

Safety, Health, and Environmental Auditing

A Practical Guide



SIMON W. PAIN

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For Anne
With thanks for a lifetime of inspiration

Contents

Preface.....xi
About the Author xiii

Chapter 1 Elements of a Good Safety, Health, and Environmental System 1

Chapter 2 Management Systems..... 5

Chapter 3 Auditing—The Principles..... 11
 Management Audits 14
 Specialist Audits..... 15
 Operational Audits 16
 Purpose and Benefits 17

Chapter 4 What Makes a Good Auditor?..... 23

Chapter 5 The Standard 29

Chapter 6 Preparation 33

Chapter 7 Protocols and Checklists 41
 Who 42
 What..... 43
 How 44
 When..... 45

Chapter 8 The Entry Meeting 51

Chapter 9 Area Familiarization 53

Chapter 10 Audit Observation Skills 55
 Focused Looking 55

Chapter 11	The Formal Discussion	61
Chapter 12	The Informal Discussion	69
Chapter 13	Statistical Significance	71
Chapter 14	The Importance of Verification and the Audit Trail	73
Chapter 15	Observations and Noncompliances	79
Chapter 16	Documentary Review	83
	Reason	84
	Select	84
	Assimilate.....	85
	Challenge.....	86
Chapter 17	Convergence	87
Chapter 18	The Exit Meeting.....	91
Chapter 19	Audit Uniformity and Credibility	93
Chapter 20	Auditor Training.....	95
Chapter 21	Managing Auditee Expectations	97
Chapter 22	Auditing and Its Relevance to Regulatory Compliance	99
Chapter 23	Reporting—Quantitative Assessment.....	101
Chapter 24	Reporting—Qualitative Assessment.....	105
Chapter 25	Follow-Up.....	109

Contents	ix
Chapter 26 Choosing the Process	111
Chapter 27 Audit Team Composition.....	113
Chapter 28 Using the Plaudit 2 Process	115
Getting Started (Audit Preparation)	115
Commencing a Plaudit 2 Audit	116
Using the Plaudit 2 Process	117
Chapter 29 Using the Plaudit Protocol Software	121
Glossary	125
Appendix 1: Auditor Guidance	131
Appendix 2: Plaudit 2 Audit Protocol	145

Preface

Most people would agree that health and safety is important. Those who consider environmental protection also to be important are probably a smaller, but rapidly growing number. Unfortunately, that is often where all interest in these subjects ends. It is all too easy to say what should have happened after there has been some adverse event such as an accident, injury, or environmental release, but why cannot we be wise enough to recognize these shortcomings before things go wrong, and therefore avoid hurting either people or the environment?

Many competent organizations have extensive safety, health, and environmental instructions in place, but still find that things often go wrong. The problem is one of human behavior. People like to make life easy for themselves and therefore sometimes ignore the instructions, or perhaps the instructions themselves are out of date. In the latter part of the last century it was realized that this was the cause of production “quality” problems, and quality improvement processes were introduced, which culminated in such international standards as 9001, 14001, and 19011. It was realized that having good-quality instructions was not enough. What really mattered was how well people adhered to those procedures. A crucial part of a good-quality process is the checking (or auditing) step to ensure that people are complying with the procedures.

It was quickly realized that a similar checking process could be of great benefit in respect to compliance with safety, health, and environmental management procedures. In the 1980s some leading companies started to carry out environmental audits and later on branched into health and safety. The results of these audits were dramatic, and often resulted in as much as a tenfold reduction in incident frequency rates. Consultants quickly realized that there was a demand to be satisfied in helping organizations improve their environmental, health, and safety performance and started to provide high-quality auditing services. The consequence for the organization was that they achieved a significant improvement in their performance, but it sometimes came with a rather large price tag in the form of consultant fees.

The purpose of this little book is to provide “down to earth” guidance for managers and specialists in those organizations who are committed to improving their safety, health, and environmental performance, but either are not sure where to start or cannot, or do not wish, to employ consultants to do this for them.

The book is intended for those managers and safety/environmental specialists who have some level of safety, health, and environmental awareness. It has been written in such a way that it is easy to dip in and out of the short chapters to refresh your memory, prior to or during an audit. A set of audit protocols, covering sixty different aspects of environmental, health, and safety management, is provided in Appendix 2, for those who have not developed their own. An electronic copy of these protocols is available on the enclosed CD-ROM to allow for easy copying and printing for the audit. Frequently needed practical administrative checklists that may be useful when planning and conducting the audit are found in Appendix 1.

For those who prefer an all-electronic audit checklist, a copy of the Plaudit 2 audit protocol is to be found on the enclosed CD-ROM. This allows the auditor to complete his or her notes in real time and provides a continuous graphical audit compliance score. It must be remembered that the electronic protocol is merely a supporting tool and is no substitute for a detailed understanding of how to prepare for and how to conduct the audit.

Good luck!

About the Author



Simon W. Pain is an independent Safety, Health, and Environmental Management consultant based in Scotland. He has a wealth of health, safety, and environmental management experience in various manufacturing industries gained over the last thirty-seven years.

Simon is a chartered mechanical engineer with more than thirty-two years experience in senior management positions with British Steel, ICI, and DuPont's engineering, manufacturing, research, and corporate functions. He has been advising company executives at the board level on safety, health, and management issues for the last twelve years. He spent

many years as Divisional Safety, Health, and Environmental Manager for ICI and DuPont; the latter is widely regarded as the world benchmark company for health and safety standards. During the last ten years he has developed novel techniques in health and safety training and communication, which were commended by the Institute of Occupational Safety & Health in November 2004.

As a consultant, Simon specializes in raising awareness and motivating senior managers to achieve a paradigm shift in health and safety awareness. He does this by using the high-impact approach and making the subject interesting and fun.

He is an expert in auditing, especially at the management level and personally designed and developed the ICI audit protocol system to ensure that auditing standards were consistent. As a Det Norske Veritas-trained auditor he has led audits not only in the United Kingdom, but also in the United States, Japan, Belgium, and the Netherlands. He regularly carries out lectures and training for health, safety, and environmental auditing.

He is a Fellow of both the U.K. Institute of Mechanical Engineers and the Institute of Energy and a chartered member of the Institute of Occupational Safety & Health. He was also a member of the U.K. government's Energy Best Practice Committee and a board member for the Solway River Purification Board until the formation of the new Scottish Environment Protection Agency.

Simon graduated in Mechanical Engineering from the University of Birmingham and obtained his postgraduate qualifications in health and safety from the University of Loughborough.

1 Elements of a Good Safety, Health, and Environmental System

A “system” is “an environment exploiting, restricting and repressing individuals.” So claims the *Collins Concise Dictionary*. Surely this cannot be the intention of safety, occupational health, and environmental systems? Perhaps a more appropriate definition would be “a way of doing things.” However, *Collins* is right in suggesting that systems may not necessarily be a help; they can on occasion be a hindrance. We have all experienced the uniformed official who insists on rigidly applying outdated rules with the claim that it “is more than his job’s worth not to comply!” Nevertheless, systems are needed in organizations whether they cover the control of finances, the payment of employees, the purchase of goods, the control of product quality, or the application of safety, health, and environmental (SHE) standards. Although we may sometimes doubt it, systems are created to simplify activities that are repeated and are essential to the purpose of the organization. They are intended to ensure that we benefit from the learning and experience of others, so that we do not all have to go back and reinvent the activity from first principles. Even when formal systems do not exist, it is human nature for us to want to make things easy for ourselves, so we often tend to devise our own way of doing things.

The role of the system in collating experience and learning is an essential component when systems are intended to prevent harm occurring to people or the environment around us. This is why the application of systems to SHE protection is of such importance and explains the recent explosion in regulatory controls in this area from governments around the world. Indeed, governmental controls are now so complex that new systems have to be introduced to try and simplify the previous systems. It is hardly surprising that *Collins* defines these systems as restricting and repressing individuals.

The problem with any system is that it tends to start to deteriorate from the first day it is introduced. This can be through ignorance, oversight, or willful disregard. Ignorance is fundamentally a communication and training issue, willful disregard is arguably a disciplinary matter, but probably the biggest barrier to the successful application of systems in the SHE area is oversight. Oversight, or the inability to anticipate adverse consequences, is one of the most common causes of harm to people and their surroundings. So often it is done with the best of intentions. No one intentionally crashes his or her car into a brick wall. It may happen because of a desire to get home on time. That is a creditable enough intention, but all too often the best intention ends in tragedy because people don’t think about the consequences

of driving around a corner too fast and ignoring the driving safety control systems of speed limits, tire condition, or allowance for adverse weather.

Systems exist in all walks of life and there is ample evidence that they deteriorate with time unless they are properly managed and controlled. The people who are to operate the system need to know what is expected of them. The requirement should be written down in a clear and concise manner and then this should be effectively communicated to the individuals concerned through training. The system should appear to be sensible and logical to the people involved. If a system appears to be illogical, then there will be a natural tendency for people to devise an alternative system that they consider to be more appropriate. Ideally, the system should be developed by one or more of the people who will have to operate it and certainly not by some remote bureaucrat who never leaves the sheltered cloisters of his or her own office. When people have been trained in the system, their knowledge of the requirement should then be checked to ensure a thorough understanding, before they are asked to apply it. Records should be maintained to confirm that users have been trained in the system and to identify when refresher training will be required. Even then, with a sensible logical system and trained operatives, the survival of the system is not assured unless it is properly managed. Most systems fail quite quickly, usually within six to nine months; unless people are reminded of the need (i.e., an accident happens and reinforces the need for a safety system) or management ensures compliance with the system through some process of checking or auditing.

Regrettably, the effort required by management to ensure compliance to SHE management systems is not always seen as a top priority when more pressing problems arise. Often it is only after some accident or injury occurs that the investigating team goes back to the safety instructions and finds to its relief that the injured party had transgressed some detailed subclause in the dusty document. Management feels vindicated and the poor wretch is given a summary dressing down to add to his or her physical ailments. Perhaps if a little more thought were given, the management team might recognize that it had also failed in its task of ensuring compliance with the safety procedure. Managers are well advised to remember that they have a duty of care toward their employees and that the regulatory authorities are likely to want to know as part of their investigation exactly what steps management took to ensure compliance with both regulatory and its own internal safety procedures. The mere existence of a written procedure does not confirm that there was necessarily an effective system in place. In fact, the existence of an injury almost immediately suggests that management has failed in its "duty of care." It is now well understood by experienced incident investigators that the immediate causes of an incident are rarely the real underlying cause of the incident. Frequently the immediate causes relate to the period in the few minutes prior to the incident. The underlying causes go back much farther in time and often have roots in management's lack of control over a prolonged period and the failure to have robust SHE systems in place.

The consequences of failures in safety are often all too immediate because often someone gets hurt, but system failures in protecting employees' health from exposure to asbestos dust, may not be realized for forty years and failures in environmental controls to prevent land contamination may not result in observable consequences for even longer. Compliance with such environmental and occupational

health protection systems is particularly difficult as responsible parties may consider that the risk of the consequences coming back to haunt them within their career span is so small as to be worth taking a chance.

Leaders in the field of industrial loss prevention all advocate for the same three elements of a safe and healthy working environment. These I shall refer to as the three “Ps” and are “People,” “Procedures,” and “Plant.” Taking these in reverse order, let us consider “Plant” first. Plant or operating equipment needs to be of adequate standard in order to achieve a good safety and health record for the workforce and its neighbors. Work equipment should be properly designed to be safe to use and should have been subject to an appropriate form of risk assessment. Often plant and equipment has the potential to deteriorate with age and so the standards of maintenance and upkeep are critical. “Procedures” should be established to ensure that potentially hazardous equipment remains safe to use and in a condition that will not cause harm to the environment. These critical elements of plant and equipment maintenance are known as SHE assurance and are an important part of corporate governance. However perfectly designed and maintained plant and equipment may be, it cannot alone ensure that no harm occurs. Equipment is used and operated by people and people are notoriously unreliable. The use of equipment should be controlled by the second of the three Ps: “Procedures.” In the late 1980s when the International Quality Standard series ISO9000 was first being implemented on a large scale, many companies made the mistake of believing that everything could be controlled by procedures and instructions. Every eventuality was considered and the tropical rainforests disappeared overnight in a mountain of procedural bibles. The only problem was that the sheer volume of procedures was unmanageable and they were rarely used and never revised. It is now recognized that you cannot “proceduralize” every aspect of life and that the procedures should relate to the important and generic activities. The application of good and well-maintained procedures allows a step change improvement in SHE performance, compared with relying only on a well-designed and well-maintained plant.

To achieve world-class performance in SHE management, we require the involvement not just of engineers, designers, and managers, but also the proactive involvement of all employees. Employees must become responsible for not just their own safety, but also for that of their work mates; they should in effect become “their brother’s keeper.” Experience in hazard recognition training demonstrates to me that people will identify more hazards when pooling their ideas and working as a team, than any one individual will do when working alone. Consequently, to have an effective loss prevention system requires attention to the plant, the procedures, and the people.

The scope of a loss prevention audit may cover any combination of safety and occupational health and environmental protection. It is logical to attempt to combine these three issues as they all relate to harm to individuals, groups of individuals, or the environment. They are all issues of “loss prevention.” Safety harm usually arises as a result of acute effects and is often short term and reversible (except in the case of fatalities), whereas occupational illness usually relates to long-term exposure and results in chronic effects. However, the underlying causes for both sets of consequences can be the same. Audits often need to pay particular attention to health

hazards or environmental effects because the consequences are not immediate and therefore may be less obvious to the worker. Unfortunately, because of the size of the task, the danger of attempting to cover all aspects of health, safety, and environmental control within a single audit is that the audit either becomes unwieldy or at the other extreme may become superficial in its individual elements. This problem of superficiality is the greatest practical problem facing the health and safety auditor today. Superficiality not only discredits the outcome of an individual audit but may bestow a feeling of inappropriate “comfort” when this may not be fully justified.

2 Management Systems

According to new estimates by the International Labor Office (ILO), the number of job-related accidents and illnesses annually claims more than two million lives worldwide, and this number appears to be rising because of rapid industrialization in some developing countries. The assessment also indicates that the risk of occupational illness has become by far the most prevalent danger faced by people at work—accounting for 1.7 million annual work-related deaths and outpacing fatal accidents by nearly four to one.

The ILO found that in addition to work-related deaths, each year there are some 268 million nonfatal workplace accidents in which the victims miss at least three days of work as well as 160 million new cases of work-related illness. Injuries, illnesses, and environmental incidents are costly not only to the world's economy, but also to workers, their families, and to our surroundings.

In many countries, company directors, managers, and employees can now be held personally liable for failure to control health and safety. Increasingly, managers are held criminally liable when things go wrong and so there is an increasing tendency for organizations to document their safety systems. Of course, a mere written procedure does nothing in itself to reduce the risk of harm to employees—it is merely a statement of intent. To translate such a statement into meaningful action requires some sort of management activity. To ensure that this action is properly sustained requires monitoring by the management team. The level of informality or formality of the system will depend on the nature of the enterprise and the risks associated with it. The essential starting point is to consider SHE management as a key business process. The board or senior management of the organization should set down its basic requirements in the areas of SHE protection in the form of a policy statement, which should be made available to all employees. The policy should state the organization's position on SHE matters and how all the employees will be expected to comply with them. It should also state the arrangements and responsibilities within the organization for implementation of that policy. The policy should influence all the organization's activities, including the selection of people, equipment, and materials, the way work is done, and how goods are designed and services are provided.

In summary, the policy should:

- Be a clear written statement of the organization's position relating to loss control in safety, health, and the environment
- Identify who is responsible for SHE performance
- Identify the sources of expert SHE knowledge
- Be signed by the most senior person(s) in the organization
- Be prominently displayed in an up-to-date form
- Be communicated in clear and concise terms to everyone within the organization

The existence of an up-to-date policy statement is a clear indication that the management team considers SHE loss prevention to be a key issue for the organization. However, as stated previously, the existence of such a statement does not avoid accidents happening. To make the policy effective, it is necessary to get the employees involved and committed. Creating positive loss prevention behavior among the staff needs to be properly managed. First, people need to know how they are expected to behave in the organization, what tasks they are required to do, and how, where, and when they should do them. It is the responsibility of management to set the standards of behavior that are required, with a view to controlling the risks to employees, customers, neighbors, and the environment. Many industry standards already exist and in some cases it is appropriate to adopt these. In other cases it will be necessary for the organization to develop its own standards. Either way, the standards should identify the basic management requirements for loss prevention but they must be documented, measurable, achievable, and realistic if they are to be effectively adopted.

Organizations wishing to develop their own standards should consider these areas of their operations for application of those standards:

- Premises and workplace
- Assets design and procurement
- Substance control and material hazards
- Transport and distribution
- Storage and warehousing
- Task design and risk assessment (safe systems of work)
- Training requirements
- Continuous improvement plans
- Product safety
- Regulatory compliance
- Change control
- Construction
- Maintenance
- Environmental control
- Health assessments
- Emergency and crisis management
- Contractor management
- Effluent and wastes
- Office and laboratory safety
- Energy and water conservation
- Spillage prevention and control
- Atmospheric emission abatement

Frequently, standards will be stated in a general “high level” way which is either not “user friendly” or which covers a wider scope than particular employees may require. Very often, standards will state “what” has to be done, but not necessarily “how” it should be achieved or “who” is responsible for doing it. In these circumstances it may be necessary to develop further guidance for the employees. Guidance usually takes the form of a record of best practice. Good examples of the provision of guidance are in

the U.K. government Environmental Technology and Energy Efficiency Best Practice Programmes and the U.S. Occupational Safety & Health Administration (OSHA) and UK's Health & Safety Executive (HSE) guidance notes. These programs do not mandate how the user is to save energy or define what environmental technology to procure; rather, they provide information on the best way of approaching the problem. The user is then left with choices regarding which solution to adopt. It is very much the same with the provision of guidance in your management system—think of your guidance documents or records as part of the memory of your organization. If you think it sounds like a lot of effort, then just try running an organization with amnesia.

But standards and guidance are largely management information documents; they don't help Charlie to produce gizmos from his high-speed press nor do they help Daphne understand what to do to minimize the risk of work-related upper limb disorder when using her word processor. People at the sharp end of the organization need clear job instructions because so often they are the ones at risk of injury or occupational illness. It is very common when we have that new machine which doesn't work that we resort to the instructions only when all else has failed. In a SHE-conscious culture we want behaviors to apply so that complying with the operating instructions is the normal and accepted way of life. To be valued and useful, the instructions should be clear, concise, and unambiguous. Ideally, the people who use them should write them and the instructions should be regularly reviewed to ensure that they represent the current best practice. If someone comes up with a better way of doing things, then this should not be adopted except under controlled trial conditions until the instruction has been changed. As soon as one permits operators to deviate from the instruction, then it encourages employees to believe that deviating from other instructions is also acceptable.

An effective instruction should identify the following:

- The purpose of the instruction
- The scope (what circumstances does it apply to and what does it not apply to?)
- Technical term definitions
- Relevant cross-references (keep these to a minimum as it complicates the process of updating instructions later on if instructions refer to one another)
- Who is responsible for carrying out the task
- What records need to be kept
- The procedure to be followed

Having identified the organization's SHE policy, set standards, and produced working instructions; very often organizations heave a sigh of relief in the belief that their system is in place. Unfortunately for them, the most difficult part of establishing the system is still to come. Without gaining the commitment of staff and training the staff in the application of the instructions, all your valuable documented standards and instructions will lie on the shelf gathering dust. The key element in any system, which is so often overlooked, is that of "implementation."

Managers now have to do what they are paid for—they must implement the system. That means organizing and motivating their staff to apply the instructions and to recognize opportunities for improvement. Managers are responsible for employing

competent staff, so their first task is to ensure that they recruit staff appropriate for the job. The next step on the road to establishing full competence is effective training—something that we say so easily but find so difficult to deliver. After each step of training is complete, then it is necessary to validate the learning and confirm that the employee has achieved the required level of understanding. Of course, being trained is very different from being competent. The final step in developing competence is to put the new skill safely into practice. During this early application of a new skill, the new trainee should be “mentored” by an experienced person in the subject, who can keep a check to ensure that the trainee is applying the newly acquired skill in the correct manner. So often, we train people in the right skills but at the wrong time. It must be remembered that “practice makes perfect” and lack of practice leads to the skill being lost or eroded. Even when our employees are fully competent, we cannot relax. We need to keep them updated through regular communication on matters of safety, health, and the environment so that they are aware of new hazards, risks, and preventative measures.

The next step in the SHE management system is to monitor the performance of our employees and the organization, to ensure that people are doing what we expect them to do. This checking process, which has a similar purpose to that carried out by financial auditors, is the task we know as SHE auditing. This periodic checking process will identify issues that are not correct. Sometimes, the issues will be minor but on other occasions they will be more significant. These issues are normally referred to as “noncompliances” or “nonconformances.” Each noncompliance represents a potential hazard that could lead to an undesirable consequence. Hazards, once identified, cannot go unchecked and so actions have to be devised to prevent future repetition of the nonconformance. These events are called “corrective actions.” The process of monitoring performance through auditing, leading to the identification of nonconformances, which in turn leads to corrective action, is the essence of an ongoing continuous improvement process. The continuous improvement process is a never-ending upward spiral of learning. It has no point at which it is complete as it is an ongoing process, not a program with a beginning and an end. If this process is rigidly adhered to, although minor noncompliances will occur, the major collapse of safe systems, which is so often apparent after the investigations into some of the world’s major industrial incidents, can be avoided.

Some large companies operating from a large number of locations have adopted the financial “letter of assurance” concept in relation to their SHE management processes. In this way the corporate headquarters requires each operating unit to provide an annual letter indicating how that part of the organization complies with the company standards and instructions. This enables the company board members to discharge their responsibilities against its policy, but also has the little recognized consequence that personal liability gets passed down through the organization. So remember that if your boss asks you for a letter of SHE assurance, he or she is actually handing over some of his or her personal liabilities to you.

Any effective system or procedure has a review step built into it, to ensure that it stays up to date and benefits from the learning that arises from application. The final step in a good SHE management system is no different. Every year, the senior management team of the organization should review its SHE policy and standards

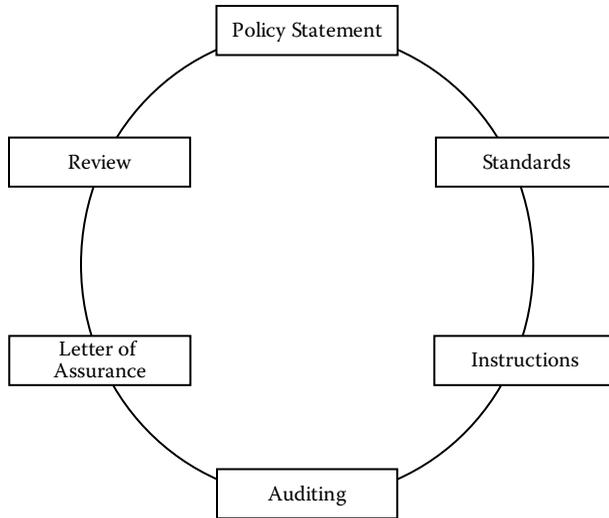


FIGURE 2.1 The SHE management process.

in the light of the experience of the previous year and consider whether any changes are appropriate.

