) and the OH&S consultant, and an interview schedule snowballed as new people were named as part of the implementation process (implicit leads) or suggested as key informants (explicit leads).

It is noticeable that the Duty Manager is isolated from colleagues in the sense that whilst she was mentioned on several occasions in various interviews, she was not suggested as an explicit lead, with the five already interviewed suggesting that all relevant players had been seen. The present author explained the requirement to be sure that all leads have been exhausted, and a meeting was duly set up. This became the final interview, as, whilst useful in the sense of further corroborating data already retrieved, the respondent yielded no further leads in terms of issues discussed, key events described, or personnel mentioned.

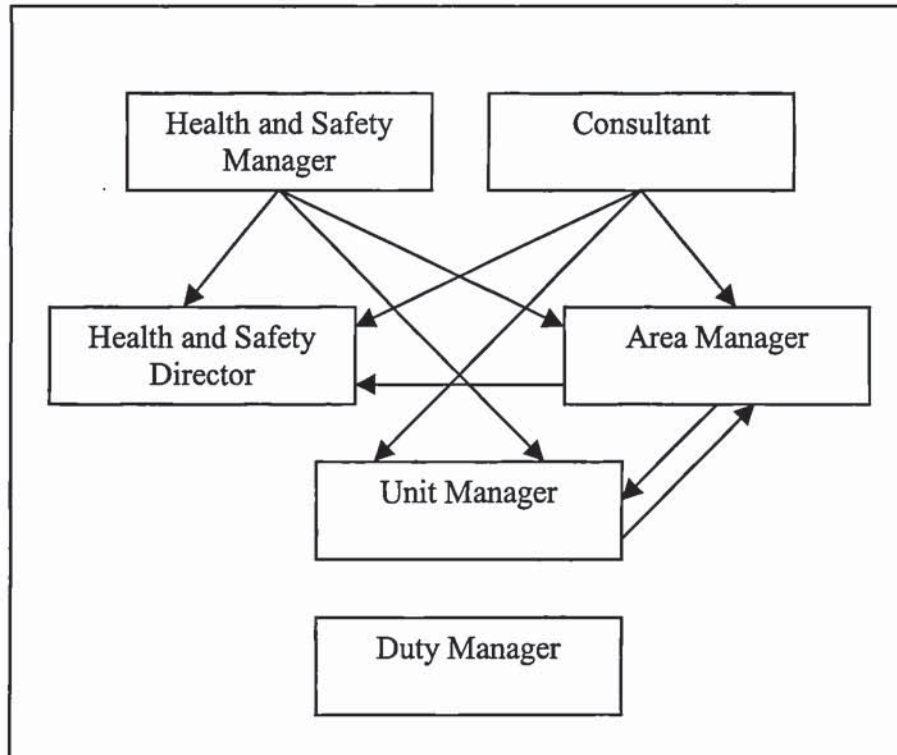


Figure 11: Leads to key informants as suggested by interviewees

8.3.4.2 Documentation

Relevant documentation and records formed another vital data source. The main caveats with utilising secondary sources are validity and reliability, personal bias, availability of data and format (Kumar, 1996). Availability had been ascertained prior to commencing the research; both the key contact and the consultant had offered free access to any material considered relevant (for example, disc copies of the SMS manual were presented to the author at the interview with the Health and Safety Manager).

Thus citing the SMS manual, audit reports and organisation charts as typical of material required, format is also negated as an issue, alongside the potential for personal bias (which Kumar, *ibid*, cites as a problem mainly with personal diaries). Validity and reliability are discussed in more detail below, but again, the nature of the documentation as 'official' or controlled, alongside its triangulation with interview data was felt to be sufficient.

8.3.4.3 Site Tour

Finally, a site tour was conducted, of the kitchen, shop and dining area constituting the Units premises. This was useful both in terms of 'getting a feel' for the unit, and also for witnessing operations in practice to gain an understanding of some of the processes and procedures mentioned by interviewees and cited in the SMS documentation.

8.3.5 Analysis

There are four methods of analysing qualitative research (Crabtree & Miller, 1992); quasi-statistical, template, editing, and immersion. This research utilised editing, which is highlighted in the presentation of the case study, where emerging interpretations are repeatedly compared with the original textual data (Crabtree & Miller, *ibid*). This also meets the criterion specified for grounded theory, defined by Glaser & Strauss (1967) as derived from data and then illustrated by characteristic examples of that data.

Glaser & Strauss (*ibid*) go on to state that grounded theory can be presented either as a well-codified set of propositions or, as in this case, in a running theoretical discussion. The presentation of the case study is thus in accordance with both editing, and it's sub-element of grounded theory.

Data collection and analysis in this instance was thus an iterative process; categorisation and further exploration began at the first point of data collection, continuing throughout the research. Data were loosely categorised to allow main themes and headings to emerge, which are reflected in the case study presentation in the next chapter; issues raised, illustrated and elaborated with cyclical reference to the pertinent data.

The case study data is then used to conduct a comparison of the organisation's SMS implementation processes and experiences, as validated by the wider MS literature, against the guidance within BS8800:1996 *Guide to occupational health and safety management systems*.

8.3.6 Quality of Research Design

Yin (1994) suggests that there are four tests used to judge the quality of research design; (construct, internal, and external) validity; and reliability. Issues of validity and

reliability, alongside a brief description of triangulation methods used are dealt with in turn below.

8.3.6.1 *Validity*

Sapsford (1999) suggests that to ask whether a study is valid, is to ask about the status of the evidence; evaluating whether what is presented as evidence can carry the weight of the conclusions drawn from it. Validity has various facets (Howitt & Cramer, 2000; Yin, 1994; Banister et al, 1998), the steps taken to ensure four of these are outlined below.

Face validity describes the researcher's impression that the measure appears to be measuring what it is supposed to be; that there is a logical link between the questions and the objective of the study. The author and a colleague considered the design of the case study as a whole, alongside the interview question set, and felt that face validity had been achieved.

Retrospectively, it is primarily due to the triangulation methods employed that the author believes that the study design has face validity; the convergence of interviews and documentation suggest that an accurate depiction of events were obtained. Therefore, in terms of an account of SMS implementation, the findings are a true reflection of the process within the organisation studied.

Kumar (1996) links *face* and *content* validity, whereby the latter ensures that terms or questions cover the full range of the issue or attitude being measured. The development of the interview question set was conducted according to these points, whereby each item was considered in terms of the relevance of the data it could (and could not) elicit, and the proportion of representation each was accorded.

Construct validity represents the degree to which a measure responds in the way it is supposed to, is concerned with establishing correct operational measures for the concepts being measured. Yin (1994) suggests that there are three tactics available to increase construct validity:

- Multiple sources of evidence in a manner encouraging convergent lines of inquiry;
- Establish a chain of evidence; and,
- Have the draft case study report reviewed by key informants.

The first two of these elements were present in this case study; interviews were analysed against one another, seeking corroboration of evidence, and were also verified against the documentation sources available. The grounded theory / editing approach warrants following leads and signposts for further information as they arise, manifesting Yin's (ibid) chain of evidence as the research proceeded. The latter tactic was also considered, but due to assurances given of complete anonymity, it was deemed unethical to have one of the interviewees review the report, where all are clearly identified by job title.

Yin (1994) states that *internal validity* is not pertinent for studies which are descriptive or exploratory in nature. *External validity* concerns the extent to which a study's findings can be generalised. Gummesson (1991) has three criticisms of case study research, that it:

- lacks statistical validity;
- can be used to generate hypotheses but not test them; and,
- cannot be used to make generalisations.

On these matters, Yin (ibid) suggests:

The case study, like the experiment, does not represent a 'sample', and the investigators goal is to expand and generalise theories (analytic generalisation) not to enumerate frequencies (statistical generalisation).

This case study represents an exploratory piece of work which does not claim to be representative of any other organisations experiences of SMS implementation. However, in terms of analytic generalisation, the comparison of the case study findings alongside those of previous research explores the extent to which the organisation's experiences are 'typical', and on this combined basis, comments on the guidance contained within BS8800.

It has been proposed that validity in qualitative research is focused on personal and interpersonal qualities, rather than method (Banister et al, 1998), the authors going on to cite Marshall's (1986) definition:

Validity [in qualitative research] becomes largely a quality of the knower, in relation to his/her data and enhanced by different vantage points and forms of knowing – it is, then, personal, relational and contextual.

The key element of Marshall's explanation is in how validity is achieved; enhanced by different vantage points. This was one of the primary benefits of using a multiple methods approach, as outlined in accordance with Yin's tactics for increasing construct validity, and as dealt with under 'triangulation', below.

8.3.6.2 Reliability

If a research tool is consistent and stable, predictable and accurate, it is reliable.

These words of Kumar (1996) succinctly define reliability. Howitt & Cramer (2000) add that reliability is the extent to which a measure will give the same response under similar circumstances. Reliability is essential for validity, although does not ensure it; Sapsford (1999) gives the example of a miscalibrated yardstick, which reliably gives the wrong length. Of reliability, Gummesson (1991) asks the simple question 'If the investigation had been carried out by someone other than the author, using his methods, would the same results have been obtained?'

Reliability is assured due to the broad case study design, accompanied by the triangulation of data. Put simply, the research boundaries were provided by the need to ascertain what the process of SMS implementation involved, starting with interviews with key contacts. Following both implicit (personnel mentioned as involved) and explicit (personnel stated as worth interviewing) leads, resulted in a cyclical process of data collection and analysis, cross-referencing interviews with documentation to gain a full picture of implementation through further investigation where information was lacking or contradictory.

The interview question set was designed according to guidance within methodological texts. Some of the range of factors affecting qualitative interview reliability (Kumar, 1996) could not be considered, but are presented here alongside those which were

successfully tackled. The wording of questions was considered along with their order, beginning with simple questions about the respondent and their background, designed to act as an ice-breaker, putting the interviewee at ease. Prior to the interviews, the question set was reviewed with a colleague, to verify the clarity of questions, and to ensure that they were not leading.

On all occasions, the interviewee selected the physical location of the interview, on the basis that they would be more relaxed in an environment they were familiar with, which is conducive to a successful interview. Two further issues affecting interview reliability are the respondents mood and the nature of interaction (Kumar, *ibid*). On one level, the researcher had no control over the general mood of the interviewee, but was aware of the need to make the interviews a pleasant and non-threatening experience. As a result, she was mindful of the need to put interviewees at ease, and tried to be courteous at all times, cheerful in her introduction, show interest and understanding in their responses, and generally non-threatening in her interactions. Finally, Kumar (*ibid*) mentions the regression effect of an instrument, where the interviewee expresses a different opinion to one previously given. This was checked during the analysis and review of the interviews, and whilst interviewees occasionally elaborated or added to previous statements, there were not any occasions where they contradicted themselves.

There were a few instances where interviewees contradicted each other, or documentation showed inconsistencies with what the researcher was being told. Examples of this included the source of the revised risk assessment schedule, and the postulated reasons for an increase in accidents. Kumar (1996) defines this process as a method of ensuring reliability, compare cumulative results with each other as a means of verifying the reliability of the measure; an external consistency procedure.

8.3.6.3 *Triangulation*

Banister et al (1998) suggest that the multi-method approach gives the advantage of being able to develop converging lines of enquiry, illumination of an issue from various standpoints (see also Robson, 1993). Yin (1988) states that case study findings are likely to be more convincing and accurate if they are based on several different sources of information in corroborative mode.

As data collection progressed, comparisons were constantly made, both intra- and inter-interview, and against documentation, which not only served to check the accuracy of the data collected, but identified further leads and areas for enquiry as the research progressed. Of the methods cited by Banister et al (1998), the following four were most useful, and are described in accordance with the definitions provided²⁵.

Data triangulation – Accounts were collected from a cross-section of personnel involved in SMS implementation, covering different roles and degrees of involvement. This allowed verification of the accuracy of the implementation process, and interviewees corroborated each others' versions of events. Verification was achieved not only where two people with identical involvement described one event in the same way, but also where different roles in implementation were described with an element of overlap; and it became clear how both viewpoints were consistent.

Investigator triangulation – It was not appropriate in the current study to use more than one researcher. However, a variant of investigator triangulation was followed, namely regular communication, discussion and debate with colleagues.

Method triangulation – This form of triangulation was utilised between the interviews and documentation, mainly to ascertain the accuracy of the SMS as described (and aspects witnessed on the site tour) and specified in the SMS manual.

Levels of triangulation – Again, using different methods of data collection to establish different levels of evidence. This was used primarily in ascertaining the events behind a failed BS8800 audit, examining the interview data alongside the certification body's audit report in conjunction with the guidance itself.

²⁵ Banister et al (1998) pp 145-149

8.3.7 Case Study Presentation

The case study in the next chapter is formatted in accordance with methodological texts (eg Yin, 1994; Madu, 1998) and case studies reviewed as part of the research process (including Cooper & Kompier, 1999; Glover, 2000; Krasachol & Tannock, 1999; Staines, 2000; Walker, 1997; Corbett & Cutler, 2000).

Of particular relevance was a paper by Rutherford et al (2000), who compared small firm environmental regulation in Netherlands and UK, and an exploration conducted by Corbett & Cutler (2000), examining the links between quality and environmental management systems was a key influence. The latter research in particular influenced the design and presentation of the next chapter. Corbett & Cutler (ibid) described their research as exploratory, undertaken in order to understand the important issues present, and to identify the practices companies employ to manage environmental impacts. The broad structure adopted by Corbett & Cutler (2000) is in accordance with both editing and grounded theory methods of analysis, and was adapted for this case study through the following elements:

- Introduction to organisation(s);
- Discussion of key factors as identified through interview categorisation; and
- Key quotes used to illustrate each factor.

Corbett & Cutler (ibid) discuss the findings by taking the results out of organisational context to examine wider implications (conducted in this thesis in chapters ten and eleven), followed by comments on further work (forming an element of the conclusions to this work in chapter twelve).

CHAPTER NINE

SMS Implementation at Admiral

This chapter describes the process of OHSAS 18001 implementation at a single Unit of the catering service provider, Admiral²⁶. The first three sub-sections provide a background to, and description of the organisation, moving on to discuss the reasons behind the decision to implement a certifiable safety management system. A failed attempt at implementing BS8800 alongside ISO 9002 is then outlined, bringing the chapter on to the main discussion of OHSAS 18001 implementation. This is presented as a chronological narrative detailing the process and experience of implementation as described by the personnel involved.

9.1 Admiral

The case study organisation provides in-house catering management services, running on-site canteens for client organisations on a contractual basis. Each of these sites is referred to as a 'Unit', staffed by Admiral employees on the clients' premises using the clients' equipment. The company has just over 8,000 Units, with approximately 250 certified to the quality management system standard, ISO 9002. In April 2000, Admiral achieved OHSAS 18001 certification in the Unit at Brompton Premier in Nottingham, a fairly large Unit with 32 employees. This was Admiral's first safety management system certification.

9.1.1 Admiral Health and Safety Management Team Structure

The Health, Food and Safety Director sits alongside the Quality Systems and Environment Director, overseeing the ten Managers constituting the Health, Food and Safety team. This structure, from Board to Unit is shown in Figure 12.

²⁶ For reasons of confidentiality, all organisations and individuals have been given pseudonyms.

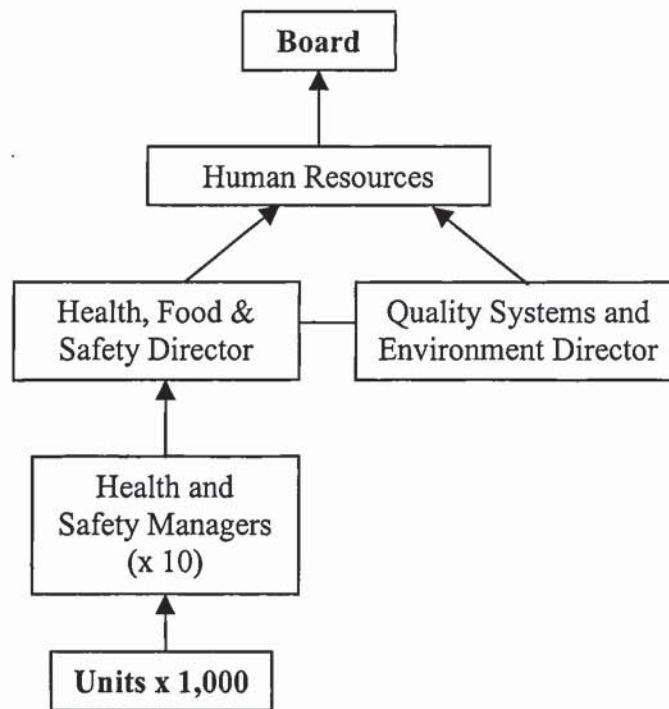


Figure 12: Selective Admiral organisational chart highlighting safety-related reporting structure

The Head of Health and Safety, one of the ten Health and Safety Managers (HSMs), communicates officially with the team weekly via email, and is also responsible for collecting statistics from the HSMs which are then passed upwards through the Health and Food Safety Director. Progress is monitored via monthly reports that include 30 targeted quarterly proactive audits, information which is passed back up to Board Level for evaluation based on key performance indicators.

The team has a dual role, both pro- and re-active, advising Units on health, food and general safety issues, each of the HSMs taking responsibility for Units within one of ten geographical locations. The team also provide Units with policy support, attend management meetings, and monitor and communicate trends within the business as a whole.

9.1.1.1 Key Personnel Backgrounds

The Health, Food and Safety Director (HFSD), and one of the ten Health and Safety Managers (HSM) held two of the key roles in Admiral's implementation of a certifiable SMS. The HFSD stated that he has no formal health and safety background, and that the

HSM and his colleagues have a greater knowledge of day-to-day issues than he would profess to. He went on to explain how both his interests and professional background are far more quality and environment related, that he only gained responsibility for health and safety within Admiral in 1996.

The HSM described his traditional areas of interest and management as training and hygiene, before inheriting responsibility for the ISO 9002 system in one of his previous roles as Training and Hygiene Manager in earlier employment. When Admiral merged with this original organisation in 1996, he was retained and given the new title and responsibilities of Health and Food Safety Manager. In preparation for this role, Admiral funded his attendance on the NEBOSH Diploma, in order for him to achieve Technical Safety Practitioner status. The HSM recalled the outcome of the training as he stated, '... then it was payback time'.

9.1.2 The Motivation for Implementing a Certifiable SMS

The Health, Food and Safety Director (HFSD) instigated the process of implementing a certifiable SMS standard in one of the Admiral Units, and suggested integrating BS8800 with an existing ISO 9002 quality management system. The intention was for the Unit to achieve 'certification to BS8800' via a system provided by Qualspec, who are the certifying body for the Admiral sites with 9002 systems in place. The HSM was charged with overall responsibility for the process of achieving BS8800 certification within the chosen Unit, stating that the impetus for implementing was:

Commercial advantage. There's only so much you can do on the basis of cost that will lead you to winning or losing a contract. Because of TUPE we can't compete on labour costs, and there's only so much discount we can get on purchasing. Everyone else operates within the same restrictions. We were looking for a different advantage. With health, safety and hygiene, some clients couldn't give a toss, but many could. It was the same with 9002; it will make a difference to some prospective customers.

The HFSD explained the background to this, that as a Group it was felt that existing systems of health and safety management were 'excellent', a belief he suggested was proven by their own knowledge of their management performance, and also in their external track record. He cited their accident and incident rates as key examples of their exemplary performance, going on to explain '... we believe that we are doing a great job. We wanted external confirmation of that'.

The HFSD explained the similarities with the organisations approach to ISO 9002 implementation, which had been well received by all units involved, and had achieved the intended results. Thus it was a 'logical progression to attempt the same with health and safety certification'. He reiterated the incentive to receive external validation for the success of the existing systems of health and safety management, finally adding that 'it can be important for our client companies as well'.

Board commitment was gained through a presentation from the HFSD, as he stated 'there was no Board pressure for us to attend to these matters at that time particularly, it was completely our choice'. The HFSD described how the Board were very enthusiastic, that they recognised the benefits in certification prompting a fresh look at health and safety, and were open to the possibility that this could result in improvements. The HSM added that the HFSD had 'given a commitment to the Board' that BS8800 would be in place within six months.

9.1.3 Implementing BS8800

A Unit in Coventry with ISO 9002 was selected for BS8800 implementation, which was attempted for three months without success. The HFSD explained the initial stages of this process:

We originally went with BS8800 as that was the current certification option at the time; we chose Qualspec as they were our certification body for ISO 9002. As [HSM] has probably told you, it didn't go very well, we had lots of problems. In fairness to Qualspec, it was their first go at certifying to 8800, we knew this from the start and were agreed early on that it would be a learning process for both sides. We hoped that we could all learn something from the event.

The HSM mused as to possible reasons for unsuccessful implementation, initially suggesting that 'we have a very narrow scope for 9002, perhaps that's why it didn't fit.' He elaborated on how whilst he was familiar with ISO 9002 both as a system and a specification from previous experience, the BS8800 guide was new to him. As a result:

I tried to adapt the 9002 system, using a combination of the Admiral health and safety manual, but this didn't meet 8800 requirements. The 8800 requirements in themselves threatened maintenance of the 9002 requirements

The HSM went on to state that he found the organisations scope of 9002 'very restricted, and integrating 8800 into 9002 was causing too many changes to our quality system'. The problems were not confined to the systems, as the HSM explained how 'too much

other activity at the initial unit chosen' (who were undergoing kitchen refurbishment) meant that the Unit manager 'simply didn't have the time to spend on 8800'.

