THE DEVELOPMENT OF AN EFFECTIVE SAFETY MANAGEMENT SYSTEM

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Abstract

In UK law the responsibility for making arrangements to minimise risk and secure safe operations rests with the employer who in practice delegates this down through line management.

The paper describes a novel approach to assisting managers in meeting their responsibilities and explains how the system operates in a company producing radioactive materials for use in healthcare, life science research and industry.

Introduction

The essence of UK safety law is that businesses must make arrangements to minimise risk and secure safe operations, and that individuals have a responsibility for ensuring that their actions do not endanger colleagues. The responsibility for making the arrangements rests with the Chief Executive and, by inference and common practice, is delegated down through line management.

In the past safe operational practice was achieved within the company through instructions devised by the central safety group and issued to line managers. The safety group had the responsibility to ensure that the company complied with all relevant laws and licenses while the majority of line managers assumed or expected that 'safety' was taken care of centrally and thus had little proactive influence on the safety of their operations. There was also little in the way of formal audit.

Company Safety Arrangements

In 1990, the company safety policy was revised to emphasise the safety responsibilities of line management and included the phrase "managers at all levels are responsible for the safety of operations under their control". The central safety group became responsible for providing a safety management system to enable line managers to demonstrate that they were undertaking the required actions.

The key regulatory requirements and company standards are given to managers through the Company Safety Arrangements. This document tells managers what arrangements they must make to comply with the law fully, without the need for the managers to be familiar with the detail of the legislation. In the UK the regulatory framework is complex with over 30 Acts of Parliament and 80 sets of Regulations applying in the safety field.

The Company Safety Arrangements comprise 25 single pages, each covering a specific topic (for example : safety instructions; safety training; supervision; assessment and control of hazards; audits and corrective action). Each arrangement identifies who is responsible for the action and what the minimum requirements are. Generally the line manager or the site manager (the senior individual responsible for the operations of a complete site) are the focus of the actions. The arrangements are supported by more detailed safety guidance notes which can be referred to by relevant managers when they are determining their actions.

The responsibility for interpreting new and existing legislation for all aspects of safety and for ensuring that it is covered by the requirements laid down in the Company Safety Arrangements lies firmly with the central safety group. Managers can therefore expect that if they comply with the company arrangements that they will be in compliance with the relevant laws.

Manager's Safety Files

The execution of the company safety arrangements requires each manger to issue to staff rules, instructions and procedures appropriate to the nature of the operations under his or her control. The proper recording and review of these provides adequate evidence of compliance with the arrangements (and hence compliance with the laws). Managers were encouraged to collect the documents together or keep references to them in a "safety file" which was to be regarded as a "living system". It represents a simple documented management system. In order to ensure an acceptable and reasonably uniform content in an auditable format the central safety group imposed a quality assurance dimension onto the system. The system must comply with the QA requirements of ISO 9000 where these are relevant to the operations. Essentially, the manager must establish a safety organisation, identify and control all documents, conduct regular reviews and internal audits and have an effective corrective action procedure. Some of the details of ISO 9000 such as the requirement for a manual and, particularly, a management representative, were an inappropriate fit with "arrangements" and with the paramount need for the manger to "own" the safety file. The least prescriptive standard offering safe performance must be the preferred option. However, recent experience has shown that when a management unit has fully embraced ISO 9001, the existing safety file components which are common to both the safety and quality assurance systems also are in full compliance with the quality assurance system.

The basic components of the manager's safety file are shown below :

Manager's Safety File

- ◆ Policy
- ◆ Organisation
- ◆ Appointments
- ◆ Instructions
- ◆ Training
- ◆ Hazard Assessment
- ◆ Accident Investigation
- ◆ Audit
- ◆ Review

Audit

A key area where the current practice differs from the past is in auditing. The present arrangements require three tiers of audit. The first is 'self audit' carried out by the managers to enable them to know where they do or do not comply with laws or company standards and to satisfy themselves that their instructions and systems are being followed by their staff. The second tier is at the site manager level and involves reviewing the manager's self audits and checking the quality of the manager's audits. The third tier is at the corporate level and combines the aim of the site manager's audits with in-depth technical audits carried out in reaction to audit observations, legislative changes etc. In practice the site manager's and corporate audits are either combined or alternated.

Audits have been carried out over the past five years by formally trained auditors to ensure that managers have evidence to demonstrate compliance with each and every detail required by the company safety arrangements, using the arrangements themselves as an audit checklist. The adequacy of implementation has been checked by sampling procedures and questioning staff in the workplace. It is accepted that the likelihood of the auditor uncovering an isolated incidence of bad practice is small, because most operating units will have more than 100 practical procedures each and behaviour of staff is influenced by the presence of the auditor. It is this detail of the operating procedures that must be checked locally (and systematically) by the local audit arrangements.

The Arrangements in Practice

The system was implemented by all technical managers on Amersham's UK sites and effective management was generally achieved within two years. An important benefit was the recognition by managers that the safety file, when completed, offered a useful source of information and enabled them to understand their safety responsibilities and liabilities. There were two main problem areas. The requirement for internal audit was largely ignored and a few managers tried to abdicate their safety responsibilities to a safety specialist. Suitable counselling has now ensured that all direct appointments and instructions are those of the manager, and that a management signature indicates absolute ownership of any consequences arising from the signed document.

The manager's safety file includes as a minimum a statement of policy, organisation chart, key appointments, and references to all required rules, procedures and records. A series of unsupported compliance statements is insufficient unless there is a clear indication of how compliance is achieved. The depth and coverage of the information is tailored to the complexity of the organisation and tasks involved. When a radical change in organisation has occurred, the file has been found to be inadequate and significant changes, for example to supervisory procedures, have been necessary. On the other hand, when management has changed but the organisation remained constant, the documentation has required little alteration. There is, however, a need to train a new manager formally in the whole safety management system.

Conclusions

Experience over five years indicates that the safety management system coupled with audit and review can provide managers with confidence that their operations are adequately controlled and regulators with an auditable trail of evidence to confirm this.