To recap, the SHE Management Process is summarized in Figure 2.1. A good SHE management system starts with setting a policy. The basic management requirements to achieve this policy are then established as the organization standards. These standards are then interpreted into useful and practical instructions for personnel to use at the operating level. Management then arranges for the instructions to be implemented ensuring that the relevant people are trained and competent to carry out their tasks in a safe and healthy manner without damage to the environment. The system is then subject to periodic checking or auditing to ensure that the local instructions are complied with. Any noncompliances are then subject to corrective action. The senior management team then reviews the full system, once a year, to ensure that any learning from the application of the process is built into the future policy or standards. In accountancy audits, there is a requirement for the organization's management to prepare a letter of assurance confirming that the management teams have taken steps to comply with accounting procedures. These letters of assurance are now starting to be required by the boards of directors of some organizations where they require departments or operating divisions to confirm compliance with SHE standards. In these circumstances, the best method of being able to confirm regulatory or standards compliance in the letter of assurance is via a robust auditing program.

3 Auditing—The Principles

Contrary to the view of many business pundits, the overriding principle of business is not about maximizing profit, but about avoiding loss. Organizations can survive without making a profit, but soon cease to operate if they consistently make a loss. The management of SHE issues is all about the prevention of loss, be that the loss of life, the loss of health, the loss of environmental heritage, the waste of energy, or the loss of time and other scarce resources. Historically, the management of safety in particular has centered on analyzing the records of injuries—which in effect means waiting until the management system breaks down and results in someone getting hurt and then responding by putting a number of fixes in place to deal with the recommendations from the investigation. The quality management approach that has been successfully adopted to overcome the same “When it’s broke, fix it” approach in the manufacturing situation is progressively being used in the safety and environmental areas to great effect. Initially, the ISO 9000 range of general quality standards was used to apply to environmental protection, but now separate standards exist in the form of international standards 14000, ISO 19011, and EMAS (ECO Management and Audit Scheme) for ensuring environmental management system compliance and OSHAS 18001 for safety and occupational health compliance. The key change that the quality approach has brought to loss prevention activities is the element of audit and auditability. This single concept potentially moves our systems and procedures from something that is short lived and changes whenever the boss moves on, to a situation when it not only has longevity but also progressive improvement.

The word “audit” is derived from the Latin “auditus” which means “a hearing.” Until fairly recent years, the practice of auditing was largely limited to assessing the reliability of company financial accounts with the intention of ensuring that good accountancy practice was being followed and to root out any financial irregularities. The practice of it being a “hearing” soon moved from the friendly tête à tête to something more akin to a judicial hearing. Financial auditors these days require high levels of investigative skill and are not averse to being judgmental in their reporting. The modern principle of a SHE audit is that it is a regular, systematic check of the system in order to assess whether the organization or working group’s performance meets the required performance. ISO 9001 defines a quality audit:

Systematic and independent examinations to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

The same definition could be adopted for SHE auditing by replacing the word “quality” with “safety, health, and environmental.” However it is defined, the audit should attempt to establish:

1. The level of understanding of the standards or requirements
2. The degree of conformance with those requirements
3. The adequacy of the requirements
4. The steps necessary to achieve further improvement
5. The extent to which regulatory requirements are met

In addition, especially in the case of ISO 14000 and EMAS environmental audits, the purpose may also be to permit the organization to be accredited and authorized to display that accreditation to customers and suppliers.

Audits should normally be conducted on some periodic frequency according to a predetermined audit plan, but they may also be prompted by some significant change or event in the organization. A change of management, a particular incident, or the need to follow up on a particular noncompliance may prompt the need for an unscheduled audit. The frequency of scheduled audits is a judgment for the local management team. It will be a balance between the time required for the audits themselves and the time required to implement corrective actions. Some organizations have experienced the problem of “audit fatigue” when formal audits become so frequent that they start being resented or corrective action requests are ignored. In these circumstances the audit process becomes discredited and worthless. However, once an audit plan is established, adherence to the plan will be seen by members of the organization staff as a measure of senior management’s commitment to safety, health, and environmental matters in general and not just to the audit process.

SHE auditing varies significantly from the quality management auditing required by such standards as ISO 19000 and ISO 10011. Accredited quality management auditing by the well-known national and international accreditation bodies usually assesses the auditee only against its own procedures because of the multitude of requirements of all the different types of enterprises. Although ISO 9000 provides a useful framework, it does not and never can provide examples of best practice for every eventuality. This of course raises the question not so much about whether some of the less reputable organizations are complying with their own procedures, but rather whether those procedures are good enough. ISO 9000 also suffers from the problem of being rather unwieldy for small and medium-sized enterprises, and although the Quality Guild provided by the local TECs (training and enterprise companies) attempts to fill this gap, it has so far met with limited success.

Safety auditing in particular is different. There are some generic standards that apply to almost every workplace. Almost every organization has at some time experienced injuries from slips, trips, or falls. It is possible to assess the risk to personnel of injury from these causes in almost any situation. Consequently, the experienced safety auditor can provide not only the observation of the potential for tripping hazard, but he or she can also proffer advice on solutions. Similarly in occupational health auditing, it does not matter whether the organization is a school classroom or a steel works, an auditor can make useful observations regarding whether the noise

levels are likely to cause harm to the occupants and whether protective measures are adequate. Unlike many areas of quality management auditing, the SHE auditor can and should make observations on both the compliance with the local standard *and the adequacy of the standard itself*.

Auditing is all about evaluating the performance of an organization or part of an organization and comparing that with a standard. Frequently, audits will identify corrective action—in fact if audits habitually return back the message that everything is okay, as was the case in the routine permit to work auditing on the ill-fated Piper Alpha* drilling platform, then one should start to question the effectiveness of the auditing process. If, however, the only message to come back from the audit process is a large list of corrective actions, there is a danger that the process will be seen as negative and overly critical. One or two corrective actions must not be allowed to overshadow the wealth of good things that the audit identifies are going on. The first objective of an SHE audit should be to *recognize and give credit for the particularly good things that are observed*. Not only is this encouraging to the auditees, but it also provides an excellent training opportunity for the auditors and allows them to network ideas back into other audits or their own workplace. The audit is not just a continuous improvement process for the audited unit but is also a continuous improvement and education process for the auditors.

In larger organizations it may not be possible to satisfactorily design a single audit that will cover all aspects of SHE management. In fact, in large multinational companies, very large numbers of such audits are carried out every year. Whatever the size of the organization, the person arranging or requesting the audit must consider the purpose of the audit in order to avoid the problem of superficiality by attempting too broad a scope. The SHE auditor is interested in examining three main areas. He or she wishes to know, first, *what is it that the organization claims that it should be doing* in regard to SHE management? These questions should be answered by looking at the organization's policy, standards, and instructions. The next task that the auditor needs to assess is *what should the organization be doing?* In other words, are the standards that the organization has set itself good enough? How do they compare with best practice or at the very least the minimum regulatory requirements and industry codes of practice? Finally and most importantly, the auditor wants to establish *what really happens* in the organization. Are the procedures being carried out in the way that management expects or has some form of malpractice started to creep in? It may even happen that both management and employees believe that they are operating the system, but they interpret it in different ways. Some years ago there was a problem in the United Kingdom when automatic half barriers were first introduced at railway level crossings. The sign at the roadside proclaimed: "Do not cross while red lights are flashing." In parts of Yorkshire the local dialect uses the word "while" in the way that many others use the word "until" and so although everyone had a clear understanding of what the railway sign meant, some people did not cross while the lights were flashing whereas others waited until the lights flashed to cross. Clearly, a situation existed where everyone thought that he or she knew what the requirement was, but a local anomaly had caused it to be ambiguous.

* The Piper Alpha disaster in the North Sea in July 1988 was the world's worst offshore oil disaster. One hundred sixty-five people died from the fire and explosion that followed a pump being recommissioned with its safety valve removed for maintenance.

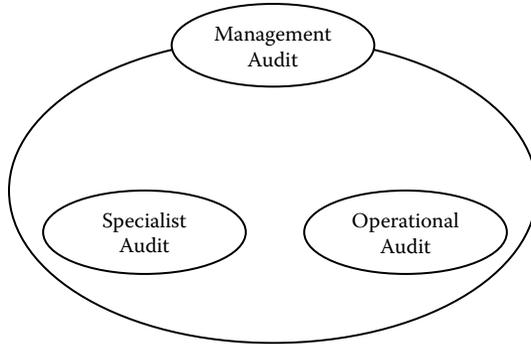


FIGURE 3.1 Audit levels.

The nature of larger organizations is that they often have multiple site operations. Consequently, the companies set broad standards at the corporate level, which are interpreted into local procedures at the site or individual facility level. This hierarchical approach results in an interesting and unique approach to auditing, which also has to be tiered. Typically, there are three levels of auditing as shown in Figure 3.1, although there is no common agreement about the convention for numbering the tiers; some companies count down, whereas others count upwards. Consequently, talking about “Level 1” health and safety auditing leads to confusion. To minimize misunderstanding, we refer to the levels as “management,” “specialist,” and “operational.”

Whatever the level of the audit, or the complexity of the scope being audited, the process of the audit will be very similar. The process is one of detection. The auditor needs to appreciate what is required and then learn about what actually happens. By comparing the desired state, (i.e., the requirement or standard) with the actual state (i.e., what actually happens), it is possible to identify if a gap exists between these two states and identify whether any actions are necessary to ensure that the actual state and the desired state converge.

The process followed in most cases will typically be a version of that shown in Figure 3.2. The standard or requirement is first condensed into a manageable checklist. There is then a process of data gathering which involves talking to people and looking at what happens. The information gleaned via this route then needs to be confirmed through some process of verification, before the auditor can draw his or her conclusions and make recommendations for improvement.

This sequence of audit actions is the framework of this book and, through the use of the text and appendices, should enable any capable environmental, safety, or occupational health professional to conduct efficient and beneficial audits with the minimum of cost and upset.

MANAGEMENT AUDITS

Management audits are done at the “strategic” level in order to examine the adequacy of arrangements for managing SHE affairs in an organization. They occur at a high level and are intended to monitor whether the management team is aware of all the health and

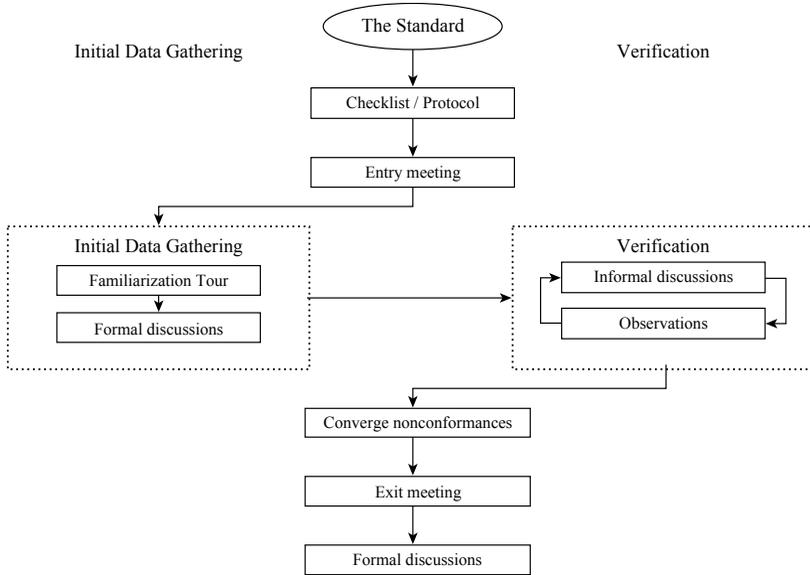


FIGURE 3.2 Typical audit process.

safety issues relevant to its specific operations. In particular, the auditor should assess for each aspect of SHE management whether there is a procedure in place to address that aspect, whether the relevant people are trained and validated in the procedure, and if the procedure has been subject to periodic review in the light of practical learning and regulatory changes that may have occurred. The auditor will usually be asked to identify a level of compliance with the overarching standard, be that a corporate requirement or a regulatory one. In summary, the management audit is an assessment of whether the facility management is managing all the health and safety issues that it should be doing. A team of senior managers and senior safety professionals from outside the facility management team usually carries out management level audits.

SPECIALIST AUDITS

We have seen that management audits are intended to cover the full spectrum of health and safety issues relevant to a single site. As a consequence, it is not possible to drill down in any great depth into any subject in an audit that may attempt to cover up to 100 different aspects. The specialist audit goes to the other extreme and examines single topics in great depth. In this case, a single or set of related aspects or topics may be considered by a specialist who is an “expert” in that area. The topic may be an occupational health issue, such as manual handling or a safety issue such as equipment integrity. In the former case, the auditor would perhaps be an occupational physician and in the latter case an experienced electrical or mechanical engineer. In the management hierarchy, if management audits are thought of as “strategic,” then specialist audits equate to “tactical” management.

The role of the specialist auditor is not only to assess whether the corporate and local procedures are being applied, but also to assess, in the light of his or her specialist knowledge, whether the local procedures are good enough and take account of recent learning. It includes some measure or validation of the system. The specialist auditor will also do an assessment of the depth of understanding that exists in the particular aspect of safety health or the environment. In particular, have key personnel changed, or is the experience of those people responsible adequate? If specialist engineering audits had been carried out at Nypro* Ltd at Flixborough in the United Kingdom in the early 1970s, they may have uncovered that there was no professionally qualified and experienced engineer on site and that the workshop staff did not have the experience to appreciate the consequences of designing the now infamous reactor bypass pipe by sketching it in chalk on the workshop floor.

OPERATIONAL AUDITS

Numerically, by far the largest number of audits will be carried out by local managers auditing compliance with their own procedures. These audits, which are similar to the ISO 9000 range of local audits, are usually known as “operational” or “compliance” audits and deal with the detail of how things are to be done and what workplace precautions are required. In this case local managers (or other interested and skilled employees such as safety representatives) are trained in the full range of auditing skills, aimed at understanding how to assess compliance with a health, safety, or environmental procedure. It has been common in many industries to apply this approach to safe systems of work issues, but the approach is increasingly being used as a means of auditing the full range of health, safety, and environmental issues. The slightly intimidating consequence of applying this approach across the board is that it can result in a large number of audits each year, and it is a common problem for audit schedules to fall behind plan. However, the benefits hugely outweigh the disadvantages. Effective operational-level auditing not only confirms compliance levels and identifies opportunities for improvement, but it also has great benefits educationally for both the auditor and the auditee. It is always said that “the best way to learn is to teach.” The auditor cannot effectively audit unless he or she knows the requirements. Furthermore, effective auditing immediately identifies if procedures are out of date, which is often the biggest complaint of employees on the shop floor. When operational auditing begins in earnest, it is the author’s experience that initially more than 75 percent of procedures will need revision and updating. As soon as managers say that a procedure is obviously out of date and employees should know that and “use their initiative,” they must also recognize that they have failed in their duty to provide a safe system of work.

It is worth reemphasizing here the difference between the ISO 9000 quality audit and the full SHE audit. Quality audits comprise two main depths of audit, often known as the “systems” audit, which examines the quality system with a view to confirming that it follows the Quality Manual requirements, and the “compliance”

* Twenty-eight workers were killed when the Nypro (UK) plant at Flixborough exploded in June 1974. Another 36 were injured. A few days prior to the incident, one of the five cyclohexane reactors was removed and replaced by a large bypass pipe. This modified pipework failed, causing a massive vapor cloud explosion.

Level 1 audit	“What we actually do”	Compliance audit	Operational
Level 2 audit	“What we should do”	Specialist audit	Tactical
Level 3 audit	“What we say we do”	Management audit	Strategic

FIGURE 3.3 The audit hierarchy—Summary of audit levels.

audit, which is an in-depth examination with view to assessing compliance. The SHE audit has great similarities to the compliance audit, but there is no equivalent of the specialist SHE audit in ISO 9000. This step in the SHE audit is a critical one because it assesses whether the standards that are being set are good enough.

The three elements of the SHE auditing are summarized in Figure 3.3 and may require different frequencies or even different auditor knowledge, depending on the size of the operation. In particular, the second level of audit, sometimes known as the specialist audit, may require auditors with particular knowledge of electrical engineering or industrial hygiene, for example. Furthermore, the auditing of the policy and standards may need to be done only every few years, whereas the compliance level audit, which is checking what actually happens at the sharp end for some local instructions such as safe system of work, may need to be carried out daily or weekly. For most organizations of medium size, it should be possible to combine the management and specialist requirements in a single audit, but it will always be necessary to keep the compliance audit at a frequency that makes it appropriate for the program to be managed and conducted by local staff. The frequency of compliance-level auditing will depend on the aspect being audited. For example, permits to work may need to be audited weekly or monthly, whereas evacuation procedures may need to be done only annually.

PURPOSE AND BENEFITS

In any “rule-based” society, the mere presence of the rule itself does not usually guarantee that people will comply with that rule. Consequently, means of enforcement are usually developed. In the case of national laws, the enforcement is usually done via the police and the courts of law. An individual who is found failing to comply with the law will usually face some sort of adverse consequence involving a fine or imprisonment.

Similarly, in the case of safety rules within an organization, the existence of the rule itself will not effect a long-term change in employees’ behavior. It is necessary for management not only to establish the rules or standards by which it expects to operate, but also to monitor whether the standards are being applied. When behavior differs from the standard, then corrective action must be applied.

The principles of establishing an effective long-term SHE management system follow the principles of “plan,” “do,” and “evaluate.” How this links to the importance of auditing as a key part of the evaluate or monitoring step is shown in Figure 3.4. It should be noted that auditing relates not just to the “act” step, but also relates to the “planning and specifying” stage and also the setting of SHE policy. The findings of the auditing or monitoring step are then fed back to the previous step to ensure that there is a continuous improvement process.

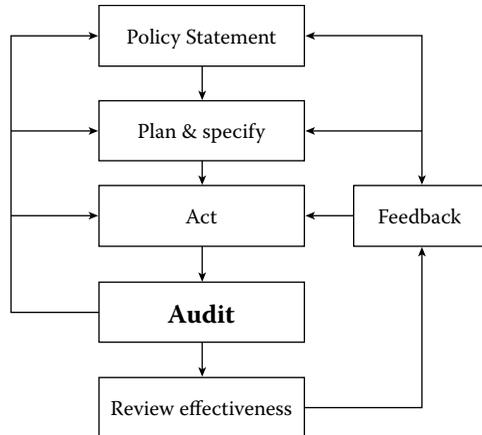


FIGURE 3.4 Auditing as a part of the SHE management process.

From this model it can be seen that auditing is a crucial part of the management system. It is the author's experience that even when procedures or instructions exist, they are often irrelevant documents that sit on remote shelves and are hardly used, and bear little in common with what actually happens in practice. The prime purpose of auditing is to ensure that what should happen (i.e., what is in the procedures) is actually what happens in practice. It is possible to do this in a qualitative or quantitative way, or both. Waring, in his book, *Safety Management Systems* (published by Chapman & Hall, London, 1996), identifies the following objectives of the safety audit:

- Validating safety policy and strategy
- Testing safety compliance and verifying progress
- Establishing the current level of safety performance
- Identifying areas of high hazard and risk issues
- Summarizing the current strengths and weaknesses
- Producing prioritized action lists and plans
- Setting future safety performance targets
- Improving the management of resources

It is interesting that Waring makes no reference to behavioral modification as one of the objectives. Auditing is by definition a “human factors” issue, and some of the commercially available proprietary auditing systems focus almost exclusively on behavioral modification.

In the study undertaken by the Accident Prevention Advisory Unit at the Health & Safety Executive (Success and Failures in Accident Prevention), the summarized conclusion states:

Any simple measurement of performance in terms of accident frequency rate or accident/incident rate is not seen as a reliable guide to the safety performance of an undertaking.

This conclusion is perhaps bourn out by the recent events in Mexico City*, where the organization had an excellent performance in terms of injury frequency rate, but there was still a catastrophe leading to the loss of many lives. The salutary lesson for managers responsible for the safety of their operations is that SHE management is a multifaceted task and there is a need to manage all aspects of the task to avoid adverse consequences. There is no quick fix, and focusing on one aspect alone brings with it the risk of losing sight of other equally important factors. This shows one of the primary benefits of the management level audit—it provides a periodic check on whether the balance of SHE management effort is becoming skewed or distorted.

The Accident Advisory Unit report finds there is no clear correlation between such a simple measurement of injury frequency rate and the work conditions, in injury potential, or in the severity of injuries that have occurred. A need exists for more accurate measurement so that a better assessment can be made of efforts to control foreseeable risks. It is suggested that more meaningful information would be obtained from systematic inspection and auditing of physical safeguards, systems of work, rules and procedures, and training methods, than on data about accident experience alone.

However, it is the author's experience that hard-nosed business managers are looking for more quantifiable benefits from health and safety audits. In this case the benefits of audits can be seen to fall into six categories as shown in [Figure 3.5](#).

- The caring approach and concern for harm will be demonstrated by fewer injuries and greater employee loyalty.
- Legal benefits include the avoidance of fines, imprisonment, legal costs, and civil claims.
- Image benefits include personal pride and improved public relations. Enhanced corporate image can lead to improvements in recruitment quality.
- Financial benefits include avoidance of increased insurance premiums, avoidance of increased operating costs, and fewer process interruptions, all of which may lead to enhanced shareholder value.
- Management benefits include “peace of mind,” confidence in standards, a continuous improvement process, and a consistent approach (avoiding repeated safety initiatives).
- Fewer SHE incidents result in fewer business interruptions.

Avoidance of fines is often thought to be a motivator in management behavior, but in reality, unless the fines are punitive, the level of the fine tends to be relatively low, particularly when compared with the resources and funds of medium- and large-sized organizations. In reality, the cost of litigation and the loss of image are often of much greater consequence. However, the frequency of imprisonment for managers is on the ascendancy, particularly in cases of safety negligence. The reality is that as caring managers we need to demonstrate to those people who work for us that we actually

* Fifteen workers were killed following a major explosion in an isomerization unit at the BP refinery in Texas City in March 2005. The plant was being recommissioned following a major overhaul when excessive hydrocarbon flow to the blowdown system resulted in flammable liquids carrying over out of the top of the flarestack, accumulating on the ground and causing a vapor cloud, which ignited. Most of the victims were maintenance contractors who were still occupying the temporary cabins nearby.

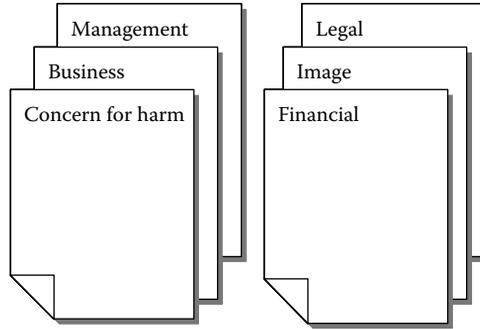


FIGURE 3.5 Benefits of audits.

care about them and want them to go home safely to their families at the end of the working day. We want our people to know that “our work is never so urgent or important that we can’t take the time to do it safely.” Carrying out audits is one way of showing people that we really are committed to safety and environmental improvement.

The effect of image damage on organizations was highlighted some years ago, when a large multinational company had a leak from an oil pipeline that passed under a large river. Although the actual amount of environmental damage was small, the publicity arising from the incident resulted in a dearth of graduate recruitment applications for a period of several years. It appeared that new graduates do not want to work for companies that they consider to be environmental polluters.

The British Chemical Industry Safety Council report “Safe and Sound” states that the top management of the U.S. chemical companies noted for profitability as well as safety were convinced that effective loss prevention programs were essential for a company’s prosperity and accepted as part of good business. The report suggests that one requirement of these programs was that their effectiveness must be checked by safety audits to ensure that an organization’s assets are safeguarded.