The Health, Food and Safety Director emphasised the first issue, suggesting that the problems stemmed from the newness of BS8800 to both sides (the unit and the certifying body), and the structure of the standard, which was 'so dissimilar to our ISO 9002 system'.

9.1.3.1 Admiral's Audit to BS8800 Specifications

Despite their concerns, Admiral asked Qualspec to conduct an audit of their evolving 8800 system. This audit is described on the front page of the ensuing report as 'to assist the organisation in meeting the objectives of BS8800 using the HS(G)65 Successful Health and Safety Management Approach'. The report is in two parts; a three-page discussion of non-compliances, followed by the completed 90-item audit checklist.

The report compares the Health and Safety management elements of the HSG65 model (policy, organising etc.) with those in place at Admiral, highlighting areas where it was considered the 'requirements' of the HSE text had not been met. The definitions providing the scope of the audit were taken verbatim from HS(G)65, for example:

Organisation: the element of the management process by which the mechanisms for delivering policy are formulated and implemented

The results of this initial audit are shown in Table 17 as observations / minor non-compliance, and minor / major non-compliance (sic) according to management system model element.



Table 17: Admirals BS8800 non-compliances by management system element (from initial audit report, 1999)

The main areas of weakness with *policy* were that it was neither signed nor dated, although the auditors also requested that elements of ‘the planning process performance monitoring and review’ (sic) should also be included. Whilst the report suggests that ‘there is an *organisation* in place to implement the policy’, weaknesses in organisational consultation arrangements would constitute a minor HS(G)65 non-compliance. The auditors comment on Admiral’s procedures for *planning* stated (in its entirety):

No health and safety planning is undertaken. Health and safety plans are a legal requirement of the Management of Health and Safety at Work Regulations and as such represent a major non-compliance with the requirements of HS(G)65 and BS8800. Such planning arrangements must be put in place.

A Guidance on Planning Arrangements can be found in Chapter 4 of Successful Health and Safety Management. In particular the plans should follow the following criteria:-

- *Where are we now*
- *Where do we want to go*
- *How do we get there - with realistic timescales*

The certification body’s auditors found that standards of HS(G)65 had been met for *monitoring and performance measurements* (despite non-compliances in 10 of a possible 23 aspects), and also that no systematic *reviews* were undertaken, which was the same

finding for the *audit* element of the management system. The Health, Food and Safety Director went on to explain a subsequent process of realisation, as:

It emerged with time that 18001 would have been the more obvious option, as it had superseded 8800, and was written in the same language as 9002. My role from then was simply to support and facilitate [the HSM].

9.1.4 Selection of a Different Unit, and OHSAS 18001

Following the unsuccessful attempt at BS8800 implementation the HSM approached the Health, Food and Safety Director, who provided a budget for health and safety consultant assistance. The HSM contacted IOSH for a list of their registered consultants, only one of whom was cited as having direct experience of implementing safety management systems to BS8800. The HSM described the next stage in the process:

We decided to stop the implementation at the Coventry site which had 9002, and to move to a Unit which had no certified quality system. We wanted a Unit which had a good management structure, systems people who were known to be disciplined with procedures. I spoke to [an Area Manager] known to be hot on health and safety, generally a real enthusiast who would rise to the challenge. We knew that if this first attempt was at a site without real commitment, it wouldn't succeed.

The Area Manager explains how her units were highlighted as a population, 'because we're good on health and safety, and the client is good on health and safety'. As a result, the Brompton Premier site in Nottingham was selected for the second attempt at certifiable SMS implementation. Brompton Premier is an international blue chip organisation, the site in Nottingham providing the UK manufacturing base for its activities. The Unit Manager 'accepted the challenge for her and her Unit, and the client was keen as well.'

The consultant facilitated the transfer from BS8800 to OHSAS 18001, suggesting that the OHSAS was a preferable system. The HSM described how the consultant 'strongly advocated OHSAS 18001 as the future, also saying that it was much more flexible than BS8800.' The consultant explained his preference for an 18001 system thus:

I suggested 18001 as I felt that if they were buying into a system, 18001 had more scope as a management system, with proper scope for certification. If they went with 8800 I thought they'd regret it, as 8800 isn't designed for certification. I had to explain all this and why. It's a bit like buying a new car; there's no way you'd suggest that someone go out and buy an old Mondeo; they've just brought the new one out.

Both the consultant and the HSM described the importance of key unit staff involvement, the belief stated by the HSM that ‘it was more likely to happen if it was owned by them’. As a result, they ‘intended to write the 18001 system, but with the Unit and Area Manager leading the decision making process’.

9.2 Implementing OHSAS 18001

This section of the chapter describes the process of 18001 implementation as described by those directly involved. The section begins with a description of the Unit, its traditional health and safety management processes, and the motivation at unit level. The remainder of the section provides a narrative account of the processes involved in translating Admiral’s SMS into one that was OHSAS 18001 compliant.

9.2.1 The Admiral Unit at Brompton Premier

As mentioned above, the Unit at Brompton Premier is staffed by 32 Admiral employees, the various roles and the inherent reporting structure shown in Figure 13, within the wider context of Admiral shown in Figure 14.



Figure 13: Organisation for the Catering Unit at Brompton Premier, Nottingham (from Linton-Smith, 2000)

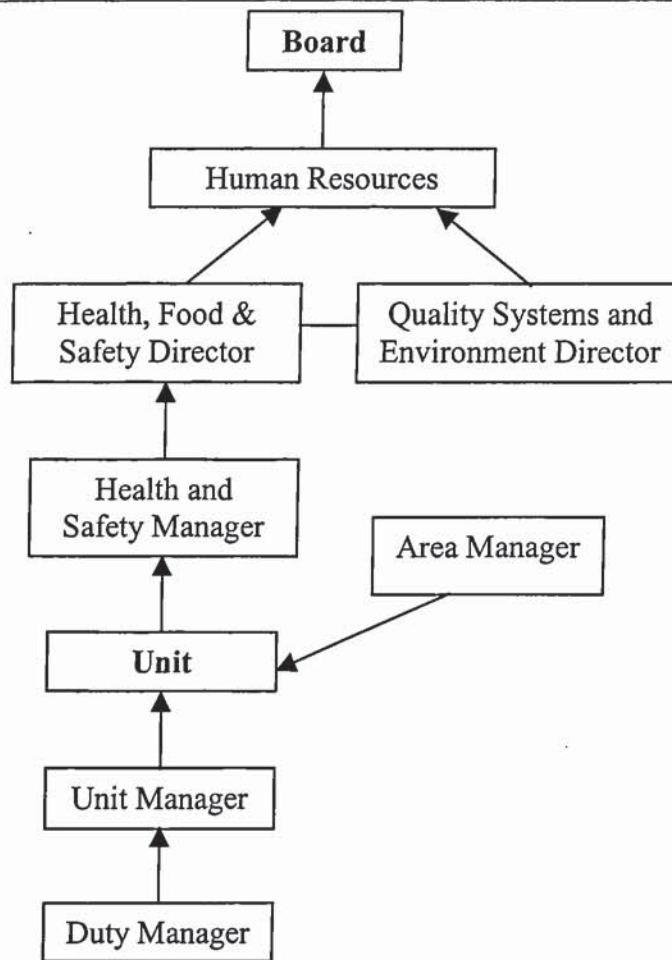


Figure 14: Unit team in relation to Admiral Health and Safety Management structure

The Area, Unit and Duty Managers contributed to the following description of the unit, as was seen on the site visits as constituting a dining area, shop / service area, kitchen and two offices. The Unit Manager described how ‘everything is done on site, preparation, cooking and occasionally, re-heating’. The only time food is brought in pre-prepared would be for ‘VIP events and executive buffets, as the standard required means that it’s easier to do it that way’. She also described how:

The shop is looked after from 5.30 am to 5 pm, although it doesn’t officially open until 6.15 am. So someone works from 6.30 / 7 in the morning until about 11, with another main shift starting at 1.30 / 2 until 8 in the evening. The vending area is open until 6.30 pm. We cover all meals and breaks, including lunch and dinner and the four breaks in the afternoon.

The Unit entrance is directly into the main shop / serving area, which is set out in a similar fashion to self-service restaurants in department stores; divided according to hot or cold meals, beverages, vending machines and cashier stations. This leads into the

dining area that can house approximately 600, divided for smokers and non-smokers sitting at tables seating groups of four. One office is based at the intersection between shop and dining room, with the other at the back of the kitchen.

The kitchen is relatively small, dominated by ovens, grills and so on, with one sub-section allocated as a main washing area. The surfaces are dedicated to the preparation of different foodstuffs, as are the fridges and some items of hardware. There are a number of free-standing preparation machines including toasters and mixers, with others such as the deep-fat fryers and hotplates providing more permanent fixtures.

9.2.1.1 Roles of Key Personnel

The Area Manager described how her role is mainly commercial, that 'whilst there's the food element, I focus on the customer relations side'. She is responsible for 16 Units within the Nottingham / Derby region, suggesting that on average Area Managers look after approximately 20 sites. The Area Managers report to the Operations Director, and are 'the main source of contact through from the office to the Unit'. The Unit Manager described her own role as 'involving everything', which aligned with the Area Managers description of the post, with the Unit Manager elaborating how:

I run the Unit, deal with day-to-day business problems, training, health and safety, staffing issues. While I'm totally responsible, there are some things I delegate. I do client reports, I do reports for the Area Manager. Budget proposals, quarterly revisions, interviews. The Duty Manager is my assistant, she's next in line and helps deal with paperwork, stock-taking and so on.

The Unit Manager described the processes of liaison and communication, reiterating the Area Manager as her main point of contact. Both spoke of how they 'are in touch a lot' on an ad hoc basis, although with official meetings, such as 'for doing figures on a Wednesday'. The Unit Manager also described wider liaison within Admiral, how:

Personnel are in Birmingham on the end of the phone if I need advice on staffing issues, and [the HSM] is there for health and safety. It's all there if I need it.

The Duty Manager's description of her role as a 'jack of all trades' is unsurprising as she shares responsibilities with the Unit Manager, going on to discuss how:

there are some shifts where we crossover between 11 and 4. The Duty Manager does everything the Unit Manager does really, although the difference between us and the Services Clerk is that we deal with the staffing issues and supervision.

9.2.2 Unit Health and Safety Management Before 18001

The Company Directions Manual (Parts 1-3) defines the organisation-wide health and safety management system, and contains the generic risk assessments to be used by all Units. The Unit Manager described how the Directions Manual is used by the Unit, following her statement that prior to 18001 implementation:

We did a good job, we had quarterly health and safety management meetings. We did audits which looked at everything; buildings, food, machinery, staffing issues like PPE, everything. The audit was really just a walk-the-job sheet. We used to take the information from the Directions Manual at each meeting, a bit of something on safety, a bit on health, and discuss it. For example, if we'd had too many accidents due to slips, trips and falls, we'd pick out the bit of the Directions Manual on flooring. We used the meetings as an opportunity for refreshing ourselves on what was said.

Whilst the HSM described the 'machines as causing the main hazards', the Duty Manager described how the hazards and risks in the Unit are:

Down to new starters to be honest. Although they have a day's health and safety induction at the beginning, it's hard to get all the information across in such a small space of time. The induction is really important, as the only other way of getting them into health and safety is during the meetings, which are quarterly.

She went on to describe how this affected employees who had the dual misfortune to start without an induction, when the Unit had recently had a quarterly meeting, which could mean anything up to two and a half months without health and safety training. The Duty Manager explained how this had been a problem in the past, as:

COSHH is important as well, again with new starters. Like with the soap, and you see them squirting loads out as the darker blue the water they think the cleaner things will be. You think No!!! It says only to use one pump, you can't be using more!!! It's dangerous!!! We don't really have a problem with the machines, as they're all fully guarded, and they're not allowed near them until they've been fully trained anyway.

The Unit Manager also described one of the areas of the existing management system that created problems as:

The risk assessments were generic, not specific to site. It often meant that there was a grey area, you weren't sure what you had to do. It was the best guidance available, and it worked in the main, but every site is different. We had a problem with the hospitality suite, as there's no lift up to it because it's on a mezzanine level in between floors. So we had to walk up stairs carrying trays, but because everywhere else has a lift, there was no risk assessment.

However, on the whole, the Duty Manager describes the adequacy of the pre-18001 system:

It was very good. I don't want to blow our own trumpet, but we're a very strong team. We always had quarterly meetings, fault reporting, and were good at chasing up issues or problems. We also go to Brompton Premier's on-site safety meetings, as there's some things down to them that are out of our control. We're comfortable with health and safety now, but I think that's partly because we always were.

9.2.3 Motivation Within the Unit

The consultant described the motivation for implementation for those responsible at the Unit, how he told them that 'if they achieved this it would impact on both their personal development and their careers hugely. He continued:

We did twig about half way through that we would be the first catering company in the UK to achieve certification, which added to the excitement.

The Unit Manager explained her enthusiasm for certification, describing how 'we thought, 'we can achieve this', mainly because we do much of it already, and because it would benefit the Unit and its staff'.

9.2.4 The Implementation Process

The team responsible for implementation consisted of the HSM, the consultant, and the Area and Unit Managers, a group described on various occasions as 'the team of four'. The HSM described how the process of putting together OHSAS 18001 compliant procedures was one of asking 'What have we got already', with the Area and Unit Managers pointing out existing systems and processes. The consultant reiterated this perception of the process, saying it was one of:

matching the 18001 framework with the internal safety management system framework. It's building a new jigsaw from pieces that already exist within the organisation. If anything, you stretch 18001 to meet the organisation's management system, not the other way round.

The HSM described how the Area and Unit Managers initially received the standard:

At the first meeting it all went totally over their heads, you could see them doing this [frowned and sank low in his chair]. Once they'd got to grips with it, it was fine. Although [the consultants] diagrams can be a bit complicated, they helped in the planning stages. He told them it's like playing Monopoly.

This view was shared by the consultant, who explained how he used a flipchart to map the OHSAS 18001 system for the HSM and Area and Unit Managers. He described how

the latter 'looked absolutely lost', but then took ownership within a few weeks, bringing in their own systems to fit within the 18001 specifications:

[The Area and Unit Managers] reactions were completely 'shock, horror'!!! They were frightened by the whole concept at that stage. Me and [the HSM] were talking one language, they were talking another, but we wanted them to be key players in the game. The first meeting was very much like that, we worked through the flipchart, mapping out the 18001 management system.

For example, we went through consultation and communication, and they said they had no existing systems. I asked if they were sure, to think, and they said 'noticeboards?' That's Consultation and Communication!!! It was just a case of formalising their existing arrangements. This is where 18001 is exciting - but you have to focus on who you are and what you're trying to achieve, not simply on what you think you've already got and what 18001 wants.

In contrast to an 'exciting' experience, the Area Manager described how she found the process of implementing:

The 8800 ... HS ... G ... 65 model? Of 18001? There was so much jargon it blew our minds! [The consultant] and [HSM] were so passionate! It's their day-to-day role though, not ours, and a lot of it went straight over our heads, I was looking at the Unit Manager, and she was looking at me ... It took a couple of sessions, but eventually 18000 made sense, and seemed to flow OK as a model to follow. Once we got hold of it in that way, that it was a model, a tangible, flowing process, we moved quite quickly.

She went on to describe in more detail how she felt overwhelmed, and could see the Unit Manager looking the same. She describes how they explicitly decided not to say anything about this to the HSM or consultant, suggesting a better process with the benefit of hindsight:

The key would be a simple introduction for the Unit, involve it's senior management and explain to the Unit how, why, and what it will mean for them. Don't role on HSG and 18000 too soon, because you can't see how it relates to what you do everyday.

The Unit Manager reiterated the experience:

The consultants enthusiasm was overflowing!! I was thinking, 'Can you stutter a bit, give us time to understand?! I can't take it all on board, you have to slow down and explain in language I understand!' 8800, hmmm. The consultant did work to explain what it meant, but it was very daunting. He would explain, then we'd say 'Well, we do x,y,z', and then he'd be happy and we'd bounce off each other.

The consultant described how the first meetings unfolded, often with him acting as a facilitator, citing the following as a typical interaction:

Consultant . . . *What are your existing means of communicating safety information?*

Unit Manager *We don't really have any...*

Consultant *You don't ever have toolbox talks?*

Unit Manager *No - what's a toolbox talk?*

Consultant *[Explained]*

Unit Manager *Oh, you mean like a Take-Ten Talk?*

The consultant suggested that with the 'Take-Ten Talks' and 'News & Views' meetings, it was 'just a case of formalising the system', that means for (with this example) communication were in place, and simply needed to have the 18001 procedures written accordingly. The consultant went on to describe how this difference in terminology occurred frequently, something he suggests was the initial cause of confusion. His solution to this is to 'think of the formal words, then use the informal words with them until they come up with the words that they use. They're good managers, they manage already, just without a formalised structure in their minds.' The HSM described the interaction from his point of view:

The process was one of agreeing procedures which were in line with both 18001 and with what [the Area and Unit Managers] wanted, facilitated by me and [the consultant]. Through [the consultant], we realised that lots already existed in the company, we just had to put everything together. [The original audit company] hadn't made this link.

Having started to scope the 18001 system at this first meeting, the HSM set all four participants objectives, changing the focus of the discussions from 'meetings' as they were initially referred to, to 'workshops' to put the management system together. The consultant explained how the HSM was charged with amalgamating the processes described by the Area and Unit Managers, whilst he was to return with a set of procedures based on 'what roughly came out of the first meeting'. He went on to state that he also included some of the elements he knew to be appropriate through his implementation experience with other organisations, elaborating later in his interview:

I focussed on the procedures. I brought them along as they applied to another organisation (not within the catering sector) and we made changes so that they fitted Admiral. We went through the procedures repeatedly, with the Unit and Area

Managers inputting regularly. I knew what we had to do to meet 18001, what was important was getting the process right in 'catering speak' and Unit lingo, and getting the two to fit together within the wider corporate organisation.

Where the consultant describes this process fairly objectively, the Unit Manager recalled the first three occasions where the 'team of four' met, as:

- | | |
|-----------|--|
| Meeting 1 | <i>OK, can we start again?!</i> |
| Meeting 2 | <i>We started to understand the concept but there were still bits we were struggling with.</i> |
| Meeting 3 | <i>We were much more relaxed and on board. There was much more debate and discussion going back and forth.</i> |

Whilst not a member of the 'Team of four' putting the system together, the Duty Manager described how she reacted to the 18001 system:

I'm second down in the management line, so I had to be audit trained, and I now train auditors. I think I've now got a good working knowledge of the system. The first time I saw it though, I thought 'Oh my God!' It all looked so busy with lots of detail. But we had lots of the things it was asking for already, so we didn't have to change much to get it working. Like training, we've always been good on training, the training plan was already done. It was a case of the others having to slot everything together.

The Area Manager repeats this experience from her point of view:

It was easier to understand why and what once the jargon was taken away. Eventually we took ownership, asking 'Can we have this, can we have that', and usually the answer was yes! Once we grasped it, it was OK, and that was from a mixture of [the consultant] and [HSM] on how the standard could be adapted for the Unit.

The Area Manager explained how the process of implementation was one of maintaining the Unit's normal ways of working. She described a process whereby her and the Unit Manager decided what they did or wanted to do, with the HSM then fitting these into 18001 compliant procedures.

9.2.5 Qualspec Desktop Review

Once the 18001 compliant procedures were in place, Qualspec were asked to conduct a desktop review (DTR), which resulted in a major non-conformance. The consultant disputed this, and as a result Admiral changed their certifying body.

A DTR is the pre-certification audit, defined by the consultant as to 'identify what needs finishing off to achieve certification, which saves a lot of heartache'. The DTR was attended by the HSM, the consultant and the Unit and Area Managers. These interviewees were in broad agreement as to the nature of the review, the Area Manager suggesting that it 'was confusing, there was lots of jargon being thrown around', with the HSM summarising the experience:

It all went OK until we got to 'Operational Control', then it went to pieces and there were arguments.

The consultant described how the auditor went through the procedures too quickly, and was aggressive in his questioning, although tending to accept the consultant's responses with little request for explanation or elaboration. The auditor had suggested that the 18001 specifications for *pro-active* and reactive monitoring were not adequately met, as Admiral procedures simply described 'active' performance measures; the lost prefix resulting in a non-conformance. This wasn't the only proposed non-conformance, as in the consultants words:

The auditor couldn't agree with us what Operational Control was. He wouldn't accept that Admiral's manual was sufficient for Operational Control as the elements described weren't actually there in the system. We spent an hour debating. It was very bizarre. The auditor picked up 18002 and asked me to show him where risk assessment was within the Admiral procedure for Operational Control. I was shocked by this. The auditor got even more aggressive and carried on disagreeing. He thought Operational Control was like a management system within a management system.