In 1991, research carried out by Dr. Larry Gaunt at Georgia State University Center for Risk Management shows that the mere action of auditing usually has a beneficial effect. Gaunt’s review of thirty-three major users of the International Safety Rating Scheme proprietary health and safety audits indicates that more than two thirds of the auditees reported a positive effect from audit system.

Gaunt’s Survey Results

Positive effect	68.3%
No effect	29.8%
Negative effect	1.5%
Not applicable	0.4%

Tight adherence to SHE standards will result in fewer accidents and environmental incidents. Investigating these events is disproportionately demanding of management’s time and often the real costs are hidden. Research by the U.K. Health and

Safety Executive has shown that these hidden costs can be as much as thirty-six times the immediately obvious costs.

It is clear from earlier comments that there are significant benefits from SHE audits, but it is also evident from the wide range of audit processes that are currently in use that some audits have different objectives and different levels of success. In general terms, having good SHE standards is about applying good management practice, or a “quality” approach to how we manage our people (health and safety) and the situations in which we live and work (the environment).

4 What Makes a Good Auditor?

Although ISO 19011 (Guidelines for quality and for environmental management systems auditing) is written primarily for environmental systems audits, it has some useful general advice on how to plan audit programs. In particular it identifies five principles of auditing:

1. Ethical conduct
2. Fairness
3. Professional
4. Independence
5. Evidence based

These principles can readily be applied to what makes a good auditor. To behave ethically, the auditor must be trusted, and must have integrity and discretion. It is not the auditor's job to go and "tell tales" about the audit findings to anyone who will listen. The auditor must be fair and ensure that he or she reports the audit in a truthful way that accurately represents the facts as they were discovered. It is essential that the auditor appears to be professional and that he or she is competent to carry out the audit, diligent, careful, and has the ability and experience to be able to apply judgment. This last point is crucial in the auditor's credibility as a mindless application of "rules" will not endear the auditor to the auditees. It is also important that the auditor has some level of independence, and has no conflict of interest. An audit carried out by the local safety manager may not be independent if his or her annual bonus depends on the outcome of the audit score. Finally, the audit must be based on evidence that is verifiable and will stand up to challenge.

Auditing is all about "hearing" and so the key competency is that the auditor must be a good listener who has the respect of the people being audited. He or she should be trained in auditing techniques and be personally knowledgeable about the subject of the audit. Above all, the auditor must be open minded and able to recognize and value different ways of achieving the same end. Criticism that the auditee has not resolved a problem in the same way that the auditor would have done is not likely to win too many friends. The auditor must establish a position of helping the audited unit rather than just leaving it with a group of insoluble problems. I always make a point of finding an opportunity to provide information, contacts, or further personal help after the audit is completed, as a way of indicating the principle of the whole process being one of working together, rather than having a confrontational attitude between auditor and auditee.

Selecting the number of auditors for an audit is often difficult to get right. My principle is always to err on the side of less rather than more. There is nothing that irritates the auditees more than finding an army of auditors descending on them and then finding that there is not enough for all the auditors to do. On a major audit that may take several days, it is advisable for the auditors to be seen to be committed and hard working (i.e., “diligent” as required by ISO 19011), rather than spending all their evenings in the local bar and being seen to be on a corporate jaunt. Compliance-level audits of local procedures rarely need more than one auditor, who would normally be a local employee or manager. Such audits would normally select one particular instruction or subject to audit and would rarely take more than an hour. At the other extreme, a management/specialist audit covering the full range of SHE standards could take up to a week and OSHA audits in the United States have been known to last as long as fifteen weeks, although those are very much the exception. These types of audits would typically have two to four auditors depending on the size and diversity of the audited unit and whether there were any trainee auditors in attendance. In selecting the auditor team for such a major audit, consideration should be given to ensuring that the auditor team provides the following experience:

- Formal auditing training
- Prior auditing experience
- Experience of similar activity to that carried out in the audited unit
- A thorough understanding of the relevant regulatory requirements
- Sufficient seniority to stand up to the local senior manager
- Knowledge of the local language and culture (if overseas)
- Professional SHE knowledge

A typical thorough SHE management audit will identify a large number of issues, many of which will be *de minimus* and trivial. The auditor must be able to recognize the significant issues and present those in a way that is not prescriptive and leaves some room for management to personalize the solution and hence provide the opportunity for local ownership. It is usually better for the auditor to flag the problem, rather than prescribe the solution. Remember, that we are on a shared journey, toward never-ending improvement, and the auditor’s primary role is to point auditees in the direction they should be going, as so often local managers have a multiplicity of possible directions in which to proceed. We need to provide guidance to their directionless signs (Figure 4.1). As soon as the auditor ceases to be “helpful,” a large part of the benefit of the audit has been lost.

Auditors should expect to be challenged on their findings and conclusions and should be confident and robust when supporting their arguments. This is why recommendations must be based on verifiable evidence. A recommendation based on little fact will collapse under scrutiny and will not only eliminate a possibly valid point, but will also cast doubt on the quality of all the other recommendations and even the competence of the auditor.

Finally, because auditing is all about contact with people and often happens in a situation that can be seen by the auditee as potentially threatening, auditors own interpersonal skills are critical. So often, a pompous, self-opinionated auditor who arrives

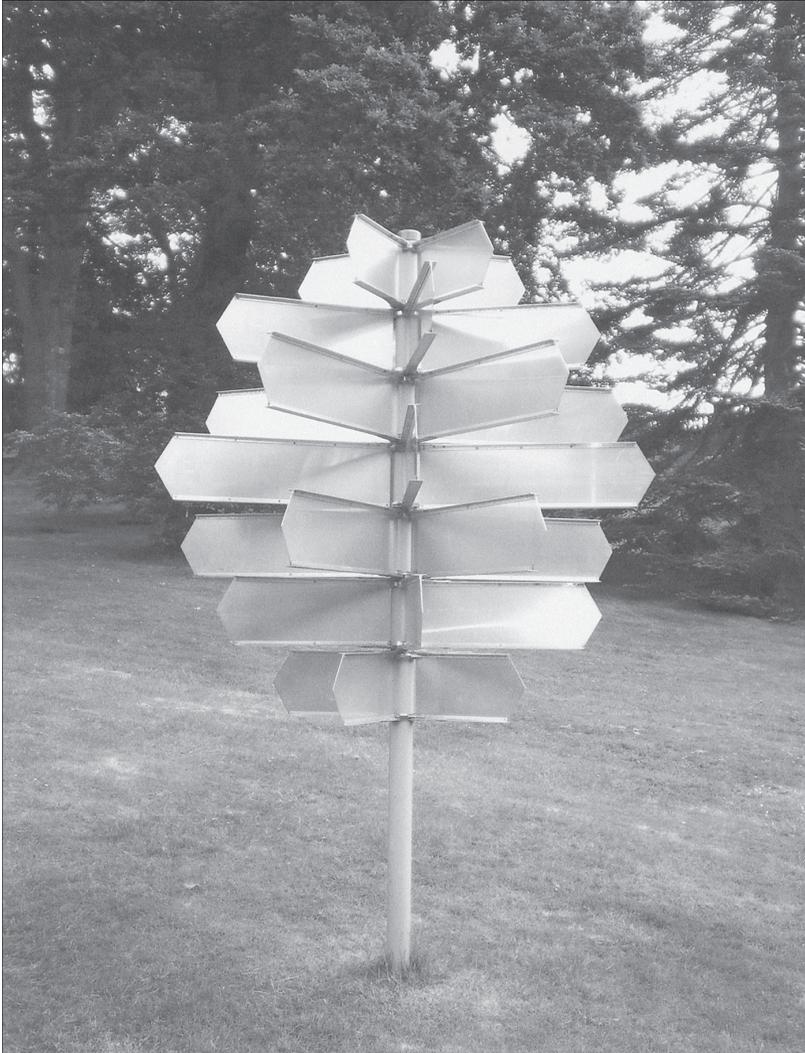


FIGURE 4.1 The directionless sign.

full of the powers invested in him or her by the head office, will be politely (or otherwise) tolerated and everyone will just want to get rid of the auditor as soon as possible and get back to doing things the way they were done before. A well-organized, experienced auditor who recognizes the location's qualities and wants to work jointly toward a further improvement in SHE performance is much more likely to receive a good reception and to influence future thinking and to facilitate further improvement.

It is usually wise to allow the auditor to focus attention on a specific topic. The "safety performance assessment" concepts used by some companies wishing to carry out minispecialist audits exemplify this approach. In this case, a particular topic is

taken as the subject for the assessment, and the auditor selects a small number of aspects of that topic to assess on a range of applications, which usually attempts to be the majority of applications of that topic being applied on that day. For example, the assessment topic may be “safe access,” “spillage control,” or “load bearing/ground stability.” In the case of safe access, the assessor then decides to examine the “adequacy” of the access to the scaffold or other working platform. The assessor then confirms the legal and technical requirements for scaffolding access, and examines every, or the majority of, scaffolds in his or her jurisdiction against these criteria. Usually, auditing tries to cover a broad range of activities on a sampling basis, in the belief that random samples will be statistically representative of the overall situation. The safety performance assessment type of audit does the reverse, by taking a very narrow subject and attempting to do a 100 percent examination of the applications.

The skilled auditor is likely to adopt a “questioning” approach rather than a “telling” approach. This approach applies the “push versus pull” theory (expounded in *Use Your Head* by Tony Buzan, published by Pearson, London, 2006). We can think of the auditee as a cup that is either full or empty.

The empty cup theory is that people are devoid of knowledge and need to be sat down and told or “filled up” with knowledge. This is the traditional approach to education and is characterized by a “tell” style of communicating. In an audit scenario this would mean that the auditor talks and the auditee listens. Teaching children to play football for the first time uses the “empty cup” approach. They need to know the rules before they try to play the game. They have little prior knowledge, and so we, as their parent and coach, tell them what they have to do and which goal to aim for. However, telling a professional footballer or a mature football fan the same information would be considered condescending and might even result in getting a bloodied nose.

On the other hand, the “full cup” theory uses the idea that auditees are brimming over with ideas and experience, but some of this information is hidden in their subconscious. The function of the auditor is to draw out that experience by the use of probing questions. Frequently, the auditees know what they should be doing, and don’t need the auditor to tell them. Questions like “*what could go wrong here*” or “*what could be done to reduce this risk*” will invariably get the auditee to identify his or her own corrective actions. The problem is that many auditors are too ready to propose solutions rather than elicit answers. Using an asking approach rather than a telling approach establishes respect for auditees and recognizes that they have a wealth of knowledge. So the auditor’s approach should normally be one of posing a series of open questions. If after asking the probing questions, it becomes clear that the auditee doesn’t have a clue, then it may be appropriate to proffer some advice or to seek the information elsewhere.

Concern for impact, an enquiring mind, and an ability to pose sensible questions are probably the auditor’s greatest armory and should be taken as much more important than technical knowledge when selecting the audit team. But many of the skills that are required to make a good auditor are the same as those required to make a good manager or coach. Good organizational skills are essential as a multiaspect management audit is an opportunity to create mayhem within the audited organization. The auditor should arrange audit discussions, tours, and site visits to minimize

disruption on the auditees. There is nothing worse for an auditee than to be called back to see the auditor time after time to discuss different aspects of the audit, just so that the auditor can follow his preordained audit sequence. In this situation, the auditor should rearrange the aspects being audited into a single audit discussion. In other words, don't expect people to rearrange their commitments to fit in with your disorganized audit program.

On a major audit that spans several days, the experienced auditor also considers his or her own capacity to absorb information. Several days of nonstop audit discussions are inclined to make the brain hurt, and so the auditor should be capable of sufficient self-discipline to blend the very intense discussion periods with time out on the site. This not only provides a break and some variety for the auditor, but also raises the auditor's profile by being seen out and about, and talking to people at the sharp end of the business.

5 The Standard

One definition of auditing is “a process of systematic examination to assess the extent of conformance with defined standards and recognized good practice and thereby identify opportunities for improvement.” As has been mentioned before, an audit differs from an inspection primarily because an audit compares what exists with some defined standard, whereas an inspection often uses what is in the inspector’s mind as the benchmark. It all sounds easy enough, but what do we mean by a “standard” and can we be sure that our standards are the same as those of the organization or department that we are auditing?

A standard is simply an agreed measure or requirement. For example, the standard for measuring length is either the imperial or the metric system, depending on which side of the Atlantic you reside. By having a recognized standard, such as the mile, or the kilometer, we intrinsically understand how far away places are and this allows us to do other things easily, such as assess how long journeys might take or work out the approximate costs of travel. Often the standards for things of such importance as weights and lengths are laid down by august international committees. Standards of national importance are usually laid down by governments and go under the grand title of laws and regulations. It is interesting to note that many of our legal standards are derived from adverse events of the past and are actually quite philanthropic, as their primary intention is to prevent the recurrence of some past harm or disaster.

A common legal standard which we are all very familiar with is road traffic regulations, which like health and safety laws are there for our protection, and are formulated to reduce the number of road traffic accidents and deaths while driving. The standards are clearly laid down and reasonably well understood, even though most of us have never read the actual statutory instruments. Competence is validated through a driving test and ongoing compliance is audited by traffic policemen and an increasing array of high-tech cameras and gadgets.

Unfortunately, not everyone sees laws as helpful, and there is a natural human tendency to comply with the laws that we agree with, and not to comply with those that we disagree with. The classic example must be roadside speed limits—can any of us honestly say we have never broken the speed limit? Our willingness to comply with a standard is often assessed by the likelihood of getting caught. We don’t always comply with speed limit standards because having checked for the presence of police patrol cars, we assess that the chance of getting caught is very low, or at least that the benefits that arise from getting to our destination quicker outweigh the chance of being caught. In fact, our behavior results from us weighing the benefits and consequences of our action. If we perceive that the benefits significantly outweigh the disadvantages, then that is the action we are most likely to take, even if sometimes it means breaking the law. However, if the presence of the speed limit sign is reinforced by the presence of speed cameras, our behavior changes and we are more inclined to comply with the

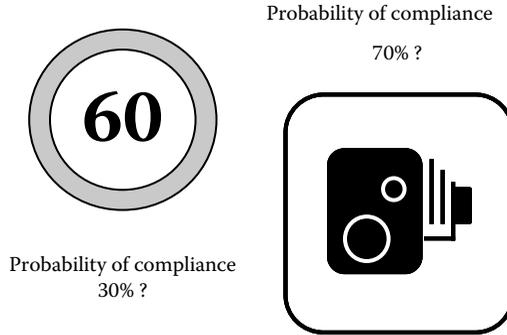


FIGURE 5.1 The car speeding analogy.

speed limit, at least until we think that we are past the camera, mainly because we think that there is a greater chance of being caught. In this situation, the speed limit represents a required driving standard, and the camera represents an audit or monitoring process that is intended to raise compliance levels (Figure 5.1).

However, laws and regulations are not the only standards that we may be asked to audit. Some standards are issued by governments or their agencies (e.g., national or international standards organizations), which are not mandatory, but which carry the power of law. “Codes of practice” are an example of standards which are not laws or regulations but which can result in prosecutions if they are ignored. Taking the example of road traffic standards, the U.K. requirements are laid down in the Highway Code, but the Highway Code is not law and no one has been ever prosecuted directly for not complying with its requirements. However, many people are prosecuted every day for speeding or dangerous driving under the Road Traffic Act and the courts will cite a failure to follow the Highway Code as evidence of dangerous driving. Even though they are not law, codes of practice are standards of behavior that can be used as the basis for an audit.

Although regulatory compliance is one common basis for audit standards, it is by no means the only one. Standards can also arise from nongovernmental organizations like industry associations. Similarly, engineering standards and specifications can be used as the basis for an audit. However, the most common application of audits in the SHE area is within organizations as a check against that organization’s own written procedures and instructions. The current tendency for organizations to carry out so-called safety audits, where the auditor uses his or her own knowledge and experience, as the baseline for compliance is actually a misnomer. This type of assessment should be described as an “inspection” rather than an audit, because the reference standard is in the mind of the assessor and not a documented standard.

It is possible for a handwritten checklist to be an acceptable audit standard. Many years ago, while carrying out my first major audit on a large manufacturing site, one of the auditees complained to me that they were being assessed against something that they didn’t know that they had to do. Of course, once this situation arises, other than being an awareness-raising event, this part of the audit becomes pointless because if auditees don’t know what is expected how can they be expected to comply? However, in compliance-level auditing (Level 1) if the auditor has gotten

together with the auditee in advance and has agreed the requirements in a written checklist, then this can in effect become the audit standard for that occasion. The key point about any audit standard is that both the auditor and the auditee must recognize and accept that this is the standard that is to be achieved.

What is clear, however, is that the definition of an audit talks about “compliance with defined standards.” This concept is crucial, because in order to be defined, the standard must be written down somewhere, such that the auditor and the auditee can independently check the requirements of the standard, with the hope of having a common understanding of them.

Examples of some written requirements that might constitute the standard for auditing are:

- Regulatory requirements
- Codes of practice
- Licenses and authorization documents
- Company policy
- Guidance notes
- Operating procedures
- Engineering specifications
- Preprepared audit checklists

The relevance of these requirements will vary depending on the type of audit being carried out. Operating procedures will be the most common type of standard when carrying out operational-level audits, whereas regulatory requirements and engineering specifications may be more commonly found to be the standards in Level 2 specialist audits. Occasionally, there may be a need to audit an activity where no readily available standard exists. As has been mentioned, in this situation it is necessary to establish an agreed standard or audit checklist that is acceptable to both auditee and auditor. Once the requirements are established and written down and agreed upon by both parties, then an audit standard exists and the audit may proceed.

The great learning that arose from the use of ISO 9000 and the application of auditing outside the financial areas was that not all standards and procedures are auditable. In my own experience, although my company had plenty of binders full of instructions, on inspection we found that not many were in a form that could be audited. In order for standards and procedures to be auditable they should clearly define the requirements and those requirements must be achievable. One apparent “quality” procedure that I read said: *“To promote uniformity of working methods throughout, certain procedures fundamental to _____ Ltd., shall be implemented at all times without unauthorized deviation!”* Other than leaving the reader bemused and wondering what on earth he or she is meant to do, it begs the questions:

- Which working methods?
- Which procedures are fundamental?
- Who is required to act upon this instruction?
- Who made this edict?
- Who can authorize a deviation?

Although we do not know what has to be done, why, or by whom, the good news is that whatever it is that has to be done needs to be done all the time. At least the timescale part of the requirement is auditable, but with that exception it would be impossible to audit such a statement. To be clear and unambiguous, the standards or their supporting procedures or instructions need to define:

- What needs to be done
- How it needs to be done
- Where it needs to be done
- When it needs to be done
- Who is responsible for doing it

It may also be advisable to consider including:

- Why it is necessary
- What happens next

An example of an auditable requirement would be:

Every accident resulting in occupational illness or injury, regardless of how trivial and all property damage accidents involving 500 dollars or more loss will be investigated in accordance with company instruction SHE-3 by the line manager before the end of the working day or shift on which the incident happened.

It is essential that the scope of any audit clearly define what standards are to be audited. If these standards are new to the auditor, then it is essential that the auditor check the audibility of the standards before committing to carry out the audit.

6 Preparation

Although ISO 19011 provides little help in good auditing practice, it is very helpful in identifying what needs to be done in creating an audit program and what preparation is required to carry out an audit. In my experience, the announcement of an audit is usually the signal for the start of some frenetic activity while the auditees try and get themselves into the best possible shape. It is human nature that most people like to be seen to do well in examinations, and audit assessments are no different. Some experienced auditors object to this sudden surge of activity before the audit in the belief that the outcome will be unrepresentative of the normal performance. The same auditors will accept the decision of an examining board that a graduate is qualified to a particular level, but ignore the fact that the student's examination result was influenced by some perfectly normal last-minute revision or "cramming." It is my belief that the purpose of an audit is to stimulate improvement and if some of that improvement is self-motivated in advance, then the audit has started to achieve something even before the entry meeting. It is said that "audits catch only the undedicated, bored, or careless" so it seems to me that zealous preparation should be encouraged rather than discouraged.

However, the need for preparation does not reside solely with the auditee. The audit can be wrecked just as easily by an undedicated, bored, or careless auditor in just the same way as by a bored or careless auditee. A successful audit needs advance preparation, irrespective of whether it is a one-hour instruction compliance audit, or a several day major SHE management or specialist audit. The audit may be initiated either as a result of a specific one-off request, or as a result of the operation of a rolling program. In the latter case it is quite possible that an approach from the auditor will be the first that local management know about the audit. It is quite common in these circumstances that the locals will not greet the announcement of an impending audit enthusiastically. It is part of the auditor's preparation to ensure that the exercise is seen in a positive rather than a negative light.

Usually, the auditor will have been approached either by the local senior manager or the manager responsible for running the audit program. The audit program manager will need to be satisfied that the audit is feasible, given the information that is expected to be available, the time and resources available to both plan and conduct the audit, and finally the level of cooperation expected from the audited location. Assuming that the audit is feasible, then a qualified auditor will be appointed "lead auditor." The number of accredited lead auditors should be kept to a minimum. For the major SHE audits there is considerable benefit in keeping the lead auditor constant to minimize the problems of comparability of audit results. In the more common situation where the audit involves just a single auditor, then that individual also takes on the role of lead auditor. It is the lead auditor's responsibility to undertake the preparation for the audit and to select the other members of the audit team, if more than one auditor is required. This should always be done in consultation with the auditee, as

some individual auditors may not be acceptable to the auditee. Any team needs to ensure that it has the right balance of experience, seniority, experience of the technology and regulatory requirements, and, for international audits, a knowledge of the language. The last point is obvious, but many of the Anglo-American multinationals are surprisingly immune to this. I carried out an audit of one facility where the safety studies were all carried out in English, the equipment drawings were all in German, and the operators were all Japanese. To aggravate the situation still further all the controls in the Japanese plant were labeled in English. A real recipe for creating a safety incident.

The auditors will need to be flexible about their choice of audit dates, because auditing the finance department just when it is carrying out its month- or year-end closing accounts is unlikely to get a warm response. Furthermore, it will be essential to get the involvement of the senior management and these people tend to be very busy and have diaries that are booked well in advance. As much prior notification as possible should be given, but this will vary for the type of audit. Notification for major SHE management system audits and specialist audits is likely to be at least six weeks, whereas notification for a safety instruction compliance audit carried out by local staff may only need to be a few days. The notification should be in a written form. For the major audits this is likely to be a letter to the senior manager of the unit, whereas for a compliance audit, the use of a standard proforma notification is more common. The need for a written communication is to ensure that there is the maximum clarity about the subject and timing of the audit. The notification should also establish some means of feedback, usually verbal, to confirm that the message has been received and understood. Irrespective of the type of audit, the notification should contain the following information:

- Scope of audit
- Date of audit
- Names of auditors
- Outline of the audit program
- Documentation requests
- Request for name of the unit's appointed audit coordinator (i.e., the person who will coordinate the audit on behalf of the auditee) (An example of an audit notification letter is incorporated into Appendix 1.4)

The request for documentation in advance is actually a matter of personal preference. Many of the well-established commercial SHE auditing systems including ISO 19011 (Section 6.3 identifies the need to conduct documentary reviews prior to the on-site audit activities) make it an absolute requirement that large quantities of documentation should be provided to the auditor in advance of the audit. In my opinion this is largely unnecessary in a major audit, as quite often these do not get read in advance and often these requests just become a chore for the auditee and another opportunity to devalue the real purpose of the audit. What is important is to notify the auditee of what documentation may be required during the audit and to see copies of the last audit report and policy statements in advance in order to give the auditor sufficient feel about what to expect.

Preparing the audit team, if more than one person, is the responsibility of the lead auditor. It is his or her responsibility to ensure that the audit process is conducted effectively and that reports are written in a timely manner. The lead auditor must ensure that audit checklists or protocols are available, appropriate, and in the possession of the audit team prior to the audit. The lead auditor must ensure that he or she is properly prepared for the entry meeting and that the audit program meets the auditor's as well as the auditee's needs. Decisions about the method and style of reporting, together with questions about whether there is any need to quantify the audit result in some measure of compliance, need to be resolved at this stage.

For audit teams of more than one auditor, I have found it extremely beneficial to prepare an auditor's manual that can be given to each auditor in advance and contains such things as:

- Audit notification letter and communications with the auditee
 - Audit scope
 - Entry meeting presentational material or notes
 - Audit program
 - Location layout plan (for large and complex offices or factories)
 - Organization chart of the management of the unit
 - Previous audit reports
 - Auditor's guidance notes or rules
 - Checklists or protocols
 - Quantitative reporting process if required
 - Blank copies of auditor's working papers
 - Target numbers of discussions to be carried out
 - Accommodation arrangements (if required)
 - Details of any special rules or requirements of the local management
- (Also, see Appendix 1.6)

This information is normally in a photocopied format and contained within a suitable loose-leaf binder.

It is also normal for auditors to wear name tags at all times, identifying them by Christian name as a SHE auditor. This helps employees, who may be unaware that the audit is going on, to recognize the auditors and address them by name. It is small details such as this that can help remove the threatening element that so many people still associate with being audited.

The lead auditor must assume responsibility for the health and safety of his or her own team. He or she should check in advance whether there are any special health risks on the location to be audited and ensure that the remainder of the team is made aware. This is particularly important when auditors are visiting manufacturing plants, construction sites, farms, or laboratories. The issue is not purely one of the health and safety of the auditors, but if there is a local requirement that everyone should wear hard hats and the auditors are seen not to comply with this, then the whole credibility of the audit will be undermined. It is critically important that auditors are seen to "walk the talk" and set a good example.

Although most enlightened managers would agree that auditing plays an essential part in encouraging compliance with a set of legal or corporate standards, that universally beneficial feeling soon evaporates once the long list of corrective actions starts to be unearthed. The biggest danger of auditing is that it becomes a critical process that generates a huge additional workload for already beleaguered managers. In undertaking preparation for the audit, the auditor should be sensitive to the reaction that his or her presence will have. There is an argument that on-the-spot, unannounced audits will result in a more realistic assessment of compliance. However, this approach will also generate the greatest antagonism and reinforce the feeling that the audit is attempting to “catch them out.” On the other hand, there is an opposing view regarding the provision of ample warning of audits: that extensive prior notice gives the auditee time to “fix” some of the problems and catch up on some overdue actions, hence creating an artificial view of the level of compliance. This may well be the case, but it must be remembered that the purpose of an audit is not just to identify the percentage compliance but more importantly to identify opportunities for improvement. Surely, the initiation of some remedial activity before the arrival of the auditor means that some improvements have happened purely as a result of advance warning of the audit and this can only be good news. On balance, therefore, I recommend that auditees should have good notice of intentions to carry out an audit, as this helps maximize the positive benefits of the audit. That is not to say, of course, that there is no place for unannounced audits but these should be used judiciously and as an exception rather than the rule.

Before conducting the audit, it is essential that everyone understand the scope of the audit. The arrangements for agreeing on the scope will vary depending whether the audit is Level 1, 2 or 3.

In the case of Level 1 compliance audits, where the auditor is trying to ensure that the actual aspect of SHE practice is carried out as specified in a particular standard such as a statutory regulation or company procedure, there should be an audit plan. The plan will specify which audit should happen when. The value of planning ahead with audits is that it ensures that both the auditors and auditees understand the scheduling of when audits are due and allows for the effective utilization of resources. The existence of an audit plan will also significantly increase the likelihood of audits being completed on time and avoid the rolling over of incomplete audits to some ill-defined date in the future. It can also ensure that times of peak workload are avoided.

Preparing an audit plan (Figure 6.1) needs careful thought if it is not to be purely a sequencing operation, as different audits will need to be done at different frequencies. Auditing activities which are relatively infrequent, such as ground and groundwater monitoring, may require auditing only every year or two, whereas those regulations and procedures that relate to safe systems of work may need to be done monthly or, on some hazardous installations, even more frequently. The decision regarding individual audit frequencies for compliance level will require management judgment, which takes into account the risk of the activity, the consequence of noncompliance, and the previous audit history.

When audit frequencies have been agreed on, the plan can be put in place to ensure that the audit workload is spread evenly across the available time, taking account of such things as holidays and peak work activities like stock checks, major maintenance overhauls, and inactivity. A useful format for audit plans is a rolling one-year or five-

Standard	Jan	Feb	Mar	Apr	May	Jun	July	Lead Auditee	Lead Auditor
Regulatory requirements									
Control of substances hazardous to health regs		*						JMcC	SWP
Waste management regulations				*				PJL	RFG
Risk assessments									
Company requirements									
Procedure S-001—Permits to Work	*		*		*		*	DCS	TIK
Procedure S-014—Control of Modifications						*		WH	JLM
And so forth									

FIGURE 6.1 Example of an audit plan.

year matrix which is updated every six months or annually. The plan should identify the regulation or procedure to be audited, the initials of the lead auditee and auditor, and should usually indicate the month in which the audit is to be completed (Figure 6.1). This timing gives some flexibility to the auditor and auditees to agree to a suitable time within that month when they can all plan to be available.

The use of this rolling matrix form of audit plan means that both auditors and auditees know what standards are to be audited in the immediate future. Consequently, audits should not normally crop up as a surprise unless there has been some important learning event or gross noncompliance has been found in a similar area.

Defining the scope of compliance audits is not limited only to the sequence of which audit happens when. It is important to also recognize the breadth of the audit. For example, if the audit is to check compliance with the ergonomic standards within a retail organization, is the auditor expected to audit across the whole organization:

1. All the shops in the company?
2. All the shops in a particular town or locality?
3. All the shops using computers excluding computerized cash registers?
4. Distribution centers and offices as well as shops?

Likewise in manufacturing concerns, the audit may be limited to certain departments or shifts.

There can be efficiency benefits from auditing a small part of a larger concern. These arise from the fact that not only does the audit take less time but also it is often the case that a nonconformance in one department may be repeated in another similar department. Provided that the audited organization shares and applies the audit findings throughout all departments, this can prove an effective use of time. However, the frequency of auditing will need to be increased to ensure that sharing occurs. So, for example, an organization with five similar departments that might need to be audited for compliance with the Display Screen Equipment Regulations, every two years, might choose to audit one department only, but to do a different department every year instead of doing the whole organization every two years. In these circumstances, when the learning from an adjacent department is shared with the other four departments, the receiving manager can review his or her own practices and identify whether he or she has similar noncompliances. It is often easier, less confrontational, and certainly less embarrassing for managers to recognize and act on their own department's shortcoming, rather than have some stranger come and tell them that they are out of compliance.

The preparation for Level 3 management audits is a whole different matter. Although it is necessary to have an audit plan to define when the management audit will happen, the plan itself will not help in defining the scope of the audit. It must be remembered that the SHE management audit is a broad scan of whether the management team has all the appropriate systems in place to ensure that it operates with an acceptable level of SHE loss prevention. If the organization has a good track record in SHE management, then it is quite likely that it will know all the things that require doing. However, because the purpose of the SHE management audit is to ensure that all the necessary areas are adequately covered, then a location being audited for the first time may not be aware of all developments in regulation, industry, or company requirements. In these circumstances, the location's management team may not recognize the full audit scope in advance, because it is unaware of the requirements. In the words of Professor Trevor Kletz, "They don't know what they don't know." In these circumstances the detailed scope of the audit may not be known in advance or when the audit is scheduled in the plan. This type of rather ill-defined scope is common when smaller companies invite external consultant auditors into their operations and usually reflect committed and concerned managers who are less interested in knowing their level of compliance, but are much more interested to learn what they have to do to comply with the law. With the exception of the aforementioned example, in most other cases the scope of the audit should be agreed well in advance of the audit (say, one month before) as people's time needs to be booked and auditors with the appropriate skill found. A list of SHE aspects that may need to be considered for inclusion within the scope is found in Appendix 1.1. In event of disagreement, the scope should err on the side of including aspects where doubt exists about their relevance as the audit itself will be the final arbiter and will identify if the aspect is relevant to that location, or not. Experience has shown that subjects that tend to be overlooked in the auditee's version of the scope include such things as the safety of employees' travel, product safety, the safe loading and unloading of goods, the safety of activities carried out by agency employees or

contractors, and so forth. A classic example of how perceptions of applicability of different aspects of safety may vary occurred during an audit that the author carried out in North Carolina. The preaudit scope had suggested that one of the aspects to be considered was the safety of railways. The audit manager at the site suggested that this aspect of safety was not relevant to their operation and so that aspect was removed from the scope. Imagine the auditors' surprise when, on arrival at the company for the first time, the security guard directed them to the main offices with the words "follow the railway lines as far as you can go." It transpired that the audit manager really meant that they had no locomotives of their own, but rail traffic was still a potential hazard on the facility.

The scope for specialist (Level 2) audits will also need to be agreed on in advance, in a similar way to that described for management audits.

The fact that a particular aspect was or was not incorporated into a previous audit is no guarantee of its relevance to the scope on this occasion, as circumstances and standards change with time. In particular, new equipment may be purchased and old equipment scrapped, leading to changes in the environmental, health, or safety requirements. So the auditor must always review an old scope with the location management to ensure that it is still relevant.

It is quite common to use proprietary audit systems, such as the International Safety Rating Scheme (ISRS) from Det Norske Veritas, for management audits. Other proprietary audit systems are available for specialist and regulatory compliance audits. Systems such as ISRS have been successfully applied across a wide range of industries internationally, but because of their broad nature, the auditee requesting the audit must ensure that not only is the scope of the proprietary audit fully relevant to their situation but should also ask if any aspect has been missed. This is particularly important in industries and organizations where there may be special needs, such as the food manufacturing industry or hazardous nuclear or chemical installations. Some proprietary audit systems operate only through the use of well-trained, experienced, and accredited auditors, but many of the less expensive computer-based audit systems may be used by inexperienced managers who assume that the software will cover the full scope that they require. It is always necessary to check with any proprietary system what part of the scope provided is relevant to your needs and what is irrelevant or missing.

Once the scope is agreed on, many auditors insist on being provided with a very comprehensive list of paperwork for prereading before the audit commences. This is commendable in theory, but the author's experience is that much of this material fails to get read in advance, and the demand for this prereading material purely creates an unnecessary clerical workload for the auditee. Demands for advance copies of documents should be kept to the absolute minimum required to ensure that the auditor is sufficiently knowledgeable about what needs to be done on the site to comply with the audit topic. It is sometimes useful for the auditor to provide a brief list of materials and systems that he or she will require to see during the audit but not to request multiple copies in advance.

The consideration that the auditor should give to the auditee cannot be over-emphasized. The fewer demands that the auditor makes in advance, the less "policeman-like" the audit will appear, and the more likely it will be that the

auditees will learn from what they perceive to be a positive, rather than a negative experience.

In summary, the preparation for the audit should include:

1. Statement of what is to be audited
2. Audit scope including the parts of the organization to be audited
3. Dates and locations for on-site audit
4. Time and duration of the audit
5. Selection of appropriate audit team
6. Presence of any trainees
7. Identification of auditee's audit manager/coordinator
8. Agreement on working and reporting languages
9. Audit report style
10. Logistics (meeting room booking, travel, hotel rooms, etc.)
11. Obtaining relevant previous audit reports and action lists
(Also, see Appendices 1.1, 1.2, 1.3, and 1.4)

7 Protocols and Checklists

We have already defined an audit to be a “systematic examination.” In order for the examination to be systematic, it requires clear standards and instructions followed by a defined and prescribed means of evaluating the compliance and adequacy of those procedures. To achieve the latter point requires the use of checklists or protocols. An audit without defined standards or a structured checking process is no more than an inspection. Inspections have some value, but their quality is totally dependent on the experience, knowledge, and thoroughness of the person carrying out the inspection. It is impossible to say whether the difference between two inspections carried out by different individuals represents a real significant change in performance or whether it is just that the inspection quality differed. Many of the workplace inspections that are carried out today are incorrectly referred to as audits. That is not to denigrate workplace inspections as these processes are hugely beneficial and focus on the most important area of SHE control, which is human behavior, but they are not true audits. The big difference between audits and inspections therefore is that the inspection is a limited examination through observation, and the audit is a thorough examination against a defined standard.

It does not matter how broad or narrow the scope of the audit is, effective preparation is essential and cannot be avoided.

The success of any SHE audit lies fundamentally in asking the right questions. This skill is paramount for the effective auditor. The trick to asking the right questions lies in the quality of the preparation. When auditing a procedure, I have seen many examples of the Level 1 auditor attempting to scan through the procedure for the first time, while trying to formulate suitable questions and at the same time listen to the auditee’s response to the previous question. As any good home decorator will tell you, success is all about the quality of your preparation. It will be immediately obvious to the auditee if the auditor is ill-prepared. This will not only personally compromise the auditor, but will undermine the validity of the whole audit system.

No audit should be attempted without a checklist of some sort; otherwise it is unlikely that the auditor will remember to examine the full breadth of requirements. There are many sources of checklists and protocols ranging in length from a few lines to 300 or more pages. (An example of a protocol is available in Appendix 2 and also in the CD-ROM available with this publication.) Many of these proprietary systems are available commercially. Some commercially available products focus on environmental or safety or one aspect such as fire management or crisis management. The ideal situation for organizations is to develop their own checklists or protocols, which address compliance to their own particular standards and instructions. However, the warning is that there should not be multiple different versions of the checklist for any one standard within the same organization, as the relative consistency is important.

Typically, there are two general types of audit preparation: these are “bespoke” preparations and “preprepared” preparations. Each of the two approaches has its own benefits and disadvantages. The bespoke preparation done by the individual auditor has the benefits that the auditor checks his or her own understanding of the requirements and produces his or her own checklist, which this auditor understands. However, this auditor’s interpretation may differ from that of another auditor preparing a checklist for the same procedure but at a different time. This has the disadvantage that the production of individualized checklists can result in varying audit standards when different auditors working to different checklists carry out subsequent audits.

Preprepared checklists can come in many different formats. The simplest form is using a checklist prepared by a previous auditor. It is quite common to use proprietary audit systems, such as the International Safety Rating Scheme (ISRS) from Det Norske Veritas for management audits. Other proprietary audit systems are available for specialist and regulatory compliance audits. Systems such as ISRS have been successfully applied across a wide range of industries internationally, but because of their broad nature, the auditee requesting the audit must not only ensure that the scope of the proprietary audit is fully relevant to their situation but should also ask if any aspect has been missed. Such an audit suffers from being prescriptive, so that sometimes the auditor does not understand what is behind the question, or alternatively the auditee knows in advance precisely what questions will be asked, and how to get the optimum result.

Generally, protocols are well liked by auditors and auditees alike, ensuring a robust and effective audit, but they can be abused. During one audit using a commercially available protocol an auditee challenged the auditor: “Why am I being asked this question—I didn’t even know that it was a requirement?” These situations are rare, but very damaging if the auditee is correct. The audit must cover only the known standards and requirements that relate to that particular enterprise and should not inadvertently slip into areas of the auditor’s experience or best practice which does not relate to that audit situation.

The use of either bespoke or preprepared checklists is very much a matter for selection by the management team or the auditor, but it should be done on the basis of needs rather than some whim. [Figure 7.1A](#) and [B](#) summarize the advantages and disadvantages of the two systems.

Whether auditors use a preprepared protocol or whether they prepare their own bespoke checklist does not affect the method used to develop the questions, as the same philosophy is used in both cases. In either case, the auditor is trying to establish the answers to a set of four generic questions. In the words of Rudyard Kipling, “I know four wise men, they are who, what, where and when.” The auditor must explore a variation of Kipling’s theme: the auditor needs to understand *who* is required to do *what*, *when*, and *how*.

Who

Identifies accountability. This will usually be the person that the auditor needs to talk to in the first instance. Inevitably the audit trail will lead on from this individual to others who may be carrying out delegated tasks. The person(s) that the procedure is directed at will make an excellent starting place for your enquiries.

Benefits	Potential Disadvantages
Specific	Dependent on auditor’s interpretation of key elements
Good auditor understanding	Time-consuming for auditor to prepare
Checklist is usually brief	Different auditors may assess compliance differently

FIGURE 7.1A Bespoke checklists (protocols).

Benefits	Potential Disadvantages
Standardization of audit quality from one audit to another	Protocols can be very long
Eliminates some auditor variability	Auditor may not fully understand the protocol’s questions
Auditee knows in advance what has to be done	May be unspecific in relation to particular procedures or regulations
Economical on audit preparation time	Possible for the auditee to “brush up” on the questions in advance
Protocol usually prepared by an “expert”	Not always obvious if the protocol exceeds or does not cover all of the audit scope
Can be an aid to verification	
Comparative data often available for benchmarking audit results	

FIGURE 7.1B Preprepared checklists (protocols).

What

This is the main subject matter of the audit. In Level 3 (management) audits, this may be a broad general statement like “ensure that procedures are in place to prevent exposure to chemical XYZ.” In the Level 1 (compliance) audit on the same subject, the procedure may require that “cartridge type respirators, chemical suits, PVC gloves, and face hoods are to be worn when handling chemical XYZ.”

Although both these procedures are intended to address and control the potential hazards associated with chemical XYZ, in the first case (the Level 3 management procedure) the audit check for what has to be done might be:

- Ensure that an up-to-date procedure exists to control the hazards of handling chemical XYZ and ensure that relevant employees are suitably trained, and so forth.

In the compliance audit the check for what has to be done might be:

- Ensure that cartridge type respirators, chemical suits, PVC gloves, and face hoods are available and that the wearers are trained in their use.

- Ensure that these protective equipment requirements are used on all occasions when handling chemical XYZ.

It should be clear that although these two procedures relate to the same topic, because they are aimed at different levels in the organization, the auditor's checklist for "What has to be done" will be different. In the first case the auditor will be looking for evidence that the system exists, which will entail discussions primarily with management, whereas in the second case, the auditor will be looking for evidence that workers and other people affected are complying with the protective equipment requirements of those systems. In the latter case the auditor's focus will be on whether employees actually wear the prescribed personal protective equipment when handling chemical XYZ. The preparation of the checklist relating to "What has to be done" will therefore be different for the management (Level 3) audits and for the compliance (Level 1) audits, even if they nominally cover the same subject.

How

The preparation of checklists to cover "how" the task is to be done will also vary depending on the circumstances. In many cases, modern procedures will specify criteria for what has to be done and in what sequence, but they may not specify precisely how it is to be achieved. For example, a laboratory procedure may require a trained technician to carry out a titration of a certain substance. It may be reasonably assumed that a trained and competent laboratory technician does not need to be told step by step how to carry out a titration, as this will have been part of the technician's basic training and is now assumed to be a skill. Similarly, electricians trying to diagnose a fault can be given general principles of safety and guidelines, but cannot expect to have a preprepared procedure on how to diagnose every conceivable fault that they may come across in their working lifetime; they will need to use their skill and judgment on how best to diagnose the problem.

We have all experienced the situation of purchasing a new piece of equipment for the home, where after hours of frustrated failure we finally resort to the old adage "if all else fails, read the instructions!" This may be a common, albeit questionable approach to the erection of self-assembly furniture, but most certainly is not the approach if you are dealing with more hazardous electrical or garden machinery, where the consequences of your misunderstanding may be considerably more severe. In preparing the check questions for "how the task is to be done," the auditor must appreciate the consequences of failing to meet the requirements and suitably adjust the checklist to reflect which of the requirements are most important in terms of injury or environmental protection. The auditor will in effect be carrying out a simple risk assessment.

Although many procedures may be unspecific about exactly how the task is to be done, when detailed step-by-step instructions are provided the auditor should initially assume that following this process is important. In these circumstances, verifying the events laid down in the procedure may form a part of the auditor's checklist.

When

The fourth step in preparing the checklist is to address “when things should happen.” This may relate to when in terms of a sequence of events that need to be done in order to complete a task, or it may relate to when the task has to be done on a calendar basis. This is very common for equipment examinations that occur on a periodic basis. Quite often these tasks are specified by law, and may cover such things as vehicle safety checks, boiler and air receiver inspections, and so forth.

Frequently, when a sequence of events has to be followed, it is common for operators to use a “tick off” checklist, and in these circumstances the auditor may have to verify only that the checklists have been completed and that has been done in the right order. However, requirements to ensure that certain events happen at the right frequency, such as the inspection and maintenance of portable electrical equipment or fire extinguishers, will require the auditor to examine historic records and inspection schedules to ensure that the specified work was carried out at the appropriate time.

Having completed the initial audit checklist by asking the questions “Who should do What, When and How?” the auditor must remember that auditing is not something that is performed by a robot. The auditor must now check that compliance with the newly prepared audit checklist will ensure that the intent of the procedure has been fully met. This often requires the auditor to exercise some judgment and although this is essential, it is in the application of individual’s judgment that there is the potential for variability in the final audit results because different auditors may apply their judgment in different ways depending on their own skills, experience, and bias.

I was carrying out a compliance audit into a procedure relating to management communications. The procedure identified that the senior manager was responsible for communicating important safety and business information to his immediate subordinates every Monday afternoon. Records had to be kept of who attended the communications meeting and what was discussed, and these records had to be kept in a specific file. The audit identified that all aspects of the procedure were being complied with and recordkeeping was immaculate. I then asked myself “what was the underlying purpose of this communications procedure?” Was it to have effective communication throughout the organization to those people who need to know, or was it to have an exemplary system of records of communication? I concluded that it was the former and the senior manager concurred. I then adapted my audit checklist to include a question that was not derived directly from the procedure. The question was “do all employees receive and understand the communication that is relevant to them?” Armed with this new question, I rapidly found that some employees did not receive any communication; others thought that they had received some, but didn’t think it important to them, and the third and largest group had been told things that they didn’t understand. Clearly, although the prescribed system was working according to the procedure, this had not resulted in effective communication. So it is always necessary to ensure that the answers to the auditing checklist meet the intent of the procedure being audited.

An easy way of preparing an audit checklist is first to obtain the most up-to-date copy of the procedure or instruction to be audited. Then using a colored highlighter

pen go through the document and highlight the phrases relating to who should do what, when and how. This process is not only easy and quick, but it avoids the other *bête noir* of the auditor, which is getting caught out by not having read the most recent copy of the procedure before commencing the audit. Just using a highlighted copy of the procedure as the basis for your audit is not effective nor is it likely to convey an atmosphere of professionalism. The highlighted phrases should be transposed into audit questions in a concise purpose-designed checklist. In carrying out this transposition, the auditor must ensure that the questions generated are posed in an auditable manner. Unless this is thought about in advance, the auditor may glean a great deal of interesting information, but he or she may not be able to conclude whether or not the auditee has complied with the procedure. The auditee may have argued a very plausible case for how the task is carried out, but that may bear little resemblance to what he or she is really meant to do.

The phrasing of any audit question should result in a response with a clearly auditable outcome. In the ideal scenario, the answer to the audit question should be an unequivocal “yes” or “no” relating to whether the auditee complies with the audit question. For example, an unauditable instruction might be:

Factory effluent should be analyzed.