The consultant suggested that the auditor was looking for more detail than 18001 actually requires. He maintained that the non-conformance was a result of the auditor not understanding the requirements of the OHSAS, that the 'spirit behind' the Operational Control clauses had been met. The auditor responded that 18001 compliance is not about 'spirit, it's about what's written down'. The consultant recalled one part of the conversation:

Auditor	<i>It says active, not pro-active</i>
Consultant	<i>In health and safety speak they mean the same thing</i>
Auditor	<i>Where's that stated?</i>
Consultant	<i>Everywhere that gives health and safety guidance - look at HSG65.</i>

The consultant believed that the problem with the auditor was that he was a 'quality practitioner, not a safety practitioner, and a pure quality practitioner at that'. He elaborated on the problems of increasing convergence of quality and safety management systems and auditors, asking the rhetorical question:

For the 9000 series, do you need a quality practitioner? Quality practitioners can't easily become safety or environment practitioners, but safety and environment can quite easily move to quality though. You HAVE to have a working knowledge of managing environment or safety management. If a quality practitioner saw a person not wearing PPE, they'd issue a non-conformance on the spot. But a safety practitioner would understand why the problem exists.

The consultant then returned to his description of the failed DTR, stating how the auditor was:

Assertive to the point of aggression. Poor [Area and Unit Managers], I was there having to defend the system. I felt bad that they didn't get the chance to contribute.

The Area and Unit Managers appeared equally frustrated by the experience, with the Area Manager suggesting that the auditor didn't understand Admiral's' objectives, and was 'really imposing and rigid'. She recalled how the auditor 'kept asking for the exact specifications as in 18001, and not listening to the procedures in place for Operational Control' at the Unit. The HSM described the exact nature of the problem:

The Qualspec auditor was an expert in quality, not health and safety. He gave us a major non-conformance which we told him to refer back to his office. He didn't agree with what we'd written, said it wasn't to the words of 18001, he refused to see the spirit of conformance. We ended up writing a supplementary manual for Operational Control, which was our last straw with Qualspec, so we went to QTA.

9.2.6 QTA Certification

The selection of QTA was at the instigation of the consultant, who used this company for a number of his existing 18001 clients, and thus 'knew what they'd be looking for'. The QTA auditor agreed that Qualspec had misunderstood the 18001 requirements, and that issuing an Operational Control non-conformance was excessive.

The consultant described how he 'told [HSM] a few tricks from my experience of desktop reviews in the past'. He went on to elaborate his confidence in QTA, as the lead auditor had audited and certified 'his' organisations in the past, and was aware of how the systems in place aligned with those required by 18001.

QTA visited the Unit to conduct a desktop review shortly before the certification audit, the HSM describing how 'they found a few things, but had no problem with operational control'. Also prior to the certification audit, the consultant held a days training for the internal auditors, which was one of the last times he worked with Admiral on their 18001 system. The HSM explained:

We let [the consultant] go 3 months before accreditation as we both knew that we had to hold the reins ourselves, and needed to audit everything ourselves prior to certification. We knew that the longer [the consultant] was here, the more we'd rely on him, and we had to demonstrate that it's our system. It was a steep learning curve, but we were pleased with it.

He went on to quantify that it took 'nine months to go from contacting [the consultant] to getting certification', which was achieved in April 2000 with just three minor non-conformances. The consultant conveyed the auditors statement that Admiral's were the 'best set of procedures and systems he'd seen to date'.

9.2.7 Benefits of the 18001 System

The benefits achieved through implementing OHSAS 18001 were stated as including personal elements such as professional development and staff OH&S awareness. This latter point was highlighted by the Unit Manager, who explained how

If anyone has an accident, people say 'No! Not another one!' We have monthly meetings now, and 18001 is talked about at most of them, where we highlight the outcomes of the new processes and procedures.

Indeed, general SMS improvements were cited as the documentation, with the new risk assessment and safety system improvement procedures (SSIRs) specifically referenced. Also, as the HSM suggested, one of the most important achievements was 'the certificate, the proof to the clients'. The Health, Food and Safety Director also mentioned more fundamental benefits, reflecting how

[the HSM] has done a sterling job, and I think it's been really positive for his personal and professional development. Not wishing to detract from that, it's the perceptions from the local management teams that is important; they're still very keen and enthusiastic. It has been embraced fully at the Unit, which is a good indicator of the overall success.

The HFSD went on to describe 'a main benefit of the new system is the new approach to risk management that [the HSM] has developed. The new approach to assessments and specification of controls has been hugely successful'. This was reiterated by the HSM

The main benefit is the new risk assessment process. It's a big improvement on the generic system we had prior to the merger, where many of the controls were outside of people's responsibilities.

The Unit Manager went on to discuss how the new systems in their entirety are now far more accessible, with the main benefit of

The documentation itself is really useful. It's brought our whole system into one specific file which anyone can look at whenever they want to, you don't have to look for lots of different documentation anymore. Everything in relation to safety and how it's managed is on hand.

Elaborating on a point made by the consultant above, the Duty Manager agreed that whilst very few changes had to be made to the existing SMS,

improvements were made, definitely. There's a hell of a lot greater detail now, from the need for continual improvement. The SSIRs are good, and it's good to be auditing more frequently now. It's good, we used to look at some health and safety matters maybe once every three months, but now most parts are done day-to-day instead.

The Duty Manager went on to describe how the 18001 system 'definitely belongs to the Unit',

... and we're really proud of it. There were times when we didn't think we'd crack it. Then when we got the certificate, and they came down and took the photos - it was good. The staff were really thrilled, we've had so many meetings where they talk about 18001, it's been really good.

9.2.8 18001 Safety Management System Alterations

In this section, focus is upon those elements of the Admiral 18001 SMS given particular emphasis by interviewees as requiring alteration in order to achieve 18001 certification; namely policy, risk assessments and safety system improvement requests. The section includes excerpts from the Admiral procedures where appropriate.

9.2.8.1 Occupational Health and Safety Policy

The Admiral Policy is included as Figure 15, and was one area where Admiral had to adapt to the mother organisation's SMS, as the Group Policy stated neither a commitment

to continual improvement, nor the processes of active and reactive monitoring. The HSM described the solution to this

We couldn't persuade the Board to change the existing policy, so we wrote a supplementary one for the Unit, to sit alongside the existing company one. It's traditional in catering, that health and safety is not high up on the Boards' agenda.

Indeed, the procedure on *policy* includes the statement that the Unit policy is 'secondary to the Group Health and Safety Policy signed by the Managing Director'.

UNIT HEALTH & SAFETY POLICY STATEMENT

The Unit believes that effective health and safety management contributes to its business performance and the health and well-being of its employees. As well as complying with the Health and Safety at Work etc. Act 1974 and other Occupational Health & Safety Regulations, our aim is to lead, to establish best practices and to use best established methods of health and safety management within our catering operations and to further develop this through a Process of Continual Improvement.

We recognise that our staff are an important asset and we aim to maximise this resource through clear channels of communication, and by establishing training and competence objectives at all levels within the unit. Health and Safety management within the unit is measured by:

Active Monitoring: Through internal Health and Safety inspections, Client safety inspections, Unit and internal Safety Audits.

Reactive Monitoring: Investigating and recording occupational ill health, injury and damage to property.

The outcome of this monitoring is reviewed at routine safety management meetings, both formal and informal. Safety within the Unit is managed through arrangements and procedures laid out in the Company "Directions 3" Hygiene and Safety Manual.

Effective control of health and safety within the Unit is achieved through co-operative effort at all levels within the business. Responsibility for ensuring the co-operation is led by the [Unit Manager] and is identified in individual Safety Responsibility Statements issued to all staff. In order to achieve the process of continuous improvement, annual Health & Safety objectives are established at the beginning of each calendar year.

Planning and implementing safety is achieved through the process of risk management, observance of legal requirements and suitable management arrangements, as laid out in our Safety Management System. The Directors of the Company undertake to ensure that suitable and sufficient resources - in terms of time, finance and personnel - are made available to carry this Policy into full effect.

.....
[Unit Manager],
Admiral Catering (UK) Limited
Unit: Brompton Premier Limited Nottingham

Date: 1st February 2000

Figure 15: Unit Health and Safety Policy Statement

9.2.8.2 Hazard Identification, Risk Assessment and Risk Control

There were many occasions where interviewees highlighted the benefit of 'the new risk assessments', stated to be an improvement over the 'old generic ones'. The new procedure for risk assessments has to be localised, with the SMS documentation stating that the Unit system shall identify the following:

- Work Activity / Operation likely to be undertaken
- Potential Hazard from that activity / operation
- The potential risk from that hazard
- Quantified level of risk (without any existing control measures)
- Brief description of risk controls
- Level of risk (with risk controls implemented)

The process of hazard identification and risk assessment as part of the wider SMS is shown in Figure 16, a diagram that forms part of the procedure in the safety management manual. The Unit Manager is responsible for hazard identification and risk assessment, although the procedure states that assistance may be sought from the Area Manager. The manual states that the Admiral risk assessment shall be used, 'with further assessment where local conditions increase or change the risk'.

The risk assessment pro forma is included as Table 18, and has been adopted by other Units, as the HSM suggested 'not because they're going for 18001, but because word has spread that it works'. The consultant described the instigation for the new pro forma:

It quickly became apparent to [the HSM] that the existing risk assessment procedure wasn't sufficient, so as a result we changed the whole process. I identified a process that he liked, and he changed it so that it would work for the Unit ...

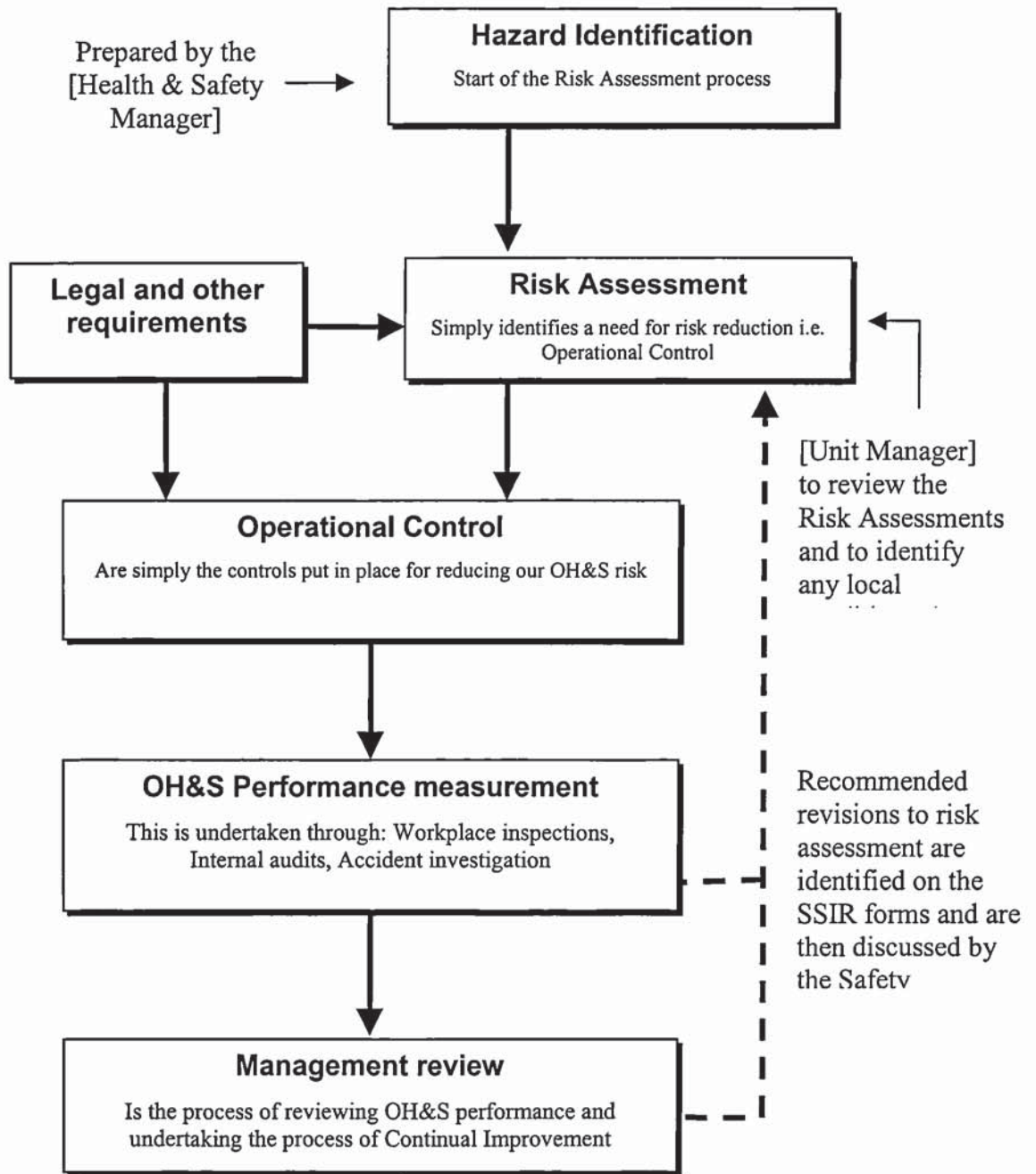


Figure 16: Process and guide for Hazard Identification and Risk Assessment

Operation	Sealing food bags and sandwich packs using electrically heated sealers, including crocodile sealers, contact sealers and 'L Bar' sealers		
Hazards	Contact with hot surfaces and hot wires Electrical hazards		
Risk of	Burns Electric shock		
Quantified level of risk (without risk controls)	Likelihood of occurrence 1. Most unlikely 2. Unlikely 3. Possible 4. Likely 5. Most likely 6. Certain	Consequence of occurrence 1. Trivial injury 2. Minor injury 3. Major injury 4. Major to several people 5. Single death 6. Multiple death	Risk Score = 9 Uncontrolled risk level - MEDIUM
Brief description of controls	1. Use and maintenance of sealers following manufacturers instructions 2. Sealers maintained by competent persons including annual PAT tests 3. Only trained staff permitted to change the hot wire 4. Staff trained in the hazards and the correct methods of using bag sealers 5. Implementation of the controls listed in the 'electrical safety' risk assessment 6. Implementation of the 'Electrical Safety' procedures in Directions 3		
Quantified level of risk (with controls)	Likelihood of occurrence 1. Most unlikely 2. Unlikely 3. Possible 4. Likely 5. Most likely 6. Certain	Consequence of occurrence 1. Trivial injury 2. Minor injury 3. Major injury 4. Major to several people 5. Single death 6. Multiple death	Risk Score = 3 Controlled risk level - LOW
LOCAL CONDITIONS WHICH INCREASE THE LEVEL OF RISK. DESCRIBE THE HAZARDS - IF NONE, WRITE 'NONE':			
ADDITIONAL MEASURES TO REDUCE THE RISK TO THE CONTROLLED LEVEL:			
QUANTIFYING THE LEVEL OF RISK: Multiply likelihood by consequence: 1-6 = Low, 8 - 10 = Medium, 12 - 36 = High		WHO IS AFFECTED? Specify personnel by role	

Table 18: Unit Risk Assessment - RA01, Bag and sandwich sealers.

The Area Manager elaborated on the Health and Safety Manager's description, stating that:

It's good, the managers have to localise it to their Units ... the first time we saw it we were like 'Yeah, right', it took time with [the HSM] to see how it flowed. There's lots of information on them, you think 'What do I do with this?' But when you actually follow through it, it's quite logical.

She went on to comment on how the risk assessments and other new elements of the system have helped to improve the hazard identification and risk control process as a whole. She suggested this increased efficacy is prompted by the detail required and the need for localisation, which is also 'helping us to continually improve'

Both the Unit and Duty Managers were in agreement, the former explaining how for the first time, risk assessments 'actually get looked at now, and aren't brushed aside'. She went on to describe how the process has permeated the Unit:

We have changes in managers, new equipment comes in, so we do a new risk assessment. I'm responsible for the risk assessments, but [the Duty Manager, Head Chef and Customer Services Clerk] actually do them. We have a risk assessment calendar, which means that they're scheduled like audits are. The fact that the assessments are done by the chef - you can see how it's really owned by the team.

The Duty Manager also commented on the sheer level of detail on the risk assessments, stating that the key to her comprehension was once she understood 'how you get to high, medium or low risk'. She went on to explain how the Unit was due to be taking over this element of document control, so that they can change assessments as and when they need to. The Duty Manager went on to state the improvement over generic assessments, how:

They're better than the previous ones we had. We can easily work them out for new equipment say, get ourselves a score, and then go through them with [HSM] to check them.

9.2.8.3 Safety System Improvement Requests

The Safety System Improvement Requests (SSIRs) (Table 19) were developed in order to meet the 18001 specification for accidents, incidents, non-conformances and corrective and preventive action. The HSM described how they were designed for employees to raise their safety concerns, that SSIR forms are kept in general areas where employees can have anonymous access. They are intended to be used to 'improve the system, to make changes', and the accompanying SMS procedure states that they can be used at any time to report situations 'with the potential to cause accidents and incidents'.

The Company Safety Management Procedure outlines the process for raising and attending to SSIRs; the Unit Manager is responsible for agreeing and recording the resultant corrective and preventive actions, also specifying dates for their implementation and review. SSIRs are raised at the next safety management committee meeting, whereby related risk assessments are subject to review, and recorded as actioned on the individual SSIR form.

The procedure goes on to state the requirement for the Unit Manager to raise a new SSIR where actions are 'not effective', which then goes through the same process of review at the next safety management committee meeting. Should the second SSIR remain ineffective, the form is referred to the Area Manager who shall either instigate new actions, or raise the issue with top management.

The Duty Manager described SSIRs as 'useful to go through with staff', the Area Manager adding that:

Having people send the SSIRs through is good for me as a manager - it's the action involved, it brings everything together. It's comforting knowledge, knowing that everything is being brought together ... The accident forms now go formally through the SSIR process, so there's emphasis on the system there too.

Safety System Improvement Request (SSIR)	
Unit Name & Location:	Date of SSIR:
Name of person making SSIR:	
Do you wish this request to remain confidential? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Would you allow your ideas/suggestions to be shared with others? Yes <input type="checkbox"/> No <input type="checkbox"/>	
EXPECTED RESULT OF SSIR - tick box(s)	
Employee safety improvement <input type="checkbox"/>	Customer safety improvement <input type="checkbox"/>
Accident / near miss prevention <input type="checkbox"/>	OH&S Management System improvement <input type="checkbox"/>
Audit result improvement <input type="checkbox"/>	Remedy a safety system non conformance <input type="checkbox"/>
(State Procedure No.) <input type="checkbox"/>	Other (State)
<i>Current problem / situation (Brief description with examples if possible)</i>	
<i>Proposed corrective and/or preventive actions:</i>	
Improvements agreed by management:	
Actions to correct the problem or situation	Actions to prevent or reduce likelihood of further recurrences
Managers Name:	Signature:
Implementation date:	Review date:
Improvement measures effective? Yes <input type="checkbox"/> No <input type="checkbox"/>	If No, enter date when new SSIR raised Date:
Describe what was looked at to confirm the effectiveness of actions taken:	
Important Note: If measures are not effective or the problem remains unresolved after raising a second SSIR form, this must be referred to the Area Manager who will decide on any further actions necessary to conclude the issue(s).	

Table 19: Unit Safety System Improvement Request Form

9.2.9 OHSAS 18001 Continual Improvement

At various times, the 'team of four' described how the implementation process was one of constantly building upon and reviewing both existing and developing procedures, a continually improving system from the very beginning. The Monopoly analogy was cited many times, explained by the consultant:

18001 is just like Monopoly. Who learns to play Monopoly by reading the instructions? You just get on and go round the board. And then you go round again. As the workshops progressed we started building houses and hotels! We built the management system in a series of repeated stages, filling more in each time, not by going from A to Z.

The HSM described how he wants the Unit to be managing the documentation for themselves within the next three to four months; a process the author witnessed as she visited the Unit a week after interviewing the HSM. This was the day the electronic version of the SMS procedures had been delivered to the Unit Manager.

The HSM suggested that to date he has been needed to drive the system, with the Area and Unit Managers looking to him for solutions. He was keen for them to realise that they can 'do it on their own', and was planning to pass overall control to the Area Manager in order to facilitate a process he described as 'Unit ownership'.

The Area Manager appeared to agree with this aim, saying that the 18001 system is increasingly becoming 'The Units', that the next 6-8 months would be critical to them taking full ownership. The Unit Manager discussed how she felt that the system was owned by the Unit already, despite:

A lean stretch last year, with the trainer on maternity leave for example. But now everyone's back in and knows the system's there. We took them through it right at the end, so they wouldn't get confused, so we could go through the whole system with them all in one go. Our meetings are very productive every time. The 18001 manual is a working document, things are always happening that are related to our systems, so there's constant updating to be done. It's an ongoing tool for continual improvement.

9.2.10 The OHSAS 18001 'Standard'

The Area Manager's impression of OHSAS 18001 succinctly summarised those given by other interviewees, as a document:

... written in typical health and safety speak, quite difficult to interpret what it meant. More than that, what it meant to us. It says 4.6 this, 4.7 that ... what? There were heaps of clauses. [The consultant and HSM] were really good, said to put it aside, forget what we'd just read, and think of it like this, this is what it means. We started to succeed when we'd removed the jargon.

The consultant reduced OHSAS 18001 to 'basic health and safety management. As long as companies are managing safety, they should have no problem getting OHSAS 18001', going on to describe OHSAS implementation as a process of problem identification and solution. He explained why organisations find this process easier with his (or other consultancy) assistance, also suggesting an area where the OHSAS 18002 document is deficient:

I know the tools that should be brought in that make things so much easier - I know the procedures and how to start mapping them. I think the guidance should be better in terms of the auditing process, and we need better auditors.