First, this is a statement rather than a question. Auditing this requirement is likely to be inconclusive when trying to decide whether the factory is compliant in analyzing its effluent because:

1. Is the fact that a sample was analyzed twelve months ago good enough?
2. What is the analysis looking for?
3. Who has to ensure this happens?
4. What is an unsatisfactory analysis result and what are the consequences?

The result of asking questions about this requirement will undoubtedly provide a lot of information, but it may not be conclusive. On the other hand, try posing the audit question as:

Are effluent samples taken and analyzed (daily/weekly/monthly) and do the analysis results always confirm that the factory is operating within its discharge consents?

The answer to this question is either “yes” or “no.” There is a clarity that is beneficial to both the auditor and auditee. Equally, if most of the time the factory is compliant but it has had one or two deviations, the auditor can conclude “the factory is mainly in compliance, with two of twenty recorded noncompliances in the effluent discharge over the last twenty months.”

To identify where noncompliances exist, it would be even better if the question were further subdivided, because this question is checking compliance with both:

1. The effluent sampling system
2. Factory compliance with its waste water discharge consents

It is possible that the sampling system is working well, but that the factory is out of compliance on the effluent contaminants. So a more specific audit process would ask two questions in the audit checklist:

1. Are audit samples taken and analyzed (daily/weekly)?
2. Do analysis results show that the factory is operating within its discharge consents?

Factual and unemotional statements of this sort are essential when it comes to compiling the audit report and substantially reduce the chances of the auditor misinterpreting the situation. The avoidance of misunderstandings, observational errors, and erroneous conclusions is essential in ensuring the credibility of the outcomes of the audit and greatly increases the chances that the audit recommendations will be adopted. If conflict or disharmony arises between the auditor and the auditees, then the value of the audit is almost immediately undermined and the likelihood that corrective actions will be adopted is reduced. The auditor must remember from the outset that it is the quality and incisiveness of his or her questions that will determine the effectiveness and acceptability of the audit. Time spent ensuring a relevant and thorough checklist or protocol will repay itself handsomely by the end of the audit.

For organizations that may have several hundred SHE procedures to audit, the prospect of preparing a large number of audit checklists can seem daunting. In most cases audits will be conducted on a periodic basis, according to some preprepared plan. This means that the same audit will be repeated at some frequency that may be weeks, months, or even years. In this case, it is advisable to retain the audit checklists in a file or database to minimize the time needed for preparing audit checklists on future occasions. The retention and reuse of these checklists will help to overcome the major shortcoming of bespoke checklists, namely, the variability in audit standard and outcome. If subsequent auditors are working to the same or very similar checklists, then the compatibility between periodic audits on the same procedure will be greatly enhanced.

Nevertheless, we must exercise some caution here. If the initial audit checklist is of poor quality or incomplete, reuse of this flawed list will perpetuate a poor standard of auditing. Second, the auditor must recognize if the original procedure, against which the audit checklist was prepared, has now changed. Procedures are reviewed and evolve with time and this means that the key requirements may also change. Consequently, even if an audit checklist already exists for the procedure to be audited, the auditor has a duty to ensure that it is still appropriate. If substantial changes are to be made to the existing checklists, then the auditor should inform the appropriate auditee, so that the auditee understands in advance that the audit results may differ significantly from those of the previous audits.

Checklists should normally be prepared in a format that enables the response to the audit question to be written alongside or beneath the relevant question, as shown in [Figure 7.2](#). Having the audit checklist on a piece of paper different from that upon which the responses are compiled frequently leads to missing some key points.

Although it has been recommended that the auditor work primarily from the checklist, it is essential that he or she have a copy of the procedure readily available during the audit. If challenged during the audit, the auditor must be able to identify

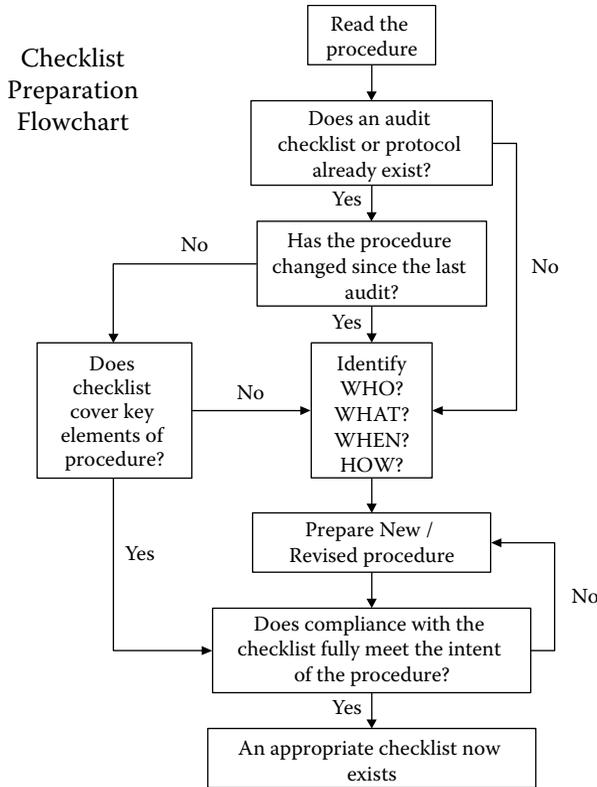


FIGURE 7.3 Checklist preparation flowchart.

or specialist-style audit, irrespective of whether the system being audited is related to occupational health medical surveillance, control of ground contamination, or arrangements for entries into confined spaces. The auditing principles are the same. Compliance auditing of detailed SHE instructions should simply look at the who, what, when, and where requirements laid down in the instruction and probe to check whether the requirements specified in the instruction are being carried out.

However, the process for all audits can be streamlined and made more robust by always using the same style of questionnaire. This is particularly valuable if there are a large number of audits to be carried out against the same standards. In this case there is value in developing a detailed list of questions and points for inspection and checking, so that all the audits are carried out to the same depth and level of detail, irrespective of which particular auditors are involved. Such a questionnaire is usually referred to as an audit protocol. The best example of such a detailed protocol applied to a large number of audits is the ISRS system from Det Norske Veritas, which has become something of an industry standard in this area. The drawback of protocols, however, is that they can become an unthinking process that results in the auditor becoming a slave to the questions, rather than using them as a set of useful guidelines. My own approach is to invite the auditee to tell the auditors about

“how a particular system works” and I usually find that the response answers 60 to 70 percent of the protocol questions. It is then necessary only to test the remaining questions from the protocol that have not been answered. The great advantage of the protocol is when it comes to recording responses, because these can easily be related to specific questions, minimizing the auditor’s note taking but keeping things crystal clear when it comes to transposing the notes into a final report. When producing the protocols for right-handed auditors, it is advisable to print details on the left-hand pages only, leaving the right-hand pages free for note taking. Usually, the annotated protocols from each member of the audit team are all retained by the audit team leader as part of the archive of working papers from the audit. These working papers can then be used not only for report writing, but also for responding to queries later on, when memories of the reasons for certain recommendations start to become hazy. Working papers should normally be retained until after the next audit. The only real drawback of the protocol is that it does take some time to develop in the first place, but is usually very efficient in the long term and does ensure that the audit assesses the organization’s actual requirements rather than some generic industry best practice that may or may not be totally relevant.

The use of protocols for assessing compliance with local safety instructions is not usual. In this case the auditor carrying out the first audit should prepare a checklist using the guidance detailed above and then ensure that the checklist is archived for future use.

8 The Entry Meeting

The entry meeting is usually the first step of the actual audit. If the audit includes more than one auditor, especially if the auditors have not worked together previously or if one of them is a trainee, then the entry meeting will have been preceded by an auditors' meeting to ensure that the members of the audit team are all prepared and understand the process that is to be used.

The purpose of the entry meeting as defined by ISO 10011 is to:

- Introduce the members of the audit team to the auditee's senior management
- Review the scope and the objectives of the audit
- Provide a short summary of the methods, procedures, and program to be used to conduct the audit
- Establish official communication links between the audit team and the auditee
- Confirm that the resources and facilities needed by the audit team are available
- Confirm the time and date for the closing meeting
- Clarify any unclear details on either side

The meeting will be chaired by the lead auditor and should be attended by the local senior management and whoever else the management team requires. It will be an immediate test of commitment to see who attends the meeting and who sends excuses or deputies. The meeting can follow a very similar pattern for all audits. In the interests of efficiency the lead auditor may well have a set of standard presentational materials for this purpose as this is often the first opportunity that the auditors have to establish a professional image. It is important that the meeting is short and businesslike and should not exceed fifteen minutes. The lead auditor must emphasize, from this very first contact, the positive nature of the audit and that the purpose is to help the process of continuous improvement rather than to be critical.

The presentational material for the meeting might include slides on the following topics:

- Purpose of the audit
- Names and background of auditors
- Audit scope
- Audit program
- Logistics and arrangements
- Reporting arrangements and exit meeting

It is essential in the case of audits taking several days that the entry meeting confirm the ongoing communication process that will exist during the on-site phase

of the audit to ensure that the auditees remain aware of the general finding of the audit team. It is always useful if there is either very good or very bad news to communicate, that this does not suddenly appear at the exit meeting. The Plaudit 2 process using Post-it® Notes displays described in Chapters 17 and 28 is one effective way of doing this. Alternatively, a lunch discussion or short end-of-day meeting between the lead auditor and the auditee's representative can achieve the same level of communication.

9 Area Familiarization

In a major SHE management or specialist audit which typically would go on for two or more days, it will be necessary for the auditors to get a feel for what type of work goes on at the facility. This is especially important where the facility is a manufacturing, construction, farming, or laboratory location, because this will be the first indicator to the auditor of the degree to which the standards are actually being implemented. The area familiarization tour is not just an interesting sightseeing jaunt, but is a key step in the audit process. Information gleaned at this stage may well change the auditors' views and cause them to refocus the questions that will be posed during later discussions. It is worth taking careful note of the route taken during the tour and in particular registering those areas that your guide studiously avoids; those may well be just the places that you want to come back and revisit. An essential piece of equipment at this stage is the auditor's notebook or clipboard, as your guide may not be one of the people closely involved in the audit and therefore may be somewhat more forthcoming in his or her comments than the boss would be. However, avoid the temptation to make the tour too detailed at this stage; there will be further opportunities for more informed plant inspections later in the audit. Taking a camera during the familiarization tour can be very helpful, but always check in advance that your host will permit you to take photographs. This is especially important where the area could have commercially sensitive activities and equipment or potentially flammable atmospheres present. Remember to "walk the talk" whenever touring the area and ensure that you, the audit team, and your host all observe the safety and health signs and requirements while walking around.

10 Audit Observation Skills

There are a number of ways that the auditor can obtain information. These include discussions; reviews of documents, databases, and drawings; and also information gained from observations of activities and conditions. During the familiarization and later tours of the facility, auditors will be using all their senses of hearing, smell, touch, and sight. One of the most important elements of auditing is the skill of assimilating information through observation. But we have spent all our lives looking at things; surely there is little that we have left to learn about this skill that we have spent a lifetime perfecting. We may not always believe everything we hear or read, but like the disciple Doubting Thomas who would only believe that Christ had risen from the dead by seeing it for himself, when we see something firsthand for ourselves, we tend to believe it. Unfortunately the old adage of “seeing is believing” does not always hold true for the auditor. Imprecise witness observations can be a common problem of identification evidence in our courts of law. The quality of a witness’s visual evidence can depend on a range of factors. Take, for example, a person witnessing a handbag snatch, and who subsequently reports seeing a man snatching a lady’s red handbag. How reliable is that observation? If the witness was a woman, with good knowledge of handbag fashions, she might have reported it as a shoulder bag, whereas a male observer might just refer to the bag as a shopping bag or small case. Was the bag really red, or could the witness suffer from red–green color blindness? Was the apparent snatching an intentional crime, an accident, or acting as a part of a film? The skilled legal advocate will often use a myriad of arguments to suggest why apparent witness reports may not represent the truth or at least be mistaken perceptions. The thing to remember in this legal analogy is that the legal advocate has a clear objective relating to witness observations. If it helps the advocate’s case the advocate will want to argue that the observation represents the “truth” whereas if it hinders his or her case, the advocate will want to find reasons the witness was mistaken. These apparently opposing views of what represents the “truth” in what has been seen remind us that what we see is actually what we perceive. When watching a magician, we may see eggs disappearing into thin air or white doves appearing from inside a folded handkerchief, but as educated adults we know that eggs and doves cannot just vanish or appear. It is an illusion that the magician intends to create and our eyes and minds have been deceived; the magician has persuaded us to see what he or she wanted us to see. Very often we see what we want to see rather than reality and that is certainly true in the case of audit observations.

FOCUSED LOOKING

Overfamiliarity is often cited as a reason apparently obvious things are overlooked. This is often the case in accident investigations, where with the benefit of hindsight, the investigator identifies what went wrong and how it could have been

avoided. But the investigation has to focus on only the narrow range of health, safety, or environmental issues, whereas the victim of the accident was thinking about the urgency of the job, the next task, an argument with the boss, the children's education, who would win the match on Saturday, and 101 other things. "He couldn't see the forest for the trees." To prevent the injury, the victim needed to focus his or her mind on the things that were important at that particular time. Likewise, the auditor needs to plan his observations to ensure that he or she looks for what is important in relation to the topics that are being audited. It is the job of the auditor to be able to see the forest in the trees. Like any other successful activity in life, we need to be prepared, and audit observations are no different. It is very common to see what you want or expect to see. In training auditors to observe, I use clips from comedy films. The trainees enjoy the humor, but are then asked questions about details of the film set or what the characters were wearing. It is unusual for them to answer many questions right. The trainees are then shown a second film clip, but are told what to look for in advance. Perhaps not surprisingly, they tend to get all of these questions right. The moral of this exercise is that it is easier to get the right results if we plan ahead and know what we are looking for. This is another area where audits differ from inspections. The audit is a "focused look" at some particular aspect of health and safety, whereas inspections tend to be general observations.

Focused observations sound easy, but the auditor must be aware of the pitfalls. The auditor must do sufficient advance work to know where he or she may need to go to look for a particular example of audit compliance. For example, there is little point in looking for evidence of compliance with ionizing radiation standards, if the organization does not use any radioactive sources.

Even when we know what we are looking for, it is not always easy to understand what we are seeing. Our eyes may be deceived by what we know as an optical illusion, or it could be that our eyes can assimilate the information, but our brain is not programmed to interpret it properly. For example, look at the symbols shown in Figure 10.1. Our eyes can clearly see that there are seven symbols and that they are Chinese characters, but the brain cannot properly interpret the characters unless we are trained to interpret Mandarin Chinese.

In fact, if our brain was correctly programmed and we could read Mandarin, we would understand that these symbols say "Tell us about the system." Actually that is not quite true—there is no word in Mandarin for "system" so what it actually says is "Tell us about the filing," which of course is not the same thing at all. This reminds us that not only do we have to be able to interpret what we are seeing but we must recognize that how we interpret what we are seeing may be a little different from what others may see.

让 我 们 认 识 系 统

FIGURE 10.1 An instruction in Mandarin.

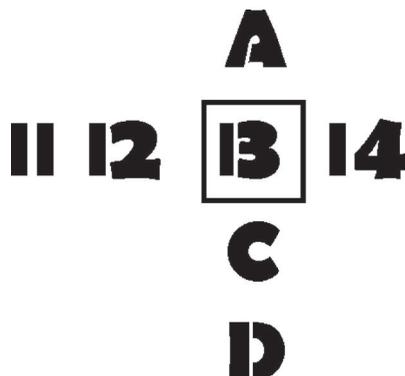
Even when we understand what we see, we will still be influenced by the circumstances or surroundings in which we observe things. The context is crucial to understanding what we are looking at. Study this sequence of stenciled letters; the character in the square is seen to be the letter “B.”



Now look at the sequence of numbers; the number in the square is seen to be the number “13.”



If we now display the two groups of characters together, it can be seen that the character in the square is the same, and how it is viewed depends on whether it is seen in the context of a line of numbers or a line of letters.



This simple example demonstrates how what we see is affected by the context in which we see it and is the principle behind many successful advertising campaigns. In the auditing context, this means that we can often observe something as significant if it is outside the context that we normally expect to see it, but the same fault observed in its usual surroundings may go unnoticed.

Reading is also subject to optical illusions. Try speaking aloud the *colors* of the following set of words as quickly as you can:

RED YELLOW PINK GREEN

BLUE ORANGE BLACK RED

PURPLE YELLOW GREEN

It is actually quite difficult because the right side of your brain tries to recognize and speak the ink color whereas the left side of your brain insists on still trying to read the more familiar words. These simple examples show that contrary to most people's expectations, seeing things for yourself is no guarantee that our brains are not playing tricks on us.

An abnormal context leads us to another situation where the auditor's observations can be important. Look at the photograph in [Figure 10.2](#) and try and determine what the auditor might observe.

Inexperienced auditors tend to focus on the state of the fencing in the foreground. The experienced auditor tries to understand the purpose of the field. In this case it can be seen that the field is not brown or yellow, which may cause the auditor to speculate that it is not for growing crops, and so it might reasonably be concluded that it is probably animal grazing land. If this supposition is correct, then the auditor might ask, "Where are the animals?" The answer in this case would lead us to the fact that the farm was afflicted by "foot and mouth" disease and that all the animals had been slaughtered. This example should lead us to recognize that the auditor must not only observe what is there, but should also be aware of what is missing and what the auditor could reasonably expect to see.

Observations can also be a great help in knowing who to talk to. The next photograph ([Figure 10.3](#)) shows a small storeroom in need of some care and attention. The observant auditor will notice that the hardhat has the word "Gerry" written on it. If "Gerry" puts his hard hat in the storeroom, the auditor may reasonably conclude that Gerry may also know something about the state of room.

Audit observations are all part of the detective work of identifying what really happens and play a key part in identifying opportunities for improvement.

Finally, the auditor must be aware of the consequences of direction. Things can appear to be different if they are viewed from different angles. It is quite a common practice that areas of a workplace that are seen and used by the public are very well looked after, but behind those areas the housekeeping may be to a very different standard. The auditor must therefore be prepared to look at things from a



FIGURE 10.2 Auditors' observations—a green field.



FIGURE 10.3 Auditors' observations—visual clues.

range of different points of view to see whether he or she gets different messages. In summary, in order to gain a full picture, the auditor should always look:

- At (i.e., directly at the item being studied)
- Above
- Beyond
- Behind
- Beneath

(Also, see Appendix 1.13)

11 The Formal Discussion

The auditees and the auditors are usually very similar people; in fact, my preference is that we change places, so that on one day I may be auditing you and the next day you may be auditing me. Having “street wise” part-time but competent auditors is by far the best way of ensuring that a balanced and pragmatic view prevails over the audit recommendations. Unfortunately for the auditor, when it comes to audit discussions people undergo some sort of transformation. The time-served pessimist becomes an eternal optimist. The entire world becomes tinted with rose-colored spectacles and the manager believes that all his or her standards and instructions are being followed to the letter. This is not a situation of untruths; the competent and committed manager genuinely believes that most things are all right; otherwise, he or she would have done something about it. The task of the auditor during the formal discussion process is to act as a detective and try to separate what actually happens from what the managers and other responsible people believe should happen. The auditor’s job is like that of the teacher in the film *The Dead Poets Society*, it is to look at the same information as the manager but come at it from a different perspective.

So after the area familiarization tour, the next major step in the information-gathering process is the formal discussion. Very often the unit being audited will present its managers to act as the auditees. Consideration should be given to whether managers are always the best people to respond to the auditor’s questions. My view is that the auditee should be the most knowledgeable person at the facility in the particular subject being discussed. This may be a manager, but more often than not it could be someone at a less-elevated level in the organization.

In the past, the audit discussions were called interviews, but so often the interview developed into an interrogation. The second audit that I ever carried out was in an overseas location. Thankfully, I was not a lead auditor in those days and just watched in horror as the interview process evolved with five auditors around a table at one end of this auditorium and thirty-five members of the site’s staff arrayed before us. It was brilliantly “stage-managed” by the site’s audit manager since it was almost impossible to get sensible discussions going and the whole process seemed more akin to the Nuremberg trial. The following day we quickly regrouped to adopt “plan B,” which involved the radical concept of one-to-one discussions and the day was saved.

We have said previously that “audit” means “listen,” and therefore the primary role of the auditor is to be a listener: so the interview must not be allowed to turn into an ego trip for the auditor to display how superior the auditor’s knowledge of the subject is compared with that of the interviewee. It should be remembered when selecting auditors that the letters LISTEN can be rearranged to spell SILENT. The Good Lord in his wisdom gave us two ears but only one mouth for very good reasons; so remember that we cannot listen if we are talking. Those people who like the

sound of their own voice are unlikely to make good auditors. Listening is an active process and not a passive one. To listen effectively we need to:

1. Concentrate on what is being said
2. Show interest
3. Allow the auditee to communicate their full message before replying

Replying is the active part of the process and shows that you have listened and correctly understood what was said.

Generally, the audit discussion should be conducted in the same professional manner as any other meeting. It is worth paying some attention to the ergonomics of the room used. Frequently the auditor will be provided with a room that is either a disused office or the corner of some enormous conference room. In both cases, take a quick look around before the discussion starts and ensure that there is nothing about the surroundings that conflicts with the intent of the conversation. Ignoring house-keeping hazards such as huge piles of wastepaper in the meeting room effectively means that by default you are approving it and this will compromise your position when commenting on the fire risk associated with similar problems in other people's offices. Always remember that as an auditor *everything that you walk past without comment will be assumed by the auditees to be acceptable*, and so it is essential that you "walk the talk" and set a personal example.

The layout of the room is important in setting the tone of the discussion. Darkened rooms and angle-poise lamps happily no longer have a role in the process. The emphasis is on setting the auditee at ease and establishing a nonthreatening environment. Try to avoid facing each other across the desk in a confrontational manner. If you require writing space and need to sit at a desk or table, sit side by side with the auditee and let him or her see the comments that you are writing. This way you are seen to be sharing the problem and not judging (Figure 11.1).

Open the discussion by explaining the reason you are here, again emphasizing that you are not here to judge, but to help explain that you are using a checklist/protocol and ensure that the auditee is happy with that. Wherever possible encourage the auditee to show you examples of evidence that supports his or her argument and take notes to confirm evidence that has been verified.

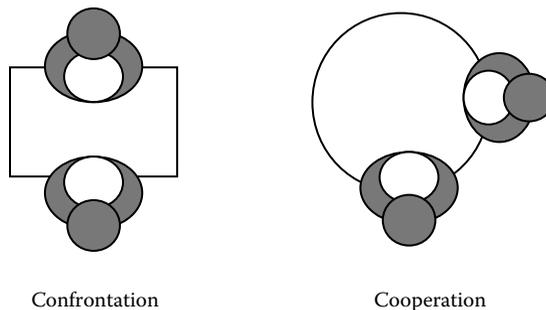


FIGURE 11.1 Discussion arrangements.

Compliance audits that last only for an hour or so and are checking on a specific instruction will probably only have the one auditor present during the interview. In major SHE audits, which can be attempting to cover 100 or so different aspects from the existence of an SHE policy to the arrangements for the disposal of waste, it is often considered advisable to have two auditors at each discussion. This is to allow one to lead the discussion and another to take notes. My own view is that it is quite possible and very time effective for just one auditor to conduct each discussion, provided that he or she have a fully developed audit protocol and is very familiar with the audit process. If you have to rely on the interpretation of generic checklists during the interview, then the auditor will require more thinking time, and in those circumstances, two auditors may be preferable.