The consultant also described the inherent benefits of implementing a system that is transparently aligned with a management model, a case he cited for both OHSAS 18001 and ISO 14001, suggesting this makes them easier to follow. He also suggested that this is a problem with the 9000 series, whilst based on PDCA, problems arise as '9002 isn't based on a management model. Many organisations take 9002 and try to develop a model on it, not on themselves'. This is reflected in his preferred method of 18001 implementation, as stated above, whereby:

The process we went through was one of matching the 18001 framework with the internal safety management system framework. It's building a new jigsaw from pieces that already exist within the organisation. If anything, you stretch 18001 to meet the organisation's management system, not the other way round.

9.2.11 Views on the Process of Implementing OHSAS 18001

All those involved described the process of 18001 implementation as a challenge, although one that got easier as time and workshops progressed, facilitated by the dynamics of the 'team of four'. The HSM stated that:

At first it was quite difficult, it was easier once [the consultant] was on board as we could see the way forward in terms of identifying what already existed. It was really good from a personal point of view ... We definitely needed consultant input.

The Area Manager described the role of the consultant, stating that whilst the Unit could have implemented 18001 successfully without his involvement:

It would have taken considerably longer. It would have been more frustrating and confusing. He guided us through, also I think he guided [the HSM] through as well. He was our main link through the jargon.

However, the Unit Manager thought that the HSM provided the most useful assistance, mainly assisting her and the Area Manager to see 'it all coming together'. The consultant specified why he believes organisations find implementation easier with consultant input, as 'I know the tools that should be brought in that make things so much easier - I know the procedures and how to start mapping them.'

The consultant stated that process of implementing 18001 within Admiral was 'much easier' than that in other organisations he has assisted, as Admiral was 'more switched onto management' than he had previously experienced. The Unit Manager suggested that 18001 achievement was 'relatively easy, as the Unit had much of what was required in place already.' The consultant elaborated:

Two things impressed me: their aptitude, and the knowledge of managing safety that they had that allowed them to deliver, they had so much there already, it was just a case of making sure the procedures were re-written for compliance. Admiral had set an objective and they believed they could achieve it. They were very driven.

We were lucky that all members of the team worked well together on the project, it was well balanced. If you wanted the perfect team, you couldn't ask for more. It was a balanced team, with the managers implementing, [the HSM] as safety adviser and me to help. It wasn't a case of 'it's your system, you develop it', it was one of complete ownership; the system was developed by the Team of Four.

One element of the research that took a while to unfold was the exact source of some of the newly instigated processes and procedures; the risk assessment in particular. It transpired that this was a pro-forma developed by the consultant and used widely by a number of his existing clients. This was the same for the safety system improvement forms, as the consultant described:

the way it works is that you give them 3/4 of the picture, and they'll take it further than you ever could. [The HSM] was responsible for making it corporate friendly, I gave it to them 75% complete, and they finished it off by putting the Admiral stamp on it. It means that they have no choice but to take ownership.

The consultant cited the key reason for success at Admiral, stating that 'You can't do it without the co-operation of the people who are going to have to use the system. This is why it was successful at Admiral. I was a facilitator, [the Area and Unit Managers] were the key factors for success'. The Area Manager summarised her feelings with regards implementation as:

I enjoyed it, it's been very beneficial ... It's been a mammoth amount of work, but I enjoyed the process. I wasn't aware that there would be so much work involved. It's demanding, not in a negative way, but it is demanding ... It's rewarding to see it now as the formal system for the Unit, the team have really picked it up and run with it.

When asked to summarise her thoughts, the Duty Manager laughed and suggested that the 18001 implementation process was very hard work, although once she understood the process of continual improvement, she became more confident. She reiterated a point made implicitly several times, that 'understanding by doing' was particularly beneficial:

After the audit training even, I didn't necessarily understand what was going on. After we did the training, [the HSM and the consultant] let us do some audits on our own, and I think it was then that we started to piece it together. Then, say three or four weeks later, me and [the Head Chef] had a few more goes, asked questions of each other as we were going along, got used to what we were doing, then it was OK. The more you play with it, the easier it gets.

The Duty Manager stated that one of the hardest things was:

at the beginning, getting the importance of 18001 across to the staff, they just weren't used to systems on that scale. There's a big difference between showing them the procedures and then them seeing how it fits into practice. The risk assessments were a bit like that. We read them to them over a day, and about half way through the session they started to go 'Oh yeah...'

As stated in chapter eight, the author had agreed to provide the organisation with a report of her findings, to contribute to the process of Admiral implementing 18001 at other sites, learning from the process of implementation at Brompton Premier. As a result, a few interviewees offered their opinions of which aspects of implementation should be shared, or could be improved; these opinions forming the next main category for discussion.

9.2.12 Implementing 18001: Key Advice

The HFSD described the next stage for 18001 within Admiral as to follow the process carried out with ISO 9002, to 'roll out' the system as widely as possible. He went on to state that certification would be an impossible aim across all 8,000 sites, suggesting the OHSAS 18001 system itself (as opposed to the certificate) as providing the main

incentive. Staff are aware of this aim, and the comments offered by the Area Manager highlighted her complete knowledge of the OHSAS 18001 system, her acceptance of continual improvement and the iterative nature of the SMS as a whole:

From the start you need to look at the objectives stage, what you want to achieve and how it all fits into the Unit. We went from this to the health and safety bits, and lost the objectives of why and how. Simplicity is needed from the start. We got used to 18000 eventually, saw the links, but only when we were well into it ... As a Company now, we need to look at what we want to do. I'm concerned, not because of the calibre of Managers like [Unit Manager at Brompton Premier site], but how they should be trained in. It definitely needs training in, we could have something like a buddy system. [The Unit Manager] had to do it in isolation.

It could form part of our continual improvement, being part of brainstorming meetings, looking at core learning, communicating with other Units ... You've got policy over here, and implementation over there - there's a big grey area in the middle. We found that you can get the documentation to work for you, to get you from the objectives in your policy, to the other side of actually being fully implemented.

The Unit Manager reflected on the process of how she struggled at first, and suggested that the introduction to the system needs to be simplified before implementation is attempted at other Units, 'putting it across in a more relaxed way'. She went on to explain how it would be beneficial to adopt a 'Unit-to-Unit' approach, whereby her and the Area and Duty Managers could explain to others how it works and what is involved:

Then they can look at delivering at Unit level. People don't like change, also this sort of thing can be frightening. Unit to unit would be easier, it lessens the fear of change. Otherwise people can switch off and back away.

The Unit Manager went on to describe how this process would not be that different from the one the 'team of four' used, with the addition of peer support as:

Although the system is very much ours, health and safety is not my field. So if we are going to train other Units, I would do it in exactly the same way. The consultant's enthusiasm was catching, and he knew exactly what he was talking about.

The Duty Manager reiterated the need for a training aid, to assist in explaining the 18001 system to prospective Units in simple terms. She suggested an explanation early on in the process, covering 'what it is, what it's about, what's involved and how you do it'. She warned against bringing 18001 terminology 'in too soon, just explain the process and what's involved in simple terms'. The Duty Manager continued that:

It would be useful say, to have a flipchart with all the 18001 requirements down one side, and show them on the other how much they've got in place already. If they could see from the start how much exists already, it wouldn't be so scary. The team here

were really receptive, but they're a good bunch. In other Units you might have to explain a bit more.

The Duty Manager culminated her interview with the following advice for the next Admiral Unit to attempt 18001 implementation:

Don't be afraid and don't worry. It's a good working tool, and will turn out to be closely aligned with the system they're using already. As long as they're actually doing what they say they are, it would all be OK. Things like the risk assessment and the training, things like that are in place already, and procedures will be written to suit what they're doing. The hardest part is getting to that stage, seeing how it relates to what you're doing everyday. After that it's just hard work!

CHAPTER TEN

Discussion I

This, the first of two discussion chapters, critically evaluates the Admiral experience of OHSAS 18001 implementation. Although by no means a process without false starts and challenges, Admiral's OHSAS 18001 implementation was a success; the Unit achieved certification to the SMS standard within nine months of embarking on their renewed attempt. Here, themes as they emerged from the narrative description in chapter nine are taken in turn, discussed alongside a review of the wider management system implementation literature, and management system standards and guidance. This leads into the second discussion chapter, which evaluates the wider considerations of the research for BS8800.

10.1 Motivation for Implementing SMS Improvements

There are two main factors which motivate organisations in the UK to initiate health and safety improvement; fear of loss of corporate credibility, and a belief that it is necessary and morally right to comply with health and safety regulations (Wright, 1998). Wright (ibid) defines these and other factors as *primary* (creating a positive pressure to act) and *secondary* (reducing motivation arising from primary factors), the distinction between the two is highlighted in Table 20.

It has been found that such primary motivators are also effective in initiating quality and environmental management system improvement; Rutherford et al (2000) cite the Baylis et al (1998) study of manufacturing SMEs involved in catering and engineering in South Wales and Humberside. The research identified common stimuli encouraging environmental improvement as:

- Regulation (75%)
- Increased profits (57%)
- Supply chain pressure (34%)



Table 20: Approximate ranking of primary and secondary motivating factors for SMS improvements (Wright, 1998)

In an examination of motivations, processes and benefits of ISO 9001 certification within a Swiss hospital, Staines (2000) cites instigating elements as: ethical belief in improvement, (team) motivation, and 'management reasons'. Elaborating on the latter aspect, Staines (ibid) suggests that the ISO 9001 certification process and status contributed to the hospital's credibility and awareness in a period of restructuring and increasing competition.

An amalgamation of these motivating factors was apparent within Admiral, more specifically defined as:

- Organisational satisfaction in existing SMS leading to the desire for external validation;
- Client / competitive advantage;
- Logical progression from success with ISO 9002; and,
- Personnel involved:
 - HFSD QMS background, prompted integration; and,
 - HSM ISO 9002 background, experience with hygiene and safety, TechSP.

Various Admiral personnel stated their satisfaction with the management of health and safety issues prior to embarking on the certification process, a competence in alignment with the findings of Baylis et al (1998). In their study of EMS in the catering industry, the authors found that issues such as health and safety and environmental health were 'taken very seriously'. The postulated reason for this was the real and immediate business impact due to the legal and inspection framework surrounding these issues (Baylis et al, *ibid*), conclusions in agreement with Wright (1998) on health and safety management.

The desire for external validation of a satisfactory SMS was a primary motivator for 'certifiable' BS8800 implementation at the manufacturing organisation DMUK (Bourne, 2000), as:

Over a number of years, DMUK had improved its OH&S system and attempted to measure its performance in a variety of ways. Many other overseas [DMUK subsidiaries] had achieved government or district-based safety awards. The question was posed, could we similarly test DMUK's OH&S system?

Bourne (*ibid*) states that the achievement of BS8800 certification proved a major advantage in ensuring legislative compliance and continual improvement, adding the tongue-in-cheek comment that 'by the way, the certificate does look good on the wall'.

The second motivator apparent at Admiral was the search for alternative advantages within the contract-tendering process, the belief that SMS certification would constitute a competitive edge with some prospective clients. However, whilst there may be an assumption that OH&S certification leads to improved performance (an appeal for future clients), Cottam (2000) warns against this simplistic assumption, stating that OHSAS 18001 is no guarantee of OH&S management superior to the national benchmark.

In his QMS literature review, Dick (2000) suggests that with ISO 9001 this may again be a false assumption, as there is no proven link between quality certification and improved business performance, although there is a consistent, positive relationship between the two. However, again in the quality arena, Walker (1997) found that ISO 9001 registration led to an improved working relationship with clients also certified to 9001, borne from a 'common concern for improvement'.

The third and fourth motivators at Admiral were positive experience of 9002 implementation, adding to the general professional awareness of management systems amongst two of the key personnel involved. Staines (2000) explains a similar starting point within a Swiss hospital, also explaining how this was a key element of the ensuing success of the program, which:

Started in the autumn of 1995 when the nursing manager and the newly-appointed manager of the hospital discovered a common interest in TQM and considered launching an ambitious QM project leading to ISO certification.

At this stage, it is important to highlight the fact that one major factor necessary for success was, fortunately, already in place: two key players were both aware and enthusiastic about TQM and ISO 9001.

Thus, Admiral's reasons for implementing a certifiable SMS accord with both the positive motivators cited in the wider management systems field, and to some extent, those cited as key within health and safety. Reference to the primary and secondary motivators in Table 20 also highlights the early absence of the mediating factors at Admiral; existing knowledge of risk was thorough, management background was conducive, and (borrowing from the ISO 9002 experience), MS implementation was a familiar process.

10.1.1 Management Commitment

The opening line of the OHSAS 18001 clause on policy (BSI, 1999) states that:

There shall be an occupational health and safety policy authorised by the organisation's top management, that clearly states overall health and safety objectives and a commitment to improving health and safety performance

This stipulation for commitment is both common and fundamental, appearing in a variety of SMS, EMS and QMS standards, guidance and texts (for example, BSI, 1996a; HSE, 1997; Roberts & Robinson, 1998; Smith & Green, 1998; Laszlo, 1999).

In an examination of senior attitudes and behaviour towards ISO 9000, Taylor (1995) found 'commitment' to be a complex concept with no universally agreed definition, and as a result suggested that some criticisms of the standard may be symptomatic of the lack of 'commitment', depending on how such is defined. The author cites Mowday et al (1982) who define attitudinal commitment in terms of three components:

- Strong belief in, and internalisation of, the organisation's goals and values;
- Preparedness to exert considerable effort on behalf of the organisation; and,
- Strong desire to maintain organisational membership.

It is suggested that the first of two of these points were apparent in Admiral's implementation efforts, management commitment displayed through:

- (HFS) Director instigating implementation through faith in the existing SMS
- Board support for the initiative
- Allocation of resources (personnel, funds and time)

Ahire & O'Shaugnessy (1998) conducted an empirical analysis of the effect of varying levels of top management commitment on the (TQM) outcome of product quality. Their survey of 449 manufacturing plants in the auto parts industry concluded that firms with high top management commitment implement TQM elements more rigorously than those where such commitment is low (Ahire & O'Shaugnessy, *ibid*). It would thus appear, that whilst perhaps a nebulous concept, the management commitment apparent at Admiral allowed the continued efforts resulting in ultimate certification to 18001.

10.2 Implementing BS8800 - the False Start

Taylor (1995) concluded that a vital preliminary step to ISO 9000 implementation is an understanding of the intentions behind the quality standard, appreciating its aims and objectives. This has implications for the experience with BS8800 and ISO 9002 integration at Admiral; whilst both the HFSD and the HSM were experienced with the latter, neither had had experience with the SMS guidance. Admiral's challenges with implementing BS8800 were cited as:

- Limited knowledge of BS8800;
- Limited scope of existing 9002 system;
- Lack of Unit commitment;
- Lack of certification body knowledge; and,
- Changes to BS8800 MS affecting the ISO 9002 system.

The first issue sits neatly alongside the requirement to appreciate the 'intentions' of the MS standard (Taylor, *ibid*); an understanding which was lacking at Admiral. In terms of

MS integration Abounaga (1998) supports *concurrent* implementation when attending to the QMS and EMS standards ISO 9000 and 14001. Whilst suggesting that the fundamental intentions of the two are analogous, Abounaga (ibid) reiterates that comprehension of the underlying ethos of the [EMS] standard is vital, as:

There must be a shifting of environmental management, from compliance state to company strategy to gain the real benefits behind its philosophy. This means dealing with ISO 14000 as a sociotechnical issue and not only as a list of requirements to be filled autonomously.

However, Waring (1996) warns against an SMS based on a sociotechnical approach, due to its failure to consider the role of the human element in any scope wider than the technical sense of making the system function effectively. Despite this lack of agreement in favoured system approach, the avoidance of a mere compliance strategy for SMS is discussed further by Shillito (date unknown), who observes that companies espousing compliance tend to be disinterested (sic) in safety performance, which affects the outcome of the system. It is postulated that Admiral's attempt at integration was hindered by their lack of knowledge of the BS8800 approach to SMS, resulting in a compliant focus on matching the requirements of the ISO 9002 standard which *was* a familiar entity.

The ISO 9002 system at Admiral was cited as 'narrow in scope', exacerbating the problems of attempting to integrate the unfamiliar BS8800 MS model. In a paper that asserts both the technical possibility, and indeed, desirability, of QMS and SMS integration, Pheng & Shiua (2000) propose a model for the basis of a 'QSMS'. Their difficulties in aligning the two are highlighted in the simplicity of the ensuing figure; a venn diagram, the left loop depicting the QMS, the right loop representing the SMS, with the mystical intersection labelled 'Integrated QSMS'. Following a survey of attitudes towards, and experiences of QSMS integration, Pheng & Shiua (ibid) conclude that whilst there are a number of MS similarities which favour integration, 'it is also necessary to appreciate that technical similarities between SMS and QMS may not necessarily be sufficient considerations for such an integration.'

Another negative impact on BS8800 implementation / integration was the lack of Unit commitment, integral to some of the issues Wenmoth & Dobbin (1994) cite as hindering effective ISO 9000 implementation:

- Poor management practices;
- Poor organisation and planning for quality;
- Resistance arising from lack of staff involvement; and,
- A company culture which does not support the introduction of the ISO (sic).

The third aspect in particular reiterates Admiral's experience, stated as there being too many other things going on in the Unit at time of implementation. Whilst the certification body's lack of experience in certifying to BS8800 was cited as a possible reason for implementation failure, this inexperience was acknowledged as the status early on, the HFSD explaining Admiral's attitude that it could provide an important learning curve for both parties. The primary source of evidence for the lack of auditor knowledge emerged through the audit findings.

10.3 BS8800 Audit

It is suggested that the failed audit to the certification body's BS8800 standard is merely testimony to the problems faced by Admiral in attempting integrated SMS and ISO 9002 implementation; validation of the fact that this was an unsuccessful exercise. The interesting element here relates to the issues raised in chapter seven, which examined the development of OHSAS 18001, and the inherent problems of attempting to transpose guidance into specification.

As was discussed, many of the major certification bodies used the EMS standard ISO 14001 as a template, simply interchanging environmental terminology with its safety counterpart. However, the certification body used by Admiral failed to reach this level of abstraction, and as a result, attempted to audit to an incredibly vague set of criteria.

The November 1999 edition of *Quality World* conducted a survey of well-known certification bodies in order to ascertain the level, extent and substance of information sought in a health and safety management system audit. The responses were in broad alignment, represented by the NQA response:

An effective health and safety management system must minimise the risks associated with the organisation's activities. Central to minimising risk is the process of hazard identification, risk assessment and risk control. It is therefore necessary to examine the risk assessment activities in detail to establish they are comprehensive, have been

completed by a competent employee, and that (as far as reasonably practicable) the control measures put in place are adequate.

In contrast, there were just seven items related to risk assessment and control on the audit conducted by Qualspec, which specified:

(b) Risk Assessment and Control:

1. Have risk control measures been derived from risk assessments?
2. Are risk assessments used to establish levels of supervision?
3. Are risk assessments used to define skills needed to carry out tasks safely?
4. Have risk assessments been derived from hazard identification?

(c) Hazard Identification:

1. Is hazard identification based on critical appraisal of all activities?
2. Is hazard identification based on legislation and published guidance?
3. Is hazard identification based on accident, ill health and incident data?

The unfamiliar order of the above elements creates the impression that Qualspec are naive in the area of hazard identification and risk control, as does the paucity of questions. Quite how Qualspec devised the audit items is unclear, whilst included in BS8800 (in some cases, implicitly), these questions do not cover the main elements of the risk assessment process, providing neither summary nor selection of specific, key aspects. There are parts of the audit report where Qualspec refer to HS(G)65 per se (as opposed to the aligned model of BS8800); searching the HSE text for the references provides little more enlightenment as to question source than was found with the BSI guidance.

One of the few audit items actually found in the HSE text was under *hazard identification*, whereby it is suggested that adequate information is necessary and reference should be made to relevant sources including legislation, ACOPs and HSE guidance (HSE, 1991; 1997). Comparison of this recommendation to the Qualspec specification (c) 2, highlights one of the main difficulties in translating wide-ranging guidance into certifiable requirements. Auditor competence and associated considerations are returned to below, in the discussion of the OHSAS 18001 desktop review, as discussion here moves on to the Admiral implementation process.

10.4 Selection of the Second Unit – Inputs and Consequences

Following the challenges faced with the attempt at 8800 integration with ISO 9002, the decision was taken to re-attempt implementation at the Brompton Premier Unit in Nottingham, a site *without* QMS certification, alongside the enrolment of consultant assistance. It would appear that Admiral learnt from the negative experience of the first attempt at implementation, adding a fourth Unit selection criterion to the previous list of three:

- Good management structure;
- Systems people;
- Known to be disciplined with procedures; and,
- *Site has to be committed to implementation for the process to succeed.*

As a result, a Unit was selected where the Area Manager was famed for her positive attitude towards health and safety; the Client organisation was known to have a good health and safety record; and, the Unit Manager saw implementation as a challenge the team was keen to accept.