With the discussion program and room layout/ergonomics sorted out in advance, we come to the event itself—the audit discussion. It is said of student lectures that the well-accepted principle is for the information to pass from the notebook of the lecturer to the note pad of the student, without it passing through the heads of either. This approach is to be avoided in audit discussions. The principle here is that the auditee be treated as the expert and the auditor is the student. It is the aim in this case for the student (auditor) to gain as much information as possible in order to understand how things are done at this location.

To achieve this, the interpersonal skills of the auditor are paramount. It is worth repeating that the word audit means “listen,” so the auditor must listen and empathize. There is no place here for finding fault, ridiculing, punishing, or blaming. Nonverbal signs and tone of voice account for the greatest part of any communication, so avoid showing signs of frustration, shock, or annoyance (Figure 11.2). Dr. Albert Morabian’s research tells us that only 7 percent of our message is the words that we use, 38 percent the way we use those words, and 55 percent is the body language that we adopt.

This means that the auditor will have to carefully and unobtrusively manage the time allotted to each discussion, as the most common cause of auditor frustration is discussion overrun.

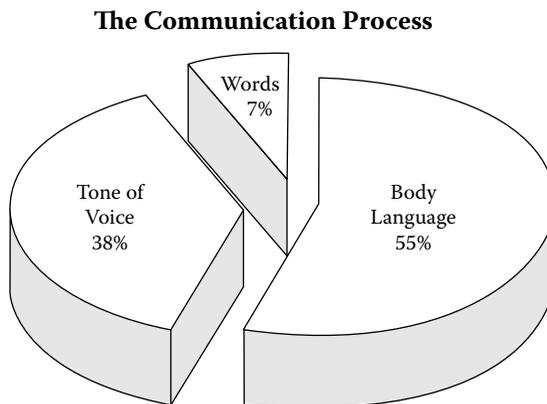


FIGURE 11.2 The Communication Process.

The prerequisites for the discussion, in addition to the hygiene factors of room layout and ergonomics, need to create an atmosphere where both parties in the audit discussion have an incentive to participate. The auditor clearly has an incentive, but the auditee may need some encouragement, as he or she will have arrived concerned about being criticized or fearful of a lot of extra work. To achieve this the auditor must have credibility and gravitas. An auditee with thirty-five years experience in the job would not take kindly to an auditor straight from college. If the auditor is not known to the auditee, it is useful for a brief CV or résumé to have been sent in advance or for the auditor to have summarized his or her relevant experience at the entry meeting.

The discussion should have a clearly stated purpose and so it is helpful for the auditor, after the essential preliminary small talk and pleasantries, to explain briefly the process and the fact that the overriding purpose is to contribute to further continuous improvement in the organization's SHE performance and to try and ensure that neither people nor the environment are harmed.

Although the auditor will be prepared with the prompt questions on his or her checklist or protocol, these are not normally used at this early stage of the discussion. The idea is to get the auditee talking about his or her particular aspect of SHE and to elicit answers to the preprepared questions out of the discussion. This approach sustains the discussion and avoids it becoming an examination. A good opening gambit is to use the words:

Please help me understand how you manage ...

My experience is that with some judicious steering of the conversation, this approach will answer 70 percent of your preprepared checklist questions.

Take the opportunity during the discussion to give personal recognition for points of excellence using such phrases as:

That's a great idea.

If it's OK with you, I'd like to mention your solution to ... as I know they have a similar problem.

When giving recognition, always pause for a second or two before moving on to allow the point to sink in. Remember that it is very easy to undermine recognition by the use of the word "but." For example, saying, "I really like what you have done here, *but* why didn't you do it this way ..." infers that you are cleverer than the auditee, and not only undermines the recognition but also undermines your relationship. If you are successful in establishing a relaxed conversation, then you will quickly find that people actually enjoy talking about their work. The challenge then becomes one of reining them in without losing their or your own enthusiasm or putting them down.

Occasionally when you pose a specific question, the answer will come back "*I don't know.*" This is actually encouraging, because the auditee is sufficiently relaxed to know that he or she doesn't need to "*fob you off.*" However, you still need an answer, so don't lose the opportunity to ask, "*can you tell me who might know?*"

Encouraging further information can be done by the use of such phrases as:

“Go on.”

“Can you give me some more detail about ...?”

“That’s very interesting, can you explain to me how you do ...?”

Silence can also be used very effectively to elicit more information. Often during the conversation, the auditee may drift from the first person singular (I do this ...) to the first person plural (we do this...). Generally as auditors we are interested in what individuals do, because the use of the word “we” infers what should be done, rather than what is actually done. So if the word “we” is repeatedly used, then bring the discussion back by saying something like “You say ‘we,’ but what do *you* actually do?”

Of course, all that part of the discussion is the easy bit. From time to time it is inevitable that the auditee will either tell you something or will omit something that implies to you that he or she doesn’t comply with the required standard. I have heard auditors say things like:

“I can’t believe you do that.”

“Did you know that you could go to jail for that?”

“That was a stupid thing to do.”

All these and a multitude of other inappropriate responses purely cause auditees to retreat into themselves and become defensive. So if it becomes obvious that something isn’t right, it is best to get the auditee to admit/identify what is wrong for themselves, rather than for you to tell them. Examples of phrases that can be used are:

“Do you think that is right?”

“Is there anything else that could be done to prevent ...?”

“You’ve said that you see a problem here, what would you do about it?”

(More possible audit questions can be found in Appendices 1.11 and 1.12.)

The auditor can also gain useful information by the way in which questions are answered. The use of the words “would” and “should” in replies almost invariably infers a lack of certainty in the answer. For example:

“I would have thought that ...” *really means* “I haven’t a clue!”

or

“I should do it like this ...” *really means* “I know how it ought to be done, but I do it a different way.”

Once you have gained all the information that you need or all that is available, then the discussion needs to be closed. This is the area where the audit discussion differs from most normal conversations. The auditor needs to ensure that he or she has gained a correct understanding of the discussion. This is done by a short summary of

the key actions that have arisen—particularly where these are likely to result in some sort of corrective action. This gives the auditee the opportunity either to agree with the summary or to correct a misunderstanding. It is this part of the audit discussion that makes an audit discussion different from other conversations and is the thing that is most commonly overlooked by inexperienced auditors. Finally, the discussion is closed by thanking the auditee for their time and reemphasizing any points of positive recognition.

All the members of the audit team in any one audit should adopt the same conventions of note taking during discussions in order to streamline the later stages of verification and report writing. It is in this standardization of discussion-recording convention, that the use of a protocol scores strongly over simple generic checklists. A correctly designed protocol will not only guide the auditor's questioning, but will also prompt the auditor when evidence or verification will be required. Usually the auditor will write the interview notes in pencil, as this will allow him or her to return and amend the records as more information becomes available during the audit. The usual convention when the auditee's comments have been confirmed through other evidence is to annotate the comment with a letter "V," signifying that it is not just hearsay, but has been independently verified. Matters that arise during the discussion that require further follow-up or verification would normally be highlighted using a brightly colored highlighter marker pen so that these do not get missed later in the process. Highlighted subjects, which are subsequently verified as acceptable, are then marked with a "V" in the normal way.

It is also advisable to have annotations for highlighting significant noncompliances and matters of excellence that will form part of the positive recognition outcome of the audit. My own convention for these is to annotate them with "R" (for potential recommendation) and "E" for area of excellence. Conventions for annotating audit notes:

Area of excellence

E

Potential recommendation

R

Verified

V

Noncompliance

N

Major audits, which are attempting to cover a wide spectrum of aspects of SHE issues, could require a large number of separate discussions. It must be recognized that the auditor has the opportunity to create total chaos in the normal smooth running of the unit by placing unreasonable demands on auditees by repeatedly calling the auditees back at different times to discuss different subjects. Wherever possible, the discussions should be grouped to minimize the disruption on the auditees rather than to slavishly follow the order in which the subjects appear in the local SHE manuals. If Bob Smith (say) is nominated to discuss standard number 1 (Safety Policy), standard 6 (Safe Systems of Work), and standard 20 (Waste Disposal), then don't call him back three times for the three different subjects, but arrange a discussion session with Bob Smith that deals with all three subjects in the one visit. The only thing to remember is to ensure that Bob Smith knows in advance that he will be expected to comment on all three areas. The general comment is that formal discussion programs should be set up on the basis of people's availability not just in the arbitrary order that the subjects are listed in some manual or other. It is advisable to plan periodic fifteen-minute breaks or dead time into the program of a major SHE audit since if the auditors are involved in continuous discussions all day there is a risk of overrun on some subjects and there is nothing worse for an auditee than to be kept waiting. The presence of the dead time can act as a buffer to prevent major overruns. Although the purpose of the audit discussion is one of listening and gathering information, the auditor must keep control of the formal discussion debate. Frequently, it will be found that people like talking about things that they do well. They may have a desire to go into necessary detail when the auditor has already concluded that they are in compliance with the requirement. Discussion control will be a balance between the auditor getting the information that is required and auditees feeling that they have had a fair opportunity to explain how their system works. On the other hand, if it becomes obvious that the site is not compliant with some particular aspect of the audit, do not persist with the checklist or protocol questions on that subject relentlessly and end up embarrassing the auditee to such an extent that he or she becomes reticent. At the end of each discussion give some feedback to the auditee particularly about the areas of excellence, areas where further verification may be required, and areas where there may be suggestions of noncompliance. If possible, seek his or her agreement particularly if there are areas of possible noncompliance, because although it is important not to jump to conclusions at this early stage in the audit, it is important that the auditee and the local management get a feel for where the auditor is starting to see areas for comment.

Formal discussions are an intense and exhausting activity for both auditors and auditees alike. In a major audit that lasts several days, it is worth splitting these up into two or more blocks to allow some variety and break for all concerned (Figure 11.3). This approach also allows the auditor to carry out some verification actions while they are still fresh in his or her mind, before embarking on developing yet more lists of items for verification.

Auditors are sometimes anxious about asking obvious or apparently stupid questions. You will not be expected to have a detailed understanding of the

	Day 1	Day 2	Day 3	Day 4	Day 5
Morning	Entry meeting and site tour	Formal discussions	Verification, practical inspection, and informal discussions	Formal discussions	Verification/inspection/informal discussion
Afternoon	Formal discussions			Verification/inspection/informal discussion	Auditor meeting and Exit meeting

FIGURE 11.3 Example of spreading the formal discussion workload on a major management audit.

technology, and often, local personnel don't ever ask themselves some of the basic questions. It should be remembered that the only silly question is the one that you didn't ask. (For summaries of formal discussion guidance, see Appendices 1.10, 1.11, and 1.12)

12 The Informal Discussion

The formal discussion process plays a major role in helping the auditor understand what should be happening in terms of SHE management in the organization. Unfortunately, what should be happening and what actually happens are not always the same thing. To find out what actually happens, it is necessary to talk to a cross section of employees and also to observe their actions and behavior. The main feature of informal discussions is that they are unplanned and opportunistic. They should in fact be conducted as fairly casual conversations. The informal discussion will take place while the auditor is conducting either an area inspection or verification activities. While the auditor is out and about, he or she will need to take the opportunity to listen to as many of the employees or other stakeholders as possible to try to get an understanding of how standards are actually applied. Whenever possible, the auditor should carry out the informal discussion in the employee's normal work area; here the employee is on home ground and is less likely to be intimidated by the concept of being caught by an auditor. When approaching people in the workplace, auditors should always introduce themselves and explain the reason they are there. The auditor should indicate interest in helping ensure that no one comes to any harm and that the organization is in compliance with the required standards. The conversation should then move to discussing aspects of SHE performance. The auditor may be interested in something that the employee was or was not doing, or the auditor may wish to follow up some particular verification action identified in the earlier formal discussions, or he or she may wish to test the employee's understanding of one or more of the organization's standards or instructions. In the informal discussion process, the emphasis will not be so much on "tell me how this or that happens," but rather it should focus on "show me" how it happens or where certain information or records are kept. The sorts of questions that may arise are:

- "Why are you doing that?"
- "When did management last discuss SHE with you and what did you talk about?"
- "What training have you had to ensure that you understand the risks of your job?"
- "Why shouldn't that liquid be spilled on the floor?"
- "How do you make sure that you cannot be harmed by this task?"
- "Show me where I can find copies of the health and safety instructions."
- "Show me how you would isolate that equipment."
- "Show me what you would do if the fire alarm sounds."
- "Show me what protective equipment you use to do this job."

The importance of using the “show” rather than “tell” approach is crucially important in aiding verification. “Showing” entails the use of verbal and visual information concurrently. This combined verbal and visual confirmation of information means that facts provided in this manner require no further verification.

The informal discussion will not usually follow a predefined set of questions. If the auditor needs to be shown a local health and safety instruction, instead of searching for it him- or herself, the employee should be asked to find that particular instruction. This can then lead to talking about what training the employee has received in that instruction and how he or she was validated. In this way using an informal but logical flow, the auditor establishes not only whether the instruction exists, but also the auditor will be able to tell by its condition whether it is well thumbed and used or whether the pages still crackle when opened, signifying that it is rarely opened. The discussion about training can help establish whether the individual has been trained, and if not, the auditor will then need to establish whether the lack of training is a unique omission in the case of that individual, or the norm for all employees carrying out that task. The selection of people at random is an important element of the informal discussions. The auditor will need to set a target for covering a reasonable proportion of the employee population so that the results can have statistical significance (see Chapter 13). Before closing the informal interview the auditor should thank the employee for his or her help and give the individual the opportunity to mention any SHE concerns that he or she thinks may be important that the auditor should be made aware of.

Most of the discussion principles of the informal discussion are the same as for the formal discussions, but because the meetings will be unplanned, a simple checklist of the discussion process can be summarized as:

- Explain who you are and why you are there.
- Confirm that it's okay—if not, arrange a more convenient time.
- Allow the other person to do most of the talking.
- Use “open” questions (i.e., questions that don't just have a yes/no answer).
- Do not use “leading questions” or questions that bias the answer.
- Test your understanding of what the person is saying.
- Remember to listen and seek amplification.
- Before leaving summarize your understanding.
- Thank the person for his or her time.

13 Statistical Significance

It must be remembered that any auditing process is based on sampling what happens, both in terms of activities and documents. No audit can achieve a 100 percent representation of reality; at best it is taking a snapshot in time. It is therefore crucially important that the snapshot be as representative as possible of what really goes on in the organization. Clearly, a single discussion with the chief executive of a large car manufacturing plant will not necessarily give a truly representative view of what happens on the shop floor—the real question is what level of audit discussions could give a reasonable chance of getting a reliably representative picture of what really happens?

Many of the commercially available auditing systems provide a quantitative assessment based on a wide and diverse range of questions. Although the questions themselves are very relevant, the systems may fall down at the user level. This is because the user and the person who completes the assessment is typically a manager or group of managers within the location being audited. More often than not, in my experience, the audit is carried out almost entirely (and sometimes only) by the organization's safety or environmental manager who may find that his or her personal performance rating depends on the outcome. Usually, these assessments are carried out in an office without any involvement from the other employees. It must be remembered, therefore, that these audit results actually represent a management view of the situation and are likely to be somewhat optimistic and one-sided. The most essential part of any audit is the verification and opinion sampling step, and this is the step that is so often missing from some of the “self-audit” processes. It is this activity and this activity alone, which has the ability to transform the management view into one that more closely aligns with what actually happens. It is a statement of the obvious to say that the quality of any sampling process will affect the quality of the output of that process. A sample of 1 employee in a population of 10 will be more likely to give a representative result than taking a sample of 1 employee in 500. To give credibility to their conclusions the auditors should set themselves targets of the number of people that they are aiming to talk to in the organization. Included in these figures will be the discussions that take place both in the formal and informal parts of the audit process. [Figure 13.1](#) gives an indication of the approximate number of personal discussions that an audit needs to achieve for the results to have statistical significance for given sizes of population.

However, the auditor must always recognize that any sampling process will infer that there is some degree of uncertainty in the results and he or she must factor this uncertainty into the audit conclusions. A conclusion that has profound consequences for the organization, but that is based on a very small sample size, may not be robust. In these circumstances it will be necessary to do further sampling by doing some more detailed “drilling down” to increase the sample size and therefore the amount of evidence available to support or challenge the auditor's conclusion.

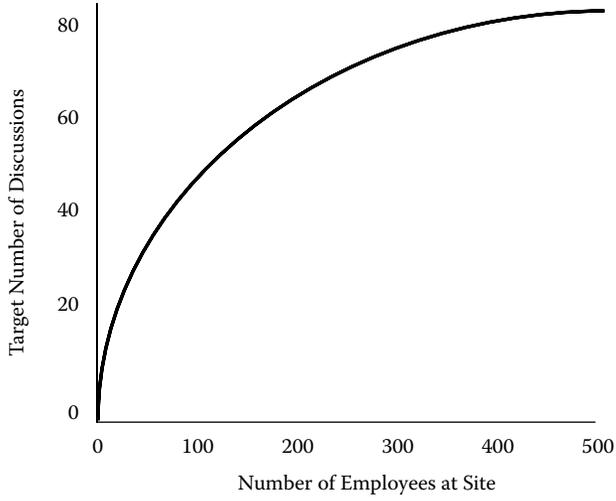


FIGURE 13.1 Discussion targets vs. site size.

14 The Importance of Verification and the Audit Trail

If the audit recommendations are to have any credibility, the auditors will have to provide evidence to support their conclusions; without this evidence the audit process and any recommendations are based on “gut feel” and are not likely to be taken seriously. In a court of law, it is only corroborated evidence (i.e., evidence substantiated from more than one source), which is irrefutable. Likewise in SHE auditing every effort should be made to seek evidence to support claims that are made. This process of seeking confirmation of evidence is usually referred to as the verification process. The need for verification is usually first identified in the formal discussion process. You will recall that we identified the need to highlight all the potential areas for verification in the auditor’s working notes or protocol. At the end of the discussion processes the auditor(s) will have a very large number of topics that need verification. For an audit with more than one auditor, the lead auditor needs to manage the team carefully at this stage to ensure that the verification process is both efficient and avoids the different auditors making a nuisance of themselves by repeatedly going back to the same people for different information. A good example of this is when the audit team is reviewing training records. Every SHE audit will identify a need to verify the existence of training records for a range of different subjects. The auditor(s) should endeavor to collate all the verification requirements for training records and make one visit to the training record holder to deal with them all. The only issue for the auditor(s) is how to quickly and efficiently collate their verification requirements into logical groupings. My own experience is that it is quite normal to have 200 or more requirements for verification on a major SHE audit and dealing with these in an efficient manner is no trivial matter. The most effective way to do this is by transferring all the verification requirements one by one onto separate sticky notes. With this method the verification requirements can easily be grouped and regrouped to allow them to be allocated to particular auditors or linked to particular employees. When the auditor goes to carry out the verification he merely collects the relevant sticky notes to use as a memory jogger (Figure 14.1).

Sticky notes that have been satisfactorily verified are then annotated with the “V” convention and are parked in a completed file or location. Sticky notes that cannot be verified are at this stage starting to be recognized as possible issues and may require even more focused and detailed attention. These sticky notes will be displayed on an issues board or what we colloquially call the “sin bin.” The delight

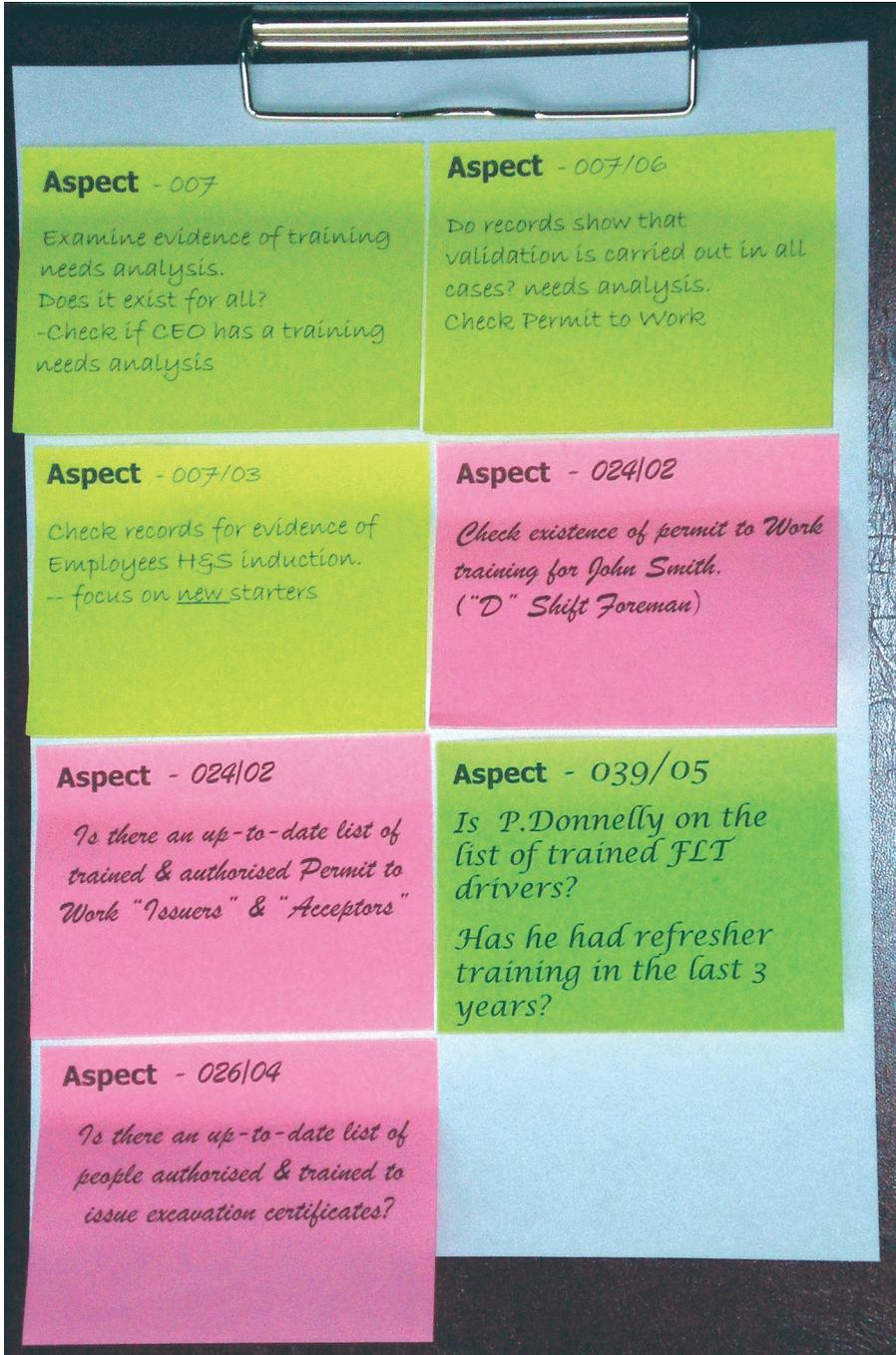


FIGURE 14.1 Example of grouped sticky notes on a clipboard. Different colored sticky notes have come from different auditors' formal discussions.



FIGURE 14.2 An auditor reviews sticky notes with the audit manager.

of this method of controlling the verification process is that it gives the auditors an immediate and visual picture of the progress that they are making, because points for verification that are still stuck to the wall or tabletop are still outstanding work for the auditors. More importantly it gives the local management team a visual and real-time display of what the auditors are finding (Figure 14.2). This latter point is particularly important from two points of view. First, it allows the local management team to challenge the auditors' understanding of what they have found and it is much better for the auditors' credibility to find that they have misunderstood someone's comment before they start building houses on faulty foundations. Second, it allows the local management to start to recognize issues before they are sprung on them at the exit meeting. This ongoing method of feedback is greatly valued by auditees and auditors alike.