Returning to Table 20, it is apparent that criteria for selection of the second Unit negated the third and fifth SMS motivational mediators. Further, it was established above that two negative effects on QMS implementation are resistance arising from lack of staff involvement, and a company culture which does not support the introduction of the ISO standard (Wenmoth & Dobbin, 1994). By eradicating ‘lack of [Unit] commitment’, analogous with these two points, Admiral eliminated a variable with the potential to hinder implementation *before* it was re-attempted.

It is suggested that there were four further advantages accompanying SMS development at the Brompton Premier Unit:

- Singular SMS implementation, not attempting integration;
- HSM knowledge of BS8800;
- Health and safety consultant input; and,
- Implementation via teamwork.

The first of these is transparent in its effect; the complications of implementing BS8800 within the narrow scope provided by ISO 9002 is negated by removing the integration element. Abounaga (1998) stressed the importance of MS ethos appreciation; whilst it cannot be assumed that the HSM achieved such comprehension in totality, it can be hypothesised that three months of working with BS8800 led to an increased familiarity with SMS components and requirements. The third bullet refers to another method of deleting this very hindrance (lack of familiarity of the MS standard); the consultant had a self-professed understanding of the 'spirit' of certifiable safety management systems, alongside considerable experience of implementation.

One of the initial impacts of consultancy assistance was the transition from BS8800 as the specification of choice, to OHSAS 18001; advocated to the HFSD and HSM as 'the new BS880'. The consultant effectively maintained their enthusiasm by reference to 18001's increased flexibility and accessible terminology; two of the Admiral key concerns from the first attempt at implementation. Whilst Admiral had recognised the importance of Unit commitment, the consultant's stipulation for employees to lead the decision making process took this one stage further. This forms the next element for discussion, after which the above aspects of the implementation setting and conditions will be revisited and their implications summarised.

10.5 Implementation of OHSAS 18001

Before the decision was taken as to which members of the Unit team should assist in implementation, the role of the existing participants matched that cited as effective by Staines (2000) for effective ISO 9000 implementation. The QMS project management team at the Swiss hospital hired a project manager (someone known for their project management experience) and a consultant to assist with QMS/9001 methodology, as the project manager had no specific knowledge of 9001. One slight advantage Admiral had over Staines' (ibid) organisation was that the project manager in the former (HSM) had experienced a certifiable BS8800, so whilst new to OHSAS 18001, was to some extent familiar with SMS methodology.

10.5.1 The Team of Four

The consultant's assertion that the co-operation of those using the system is vital led to the selection of the 'Team of Four', with the following contributions:

Consultant	Knowledge of OHSAS 18001 Experience of implementing (safety) MS
HSM	Knowledge of BS8800 Experience of implementing (quality and safety) MS Knowledge of existing Unit SMS Familiarity with Unit and its staff
Area Manager	Knowledge of existing Unit SMS Familiarity with HSM, the Unit and its staff Close working relationship with Unit Manager
Unit Manager	Knowledge of existing Unit SMS Familiarity with HSM, the Unit and its staff Close working relationship with Area Manager

Thus the team responsible for OHSAS implementation had a wealth of individual, and in some cases, shared, knowledge of standard, system, people and setting. The initial motivation for those at the Unit was cited as personal development, although as implementation progressed, the realisation dawned that Admiral would be the first catering organisation in the UK to certify to OHSAS 18001. This enthusiasm for being 'the first' is also cited as motivational in the implementation of quality management systems, with Staines (2000) and Walker (1997) describing the enthusiasm generated through aiming to be the first Swiss hospital and South African University (respectively) to gain certification.

The workshops the team held to undertake implementation are in accordance with optimal QMS implementation methodology (Staines, 2000), whereby the process:

should be designed through consensus meetings, not through one or two individuals. This will help in implementing the redesigned process and will empower people in the organisation.

In their discussion of group dynamics, Glendon & McKenna (1995) describe the oft-quoted life cycle of a group as:

forming, whereby group members come together;
storming, witnessing initial hostility, which may give way to trust;
norming, establishment of agreed norms and standards of behaviour; and,
performing, carrying out of tasks.

The workshops the Unit carried out saw the group undergo variants of these stages, members came together, experienced problems with comprehension and communication, established an optimal method of understanding each other and the standard, and finally developed, adapted and continually improved the OHSAS SMS. It is suggested that it is the *storming* process that provides the challenge of group work, Admiral's stage of establishing common grounds of communication and understanding. The feelings of confusion voiced by the Area and Unit Managers eventually gave way to enthusiasm and commitment, a process Staines (2000) reiterates in gaining the involvement of staff and managers for QMS implementation:

The vision raised considerable support from these bodies, although at first they found the operational aspects unclear, as indeed they were.

The Unit and Area Managers elaborated on the key to them understanding the OHSAS, which were, respectively: realising how 18001 relates to everyday safety management, and recognising the system as a flowing process. Abounaga (1998) cites three key elements for successful (integrated) MS implementation as:

1. Understand people: Listening to them with empathy. Step into their places to know what they are feeling.
2. Communicate clearly with them the 'why' and 'when'. Must give the facts and answer all questions for them.
3. Participation: Directly ask them to assist, decide the best time or method.

The second of these elements is of relevance here; the consultant and HSM attempted to simplify the requirements of 18001 by mapping the system on a flipchart, thus imparting the facts. However, clear communication was not achieved, the Managers found it difficult to get to grips with the specification, an issue assigned mainly to complexities of

terminology. The solutions to this, as proposed by both the Managers and others, are examined below.

Abraham et al (2000) assert that the approach taken to implementation is the key to effective adoption of, and certification to, ISO 9001, citing Genevay (1997) who outlines various steps for effective ISO 9000 implementation. These recommendations neatly summarise the first four stages of implementation at the Admiral Unit:

1. Management commitment;
2. Appointment of a quality leader and a quality council or lead team;
3. Forming action teams; and,
4. Reviewing and comparing the existing quality system with 9000, and through this review, addressing all items of non-conformance.

It is the fourth these steps to which the discussion now turns; the implementation process itself.

10.5.2 From Initial Status Review to Continual Improvement

In their examination of QMS implementation in an electrical utility organisation, Henderson & McAdam (2000) established key underlying criteria for managing quality in projects in network organisations, one of which was an initial review:

The quality programmes group developed an EQM-based self-assessment to set the agenda for incorporating quality within projects ... the outcome was the identification of key areas for improvement for the organisation.

Similarly, by starting Admiral's implementation with the process of mapping the existing SMS against the requirements of OHSAS 18001, the team of four were in effect conducting an initial status review (ISR). This is defined in BS8800 (BSI, 1996a) as:

providing information that will influence decisions on the scope, adequacy and implementation of the current system as well as providing a baseline from which progress can be measured.

As described in chapter seven, the ISR is not an element of the 18001 specification, one of the few disparities between this and the BSI guidance on which it is claimed to be based. With ISO 9001 implementation in a Swiss hospital, Staines (2000) instigated the process with a review, and the subsequent resolution of, major problems. This is in

agreement with the process described by the consultant, that an 18001 system should be based on the existing system, not the specification, and that OHSAS is concerned with problem identification and solution.

As a primary stage of SMS implementation, the manufacturing organisation DMUK identified both satisfactory and unsatisfactory elements (as per certification requirements) of its existing SMS through a preliminary external audit, the 'usual practice' of its chosen certification body, LRQA. This initial assessment identified aspects of the existing SMS that met the OHSAS specifications alongside those requiring attention (Bourne, 2000); in effect an ISR. British Sugar also utilised LRQA for certification to OHSAS 18001, Bradley & Priddle (2000) describing the purpose and outcome of the initial review as:

The first test for us was when LRQA carried out a preliminary assessment to determine how far adrift we were from a certifiable system. It was encouraging for us to find that we were going in broadly the correct direction, although still with evident gaps.

The extremities of the BS8800 and OHSAS 18001 models result in a system that starts with ISR and ends in the perpetual loop of continual improvement. It is suggested that this fundamentally captures the implementation process at Admiral, who went from reviewing 'where are we now', to a process of continual improvement of their existing SMS, using the specification as an immediate benchmark. The Monopoly analogy fully captured this approach, whereby the Unit repeatedly built on existing and developing elements of the SMS.

Returning to the Area and Unit Managers initial sources of confusion momentarily, it becomes clear how the overarching processes discussed in this section facilitated their understanding and ease with the OHSAS 18001:

- Realising how 18001 relates to everyday safety management
- *Initial Status Review*
- Recognising the system as a flowing process
- *Continual Improvement*

10.5.3 Producing OHSAS 18001 Compliant Procedures

Those responsible for 18001 implementation at British Sugar formulated their approach on the basis that it would be easier to take an existing system and adapt it rather than start with a blank piece of paper (Bradley & Priddle, 2000). Similarly, Admiral's 18001 implementation was a process of producing compliant procedures based on the existing safety management system and processes. Methods of working were maintained unless found to be insufficient in meeting OHSAS specifications.

It emerged that the elements of the existing system which saw radical change (risk assessments and introduction of SSIR forms) were very much under the copyright of the consultant, standard tools he had developed which were known to meet various requirements of OHSAS 18001. In his discussion of factors affecting commitment to ISO 9000, Taylor (1995) suggests that:

A detached attitude to ISO 9000 might also be manifest if the consultants were responsible for writing most of the ISO 9000 documentation, rather than guiding employees in the client organisation to produce their own procedures and work instructions.

Admiral fall midway between these two approaches; described as consultant-owned procedures presented to the Unit 75% complete, with the process of developing the remaining 25% ensuring that Admiral took ownership. Also, in the case of the risk assessments, it was the HSM who recognised the need for improved systems to comply with 18001, with Unit staff having been aware of the deficiencies with the existing generic assessments for some time.

Interestingly, in his examination of organisations implementing 18001 with the certification body LRQA, Cottam (2000) found that 'the most significant area of uncertainty and difficulty for many organisations ... related to the use of risk assessments'. The comments on the new Unit risk assessment pro forma were largely favourable, other than the initial impression that they contain too much information on one page. It is suggested that this problem is not confined to appearance alone; by recording all hazards, risks and controls related to a work activity on one pro forma, these are then quantified as a single risk.

The quantification itself allows for clear communication of risk level; and is something implicitly suggested in BS8800 (BSI, 1996a). The final discussion comment on the risk assessment pro-forma relates to the decision to evaluate risk *with and without* controls, which was a factor considered during the development stages of BS8800, but failed to become an element of Annex D. The Guide states the purpose of risk assessment as to 'determine whether planned or existing controls are adequate' (BSI, *ibid*), and describes a process of risk assessment with controls in place.

The first benefit of an assessment of *uncontrolled* risk is that it allows consideration of reasonable practicability in devising ensuing action, a realistic evaluation of the extent of controls required on a cost versus benefit basis. Another appeal is in the evaluation of severity of consequence should controls fail; for example, assessing scaffolding *with controls* (guard rails) in place, leads to a high consequence of falling from height, but with low probability. Assessment of the same situation *without* controls leads to both high probability and consequence of falling. The key here is where controls fail in the interim; reducing emphasis on their importance when reference to the initial assessment (with controls) states that overall risk is low, reduces the apparent import of their existence.

The Safety System Improvement Request (SSIR) forms were also received positively, and provide a succinct method of meeting many of the requirements of clause 4.5 of OHSAS (BSI, 1999). In a review of difficulties experienced by organisations attempting OHS certification (*sic*), Cottam (2000) states many organisations':

Systematic failure to complete actions placed as a result of risk assessment, incident investigations etc. with no tracking mechanism to monitor completion.

The procedural description of the SSIR forms highlighted in chapter nine shows how the SSIRs not only facilitate risk assessment and accident / incident investigation, but also are monitored to a possible three-stage intervention process. Whilst SSIR forms comply with 18001 specifications, the benefits for the Unit were multi-faceted, as identified through the accompanying SMS procedure and the opinions voiced:

- allow employees to raise their safety concerns;
- intended to improve the system through change;
- clearly inter-related with other elements of the SMS;

- bring everything together;
- useful to go through with staff; and,
- action inducing.

The fact that all but one of these points came from Unit employees highlights how the OHSAS was implemented according to the sentiment behind the specification; thus in accordance with the statement from Aboulnaga (1998) that for (EMS) success, the underlying ethos of the standard must be adopted. It is clear that Admiral implemented the OHSAS in intention as well as in clause, permeating the system in more than documentation alone.

The HSM suggested that Unit ownership had yet to fully occur, something he saw as being achieved through him no longer being involved, and with tangible actions such as transferral of electronic versions of SMS documentation. However, the Unit staff appeared to believe that a more ethereal process of ownership was well underway, feeling that the 18001 system was 'theirs', something apparent in their discussions. Comparing their descriptions of the initial workshops with those at the end of chapter nine shows how the terminology and concepts they struggled with became enthusiastically accepted with time and experience.

10.6 Benefits of the 18001 System

Those involved in OHSAS 18001 implementation at the Admiral Unit described the benefits of the process as:

- Documentation
- Risk assessment process
- SSIR forms
- Staff awareness
- Personal development

Chapter seven highlighted the benefits British Sugar gained through OHSAS 18001 certification (Bradley & Priddle, 2000), those of 'revitalisation of risk assessments', and also 'heightened awareness by everyone of their own role in health and safety' matched by Admiral. A benefit of ISO 9000 certification has been cited as the effect improved documentation frameworks have on system efficiency and effectiveness (Walker, 1997), again, an experience relayed by the Unit.

Staines (2000) suggests that the wider benefits of implementing a certifiable QMS in a Swiss hospital were in:

- Forcing the organisation to deal with both philosophical and operational quality issues (changing the organisational attitude from 'to be done tomorrow' to an ongoing ethos of improvement and attention);
- Bringing a widespread feeling of pride and motivation;
- Facilitating training of new staff members; and,
- Giving each staff member a comprehensive understanding of the hospital's operations.

This experience of 9000 implementation has been aligned to that of Admiral many times in this discussion, and there are further parallels here. In common with the first point from Staines (ibid), the Admiral Duty Manager explained how health and safety has become much more of a day-to-day issue than pre-implementation. The feeling of pride and motivation was also cited, not only for those directly responsible for 18001 implementation, but also for the Unit team itself.

Again, using ISO 9001 implementation as a comparable experience, it is interesting to note the findings of Walker (1997), that there was a limited impact on the rest of the organisation; which is in contrast to the Admiral experience in two ways. On a small scale, the process has had an effect on risk assessment procedures in other Units, as these are starting to adopt the process introduced at the Brompton Premier site, without attempting full OHSAS implementation. However, this may only be a matter of time, as the HFSD described the intent to 'roll the system out' following the successes described here; to which discussion now turns.

10.7 Implementing 18001: Key Advice

From their literature review on QMS implementation within 'the networked organisation', Henderson & McAdam (2000) summarised:

The key to successful improvement in a fragmented organisation is to ensure that every Unit focuses on the pre-determined strategic objectives and strategic targets relating to quality improvement. Collaborative learning between teams in different Units will promote a more rapid, efficient improvement...

Working initially with individual business units, a number of quality tools and techniques were piloted. Ongoing experience and learning acquired by the individual quality programme team members was transferred to the other team members via a review session, held monthly. All facilitators and quality programme team members attended this meeting.

This was the exact process suggested by Admiral staff for rolling 18001 out across other Units. It has already been suggested that the Area and Unit Managers involved in implementation fully adopted the system and its ethos, and this was hugely apparent in their suggestions for optimal implementation methodology for other Admiral Units. They had begun to use the terminology of the consultant as their own; 'getting the system to work for you; part of continual improvement; much will be in place already; a good working tool'.

Previous elements of this discussion chapter have examined how the Area and Unit Managers had initial difficulty with understanding the intent behind 18001, and how it related to their existing knowledge of Unit systems. Their advice for implementation in other Units was to 'remove the jargon, keep it simple' in order to allow Unit staff to understand what it would mean to them. Polokowski & Santarelli (2000) described a similar approach in their implementation of a certifiable SMS, how they overcame employee, supervisor and manager scepticism by 'demonstrating how different our approach was and how useful it would be to those who work with these aspects everyday'.

Implicit in this is the key to successful implementation; the difference between adopting a certifiable SMS as an exercise in itself, versus recognising it as a tool for improved safety performance and management. In his discussion of environmental management system implementation, Strachan (1997) concludes that firms which follow the standards route to environmental excellence are unlikely to realise the stipulated aims of environmental management. The distinction is drawn between following the standard by rote, to achieve clause-by-clause comparison, or doing as Aboulnaga (1998) suggests; adopting and thereby implementing the ethos behind the management system.

The main conclusion from Strachan (1997) is that MS standards need to be revised and that the stress on mechanistic solutions should be replaced with more flexible forms of

management and organization that push the firm towards a learning organization mode. It is to these wider issues this discussion now turns.

10.8 Implementing MS Standards – the Optimal Approach

Widening the focus from SMS standards momentarily, it has been argued that the preferable approach to safety management is *holistic*, Glendon & McKenna (1995) citing Toft (1992) on what is involved:

- sustained management commitment;
- sound safety policy;
- visible management support;
- allocation of sufficient resources;
- use of appropriate safety management techniques;
- continuous motivation of all staff;
- safety training provision;
- fostering a ‘no blame culture’;
- organisational learning; and,
- persistence of purpose.

The authors are in agreement that a holistic approach such as this is required to change the safety culture of an organisation, both citing the ‘traditional engineering model of safety’ as inappropriate where culture change is the aim (Glendon & McKenna, 1995; Toft, 1992). Each of the elements described by Toft (*ibid*) are present in the Admiral 18001 management system; the organisation has successfully adopted a certification standard and a holistic approach to the management of safety. Abraham et al (2000) suggest that:

Effectiveness of certification outcomes are highly related to the way in which certification is introduced and managed as a change process ...

Genuine transformational change requires leaders to frame the purposes of the ISO certification process in terms of creating a quality culture within an organisation rather than a process which needs to be ‘adhered to’ merely to provide a marketing edge.

Reminiscent of the necessity to adopt the ethos behind MS standards (Aboulnaga, 1998), Abraham et al (*ibid*) provide a new context for the outcome of organisations following

MS standards for compliance, or as a process which leaves them open to organisational and cultural adaptation; *MS implementation as a tool for organisational change*. In constructing their argument, Abraham et al (2000) borrow from Burke & Litwin (1992) on two types of organisational change, defined as:

Transformational change - frame breaking, relates primarily to fundamental changes in the leadership, purposes, and culture of the organisation.

Transactional change - situations where the primary way of making alterations is via relatively short term reciprocity among people and groups; based on filling contractual obligations within an already established frame.

Abraham et al (ibid) found that ISO certification perceived as implemented 'successfully' was accompanied by transformational as well as transactional change. As mentioned above, the former requires the creation of a 'quality culture within an organisation rather than a process which needs to be adhered to merely to provide a marketing edge.'

This has particular relevance to Admiral; in adopting a holistic approach to safety management through implementing OHSAS 18001, the Unit achieved the factors cited by Toft (1992) necessary for positive (safety) culture. However, one of the original impetus for implementation was 'competitive edge', according to Abraham et al (2000) achievable by transactional change alone. It is suggested that the other primary motivators; validation, rising to the challenge of certification, and being 'the first' allowed Admiral to prepare for fundamental (ie transformational) change where required, frame-breaking to fulfil the obligations laid down by the ethos behind 18001.

It is useful at this point to re-visit the conclusions of Strachan (1997), who conducted an evaluation of EMS standards to consider whether the approach taken is appropriate for the achievement of their aims:

EMS standards should be fundamentally revised and replaced with more participatory forms of management and organisation that push a firm towards a learning organisation mode.

It is argued that the approach described by Strachan (ibid) is central to the organisational stance required for transformational change, this author bringing forward the concept of

'the learning organisation'. Strachan (1997) cites the neat definition provided by Senge (1990) as:

An organisation that is continually expanding its capacity to create its future. For such an organisation, it is not enough merely to survive. 'Survival learning' or what is more often termed 'adaptive learning' is important - indeed it is necessary. But for a learning organisation, 'adaptive learning' must be joined by 'generative learning', learning that enhances our capacity to be creative.

This necessity of *generative* learning highlights the importance of Admiral's complete adoption of the concept of 'continual improvement' from the outset of 18001 implementation, accepting the need for, and creating the capacity to be, creative in the meeting of OHSAS requirements and the management of safety. Strachan (1997) argues that firms which follow the standards route to environmental excellence are unlikely to realise the stipulated aims, as EMS standards fail to provoke the actions required to allow the organisation to adapt to the purpose *behind* the standard.

The importance of the initial motivators for management system standard implementation returns here. Strachan (ibid) suggests that EMS standards prompt organisations to follow extrinsic motivators and exclude employees from policy and management issues, yet the learning organisation favours intrinsic motivators, involving employees through team working. Following his examination of intrinsic and extrinsic motivators for SMS implementation, Wright (1998) suggested that:

a 'truly' proactive organisation may be argued to be one which acts because it judges that the chosen actions will be of benefit to themselves, and not necessarily of benefit to anyone else – except as a coincidence

Thus the link between the proactive organisation and intrinsic motivation is made (see Table 21), interestingly with Admiral displaying one of each, intrinsic and extrinsic motivators; having adopted proactive health and safety management as a matter of principle, yet wishing to 'comply with ... the demands of standards bodies.' However, compliance is too strong a term for the Admiral motivation, the HFSD seeking external validation for an internally held belief that Admiral health and safety was indeed 'proactive'.