The sticky notes can also be used to identify the points of excellence on an ongoing basis as well as points for verification and issues. Although these may not require further feedback or verification in the way that other points do, it is politically astute to display them in what we term the "grin bin." It is worth working hard to ensure that the grin bin contains a reasonable number of sticky notes.

Most verification actions are followed up through the informal discussions described earlier or via documentary review. However, on occasions it may be necessary to get views on how effectively certain things are carried out throughout the whole organization. In this case it may be advisable to prepare a simple questionnaire that all the auditors can use to get a quick but wide sample. For single-auditor audits, this technique can be used to get wide rapid feedback, by delegating the task

The Plaudit 2 Process for Health & Safety Audit Analysis

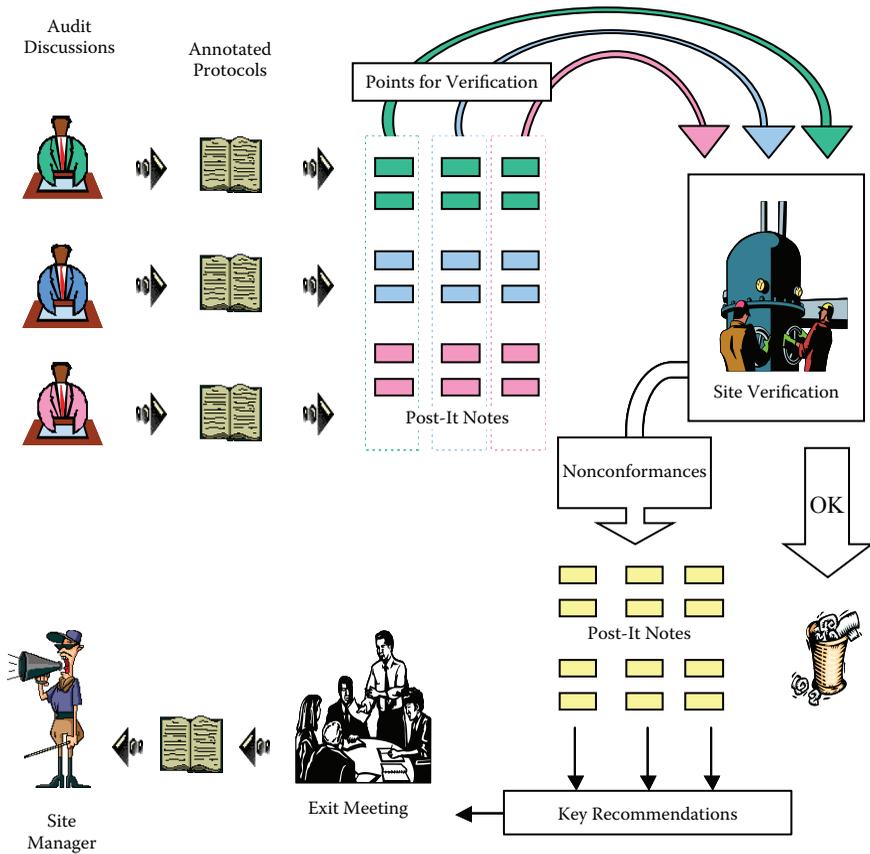


FIGURE 14.3 The Plaudit 2 process for health and safety audit analysis.

of getting feedback to the questionnaire to a local manager. It is unlikely that the questionnaire can be fully prepared in advance, as the questions posed may need to reflect some of the potential issues identified by the auditor (Figure 14.3).

What happens if there is no local requirement for a standard or instruction when the auditor clearly observes a need? This situation is not uncommon, especially in well-run smaller organizations and quite often reflects a situation where the local requirement has never been written down. The fact that the specific failing is “that the detailed requirements had not been documented” makes it more difficult to audit, but does not necessarily mean that nothing is happening—there may well be perfectly adequate practices in place. The concern might be whether that practice can stand the test of time without being written down. In this case the verification process has an essential role to play in establishing what level of practice exists and

how it might compare with the auditor's understanding of best practice. However, I repeat that the danger in these situations is that the practice usually relies on the knowledge of a very small number of individuals. Once that person leaves or is absent for a while, then the good practice can very quickly deteriorate into no practice at all.

15 Observations and Noncompliances

Audits are the most wonderful learning events. Not only does the audited unit learn where it has opportunities for improvement, but audits are also a learning opportunity for auditors. This is why I believe so strongly in not using full-time professional auditors for the purpose, as they are rarely in the position to make best use of the learning. Practicing and experienced line managers with a good knowledge of SHE requirements will have the highest credibility. The auditor's learning not only applies to major audits at the management and specialist level, but also applies equally and probably more so to the compliance level audit. Managers all too rarely sit down and learn their own safety instructions, particularly if they have inherited them, rather than written the instructions themselves. There is no substitute for auditing someone else's compliance with an instruction or requirement to test one's own understanding. There is no doubt in my mind that involvement in an audit process is one of the best management training techniques.

Often the audit will identify a wealth of information, some of which will be directly related to the scope of the audit and some of which may be outside the scope of the particular requirement being assessed. Deviations from the standard requirement are usually identified by the auditor as "noncompliances" (or sometimes called "nonconformances") and form the essence of the audit feedback. However, there may be other things that the auditor sees, where he or she believes there is some learning but it does not form part of the audit requirement. Typically, if an auditor is carrying out a specialist occupational health audit and notes during the site inspection some potential trip hazards, it would be irresponsible of the auditor to ignore the trip hazard. Equally, if the auditor is auditing fire safety requirements and sees that the local requirement does not call for routine testing of the fire pumps, even though it is not a documented requirement, the auditor may wish to pass comment about the advisability of introducing such tests. In both these cases the local requirement has been met, so strictly there is no noncompliance, but the auditor may choose to make learning *observations* in the audit report. Provided that the number of observations does not get out of hand, the auditor should feel free to differentiate between noncompliances and observations. After all, there will be few occasions where the SHE requirements will be studied more closely than during an audit, so every effort should be made to extract all the learning. Equally, it must be remembered that making a multitude of irrelevant and unhelpful observations will not endear the auditor to the auditees. It must be remembered that it is not the role of the auditor to show how clever he or she is.

Very often, observations will be made in relation to shortcomings in the procedures themselves. The audited unit may be in full compliance with the local

procedure, but the auditor may have noticed that the procedure has not been updated to reflect current best practice or a recent change in regulatory requirements. In this situation it is entirely appropriate and helpful that the auditor comments that, *“although in compliance with the procedure, the location is not in compliance with regulatory obligations and therefore the procedure needs to be revised to reflect current regulatory requirements.”*

Whenever noncompliances or significant observations are made, the auditor should discuss these with whoever is involved at the time. It is not the auditor’s role to go sneaking around in the half dark in some clandestine way, furtively noting down failings that can then be used in some dramatic revelation later. The credibility of the auditor and the audit process is dependent to a large extent on the auditor’s openness.

Care must be taken when interpreting audit noncompliances into recommendations. The auditor must remember the authority vested in him or her and must be careful not to abuse that power. It is very easy to set hares running in all directions or to commit the organization to unnecessary cost or impossible tasks. In one audit on a chemical plant, the auditor was checking that the plant identification numbers complied with the local procedure. One of the criteria for numbering equipment, related to the situation where two or more heat exchangers are stacked vertically above one another. In this situation the procedural guidance was as shown in Figure 15.1A, where the lower exchanger should carry the suffix “A” and the upper exchanger should carry the suffix “B.”

One of the actual exchanger sets is shown in Figure 15.1B. The auditor noticed that the exchanger set labeled C1727 actually had the “A” exchanger at the top and the “B” exchanger was underneath, which was contrary to the local guidance. During maintenance and cleaning, the end covers that carry the identification number have to be removed to allow the tubes to be cleaned by high-pressure water jets. The auditor’s first thought was that during a previous maintenance task, the two end covers had inadvertently become switched and replaced in the wrong place. The auditor checked the equipment layout drawings and established that there had been no maintenance error and that the exchangers had been installed in line with the original design. Now the auditor had a problem, as the auditor had established that two major

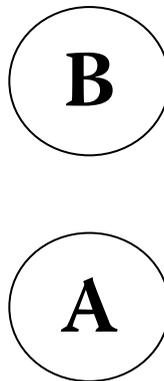


FIGURE 15.1A Required exchanger layout.



FIGURE 15.1B Actual exchange layout.

plant items did not comply with the plant procedure. What should the auditor do? The easy solution might be to repaint the end covers to show the “A” exchanger below and the “B” exchanger above. However, before making apparently “obvious” recommendations, the auditor must always consider the consequences of his or her recommendation. In this case, because the original nonconformance occurred at the design stage, simply switching the numbers painted in situ would mean that the exchangers would no longer match with the design drawings, piping and instrument (P&I) diagrams, maintenance histories, or manufacturer’s serial numbers. To change all of these records would be very expensive and runs a very high risk of some hidden records remaining unchanged and resurfacing at some stage in the future. Furthermore, the plant was more than twenty-five years old and many of the operators had worked on the plant ever since it had been commissioned. The operators all expected that the C1727A exchanger would be above the C1727B. Simply changing

the numbers would not only cause huge problems with the records, but could confuse the operators and in an emergency this could lead to a serious safety hazard. In this case, the auditor recognized that this requirement was only “guidance” and so noted in the report that “the C1727 exchangers do not comply with the guidance in the procedure, but in this case *because of the unacceptable consequences* no changes are recommended, other than communicating the fact to the plant personnel.” By doing this, the auditor showed that he was being observant, but that he was also aware of the consequences of his recommendations. He had shown that he had not only considered the risk of maintaining the “status quo” but he had also considered the risk of that change. It must never be forgotten that SHE auditing requires judgment by the auditor. Auditors who cannot use their judgment and experience in recognizing the scale of their recommendations are unlikely to be viewed as helpful or competent.

16 Documentary Review

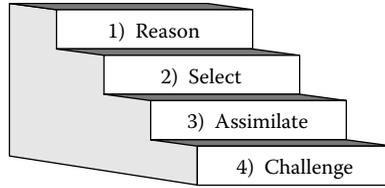
“If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.”

Sir Francis Bacon

The Advancement of Learning

Sir Francis Bacon has some useful advice for SHE auditors. If auditors begin with preconceptions and biases, the audit will be worthless, but if they progress from a position of healthy skepticism, then their conclusions will be robust. The key method that effective auditors use to move their doubts to certainties is through the process of verification. As we have seen previously, much of the auditor’s initial information arises from the spoken word at formal or informal discussions. Verification is the confirmation of this initial information by other supporting information that may be other verbal comments, the auditor’s own observations, or most often from some form of written or documentary information. This process of verification or “drill down,” as it is often known, is a fundamental part of obtaining reliable audit conclusions and is the place where many inexperienced auditors flounder. The situation is relatively easy in a Level 1 compliance audit, which may be looking at compliance with a single procedure or instruction. In these circumstances the auditor needs a thorough understanding of the procedure and the limited associated paperwork. The verification still needs to be done on a sampling basis but sampling done intelligently by the auditor can ensure that he or she is not just directed toward a good outcome. For example, if the Level 1 audit is assessing exhaust ventilation arrangements to ensure that workers are not exposed to harmful fumes, the auditor might take note of one or two particular exhaust systems during the site visit and then, instead of viewing all the test data for every extract unit at the facility, specifically ask to be shown the latest test data for the one or two extracts that he or she picked at random. Alternatively, the auditor might initially ask to see any “black list” of overdue tests on extract systems and then explore why those items are overdue. It is this type of prior thought about how the audit process may be streamlined that makes it both efficient and effective.

The biggest single problem with using documentary information for verification in a Level 3 management audit is the sheer scale of the task. Even in a small organization, the amount of paper and computer records and instructions could take an army of auditors months to read and digest in its entirety. It is here that the auditor’s skill and judgment play an important role in making the task sensible. Here I advocate the use of the R-SAC (rucksack) hierarchy ([Figure 16.1](#)), so called because it helps me remember the four steps (RSAC) in simplifying the document review process:



16.1 R-SAC hierarchy.

REASON

Identify the reason you need to consider the particular documents. Ask yourself:

- a. Are these documents relevant to the subject?
- b. Are the documents current (or have they been superseded?)
- c. Has this aspect already been verified? (i.e., no further drill down is necessary)
- d. Does it matter? (i.e., is the auditee substantially noncompliant and further examination will not help)
- e. Is this an important issue or a trivial point?
- f. Is this something that because of your special expertise you already know the detailed requirements?

If there is a reason to carry out a more detailed documentary review, then proceed to the next stage in the hierarchy.

SELECT

Unless there is difficulty in establishing whether or not compliance exists, we need to select those documents/information that will most easily bring us to a conclusion regarding compliance. So ask yourself:

- a. Is the information available? (Don't spend hours looking for information that doesn't exist.)
- b. Is the information concise? (Look initially for summaries, flow diagrams, and action lists.)
- c. Has the information been referred to in discussions? (Ask to see that documentation at the time.)
- d. Can a discussion with a different person more easily verify the point?

Experience has shown that there are certain types of information held by most organizations that are almost always viewed during the documentary evidence stage of verification. These include such things as:

- Training records
- Operating procedure indices

- Periodic inspection reports
- Routine regulatory submissions
- Internal audit reports
- Relevant maintenance records
- Accident and incident records
- Emissions permits

Again, being selective can be very helpful. If the formal and informal discussions have not identified where training noncompliances exist, then ask about those people who are most likely to have needed training recently. These may be new starters or interdepartmental transfers. However, always make sure to ask not only about training completed, but also how that compares with the training needs and requirements. If there is still a reason to carry out a more detailed documentary review, then proceed to the next stage in the hierarchy (Assimilate).

ASSIMILATE

If we have identified a reason for a detailed documentary review, and have selected the relevant documents or databases, then there is nothing for it but to get on and assimilate the information. However, there are still some things that we can do to make the process easier for ourselves.

If the document/database has an index or contents list—read that first, you may find that the key information to verify a particular point is actually in the last appendix. Try going straight to what you think is the relevant part of the document that will confirm the point that has arisen for verification.

Scan reading can also be helpful. Try reading the following paragraph:

“Although we may simtmes dobut it, sestyms are crateed to splmify acevititis taht are rpetead and are esiasntel to the popruse of the orgisantiaon. Tehy are idntened to ensrue taht we befenit form the lirneang and exrienctee of oethrs, so taht we do not all hvae to go bkak and re-ivnnet the acivttiy form fisrt pinciples.”

It is amazing that most people can understand what the paragraph says even though the words are misspelled. Generally, the human brain recognizes the first and last letter of a word together with its length and then does a human spell-check so that it reads what it thinks is there rather than what is actually written. This is the reason it is so difficult to successfully proofread a document that you have written, because you will nearly always read what you intended to write, rather than what actually ended up on the paper or screen. So a quick “scan” reading is a way of assimilating information quickly.

Finally, we should recognize that reading alone is a very poor method of memorizing information. According to the researcher Frank E. Bird in the United States, we remember only about 30 percent of the information that we see or read, for more than a very short time. This means that the most effective way of using the written word is to read it shortly before you need to discuss it (i.e., there is little point in reading reams of documents before starting the audit).

Of course, the memory can be helped by such things as annotations, highlighting important areas of text, the use of self-adhesive notes and auditor's notebooks. However, if you do "mark-up" paper documents, make sure that you are not defacing the auditee's only copy of the information.

CHALLENGE

The final part of the R-SAC hierarchy is "challenge." Having identified and selected the relevant documents and assimilated the information, if we find that this is at odds with what we have been told in the discussion, then we need to go back to the original informant and ask whether he or she is aware of the requirements. If a nonconformance is identified, as mentioned previously, this should be drawn to the attention of the relevant person and that person should be given the opportunity to identify an appropriate corrective action.

The key message for the auditor when examining documents is to try to ensure that you are not inadvertently diverted into reading reams and reams of text that do not actually contribute to your understanding of either what the essential requirements are or how the organization is performing. There is no simple solution to this, but provided you follow the R-SAC hierarchy, it will come with practice.

17 Convergence

In common with most other investigational techniques, auditing has two major components: data collection and data analysis. In the “on-site” part of the audit, the majority of the time is spent data gathering but this is actually the easy bit. The difficult part is taking all the raw data in the form of noncompliances or observations and converting those into feedback and recommendations that are helpful to the auditee. It will be obvious that if the auditor visits a small, three-person office unit that has not really addressed SHE issues at all and then leaves them with a list of a hundred actions, it is hardly likely to be the motivation for action. The auditor should remember that the fundamental purpose of the audit is to support continuous improvement and that part of the auditor’s skill is in helping the unit to focus on the really important things (remember the “directionless sign” in Chapter 4). If there are a really large number of nonconformances, the auditor may decide that the frequency of subsequent audits should be increased rather than extending the list of recommendations.

The Plaudit sticky note technique mentioned previously can be very useful in helping the auditor converge on the real issues. Following the verification stage of the audit, the auditor will be left with a number (possibly a large number) of sticky notes that have not been verified or are previously identified as issues. The problem will be that these notes often represent symptoms rather than the real underlying cause of the nonconformance. In a compliance audit the recommendations would be to address each of the nonconformances individually. This is appropriate in that situation, as only one instruction is being audited at a time and the number of nonconformances is usually at a manageable level. In the case of a major management or specialist audit, where multiple aspects of SHE are being reviewed, there may be a need to merge nonconformances to create recommendations that address underlying problems and not just the symptoms or consequences. In these circumstances, what is required are management actions, rather than a long shopping list of technical points.

Providing a long shopping list of actions will not encourage the organization to address anything that is not on the list. If the noncompliance relates to inadequate access to shelving in the main plant store, then it is possible that if this is custom and practice, that the same issue exists in the maintenance store as well. Putting a corrective action on the organization to address the shelving access in the main plant store will probably deal with that specific problem, but may not lead to the responsible people looking for similar problems elsewhere, such as in the maintenance store. It is not the role of the auditors to take over all inspection and checking responsibilities from local management; because of limited time, the audit can only be a sampling exercise.

To help identify the underlying causes behind some of the noncompliances, the sticky notes can be grouped into common themes. Again the use of these sticky notes allows the auditors to test different combinations to see which gives the best fit (Figure 17.1).

CONVERGENCE

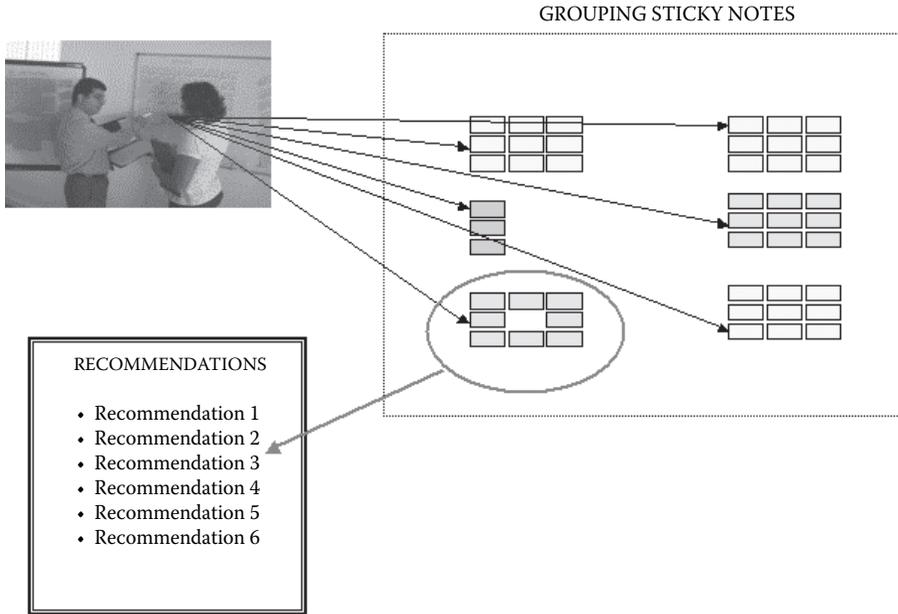


FIGURE 17.1 Converging actions from a large number of noncompliances.

For example, some nonconformances that arose from one audit were:

1. Occupational exposure limits for substance XYZ were not identified.
2. No material hazard information exists for maintenance staff.
3. Evaporative cooling towers not monitored for the presence of *Legionella* bacteria.
4. Laboratory fume cupboard airflows not routinely checked.
5. No noise monitoring carried out in plant cellar.
6. No flammable gas detector available for monitoring for the presence of solvent vapors when welding or burning.

All these discrete items did not conform to the standards laid down by the company or legislation. However, when grouped together they converge onto a common theme of hygiene management. The recommendation therefore was that “*the company should review the way in which it controls the exposure of employees to health hazards.*” The specific nonconformances were then used as examples of how the current systems were failing.

It will be important for the auditor to recognize how high up the organization he or she is reporting and to converge the recommendations to suit. Time should be allowed in the audit program to allow the auditor to analyze the findings and converge them into the appropriate recommendations in time for the exit meeting. It is my practice then to “peer-review” the conclusions by sharing them with

some cooperative member of the local auditee team (i.e., the audit manager or SHE manager) to ensure for one last time that the auditor(s) have not picked up some incorrect messages and also to understand where the sensitivities may be. The purpose of understanding the sensitivities is not to water down the conclusions but is to ensure that the evidence for the conclusions is fully robust and will withstand substantial challenge.

Convergence is an essential part of any audit process and its importance is often overlooked, even by some professional auditors. The provision of “management actions” in response to specialist and management audits will result in the greatest level of acceptance of the audit outcomes, because the auditees will see that you have identified the problem, but that they still have the freedom to choose the most appropriate solution. In other words, the higher up the organization you go, the less people like to have prescriptive actions placed upon them. What is more important is that if the auditees can claim some involvement in solving the problem that you have identified, the more likely they are to own that solution, and the greater the likelihood that it will actually be implemented.

18 The Exit Meeting

The exit meeting is the opportunity for the auditor to present his or her findings to the senior management team and others who attended the entry meeting. The exit meeting should be held immediately after the audit is completed and should allow sufficient time for full discussion if required. It will not be appreciated by the local people, if in the middle of the debate about some contentious recommendation, you disappear to catch a train. It is my experience that most exit meetings for significant audits will take about an hour. The exit meeting will be chaired by the lead auditor and other members of the audit team will comment by invitation. The purpose of the meeting is to present the audit findings and conclusions in a way that they are both understood and accepted by the local management team. To maintain the professional approach, it is important that the information is well presented but not so glossy that you create the impression that the information was prepared before the audit and that the outcome was prejudged.

The exit meeting should start by thanking the unit for the opportunity to carry out the audit and for the cooperation received (assuming this is the case). The main feedback should start by identifying any limitation on the audit process, for example, if it were not possible to complete some part of the audit scope because of operational limitations (i.e., that part of the plant could not be accessed for some practical reason). The meeting should then continue with feedback on the points of excellence. Even if there are quite a number of these, it is likely to be a fairly quick presentation as people very rarely challenge good news. However, the good news presentation must be of sufficient length to convey a balanced feel to the exit meeting.