Table 21: Examples of intrinsic and extrinsic motivators (Wright, 1998)

In a comparison of management styles advocated by EMS standards and displayed by 'learning organisations', Strachan (1997) begins with the role of intrinsic and extrinsic motivators (Table 22), emphasis added to the items in the table in preparation for the next element of discussion.



Table 22: The model of management informing EMS standards and the learning organisation (Strachan, 1997) [Emphasis added]

It is suggested that the italicised management styles in Table 22 are those utilised within the implementation process at the Admiral Unit, which will be discussed briefly before contextualising this approach within its wider implications. People management during the implementation process was based on team-work, the purpose of which was stated to involve those at the Unit, to allow the Unit and Area Managers to lead the decision making process. This touches on the second and third elements described by Strachan (ibid), whereby the interaction was not necessitated by hierarchical responsibilities, the expertise of those with the most knowledge of safety management in the Unit given high consideration.

Whilst the 'shared vision' necessary for decision making took some time to evolve through the group 'storming' process, once in place allowed for swift progress in developing tools and procedures required for 18001 certification. It is suggested that the preparedness to modify the risk assessment procedure, and to internalise the SSIR process is indicative of the values of those concerned to experiment and challenge; the persistence with implementation despite various setbacks highlighting the Units adaptability.

The final aspect of management style is a direct reference to Senge (1990), whose definition is repeated here for convenience. A learning organisation is:

An organisation that is continually expanding its capacity to create its future. For such an organisation, it is not enough merely to survive. 'Survival learning' or what is more often termed 'adaptive learning' is important - indeed it is necessary. But for a learning organisation, 'adaptive learning' must be joined by 'generative learning', learning that enhances our capacity to be creative.

It is suggested that the Admiral Unit displayed both characteristics in relation to implementing OHSAS 18001; adapting to the specifications of the standard, understanding the stages necessary to achieve compliance. What is important is that the 'Team of Four' internalised the requirement for continual improvement, generating a comprehension of the 'spirit' of the OHSAS, enough to expand their capacity to create the future of the SMS.

Thus taking the management styles used to implement OHSAS 18001, the only extrinsic motivator present was that of *adaptive* organisational learning; with its counterpart *generative* also present, in accordance with a positive environment for change (Senge,

ibid). Indeed, the vast majority of the factors present for Admiral fall within the categorisation of 'the learning organisation', headed by intrinsic motivators pertinent to 'proactive' organisations (Wright, 1998). Strachan (1997) describes the managerial and organisational features displayed by proactive environmental organisations, based on a study of prominent companies including IBM, Xerox, Apple Computer, and British Telecom (Table 23).

Chapters three and four of this thesis included debate on the potential confusion arising from the HSW Act requirement for a 'written policy statement' and SMS guidance requiring organisations to implement an SMS model which begins with their 'policy' on occupational health and safety matters. It is argued that the policy should in fact be a combination of the two; something Admiral achieved by producing a parallel to the Group statement in order to comply with 18001 (BSI, 1999), also meeting the requirement to include specific objectives for OH&S management at the Unit.

In Table 23, Strachan (1997) describes organisations who begin with a policy which 'is more than a mission statement', based on shared vision and a commitment to raising environmental standards. The remainder of the features described are equally consistent with the Admiral approach to SMS implementation, thus reasserting their proactive status.

Managerial and organisational features	Description
Vision and mission	To provide the focus and energy for environmental action and learning, these organisations have developed a shared vision as opposed to the all too familiar 'mission statement'. In doing this they have learned to unearth and develop shared pictures of the firm's future based on common values and norms that foster a genuine commitment to the raising of environmental standards.
Strategic and operational planning	These firms have also formulated and implemented environmental policies, plans and programmes in a way which consciously integrates business and environmental goals and targets. A key feature in both the formulation and implementation of these has been the use of participative styles of leadership and management, involving employee involvement schemes including teamworking.
Management structure, systems and decision making	These firms have also developed flat management structures based on teamworking. These firms also disperse decision making across their organisation's management structures. This is based more on expertise than formal authority. These firms have also designed systems of accounting, budgeting and reporting to assist decision making on environmental issues. To support this, these firms have also recognised the use of information technology to empower and energise staff.
The management of people	These firms have also recognised the importance of developing their human resources and the need for environmental training at all levels and functions of their organisations. They have also developed both formal and informal rewards and have integrated environmental considerations into performance appraisal.
Internal and external communications	To exchange environmental information and promote collaboration on environmental issues across their organisations, these firms have also recognised the importance of open communication networks and have developed strategies accordingly, including the use of campaigns on environmental issues. Externally, these firms also interact and exchange expertise with a wide range of organisations responsible for the formulation and implementation of environmental policy locally, nationally and internationally.

Table 23: Managerial and organisational features of proactive environmental organisations (Strachan, 1997)

Many of the features highlighted in Table 23 describe a high level of attention paid to the 'human element' of environmental management. This finding was also apparent in a study of the differences in approach to TQM in two similar warehousing facilities (of the same organisation), where only one was considered to be a 'quality' success.

Longenecker & Scazzero (2000) describe how the successful Unit paid more attention to the human aspects of the quality process, including:

- Management support for TQM;
- Communication and teamwork;
- Effective corrective action procedures; and,
- Follow-up of quality problems.

It is interesting to note that whilst the first two elements are generic, and were present in the Admiral approach to 18001 implementation, the latter two are more quality-specific, yet through the SSIR process, are also witnessed in the Admiral approach. As a result of their study, Longenecker & Scazzero (ibid) identified five key lessons for organisational improvement; 'a critical mandate for managers at all levels who are interested in improving service quality':

- Assess the effectiveness of your current practices that impact service quality;
- Management support and teamwork are critical to long term quality improvement;
- People drive service quality;
- TQM systems must continually improve TQM practices - involving periodic scrutiny and feedback to enhance quality improvement systems; and,
- There is no substitute for leadership in improving service quality performance

Whilst having various similarities with the Admiral implementation process, it is also interesting to note the similarity between the elements in the five lessons and those in SMS guidance and standards, in the order they appear in the latter (BSI, 1996a; 1999):

- Initial Status Review;
- Management commitment;
- Involvement of employees;
- Training;
- (Risk) assessment;
- Measuring / monitoring performance;
- Corrective action;
- Management Review; and,
- Continual improvement.

Ennis & Harrington (1999) report similar pre-requisites for effective implementation of TQM 'via the change effort', findings from a quantitative study examining factors surrounding quality implementation in the Irish healthcare sector. The authors highlight the difficulty in implementing TQM in hospitals which have historically been managed in 'the conventional Taylorist management style' (whereby control is the aim), suggesting that organisations need to:

- Move from being traditional bureaucratic institutions to more participative enabling organisations;
- Recognise diversity of sub-cultures that exist in hospitals;
- Employees must be convinced of the need for change in their work practices;
- Employees must be involved at all stages of the process;
- Strong leadership and widespread communication; and,
- Middle management must be supported and trained in specific techniques to enable them to steer employees through the change process.

There are two pertinent points here; firstly in relation to Admiral implementation of OHSAS 18001, and the suggestions for the optimal ways of introducing the standard in other Units which are largely in agreement with the latter four bullets. Finally, applying the first of the Ennis & Harrington (ibid) requirements to MS standards takes discussion back to Strachan (1997) who suggested that:

EMS standards should be fundamentally revised and replaced with more participatory forms of management and organisation that push a firm towards a learning organisation mode.

This discussion now turns to the remaining issues raised through the 18001 implementation process at Admiral, after which all aspects raised in this discussion chapter will be summarised before moving on to examine the thesis as a whole, and the wider implications for BS8800.

10.9 Auditing

10.9.1 Qualspec Desktop Review

This element of the discussion focuses on the auditing *process*, as opposed to the content of the 18001 system under review. In this context it was established in chapter nine that there were two main reasons for the unsuccessful desktop review of the Unit's 18001 management system:

- Focus on compliance with the 18001 specification
- Auditors' background as a quality, rather than safety, professional.

In relation to this first point, it was seen that the auditor rigidly applied OHSAS 18001 specifications as opposed a dual consideration of the SMS meeting the intentions behind the pertinent clauses of the OHSAS. According to Fletcher (1999) this warrants a ten-year regression on the part of Qualspec, as:

The main and possibly only focus of audits in the early 1990s was to assess compliance with standards. Opportunities for business improvement were generally discussed off the record. The auditing process was often hindered by organisations lacking experience of third-party audits and certification bodies. This contributed to a variety of problems. Customers would accept a finding, even if they disagreed with it, rather than challenge the auditor who was seen as a necessary evil. There was also little awareness of the potential benefits to be gained from management systems.

Although it was not Admiral staff, but the consultant, who challenged the audit findings, the former were independently well aware of the benefits gained through their OHSAS 18001 management system. The first issue raised by Fletcher (ibid) captures earlier discussion of the bi-polarity of implementing for compliance or adoption of standard ethos.

In July 1999, the certification body Det Norske Veritas (DNV) ran an 18001 training course, *Occupational Health and Safety Management Systems Certification*, at which a pertinent point emerged through discussion of auditing for competence or documentation. The relevant slide is reproduced here as Table 24.

FEATURES OF COMPETENCE VERSUS WRITTEN INSTRUCTIONS	
Competence	Written Instruction
• Less documentation and document control	• More auditable
• Decision making is facilitated	• Facilitates consistency
• Independent audit becomes more of an evaluation of competence and consistency between individuals	• More documentation and documentation control

Table 24: Competence and Written Instructions Features (Oliver & Shutler, 1999)

The tutors discussed how audits (of quality systems in particular) traditionally focus on procedures and written instruction as it's the 'easy option', advantages of which are highlighted in the right-hand column of Table 24. The final point in the left-hand column was then given precedence, with the tutors stating the need for an auditor to understand the point of the management system rather than 'clammer for documentation'. It is

suggested that the Qualspec auditor fell into the latter category, his focus on the terminology of the OHSAS resulting in the requirement of an additional set of procedures for *operational control*; the 'system within a system' as described by the consultant.

Thus, it is not only those responsible for implementing certifiable SMS standards who should be paying attention to the ethos behind requirements, note the consultant's comment that the 'spirit' of 18001 needs to be recognised equally by auditors. It is suggested that OH&S management system auditors should be Registered Safety Practitioners (Oliver & Shutler, 1999), something also mentioned by the consultant involved in the Admiral Unit SMS implementation.

Karapetrovic & Willborn (1998a) highlight the fundamental differences in auditing standards and practices for quality and environment, subsequently reversing the findings and proposing a basis for integrating the standards based on the remaining *commonalities* of the auditing requirements. The authors then return to the distinctive features of quality and environment audits, suggesting that different specifications could then be outlined in additional clauses or a supplementary document (Karapetrovic & Willborn, *ibid*). It is proposed that these variants in QMS and EMS audits will have an impact on those required to conduct them, Karapetrovic & Willborn (1998a) stating that if a common audit standard is produced, 'auditor qualifications and competence should have a common core with separate additional requirements'.

This suggests a wider competence required of auditors; it is not sufficient to assess MS compliance in abstract terms of 'documentation-specification' alignment. Instead, a wider comprehension of the individuality of the quality, environmental or safety management systems is necessary, leading to an ability to assess the 'spirit' of compliance accordingly. Fletcher (1999) returns this argument to the general changing requirements of auditors, regardless of discipline:

With the introduction of a new specification for health and safety management systems - and revisions to ISO 9000 and ISO 14001 - there will be a need for increased support and guidance. Auditors will focus more on the business processes and the links between policy, objectives and the realisation of continual improvement.

10.9.2 QTA Certification Audit

Rezaee & Elam (2000) propose a 15-step process for ISO 14001 implementation, based on 'the status of corporate America's voluntary environmental initiatives', the extremities of which suggest organisations need to:

- Step 1. Obtain senior management commitment to environmental concerns;
- Step 2. Establish an environmental steering committee;
- Step 3. Determine the extent of your company's environmental outlays and requirements;
- Step 4. Train your environmental team and employees;
- Step 5. Establish an effective EMS; ...

- Step 12. Select the appropriate ISO environmental standards;
- Step 13. Choose registration options;
- Step 14. Register to ISO 14001; and,
- Step 15. Integrate ISO 14001 and ISO 9000.

The first five stages parallel implementation at Admiral, and if taken as a holistic process incorporating the BS8800 attempt, steps 12 and 13 are equally aligned. In reality however, the late selection of the certification body was due to negative experience with Qualspec, and consultant familiarity with QTA. Without wishing to detract from the efficacy of the Unit's 18001 management system, it is suggested that there were inherent advantages to the final certification audit. Both the consultants relationship with QTA (who were described as a 'known quantity') and QTAs familiarity with the procedures in place at the Unit (as a result of having certified 'the consultants' systems in the past) allowed for a favourable environment within which to audit for certification.

Indeed, early experiences of SMS certification relay the importance of a continual relationship with the chosen certification body, from the initial review to the final audit (see Bourne, 2000; Bradley & Priddle, 2000; SGS, 2001). It is acknowledged that whilst the bodies are unable to offer consultancy advice, boundaries to the expectations of the system are known from the outset.

The prediction of a growing tendency for audits to depend on wider issues such as business processes and the links between objectives and the realisation of continual improvement (eg Fletcher, 1999) was discussed above, and has relevance here. It is

suggested that an early rapport with the certification body is an optimal condition for successful certification, not least to allow a common understanding of the spirit of compliance, assuming organisations are successful in selecting certification bodies who have made such a progression.

10.10 The OHSAS 18001 'Standard'

The comments on OHSAS 18001 as a document were varied, unsurprising as the Admiral staff were interpreting the specification for the first time, whereas the consultant had quite vast experience of implementation. The former suggested that the OHSAS is in 'typical health and safety speak', also suggesting that the jargon used makes the process of understanding a complicated one. However, the OHSAS basis of a 'model that flows' was stated as a benefit, especially with consultant facilitation; whose impression of 18001 as 'basic health and safety management', was based on the process of problem of problem identification and solution.

Herein lies one of the key issues for implementation of OHSAS, in terms of whether organisations implement and achieve compliance, or undergo a transformational process of adopting the SMS standard, thereby proactively and continually improving the management of safety.

In order to achieve implementation of the 'spirit', OHSAS needs to be understood, a process that was largely caused by consultant intervention at the Admiral Unit. Indeed, the interviewees stated how implementation was easier, and will be easier for others, if the standard is not introduced 'too soon', preferring instead to impart the actions and improvements instigated by the OHSAS first.

This issue is one debated further in the next chapter, as discussion here resumes with the final element for consideration in the present chapter, that which caused Admiral's initial problems; integration.

10.11 Integration of Management Systems

Admiral began certifiable SMS implementation with the aim of integrating BS8800 with their existing ISO 9002 system, something aborted after three months, partly because 'the scope for ISO 9002 was too narrow'. This was deliberately not explored in depth in the case study as it was a pre-cursor to the main subject for investigation (successful SMS implementation). However, many quality, environment and safety management system parallels have been drawn in this chapter, which now ends with a discussion of the wider issue of their synergy, without further consideration of the Admiral experience.

Osborne & Zairi (1997) discuss the links between TQM and HSM, suggesting that there are various elements of the former (ie, process management and performance measurement) which could improve the latter. Indeed, the acceptance of quality, environmental and safety MS integration is exemplified by the acknowledgement of such within the various management system standards (BSI; 1994, 1996a, 1996b, 1999). The opinions for integration are numerous and varied, Rezaee & Elam (2000) providing one extreme in their proposition that the ultimate step in ISO 14001 implementation is integration with ISO 9000.

Cottam (2000) is less adamant as to benefits of integration, but acknowledges that organisations who use knowledge gained through implementing QMS or EMS 'make better progress' than those implementing SMS in isolation. With Beechner & Koch (1997) suggesting that ISO 9001 and 14001 are so similar that they require full, simultaneous integration, three different views emerge:

- Implement, then integrate;
- Implement via borrowed knowledge; and,
- Implement via full integration.

Various alternatives to these exist, with one of the main considerations summarised by the first and last of the above positions, summarised by Wilkinson & Dale (1999) as whether to align or fully merge management systems. The authors cite the former as the most desirable, defining the two options thus:

- *Alignment* - parallel management system standards specific to an individual discipline, but with a high degree of commonality of structure and content;
- *Integration* - single, top level management 'core' standard with optional modular supporting standards covering specific requirements.

As discussed above, Karapetrovic & Willborn (1998a) suggest that management systems have sufficient similarities to be *audited* using one approach, but state that the divergences between quality and environmental standards are such that topic-specific clauses would need to be added. In a separate discussion of quality and environmental *management system* integration, Karapetrovic & Willborn (1998b) address the concept of the 'system of systems', examining the issues pertinent to MS integration and interrelation. The authors define their 'system of systems' as a structure whereby those related to each other are interlinked without relinquishing their individual identities (ie, *integration* as per Wilkinson & Dale, 1999, but with the added consideration of systems theory).

In chapter seven, the views of Baird (2000) and Cottam (2000) were examined, both identifying sufficient differences between QMS and EMS specifications to warrant alignment as opposed to full integration. This is in accordance with the QMS/SMS findings of Pheng & Shiua (2000), that whilst similarities favour integration, differences present challenges to complete amalgamation. Aboulnaga (1998) advocates concurrent implementation of 9000 and 14000, based on their analogous elements, despite highlighting the wider (non-specification based) differences, as per Table 25.



Table 25: Main differences between ISO 9001 and 14001 according to six key elements (from Abounaga, 1998)

Karapetrovic & Willborn (1998b) neatly summarise the finding of Abounaga (ibid) in their succinct explanation of the inherent difficulties in establishing a 'system of systems' thus:

- 9001 and 14001 series insufficiently harmonised;
- Different perceived customers and stakeholders;
- Interfunctional conflict because of varying interests and motivations; and,
- Different operational management methods - project management in EMS, process management in QMS.

The main thrust of these various assertions is that quality, environmental and safety management systems have a substantial number of parallels, both in intent and in deed. However, the remaining differences are equally substantial, not necessarily in quantity, but their quality (in terms of content) renders full integration difficult.

The latter citations (Abounaga, 1998; Karapetrovic & Willborn, 1998b) bring discussion back to an element presented previously, that of the difference between attending to the specifications of standards as a process in itself, and that of fully adopting the intent. This distinction forms the thrust of both Table 25, and the four points above, highlighting that

the difficulty in merging management systems, whether through integration or creating a 'system of systems', is in part due to the subject matter of the standards themselves.

10.12 Summary

This chapter summary of the approach taken to SMS implementation at Admiral begins with issues prompted by Cottam (2000), his conclusion that:

Despite the fact that OHSAS 18001 embodies a very familiar management system philosophy to that already adopted by many organisations in respect of quality and environmental management, and despite the fact that OHS had traditionally been the subject of considerable legislation and regulatory inspection, there is clear evidence that many organisations have yet to apply these principles in a thorough and effective manner.

Admiral achieved certification to OHSAS 18001 in April 2000, and gaining the external recognition desired for their Unit safety management system. It has been suggested that this was achieved via a 'thorough and effective' approach to implementation, assisted by the presence of primary motivators shown to be vital in MS implementation, and also in the gradual eradication of mediating factors. Such motivation is linked to the nature of proactive health and safety management, senior commitment to such constituting a second variable in Admirals favour. The Unit itself wished to 'rise to the challenge' of achieving certification; highlighting the lower order motivation which allowed persistence when such challenges arose.

By learning through the failed attempt at BS8800 certification, Admiral further optimised their approach to SMS implementation, incorporating a team approach including the involvement of those with key knowledge, of both the OHSAS and the SMS in place at the Unit. In adapting an existing system, Admiral again implemented in accordance with management system 'best practice'. Where this was found to be insufficient, new tools and procedures were introduced, all of which were known to meet the OHSAS specifications; a product of the team member with both thorough knowledge and experience with 18001. Again, in accordance with optimal implementation practice.

Whilst these new elements were introduced through the consultant, the Admiral staff took complete ownership of their 18001 system, adapting rapidly to the ethos of continual improvement. It is suggested that this was in part due to the early introduction of the

concept, Admiral implementing 18001 through a process of initial status review of Unit safety management, continually improving and iteratively developing the SMS in accordance with the specifications of the OHSAS.

In order to conduct implementation in this way, Admiral displayed an ability to take both the existing SMS and the OHSAS specifications, adapting the former to meet the interpretations behind, and the requirements of, 18001. Again, this was facilitated by consultant involvement, the team member who provided the link between the bi-polarity of literal compliance and the ethos of 18001 providing a tool for SMS improvement. This approach has manifestly been internalised by Admiral staff; relayed via their suggestions for introducing 18001 in other Units reiterating both best practice per se, and also that considered optimal for facilitated implementation.

The discussion concerned with auditing and integrating management systems extrapolates from the above; for success, auditors are required to have knowledge of both safety management and the specification at hand. Further, certification bodies are increasingly expected to audit for compliance in a more holistic nature than clause-by-clause requirements, especially with the additional considerations raised by the integration of quality, environmental and safety management systems.

Through both the MS literature review and the examination of the approach adopted by Admiral, it has been shown that organisations aiming for certification need to comprehend the ethos behind the standard being implemented. For full benefit, organisations must implement further than meeting specifications by rote; allowing compliance-driven transformation of their systems in totality, not in name alone.

Fundamentally, the Admiral approach to SMS implementation for 18001 certification aligns with that stated as optimal within the relevant safety, quality and environmental MS literature. In the quotation at the beginning of the summary, it was shown that in general, organisations are failing to achieve this, despite MS model familiarity and the existence of legislative requirements (Cottam, *ibid*)

This leads the focus of deliberation back to BS8800 *Guide to occupational health and safety management systems*, and the objective of this thesis as to examine the BSI guide

as a foundation for SMS implementation. Chapter eleven now provides a broader discussion of the experiences highlighted here and through the MS literature, examining areas where BS8800 may either optimise or hinder best practice. The second discussion chapter thus forms the basis for the conclusions of the thesis, which suggest how BS8800 could require alteration to further assist organisations in improving safety management.

CHAPTER ELEVEN

Discussion II

The purpose of this second discussion chapter is to draw together the key issues raised in the previous ten chapters. It examines the suitability of BS8800 to facilitate organisations in taking a 'best practice' approach to SMS implementation, based on the findings of the empirical work and the management systems and related literature review. Areas where BS8800 could be improved in this role are thus identified, leading to the proposal of alterations to the SMS guidance in chapter twelve.

11.1 BS8800 Guidance

The first three elements of this section discuss BS8800 in theory, as was the context at the beginning of the thesis. The main influences on the development of the Guide are described, followed by an overview of the perceptions of those beginning to implement BS8800 when it was first published.

11.1.1 Legislative Influence

The thesis began with a review of the development of health and safety management, through the enactment of new regulations. This growth was accompanied by a decreasing level of prescription and an increase in the requirement for a management systems approach. The MHSW Regulations (1992) exemplify this, and were cited as one of the main impetus for BS8800, as organisations were seeking assistance with the requirement for risk assessment laid down in Regulation 3.

The content of BS8800, annex D in particular, was shown to meet this aim; the Guide imparting advice that should lead to (at least partial) compliance. The MHSW Regulations requirement for 'health and safety arrangements' are also transparent, the inclusion of planning, organising, monitor and review facilitating development of a system which should allow organisations to comply with their legal obligations. With the recent review of the MHSW Regulations (HSC, 1999b), *Principles of Prevention* have

become a specified control hierarchy within Schedule 1; as it was suggested that this will become an element of OHSAS 18001, the same is presumed in relation to BS8800.

With regards the HSW Act, the requirements for operational arrangements are solidified through the elements of BS8800 shown above to align with the MHSW Regulations. The HSW requirement for policy is included as one of the elements of the BS8800 management system model. This is an unsurprising format bearing in mind the systems models on which it is based.

11.1.2 Management Systems Models

The dual approach within BS8800 prompts organisations to base their developing SMS on either the EMS standard ISO 14001, or the HSE safety management guidance model HS(G)65. Both have a clear basis of the Plan-Do-Check-Act philosophy of quality management. Despite this, the attempt at aligning BS8800 with ISO 9000 in annex A of the Guide highlights the disparities between quality and safety management, as was also highlighted through the QMS literature reviewed in chapter ten.

Whilst there are clearer connections between OH&S and environmental management systems and associated guidance, the ISO 14001 approach within BS8800 was shown to align in presentation only; a re-ordered version of the guidance written in accordance with HS(G)65. One clear impact of both quality and environmental management models is the inclusion of the concept of continual improvement as one of the six elements of the system. Whilst this is now explicit diagrammatically, there is little more textual emphasis on the concept than appeared in HS(G)65, the major source of SMS guidance prior to publication of BS8800.

11.1.3 SMS Guidance Improvements

Examined against its aims and early criticisms, BS8800 meets the former, whilst eradicating the latter. The Guide is in broad agreement with HSE guidance (HSE, 1991), the 1992 MHSW Regulations and ACOP, and other authoritative sources, and thus has less capacity for causing confusion than feared by its opponents.

Where the content is similar, the approach of BS8800 is in contrast to its predecessors. The use of informative annexes is new, the provision of prompt-lists was hailed as user-friendly, and the option of selecting one of two models, in theory, allows organisations to adopt an approach most closely aligned with their preferred system of management. The inclusion of an initial status review encourages organisations to establish 'where are we now' before embarking on the process of implementing their safety management system, information to be used to guide the remainder of the process.

11.1.4 BS8800 - The Singular Dual Approach

The key HS(G)65 characteristics permeate the BSI Guide, from the structure and content of guidance, to the philosophical approach the latter adopts. Despite BS8800's claim that two approaches are provided, this is in model only; the guidance in Clause 4 adopts the philosophy, and the annexes maintain the format, of the HS(G)65 approach. The political machinations of the HS/1 committee have suggested that this is an enforced status due to timing as opposed to a consensus decision based on model preference.

Whilst the Guide states that the two approaches are broadly the same, this has been disputed on two levels. By aligning in name only, the 14001 model of BS8800 fails to impart satisfactory guidance on key elements of the EMS model; checking and corrective action in particular. Another basis for disagreement was discussed at length in Hawkins & Booth (1998). It was suggested that the order of guidance on the planning and organising phases of SMS development has been lost from that in ISO 14001, which may have adverse effects on the motivational elements included within the planning process.

11.1.5 BS8800 in Practice

Early indications from organisations implementing the BSI Guide were favourable; the annexes were appreciated and information imparted was said to be clear and easily understood. The various comments regarding integration of management systems suggested that inclusion of the ISO 14001 model was indeed, a positive step. Whilst its inclusion was regarded favourably, the actual structure of presentation (the dual approach) was received with an element of doubt; organisations suggesting that the choice either was, or could be, confusing.

Further than this, little was discovered about BS8800 and its value in providing practical assistance. The early findings of the first phase of empirical work were evaluated mainly in terms of their motivational sources, as one of the important elements of implementation for the organisations studied.

The timeline in chapter one, and the events described in chapter seven, highlight the rapid evolution of the field of SMS guidance shortly after publication of BS8800 in 1996. The issue of SMS certification, vehemently opposed by some members of the BS8800 development committee, HS/1, was taken forward by certification bodies in response to consumer demand. However, their multiplicity and disparity complicated the success of the resulting 'certifiable BS8800 standards'. As a result, certification bodies and BSI created OHSAS 18001 on the basis of both the Guide and the existing SMS specifications, in an attempt to counteract the negative effects of proliferation.

It is argued that BS8800 is still highly relevant to the field of SMS implementation; regardless of whether the ultimate aim is certification, organisations are expected to continue to seek the advice contained within the Guide. However, it cannot be disputed that 'BS8800 in Practice' has changed in focus, certification providing a vastly different context for SMS implementation than existed in 1996.

11.1.6 OHSAS 18001

As discussed in chapter seven, OHSAS 18001 is a derivative of BS8800 and ISO 14001, whilst maintaining some of the SMS content of the former, reflecting the environmental management standard in far more detail. The fact that SMS models and practice are now fairly well-established as taking an organisation from policy to review renders the broad similarities unsurprising. Whilst the OHSAS has removed the need to conduct an initial status review (an ISR cannot be certified), it has intensified the requirement for continual review, which permeates many clauses of the specification and forms an explicit final stage.

The remainder of the differences between OHSAS 18001 and BS8800 are a result of the influence of ISO 14001 on the former, and its superficial use in the latter. The OHSAS utilises the structure and clauses of the EMS standard to introduce aligned health and

safety requirements using the more familiar health and safety terminology, achieving the commonalities absent in BS8800.

11.1.6.1 OHSAS 18002

The guidance to OHSAS 18001 takes the specifications and elaborates on the requirements, assisting organisations to understand what is required to achieve compliance. Whilst it provides pertinent elaboration, it is not intended to, and thus does not, provide explanation as to how the specifications may be approached. It is here that BS8800 is relevant, described in chapter seven as providing a third tier of guidance in a similar fashion to that provided in the revised MHSW Regulations (HSC, 1999b).

It is within this context that the Guide is now evaluated; how BS8800 guidance aligns with optimal SMS implementation as defined experientially in chapters nine and ten. This is conducted through a review of the approach displayed by Admiral, considering the aspects of their SMS implementation validated as successful by the wider MS literature. The variety of factors found to be conducive to success is thus the next element for discussion.

11.2 SMS Implementation

In this section, the main findings of the second phase of empirical work are re-considered. These are applied to BS8800 in turn, drawing heavily on the case study discussion, where in practice, much of the pertinent evaluation of SMS implementation has already been conducted. This section builds on discussion presented in chapter ten.

SMS implementation is discussed here in the context of organisations attending to safety management via either guidance or specification, as opposed to in isolation. It is suggested that factors conducive to such fall within four broad categories, three of which are presented below:

- *Knowledge* required from the outset;
- *Process* of implementation; and,
- *Understanding* in order to facilitate continual improvement.

The instigating element, motivation, is then examined in the next section of the chapter, uniting the findings and discussions of the first and second elements of empirical work.

11.2.1 Knowledge

Two vital elements for successful SMS implementation are proposed: knowledge of the SMS document being used; and, knowledge of the systems of safety management already in place within the organisation.

In the case of establishing familiarity with the guidance or specification providing the backbone of the SMS, it has been suggested that ‘learning by doing’ is a key method. However, this is to some extent most relevant to improving *subsequent* attempts. For example, the knowledge witnessed at Admiral through the consultant’s use of past experience, and the Unit’s experience-based ability to propose a ‘best practice approach’ for future attempts. This poses problems in the context of organisations attending to implementation for the first, and quite possibly, the only time.

It is proposed that the initial status review within BS8800 can assist here, which involves organisations reviewing their existing arrangements with elements including legislative requirements, guidance available within the organisation, and sector best practice (BSI, 1996a). However, this approach in itself does not constitute ‘learning by doing’, rather provides an evaluation of specific elements of the system in conjunction with various performance indicators.

Following descriptions of these four elements, the possibility of reviewing the existing system against the *guidance itself* (ie, BS8800, or indeed other specification or guide) is proposed. The Guide suggests that:

A useful starting point would be to review the existing system against these guidelines. The annexes provide information to help organisations ensure coverage of key activities.

It is suggested that conducting an initial status review in this latter fashion will allow organisations to establish knowledge of the requirements of the guidance used, also providing the opportunity to familiarise themselves with the individual elements of their existing system. It is proposed that this constitutes a particularly useful stage where

implementation is carried out by a team with varying knowledge and experience. To summarise, it is postulated that such an approach facilitates the knowledge stated as requisite at the beginning of this sub-section, that of both the existing system and the document to be used as primary guidance.

11.2.2 Process

The discussion in chapter ten highlighted the following elements as conducive to successful SMS implementation at Admiral, factors validated by the wider MS literature:

- Use of teamwork;
- Using the existing (S)MS as a basis for implementation;
- Conducting an initial status review of the existing (S)MS;
- Instigating necessary changes (new tools and procedures) in accordance with the wider ethos of the guidance / specification; and,
- Continually improving and iteratively developing the SMS in accordance with the guidance from the outset.

11.2.2.1 Teamwork

The use of a team to implement 18001 within the Admiral Unit was largely a product of consultant input, who stated the vital contribution of those who ‘owned’ the SMS. This approach is also validated in the wider literature, indeed, in the Guide itself. BS8800 advocates the use of a team approach in many aspects of safety management, including risk assessment, planning and auditing (BSI, 1996a). The Guide also provides the following advice in clause B.4 of the *Organising* annex (BSI, *ibid*):

It should be recognised that effective management of OH&S requires the support and commitment of the employees, and that the knowledge and experience of the workforce can be a valuable resource in the development and operation of the OH&S management system ...[Employees should] be involved, where appropriate, in the development of OH&S arrangements and procedures.

11.2.2.2 Initial Status Review of Existing SMS

The importance of the initial status review (ISR) has been stated many times in this thesis. It has been described as a theoretical benefit of BS8800 in chapter four, as a tried and tested tool for SMS implementation in chapters nine and ten, and finally as a method of

facilitating two elements of knowledge as discussed above. The use of ISR as a first step makes the assumption that organisations will be basing their improved SMS on methods and procedures already used to manage safety, the second of the process-based elements listed above.

The more detailed information on the initial status reviews discussed in chapter nine adds considerably to the process described in BS8800. The important distinction is in the remit of the question 'where are we now', the purpose of ISR as defined in BS8800 (BSI, 1996a). Whilst the Guide explicitly suggests evaluation against four SMS indicators and benchmarks, it then adds the recommendation of establishing 'where are we now' *in relation to the guidance* as a useful starting point (BSI, *ibid*).

It was this latter element which was described as most useful; that when certification is the objective, organisations benefit from a process of establishing how the system in place aligns with that of the specification from an early stage. By implementing with a guidance-based ISR at the outset, Admiral intertwined their existing and potential 18001 SMS at the very beginning of the implementation process, from which point it was continually improved to establish conformity with the OHSAS. In accordance, Cottam (2000) suggests the benefits of such an approach:

It is clear that when OHS assessment leads to identification and re-identification of significant deficiencies ... it must inevitably result in immediate gains to the organisation.

11.2.2.3 Compliant Tools and Procedures

Where the existing SMS is found to be insufficient in achieving either the desired safety management performance or compliance with the relevant standard or guidance, organisations are expected to make changes accordingly. The annexes in BS8800 were developed in order to ensure that organisations cover key activities (BSI, 1996a) by highlighting what these are, and providing examples of how such could be achieved.

For instance, annex D imparts complete coverage of the risk assessment process, from hazard identification to selection of risk controls, and with its counterparts on other key elements of the management system, provides an example how the Guide 'adds value' to

existing SMS guidance. In particular, *Successful health and safety management* (HSE, 1991) was commented upon as simply imparting definitions and insights into best practice without stipulating stages for its achievement.

The success of the new elements of the Admiral system were largely down to the knowledge of the requirements of the OHSAS specifications, leading to developments of SSIR and risk assessment procedures known to conform. It is suggested that in a similar manner, implementing annexes of BS8800 (written to impart additional information) will lead to the achievement of the more succinctly defined elements in the Guide itself (ie, pages 5-8).

This brings discussion back to *knowledge* momentarily, that to approach implementation in an optimal manner, organisations need to fully understand the requirements of the guide or specification at hand. BS8800 assists organisations through the provision of the annexes, in a similar fashion to the advice provided for 18001 within 18002, although as was mentioned above, the level of detail is not comparable to that in the BSI Guide.

The important element here is how the annexes of BS8800 impart the ‘ethos’ (Aboulnaga, 1998) or ‘spirit’ (Admiral consultant) of the specifications, again, reported in the wider literature as a key facet of the (S)MS implementation process. This reiterates the theoretical assumption made in chapter four, and the early empirical opinion relayed in chapter five, that the annexes are indeed ‘added value’. On this basis, it is worth revisiting the subject of the annexes, as:

- Organising
- Planning and Implementing
- Risk assessment
- Measuring performance
- Audit

Whilst this clearly reflects the elements of the HS(G)65 model of BS8800 (see BSI, 1996a), there is an element missing from that aligned with the environmental management system standard ISO 14001. The guidance on *Measuring performance* is repeated under *Checking and corrective action* in the EMS based model, which in terms

of broad subject matter is fairly accurate, although misses many of the key elements required by OHSAS 18001.

As mentioned above, it cannot be assumed that organisations will now automatically seek certification for their safety management systems, although it is suggested that this will increasingly be the case. For those organisations seeking to improve SMS independently, chapter four examined the BS8800 advice on measuring performance, finding it largely in alignment with existing texts and legislative requirements. However, for those organisations seeking external validation to OHSAS 18001, the BS8800 guidance falls far short of preparing an SMS for compliance in these areas. It is suggested that again, this is largely a result of the OHSAS adopting the full specifications of 14001, whilst the BSI Guide repeats headings only.

11.2.2.4 Continual Improvement

Whilst the notion of continual improvement is largely a result of the quality movement, there is little emphasis on this in ISO 9001 (BSI, 1994), the concept appearing within BS8800 and the OHSAS as a result of the EMS model ISO 14001. Where continual improvement appeared in the formative edition of HS(G)65 (HSE, 1991), this was implicit in many cases (eg, the continued development of policy). The second edition of the HSE text suggests that the systematic approach emphasises a commitment to continual improvement (HSE, 1997), although again, this is not examined in detail.

The experience of Admiral, and those reviewed in the wider MS literature, emphasise the importance of continual improvement for (S)MS implementation. In Admiral's case this was introduced by developing the SMS on an existing system whose areas for improvement were uncovered by a primary process of initial status review, making continual improvement a process from the very beginning. The benefit of this was shown in the complete adoption of the content and ethos of the standard by Admiral staff, again, validated as important by the wider MS literature.

In BS8800 the concept is introduced gradually, through the statement that:

By following the stages shown in figure 1, organisations will be able to establish procedures to set OH&S policy and objectives and establish procedures for their implementation and to demonstrate achievement against criteria which they have defined.

Figure 1 is the management systems model, the Guide going on to state that these stages 'form a cycle for continual improvement' (BSI, 1996a). This element is inherent in many elements of the annexes, the facets of *measuring performance* for example culminating in the provision of information that can be used to review, and where necessary, improve aspects of a system (BSI, *ibid*).

Including such improvement as the final stage of each element of the management system is accurate. However, this fails to impart the benefits of internalising the concept through adopting a continually improving approach to SMS implementation from the outset.

11.2.3 Understanding

The distinction between the subject of this section, and *knowledge* as discussed above, benefits from a comparison of their dictionary definitions (Collins, 1992) as:

Knowledge - the facts or experiences known by a person or group of people

Understanding - the ability to learn, judge, make decisions etc.

It was stated above that two key pieces of knowledge held by those responsible for SMS implementation at Admiral were the *facts* of the OHSAS specification (from the consultant), and *experience* of the existing Unit safety management system (through Admiral staff). Incidentally, the consultant had the additional experience of implementing and certifying OHSAS 18001 management systems, again, hailed as important in the wider MS literature.

This sub-section discusses BS8800 in relation to the need for organisations to have the 'ability to learn, judge, and make decisions' with regards SMS implementation. It is interesting to recall the experiences detailed in chapter five at this point, those organisations who were just starting out with BS8800 implementation shortly after its publication. The author's notes at the time, subsequently appearing in Hawkins & Booth (1998) stated that:

There are those who use the Guide as a recipe for success (see Waring 1992; 1996), a quick fix demonstrated by the development of procedures and manuals. There appears to be little understanding of why they are doing what the Guide suggests, but a blind faith that this will achieve a pro-active SMS ...

Those using the Guide as a 'bible', the well-thumbed, highlighted, repeatedly photocopied versions are the ones with the problems. Where 8800 is filed in almost pristine condition, because its relevance has been extracted and applied, the organisations would seem to fare well.

Thus, the early empirical work predicted the relevance of knowledge and understanding, that following guidance by rote may have an adverse effect on the implementation process. It is this subject to which discussion now turns; the importance of learning for the organisation to implement and own its SMS. It is suggested that this is the third stage in the iterative implementation journey; one of gaining *knowledge* to undergo the *process*, developing an *understanding* from the outset in order to continually improve.

It is suggested that 'understanding' to aid the process of SMS implementation is facilitated by the appreciation of the interpretations behind, as well as the requirements of, the guidance followed. This in turn allows those responsible for implementation to 'judge and make decisions' in accordance with the Guide or specification used, encouraging ownership. This interpretation is based on the experiences presented in chapters nine and ten, and associated discussion in the latter, whereby the following links are now extracted:

- Understanding the ethos behind the specification, and taking a holistic approach; allows,
- Appreciation of the interpretations behind, as well as the requirements of, the guidance followed; which,
- Provides the link between the bi-polarity of literal compliance and the ethos of 18001 providing a tool for safety management; facilitating,
- Organisation-specific transformation of systems in totality, not in name alone; encouraging,
- Internalisation of the adopted system; resulting in,
- Organisational (or Unit) ownership of the 'new' SMS.

SMS implementation was defined above as an iterative journey based on the three stages of knowledge, process and understanding, with initial status review and the ethos of

continual improvement providing the vehicle. The ultimate stage here defined as understanding, including ownership, aligns with both the discussions on transformational change, and the adaptive/generative learning process, as conducted in chapter ten.

With regards BS8800, whilst it is not claimed that a Guide can impart understanding, it is proposed that it can facilitate this process of learning, judging and decision-making. It is suggested that optimally, this would constitute the following sequence of events.

In prompting an organisation to examine its current safety management tools and techniques against both best practice and requirements of the guidance or specification, knowledge of both are gained. This leads implementation to a second phase of ascertaining what more needs to be done to meet the specification, desired safety management procedures or targeted level of performance.

Organisations should then be encouraged to conduct this process through consultation of annexes providing detailed information as to what is required, citing optimal methods of meeting the clauses. It is proposed that this would facilitate understanding of the expectations of requirements within guidance, encouraging ownership and implementation as a holistic process.

The three facets permeating this approach are initial status review, continual improvement and annexed information; all of which exist within the guidance of BS8800. However, it is suggested that all three of these could be improved in some way. Improvements proposed for the former two elements have already been discussed; additions to the annexes in BS8800 are discussed further below.

11.3 The Role of Motivation

Chapter five relayed early experiences of eight organisations attempting to implement BS8800 shortly after publication, finding that the original motivations for attending to SMS improvements appeared to be a key factor in the approach subsequently adopted. The discussion of Admiral's approach in chapter ten found motivation to be equally important, which was verified by both safety and wider management systems literature. Thus whilst the discussion of management and motivation in chapter six highlighted the

import of motivation in the general field, chapter ten discussed its relevance in the field of safety management (system implementation).

11.3.1 Internal and External Motivation

Chapter ten discussed how Admiral displayed a number of primary motivational factors, also reducing the number of mediating factors as a result of the negative experience with their attempt at BS8800 implementation. The positive and negative effects of intrinsic and extrinsic motivators were noted, largely through application of the theories of Wright (1998) with safety management, and Strachan (1997) in the context of its environmental counterpart. This distinction was postulated as important in chapter five, as a result of the early studies of organisations attempting BS8800 implementation. It was suggested that six motivational sources and their internal / external origins are:

- Senior management commitment - hierarchical motivation (internal);
- SMS champion - self motivation (internal);
- Business case - financial motivation (internal / external);
- Ethical case - moral motivation (internal / external);
- HSE intervention / legislative obligations - regulatory compliance (external); and,
- Safety culture - motivation from a committed workforce at all levels (internal).

This earlier chapter discussed how when organisations were examined for their motivation sources there appeared to be a correlation between ownership and progress, and the number of *internal* sources as defined above. This appears to hold true in the case of Admiral, who displayed:

- Senior management commitment;
- Four SMS champions;
- Business case of certification leading to competitive advantage; and,
- Commitment of the Unit itself.

When examined against progress made by organisations in chapter five, motivation for SMS implementation appeared to be a vital factor; external motivation resulted in

grudging 'quick fixes' and a reluctance to exert effort when problems were encountered. It was suggested that:

internal motivation seemed to require that organisations adopt the general philosophy and guidance of BS8800 and then adapt this to meet their own (considered) needs.

This aligns neatly with discussion that has followed the Admiral case study, that adopting the philosophy and ethos behind guidance (as opposed to implementing by rote) is witnessed in organisations who understand the need for SMS improvement; those who are internally motivated. Abraham et al (2000) discuss the implication of these approaches in relation to QMS implementation, thus:

... management may see accreditation (sic) as an end in itself rather than the beginning of a quality journey and may be driven by procedures and documentation rather than organisation behaviour. If so, all one will get is transactional change and perhaps window dressing. However, if management emphasises long-term capability, rather than short-term gain, then one would expect to see accompanying transformational change.

In chapter five, the author returned to the detailed content analysis of BS8800, to examine the Guide for motivational content. It was suggested that the Guide contains references to the internal sources of motivation identified; such as the need for a positive safety culture, management ownership, workforce involvement and a key figure with defined responsibilities. However, these were found to be either implicit or dealt with as one aspect of a list of factors lost in the checklist format. The following citation from Hawkins & Booth (1998) was used to summarise this position:

It was noted that BS8800 sought to promote motivation ... but these explanations might only be recognised as such by those who are already looking for it - using the Guide as a 'guide'.

The specific example of 'policy' was used as an instance where the key facets useful for motivation are only mentioned in passing, an example that is resumed here to further discussion, but in a different context. The second edition of *Successful health and safety management* (HSE, 1997) states the centrality of this element of the SMS as:

Effective health and safety policies follow a clear direction for the organisation to follow. They contribute to all aspects of business performance as part of a demonstrable commitment to continuous improvement.

As was seen in chapter seven, organisations following an OHSAS 18001 approach to SMS implementation must include organisational safety objectives as part of their policy (BSI, 1999). However, in Clause 4.1, BS8800 simply states:

Management should ensure that the policy includes a commitment to:

(d) the setting and publication of OH&S objectives, even if only by internal notification

It is suggested that this is a missed opportunity for encouraging organisations to appreciate their systems as holistic and iterative; the difference between the compliant statement that 'objectives will be set and published', versus the considered assessment and publication of what these objectives are. The proposition that this process should be given greater precedence in BS8800 benefits from a brief discussion of goal-setting.

11.3.2 Goal Setting and Motivation

Chapter six examined the gradual incorporation of an understanding of human behaviour into the remit of job organisation and management style. In turn, this allowed theories to be developed with regards their optimal co-existence. The concept of goal-setting appeared repeatedly, goals cited as necessary for: individuals, workers, management and the organisation itself. General management theories have developed this to a point where common goals can address multiple aims:

- Self-actualisation;
- Worker satisfaction;
- Co-ordination and co-operation of staff; and,
- The overall requirements for the continued operation and existence of the undertaking.

Latham and Locke (1979) link goal setting and motivation, suggesting that it is the existence of goals within other motivational initiatives (such as financial rewards) that lead to their success:

A large number of research studies have shown, however, that one very straightforward technique - goal setting - is probably not only more effective than alternative methods, but may be the major mechanism by which these other incentives affect motivation.

The benefits of introducing objective setting as an early and integral aspect of SMS implementation is thus reiterated by the inherent motivational aspect of 'setting objectives' is considered as broadly synonymous with 'goal-setting'. This comment on goal setting as motivational brings the chapter back to the findings of the empirical elements of the research; whereby the presence of such, if internally held, has positive effects on the ensuing implementation process.

It is suggested that by requesting that the setting of organisational health and safety objectives form an integral element of policy, BS8800 will encourage organisations to consider why they are implementing, through having to establish what it is they are trying to achieve. This is an example of how it is thought BS8800 can motivate organisations through the implementation process in a manner that instigates understanding; reducing elements which can be implemented prescriptively, increasing factors which cannot be achieved without consideration and evaluation.

Organisational characteristics found to be prerequisite for achieving desired safety performance were presented in the APAU report which had a formative influence on HS(G)65, to recap HSE (1981):

- Independent and nested goals set at all levels of the organisation;
- Employees are committed and motivated to safety as a team goal;
- Employees are resourced and encouraged to meet their safety targets;
- Employees accept their group and individual safety responsibilities;
- and,
- Safety standards are set, against which performance standards can be measured and acknowledged.

Not only do these prerequisites reassert the centrality of the goal-setting process, they impart the benefit to be gained from devising health and safety objectives early on. Further, it is suggested that removing the term 'safety' highlights incredibly close links with the broad messages to be gained from general management theories. HS(G)65 largely ignores these characteristics for success, although it does divulge both the key themes under which they can be categorised, and also the fine detail necessary for their achievement. This bi-polar approach was criticised many times throughout chapters three

and four, the analyses of HS(G)65 and BS8800, whereby both texts *implicitly* impart best practice.

11.3.3 Making BS8800 Motivational Elements Explicit

It is suggested that in order to identify the elements necessary for best practice in terms of SMS implementation, those using guidance or specifications need an existing understanding of what these elements are. In order to illustrate this point, a return to the SMS aspect (and indeed, legislative obligation) of *policy* is made. The importance of 'management commitment' has already been discussed, for both the overall implementation process and the individual aspects of the SMS. Here, such commitment could be equally demonstrated by either:

- The Chief Executive's signature on the policy statement; or,
- An SMS transparently 'driven from the top'.

Two, bi-polar, interpretations, yet it is suggested that either survives application to the requirement for management to 'define, document and endorse' its OH&S policy (BSI, 1996a). With regards the authors classifications of (organisational) external and internal motivation, the former included the tendency to follow SMS guidance to the letter, whereas those internally motivated were likely to possess management commitment. It is suggested that when these characteristics are applied to the above policy interpretations in the same order as presented here, the result is a prediction of action²⁷.

This sub-section has discussed the links between internal motivation and optimal SMS implementation, suggesting that whilst many of these elements are contained within BS8800, this is at an implicit level. It is postulated that there are four main aspects where the Guide could strengthen its position in developing such internal motivation within organisations. Their importance has been stated above, those of initial status review, continual improvement, objectives within policy and the use of the informative annexes.

The suggestion that implementation should be approached using a combination of ISR and continual improvement from the outset encourages organisations to take a holistic

²⁷ Incidentally, this is not only a problem for safety management; see discussion from Stoesser (1997) of the equivalent issue with EMS policies under ISO 14001.

view of implementation as an action-oriented process; prompting the question of ‘how do we relate to the guidance, what changes need to be made?’ Linking this to a considered assessment of organisational health and safety objectives within the first SMS element of policy furthers the concept of an ‘owned’ implementation process.

11.3.3.1 BS8800 Annexes

The value of the annexes in the Guide was one of its early-recognised benefits; it is suggested that these impart best practice implementation advice in a similar fashion to that provided by the consultant at Admiral:

- Understanding and summary of what is required;
- Specification of preferred format; and,
- Obvious parallels to the more succinct clauses.

Whilst the annexes of the Guide are thus satisfactory in theory, it is suggested that the following factors highlight weaknesses. Chapter four criticised the advice contained within annex F on auditing; which was largely a product of being produced at a late stage in the writing of BS8800. It is suggested that with the increasing trend of certification, and the ISO 9001, 14001 and OHSAS 18001 focus on *checking and corrective action*, this annex proves increasingly deficient.

It is suggested that annex D on risk assessment consolidates and improves much existing guidance in this area, most notably the MHSW Regulations and that contained within HSE texts (1991; 1997). However, one of the organisations in the first element of empirical work, and indeed, Admiral in the second, stated the benefits of applying a simple quantification matrix to evaluated risks. In the Guide, clause D.6.1 states that:

Numbers may be used to describe risks, instead of the terms ‘moderate risk’, ‘substantial risk’, etc. Using numbers does not confer any greater accuracy to these estimates.

The benefit on the Admiral pro forma was that of using *both* quantification and qualified description, as the organisation in chapter five suggested that ‘reducing a 6 to a 2’ is a comprehensive means of communicating risk information succinctly. The final comment on the risk assessment guidance imparted in BS8800 was originally discussed in the analysis of the Admiral risk assessment methodology in chapter ten. The inherent

benefits of assessing risk with and without controls were noted as considered by the HS/1 committee, and summarised as a process omitted from the BS8800 annex.

Counter to these suggestions, there is the possibility that providing increased levels of information within various annexes of BS8800 could reduce guidance to prescription. However, it is proposed that in order to reach such status, the Guide would need to impart total and exact procedures and pro-formas. The link between the annexes and consultancy assistance was made above, whereby guidance known to succeed is provided; which for Admiral facilitated the process of ownership. Using the same parallel, annexes providing 75% of the methods required of organisations, in the same way the consultant professed to, would instigate the remaining 25% as at the discretion and consideration of those responsible for implementation.

11.3.4 Summary

One of the main benefits inherent to the structure of BS8800 was noted as the ‘user-friendly prompt-lists’. This claim was based partly on the fact that HS(G)65 only imparts the ‘what’, the ‘rules of the game’ as interpreted by Byrom (1999a). Improving on this approach, BS8800 provides the ‘what’ in Clause 4 of the main Guide, also guiding readers through the ‘how’ in the informative annexes. In relation to annexes C, D and E²⁸ in particular, the provision of the ‘why’ of safety management was noted. When viewed as guidance in its entirety, organisations following BS8800 are provided with the three facets of ‘what, how and why’ for safety management system implementation.

This triplet of information dissemination links neatly with the three elements of knowledge, process and understanding described above, as per optimal implementation established in the thesis. This discussion chapter has linked the two in order to establish which aspects of the Guide could benefit from alteration. It is here the conclusions of Strachan (1997), as originally cited in chapter ten, are their most relevant:

EMS standards should be fundamentally revised and replaced with more participatory forms of management and organisation that push a firm towards a learning organisation mode.

²⁸ Planning and implementing, Risk assessment and Measuring performance respectively.

In the same way, the crux of this second discussion chapter maintains the need for SMS guidance to adopt a non-mechanistic approach that encourages and motivates organisations to adopt an ethos of pro-active safety management. The chapter has lead to some clear suggestions of areas where BS8800 could be optimised; changes that are now stated explicitly in chapter twelve.

CHAPTER TWELVE

Conclusions and Further Work

This final chapter comprises two sections; firstly thesis conclusions in relation to the initial objectives. These prompt suggestions for further work arising from the wider context of the research, which thus culminate chapter twelve.

12.1 Thesis Conclusions

The thesis began with four objectives:

1. Describe the legislation, management system models and safety management guidance providing the impetus for BS8800, to identify how the Guide developed from safety, environment and quality management sources;
2. Conduct a detailed analysis of BS8800 in order to establish departures from existing safety management guidance;
3. Examine the efficacy of BS8800, based on a study of organisations implementing safety management systems; and,
4. In the light of the above, provide a critique of BS8800 in terms of both broad structure and explicit content, with a view to suggesting changes.

12.1.1 Objectives One to Three

These have been separated from the fourth, as they constituted the means for its achievement. Broadly, these objectives were addressed in chapters two to nine of the thesis, leading to the following conclusions:

- BS8800 is in accordance with generic safety management legislation, Regulations 3 and 4 of the MHSW Regulations (1992) in particular;
- BS8800 is in accordance with existing SMS guidance, adding initial status review, a dual approach, additional information in annex format and step-by-step checklists;

- Internal motivation is an important pre-cursor to SMS implementation, whilst reliance on external motivation may hinder the implementation process;
- When following specific SMS guidance, optimal safety management system implementation includes:
 - Knowledge of the document requirements;
 - Knowledge of the existing SMS;
 - Using the existing SMS as a basis;
 - A team approach;
 - Beginning with initial status review; and,
 - Working to the ethos of 'continual improvement' throughout.

12.1.2 Objective Four

The following conclusions are based on the findings of the content analysis, the two elements of empirical work and their discussion, and the review of MS literature. It is suggested that BS8800:1996 *Guide to occupational health and safety management systems* be reviewed in the following areas in order to impart an optimal approach to SMS implementation.

12.1.2.1 Initial Status Review

Advice on Initial Status Review should be increased and improved:

- The option of reviewing the existing SMS against the guidance itself should be emphasised;
- This emphasis should explain the role of the Initial Status Review as the first stage, as opposed to a pre-stage of implementation; and,
- The advice on ISR should generally be expanded, providing more guidance on methods of conducting such a review, including the option of including checklists, a flow-diagram or indeed, an annex.

12.1.2.2 *Continual Improvement*

The concept of 'Continual Improvement' should be fully incorporated:

- Continual Improvement should be defined and explained;
- The notion of continual improvement as an ever-present concept should be imparted, not simply left as the sixth stage of the implementation process; and,
- The concept of continually improving and iteratively developing the SMS in accordance with the guidance should be examined as a follow-on from the initial status review.

12.1.2.3 *Policy*

Objective-setting should form an explicit element of Policy:

- Setting objectives should be stated as a result of the initial review of the existing SMS against both benchmark criteria and the Guide; and,
- Objectives should be incorporated as a specific element of the organisations occupational health and safety policy as the guiding element of the remainder of the SMS.

12.1.2.4 *Annexes*

Annex D (Risk Assessment) should:

(a) incorporate quantification²⁹ of risk more fully:

- The comment that quantification of risk is an alternative option to qualitative description should be softened; and,
- The communication-related advantages of quantification should be explained.

²⁹ Quantification here refers to the 'quasi-quantification' discussed in chapter eleven; using numerical values to represent risk values.

(b) suggest assessment of risk with and without controls:

- Benefits of this should be imparted; and,
- An example of this should be provided to highlight the potentially major differences.

Annexes E (Measuring performance) and F (Auditing) should be revised to:

- Incorporate the ISO 14001 requirements of checking and corrective action;
- Strengthen the guidance on auditing; and,
- Review the optimal place of this information, as annex E or F.

12.1.2.5 ISO 14001 Model

The guidance within the ISO 14001 version of BS8800 should be re-written to fully align with the EMS model.

12.2. Recommendations for Further Work

There are three suggestions for further utilisation of the research findings, the first emanating from the author's constant contact with both BSI and the HS/1 chairperson (see for example, Jaynes et al, 1999). BS8800 is due for review at a sub-panel of HS/1 in June 2001, at which point the future of the Guide will be debated and decided. This research has obvious pertinence for these discussions, to which the author has been invited.

The second and third possibilities for development of the findings are based on those areas of the research that particularly captured the author's interest. The author deliberately avoided discussing the mass of literature on safety culture, as this seems to have become an all encompassing phrase for any intangible variable affecting risk assessment and control (see Cox & Flin, 1998). It was felt that describing the issues discussed in the thesis as examples of this elusive entity would be adding to the perception of safety culture as all embracing, that suggesting 'it's all down to positive culture' would be stopping discussion prematurely.

Again, Cox & Flin (1998) have summarised the growing perception that the OH&S field should perhaps return safety culture to its roots, reducing the enigmatic status; building on its practical applications. In this sense, the author would like to examine motivation as one of the (many) facets of safety culture, contextualising it further within the academic OH&S field.

The final area of interest has emanated from the literature on (auditing) integrated management systems. As an IRCA-qualified ISO 9000 lead auditor, the author was intrigued by the stated differences in the subject of, and approach to, assessing quality management systems and their environmental and safety counterparts.

The findings of the relevant discussions in chapters seven and ten suggest that there are many disparities that have yet to be resolved within a field which is moving rapidly. It is suggested that there is a need to establish acceptable definitions for what is meant by 'MS compliance' and 'auditor / organisational competence' in all three fields, and use this as simply a starting point.

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³⁰ Note: Two versions of McGregor's 'The Human Side of Enterprise' (1957) are cited. One is the paper as it appeared in *Management Review*, the other being the reprint of a paper given at an Industrial Management conference in the same year; there are subtle differences between the two. Both have been included for the sake of accuracy, although reference to either is sufficient in terms of the broad manner of the discussion of McGregor within this thesis.

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Appendix 1

(a) Question set used for Admiral Staff

Introduction.

To interviewer:

- Used to work for safety department at British Rail.
- Now a researcher at Health and Safety Unit, Aston University, doing a mixture of teaching, research and consultancy.
- Doing a course in safety management at the same time.

One of the course requirements

- Do a case study in an organisation that has recently put an SMS in place, to study how people go about improving safety management, using guidance like 18001

Report for Admiral

- Brompton Premier was the first site, they're considering doing more. Admiral office would be interested in a report that says what I find, and also makes any recommendations for improvements.

Confidentiality:

- *Thesis* - the name of the company will be changed, along with the names of the people interviewed.
- *Report* - Will start with an introduction that says how I came to the conclusions, interviewed a mixture of employees, managers, consultant etc, with the following findings.

Note taking

- To record the interview.
- Notes won't be seen by anyone else, and will be merged with other interviews to gain a full picture of how the unit used 18001.

NB. Points in italics in the question sets below were used as prompts / reminders as to the intention for information to be acquired through the question.

Background

1. Can you tell me a bit about your background; present job; roles and responsibilities?
2. How does liaison and communication work between the Unit and the office?
3. What is the role of the management team?
4. Can you take me through the work done in the Unit?
5. What are the major risks and hazards in the unit?

Safety management historically

1. How was OH&S managed before you looked at 18001?
Performance, system, responsibilities, accident / incident data, risk assessments
2. Were there changes you were thinking about making?
3. Were you happy with safety management before 18001?

Impetus for implementing 8800 / 18001 SMS?

1. Why did Admiral decide to implement SMS improvements
Who was involved in this decision?
2. How did you decide which guidance to use?
Who was involved in this decision?
3. What were the intentions - what was 18001 to achieve?
4. How did 18001 compare to the existing SMS?
5. Did you look at 8800 / 18002?

Process

1. How did you get involved in the 18001 safety system? What was your role?
2. When and why did the consultant begin to assist?
3. Who was involved? How?
What happened - how did you do it?
4. What was the 8800/18001 process?
5. Were changes made to the existing system?
6. How were these actions chosen and addressed, and by whom?
7. How did you find the new elements?
8. How the manual and procedures were put together? How were they put into practice?
9. What are the indicators of success / failure?
10. How will / were improvements (be) made?

NB Need to ask about Qualspec DTR at appropriate point in interview

Post-certification

1. Have you achieved what you wanted for the Unit? Could any more have been done?
2. Do you feel that you 'own' the system?
3. What did you think of 18001?
4. What did you think of the process of implementing 18001?
5. What has 18001 done for the Unit at Admiral?
6. Could the implementation process be improved? Are there any things you would do differently the second time around?
7. Any other comments?
8. Anyone else I could speak to?

(b) Question set used for Consultant

[Introduction as above]

[Documentation required]

Photocopy of 18002

Systems documentation additional to that from HSM

Letters from HSM on successful certification

Audit report from Qualspec

Background

1. Can you tell me a bit about your background; present job; [company]?

General

1. How did you get involved in the Admiral certification process?
2. What was the background?
3. What was the situation when you got involved?
4. Why were you brought in?
5. What was Admiral's aim?

What was the process of Admiral getting 18001 certification?

1. Decision to move from 8800 to 18001?
2. How was the Brompton Premier site chosen?
3. What was the process of implementing?

Who was involved, why and how?

4. Were there any problems?

18001, people, SMS, procedures

5. What was your input?

Procedures, facilitation, tools?

6. When was your role defined as complete?

Other issues

1. What were the key factors of success?
2. What were the main problems?

3. How were these resolved?
4. What are the lessons to be learnt from the Admiral experience?
5. Should anything be done differently?
6. What was in Admiral's favour?
7. Main difficulties organisations face without consultant input?