When it comes to conveying the recommendations, if the ongoing communication throughout the audit has been adequate, none of these should come as a surprise. Nevertheless, ensure that each recommendation is substantiated by reference to examples of nonconformance so that the listeners are aware that there is substantive evidence for the conclusions that are being drawn. Be prepared to allow discussion during this part of the meeting and draw other members of the audit team into the discussion so that it is seen to be a team recommendation and not just the lead auditor's view. At the end of the meeting be prepared to leave some hardcopy summary of the points of excellence and recommendations for the local management to give feedback to their own teams. At least one proprietary audit system that I know of actually allows the auditors to present the audit report at the end of the exit meeting. This is a highly efficient process and looks very professional but suffers from the minor drawback of not leaving either the auditees or the auditors any time for further reflection after the end of the exit meeting. My own personal preference is for the audit team to leave copies of their exit meeting presentational material and to follow up with the completed report a few days later.

In large management-level audits, it is appropriate to take minutes at the exit meeting, but in most other audits which may be of a few hours or up to a day in duration, this is probably unnecessarily bureaucratic and does not add to the value of the audit process.

Remember that the requirement to remain calm and objective applies to the exit meeting as much as to the audit information-gathering stages. If any of the auditors or auditees lose their temper during this meeting, then the process could be seen to have broken down. It is the delicate task of the lead auditor to ensure that the meeting remains harmonious and constructive. The most likely occasions that tempers get frayed are when:

- People get unpleasant surprises
- Recommendations are based on an inaccuracy
- The actions become a personal criticism of someone

To avoid this situation arising we need to ensure good ongoing communication throughout the audit so that people are prepared for the recommendations and have had a fair opportunity to provide additional relevant information. It is essential also to make sure that recommendations are robust and based on verified facts. To test this, one of the auditors should play devil's advocate during the auditors' meeting prior to the exit meeting to ensure that whoever is making the recommendation can stand up to scrutiny. Finally, it is important that the audit team avoid citing names of people that they found to have shortcomings, and to describe the circumstances that they found. It is crucial that the audit or the actions following the audit do not turn into a witch hunt.

The auditors also need to be clear at the exit meeting whether they are empowered to make recommendations or actions. In compliance (Level 1) auditing, it is usual to identify actions, but in specialist and management audits it is more usual for the auditors to make recommendations, especially if the auditors come from outside the organization and have no executive or budgetary authority. The only danger with making recommendations is that they can be bypassed. I have seen recommendations that say "the management team should consider an alternative method of spillage prevention in the area." After due consideration, the local managers decided that they shouldn't do anything, but they thought that they had discharged that recommendation, because they had "considered" the matter. Remember that if the word "consider" appears in your recommendation, it is probably going to end up with no real improvement action.

19 Audit Uniformity and Credibility

It is most important to the auditees to know that they have been audited fairly and that whatever treatment they get will be the same for other comparable organizations. This is especially important in circumstances where there are a number of different departments or locations in an organization or where the same location is being re-audited. Especially if the audit results in some sort of quantitative score, the auditee will want to be sure that in a reaudit situation the score really does represent a real change and not just a change in the standard or quality of the auditing. This will be particularly important in circumstances where reaudit scores appear to go down.

The credibility of the auditor will depend on a number of factors that mainly relate to how well the auditor(s) are prepared. It is essential that the auditor convey an image of professionalism. He or she must be at an appropriate level of seniority and well experienced in the subject being audited and trained in SHE auditing. The lead auditor must be trustworthy and should have gravitas and be capable of holding his or her own with local experts or senior managers. The worst criticism that can be leveled at an auditor is one of superficiality. The depth of the audit must be seen to be appropriate. It is very rare for auditors to be criticized for going into too much depth. A good accolade is to be considered to have been “thorough” and the use of well-prepared checklists or protocols will be a great help in this. Always remember that one glib conclusion that cannot be substantiated will undermine that audit, the auditor long-term credibility, and the credibility of the audit process. It may take years to retrieve this loss in confidence in the auditor.

In one example that occurred on one very large integrated chemical complex in the United Kingdom, the auditors made the mistake of carrying out the audit from offices alone and did no onsite verification. When the audit report was issued, one very senior and influential manager didn't agree with the first recommendation and consequently “rubbished” the report to his senior colleagues. As a result, the report was abandoned and although the first recommendation was based on flawed information, all the remaining valid recommendations were abandoned as well. It took many years in that facility for the value of audits to be reestablished.

In order for the audit process to be credible, the process itself must have its own controls. How do you ensure that the auditors are setting high enough standards for themselves? This is best achieved by having the minimum number of lead auditors and trying to ensure that teams always have at least one auditor who has audited that type of facility before. Occasionally, it is useful to have a visiting or external auditor who can act as a benchmark and calibrate the performance of one audit team against another.

It is important that the individual auditors are considered to be credible and acceptable to the auditees, and once the audit team is identified, the senior manager at the audited site should have the opportunity to approve the team members. The more that is done in advance to ensure that the auditors can work in harmony with the auditees, the more likely it is that the audit will succeed and that beneficial improvement action will take place.

In the best organizations, the quality and performance of the auditors is checked from time to time, and the standard of the audit and its report is verified by other peers or third parties.

20 Auditor Training

Audits should only be carried out by trained auditors. The auditors need to be trained not only in general auditing techniques, but also in the particular auditing process that is being used. This is necessary because although the basic objectives and some of the framework is similar for all SHE audits, the detailed application process varies from one audit system vendor to another and within organizations that have developed their own audit systems. There are several commercial organizations that offer good-quality public or in-house auditor training courses, but it is important to ensure that the training is specifically for SHE auditing and not just quality management auditing. Wherever possible, the training should be validated and then a monitored process of gaining experience should be established before the auditor is considered fully competent and then becomes fully accredited within his or her organization.

Training for auditors should not be limited to the audit process functionality, but the auditor needs to have good management skills including:

- Planning and work organization
- Time management
- Information assimilation by
 - Observation
 - Reading
 - Discussion
- Good listening skills
- Good communication
- Concise reporting
- Concern for impact
- Stoicism
- Assertiveness
- The ability to apply practical judgment

In addition it is necessary to have a working understanding of safety, occupational health, and environmental management, appropriate to the level and scope of the audit being carried out.

To achieve these skills, the auditors will have completed an education that equips them for such work. Often this will mean auditors coming from management levels, but it is not uncommon in Level 1 (compliance level) auditing that very experienced auditors come from the nonmanagerial ranks. Whatever educational route the auditors follow, they should have work experience that equips them with knowledge for auditing SHE practices. In addition, all auditors need to go through form training in the mechanics of auditing. ISO 19011 (section 4 table 1) recommends that auditors

should have a minimum of five years' relevant work experience followed by forty hours of directed auditor training. In practice, this means something like a week's auditor training course followed by something like twenty days of audit experience as a trainee under the guidance of an experienced auditor. My own experience is that the ISO 19011 training objective is a good target, but may be somewhat optimistic in practice for nonprofessional auditors. One thing is clear, however, and that is that the auditor needs to maintain his or her competence, and this means ensuring that he or she regularly takes part in audits. As with most skills, failure to practice auditing skills for a period will mean that the skills and competence erode and some of the important tricks of the trade will be forgotten. Auditors who do not apply their audit training at least several times a year are not likely to maintain an adequate competence level.

21 Managing Auditee Expectations

It is quite possible that the auditor and the auditee will have different expectations regarding the outcome of the audit. Almost by definition, the audit will generate some actions and it will be natural for the auditee to desire to minimize the additional work that arises. It will be necessary to ensure that the senior manager of the location acts as the sponsor of the audit and recognizes the implications for his or her people's workload. The one thing guaranteed to undermine the audit process and management credibility is to be seen to take no actions on the audit recommendations. To gain this understanding, it may be necessary for the lead auditor to meet with the location's senior manager before the audit, to ensure that the objectives are clearly understood and supported. It should be established at this stage that the auditor will be independent of management and organizational pressures and will not be influenced regarding the outcome and recommendations of the audit. If there are substantial management reservations regarding carrying out the audit, then it is probably inappropriate to proceed with the audit until these are resolved. Frequently, it may be necessary to adjust the timing of the audit to be seen to be responsive and sympathetic to the auditee's workload. In this way the auditor is seen to be prepared to be understanding of the other commitments of the location. However, be very cautious about more than one revision in timing, as this may be an indicator of lack of commitment on the part of the auditee.

If there is any area where the auditor has limited knowledge, make this known in advance, as it may be necessary to pull in additional experience in this area. No auditor can be expected to know the answer to everything, but he or she will be expected to recognize potential problem areas. In responding to the areas where the auditor's knowledge may be incomplete, recommendations may be in the form of either seeking further advice or a recommendation to consider a particular course of action that can be left fairly open.

However, the areas that are without the audit team's knowledge and experience should be very small if the lead auditor has done appropriate preparation before the audit and ensured that the other audit team members can cover the areas or aspects where his or her knowledge and experience are lacking (see Chapter 27: Audit Team Composition).

Finally, it must be agreed before the audit commences what the form of the reporting will be, to whom it will be communicated, and whether or not there is to be any quantitative score attributed to the auditor's view of compliance. It may be advisable to record these essential reporting and communication decisions and send a copy to the auditee, just in case there are any misconceptions later on.

22 Auditing and Its Relevance to Regulatory Compliance

There are many commercial organizations that specialize in maintaining databases and extracts in relation to changes in health, safety, and environmental regulation, and who for a modest fee will alert the client organization when legal changes come into effect. It is the author's experience that individual manager's knowledge of the law is often superficial and he or she needs to rely on other sources of knowledge and information to keep in compliance.

It is not unusual, therefore, during audits to find some ignorance of regulatory requirements. A key first step is to establish how the organization keeps up to date with changes in the law. Although ignorance is no defense of contravening the law, explicit contraventions can sometimes be identified during audits. In these circumstances, once the contravention is identified it is usually a corporate culpability but, if responsible managers fail to act to correct the situation, they could find themselves criminally liable for negligence. Consequently, contraventions of health and safety or environmental law need to be dealt with firmly. The auditor should use his or her discretion regarding how explicitly the situation is documented in the report, but must ensure, at the very least, that the responsible person is fully committed to taking remedial action.

A manager cannot ensure that his or her instructions are being followed without training people in the requirements and then subsequently monitoring what people are doing. As we have mentioned previously, it is this monitoring process that is so critical in establishing compliance. The monitoring of regulatory compliance is an essential step in ensuring that managers and company officers avoid a spell behind bars. It is therefore to be expected that the monitoring of training processes will always play a significant part in any SHE audit.

A very effective way of dealing with confirmation of regulatory compliance is to audit the relevant legal requirements using a specialist- or compliance-level audit. Occasionally, this may be done by a third-party auditor, but more appropriately it should be carried out fully in-house as this retains the learning and keeps control of the actions. It is usually relatively easy to produce effective audit checklists from guidance documents, or the statutory instruments themselves, or one of the commercially available SHE information systems.

23 Reporting—Quantitative Assessment

The first thing to establish in the reporting process is to identify why it is that the report is being prepared. The purpose is not solely to justify the auditor's time and expenses, or to make the auditee feel either good or irritated depending on the specific outcomes, but it must lead to some improvement action.

It must be clearly understood whether or not the audit report requires some quantitative measure. There are both advantages and disadvantages to the use of quantitative performance measures. On the positive side, that great scientific pioneer Lord Kelvin reminded us that we do not know anything about a subject until we can measure it. Clearly, it is advantageous when comparing two successive audits to see whether there has been some overall measurable change either upwards or downwards, particularly in large SHE management audits where there may be gains and losses in different aspects of safety, health, and the environment and it becomes very difficult to identify the overall progress without some measurable assessment. Quantitative results have been very effective in assessing performance against some stretch targets. It is noticeable that most commercially available SHE auditing systems involve a quantitative measurement system and some have the great benefit of allowing benchmarking against other similar organizations. Often these auditing systems are computer based. To their credit, most of the commercial systems also provide some qualitative feedback process. Unfortunately, through no fault of the supplier, their customers tend, in my experience, to concentrate on the use of the quantitative system. It is not clear to me why this is so; it could be because of the inexperience of the user or it could be that they are primarily used by managers who may wish to confirm their own preconceptions of how successful they are or even how unsuccessful their predecessor was. The problem with any quantitative system is that it is open to some level of interpretation. The arithmetic is robust, but the individual performance assessments will vary and can vary quite widely. The difference arises from the interpretations given by different assessors or auditors. Provided the same assessor is used, then the relativity between different audit scores will be consistent, but once the common factor of one auditor is removed, then meaningful comparisons become very difficult, unless some form of consistency checking is built into the process. The second concern about the use of quantitative measures regards their perceived accuracy. An audit result of 78 percent compliance compared with the previous audit result of 80 percent is often perceived negatively by the senior manager as an indication of deteriorating performance. This comparison needs to be put in the context of the accuracy of the audit scoring system, which is often no better than plus or minus 5 percent. With this interpretation, the audit result is seen as the same level of compliance as before. At least one leading SHE audit system overcomes this

problem by not declaring the actual numerical score, but by indicating a compliance level, with a group of numerical scores grouped into each level. This has the great benefit of removing the sensitivity to spuriously accurate small percentage changes and identifies only changes that are sufficiently significant to cause a change in scoring/compliance level. When providing audit “scores,” the auditor should avoid the temptation to declare the score at the exit meeting, even if you know it. The reason for this is that it will precondition the listeners. If the score is less than expected, the listener may become disgruntled, and if it is better than expected, the listener might conclude that there is not much to do. In either case the consequence can be the same—the listener stops paying attention to the other important messages at the exit meeting presentation. However, do make it clear at the entry meeting that you will not be drawn into a premature statement about compliance scores.

Recognizing the reservations about scoring systems, it is understood that they are popular among auditors and auditees alike. If they are used, then in common with the principles of a quality process, they must follow a system of their own. First, the auditor must decide what generic points he or she is looking for and then decide how many points constitute full compliance. I recommend that for any system the auditor should be looking for evidence of:

1. A clearly documented standard
2. That the standard is reviewed and revised in the light of new information and learning
3. Training and validation
4. Local auditing

When it comes to scoring it is advisable to keep the scoring simple. The simpler it is, the less likely it is that different auditors will disagree. Scores of 0/1/2 lead to the minimum level of confusion and lack of understanding, on the basis that most auditors can recognize when there is no compliance at all (0) or full compliance (2), and if it is neither of those, it has to be somewhere between (1). Unfortunately this doesn't really give credit to locations that may have done a lot of work and are approaching full compliance. At this stage the system designer can take his or her choice. However, be warned that if the scoring range is 0 to 10 then no two auditors will be able to agree on the intermediate levels. Multiply the number of individual scores by the number of different aspects in a major SHE audit and you will start to see substantial variability creeping in. If different members of an audit team cannot agree on the score, then it is hardly likely that the auditees will either. You must recognize that the scoring system can be a recipe for dissention and can easily undermine the fundamental purpose of the audit, which is to produce improvement.

When it comes to audit scores then I would advise:

1. Keep the system simple with good scoring guidance.
2. Consider keeping the score as an aid to the auditors only.
3. Do not allow focus on scores to overshadow the learning.
4. Encourage the location to do its own scoring between audits.
5. Avoid drawing comparisons with the scores of other locations.

Whatever happens, remember, do not be tempted to divulge a score or rating during the exit meeting. As soon as the score is known, people will stop listening to the recommendations. If you have to provide a score, then incorporate that into the back of your audit report.

24 Reporting—Qualitative Assessment

The qualitative report is the most important feedback that arises from the audit. The reporting process will differ depending on whether the audit is an instruction compliance audit (Level 1) or a major management or specialist audit (Level 2 or 3). However, the fundamental requirement is always the same. The auditor needs to:

1. Specify any unsafe practices, which must cease immediately
2. Encourage the continuation of things which are being done well
3. Identify improvement opportunities where new practices need to be started

These principles for audit reporting are known as the “audit reporting traffic light” and can be visually summarized as in [Figure 24.1](#).

For the compliance audit that may have taken an hour or two to conduct, the emphasis will be on a rapid and concise form of reporting. This is best done through the use of a preprepared standard proforma that is a record of a request for some form of corrective action. Normally in a compliance audit there would be one proforma completed for each separate corrective action. The corrective action proforma would normally record the following information:

1. Location being audited
2. Date of audit
3. Standard or instruction being audited
4. Name of auditor and auditee
5. Description of noncompliance
6. Space for future record of corrective action

Usually once the noncompliance is agreed, both the auditor and auditee would endorse this. It is usual to allocate some form of reference number to each proforma to aid the process of tracking progress of the corrective actions. Typically, a compliance audit corrective action proforma would be laid out in a form similar to that shown in [Figure 24.2](#).

The report of a full management or specialist audit is unlikely to follow a simple proforma, because of the amount of information that it will need to contain. However, it will need to follow good report-writing conventions and will tend to follow a basic framework of reporting for SHE audits. It is important to understand what the auditee is looking for in the audit report, as there can be conflicting requirements. Most

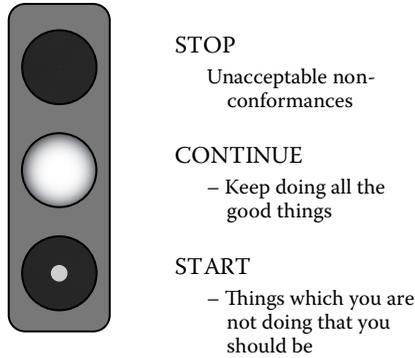


FIGURE 24.1 The reporting traffic light.

readers of reports are looking for them to be concise, but it is also not uncommon to find that there is a desire not to lose any of the microscopic findings of the audit and to use the report as a long-term reference document. Whatever happens, the report must be clear in what it is trying to say. The document should follow the ABCs of report writing, that is, accuracy, brevity, and clarity.

The purpose of an audit report is to present information and to recommend areas of action. It will usually start with a synopsis or executive summary that will convey the reason for the audit, together with its scope, and will identify the essential conclusions regarding both areas of excellence and of nonconformance. The main body of the report will then need to be subdivided to represent the material in an order and a format that readers will find easy to follow and meets their need for information. Typically, the subdivisions of the report may include:

- Summary
- Scope and administrative details of the audit
- Conclusions and recommendations
- Detailed audit findings (if required)
- Quantitative results (if required)
- Request for feedback to auditors on progress against recommendations
- Acknowledgments

Depending on whether the audit is reporting on a specialist or management audit, the report may also choose to subdivide the details regarding SHE issues. The style of the report will be important. A lucid, businesslike, and balanced report is usually expected in which the recommendations clearly square with the facts that are presented. Avoid opinions and ensure that all comments are either related to recognition of excellence, factual recording of the status quo, best practice observations, or areas of noncompliance.

Wherever possible, adopt a simple approach rather than a complex one. A picture will convey a thousand words, so where appropriate use photographs, graphs, and sketches. When using the written word, the emphasis should be writing to

ASPECT 016 Fire Management

	Audit Check	How to Verify	Act	Notes	OK
-01	Has a fire risk assessment been carried out for the premises?	Ask to see a copy of the fire risk assessment. Was this carried out by a competent person? Have the recommendations been fully implemented?	E	Fire risk assessment seen Appears competent	1
-02	Is there a fire alarm system that can be acted upon by all?	Ask to be present at a test. Can the alarm be heard everywhere? Particularly examine noisy and remote areas. Are visual warnings also required?	C	Modern fire alarm system Clear fire action signs	1
-03	Is the alarm routinely tested?	Check for records of weekly alarm tests. Ask when the last full evacuation test was done (annually for all?)	C	Weekly tests on Tuesdays at 10 a.m.	1
-04	Is there a fire evacuation procedure?	View the procedure. Do associates and visitors know what to do in event of a fire? Ask if they know the location of their evacuation assembly point.	V	Evacuation procedures exist, but need to test personal awareness	
-05	Is there any unusual fire risk associated with the premises?	Ask if there are any flammable substances in use either in the premises or in the neighborhood. What precautions are taken? Are they suitable?	V	Flammables stored in distribution area Needs checking	
-06	Is suitable fire fighting equipment available?	Is equipment well maintained and subject to periodic inspection? Check inspection dates on firefighting equipment during plant inspection tours.	V	All extinguishers and sprinklers tested annually Check during plant tours	
Aspect 016 total					
<i>Note:</i> For a full version of the fire management proforma see Appendix 2 element 016.					

FIGURE 24.2 Example of SHE compliance audit proforma.

express rather than to impress, using words that are meaningful to the anticipated readers. Avoid long rambling sentences and the use of words or phrases that do not add to the understanding. Empty words like prepositions, conjunctions, and adverbs often make up a large proportion of the text, so see if they can be eliminated or simplified.

For example:

“Wordy” version	What you mean
in accordance with	under
with a view to	to
with the result that	so that
in order to	to
consequently	so
furthermore	then
comes into conflict	conflicts

Robert Gunning in his book *How to Take the Fog out of Writing* (published by the Dartnell Corporation, 1994) identifies a Fog Index that is based on the numbers of long words in and the length of a sentence. The higher the Fog Index, the more difficult a sentence is to read. Complex prose is a particular problem in the area of SHE because of the volume of legal jargon that exists or is closely related to the standards being audited. In this area the Fog Index has the potential to almost go off scale, so the auditor must ensure that the report does not perpetuate this problem, ensuring that the information is presented in layman’s terms, and is clearly understandable.

It is also possible to become so brief as to lose the meaning of the report. Remember that the report must stand alone in its own right. Do not assume because something was discussed at the exit meeting that all the readers of the report will understand it. Make sensible use of appendices and ensure that the report is arranged in a manner that makes it easy to follow by numbering or lettering paragraphs.

When the draft report is complete it is very important to ensure that it is factually correct. For this purpose and this purpose only, the draft report should be submitted to the auditee or his or her senior manager for approving the facts before it is distributed. Some auditors consider that the completed report should be sent only to the auditee and that he or she should then be responsible for its wider distribution. My own practice is to encourage the auditee to allow the report to be given much wider circulation, not for embarrassment purposes but to ensure that the learning that arises from the audit is shared as widely as possible. The completed report for a major SHE management or specialist audit should be distributed no more than four weeks after completion of the audit. Compliance audits, which will usually be completed on a standard proforma, should be completed either at the time or within a few days.

25 Follow-Up

The success of any audit process will be seen by the effect that it has on the reduction of noncompliances. Although it is the local senior manager who must own the corrective action implementation process, the auditor can play a large part in encouraging the follow-up actions to be progressed. There is nothing worse than a corporate seagull flying in from HQ, squawking a lot, spreading alarm and despondency, and then disappearing never to be seen again. The auditor must demonstrate an interest in the unit's continuous improvement process. This interest is best expressed by retaining a level of interest in the process. Usually this will be by requests to see copies of the plan to tackle the audit recommendations and by a request for periodic updating on progress against that plan. After the audit, the auditor can also sustain his or her involvement by acting as an adviser or consultant to support the improvement process. As has been mentioned previously, if the auditor can take on a small action him- or herself to aid the corrective action implementation process, the auditees will view this very positively. Such selfless action by the auditor will go a long way to overcoming the mistrust so often associated with some audits.

26 Choosing the Process

The International Safety Rating System (ISRS), devised by the International Loss Control Institute (ILCI) and now marketed by Det Norske Veritas, is probably the most extensively tested and well known of the proprietary systems. This is an excellent means of testing an organization's safety performance and benchmarking it against others, but by definition some of the standards and requirements are generic and may not precisely match your own organization's requirements. The ISRS system has been recently developed to cover the wider aspects of occupational health and the environment in the I(SHE)RS protocol but at present this has not been so widely tested. There are strict controls and auditor accreditation arrangements about the use of ISRS, which assures standards but means that the system is available only as a commercial package. There are many other commercially available systems that have different degrees of market testing. Before requesting a consultant or agency to perform an audit, or before buying a system for your own in-house use, make sure that you obtain some relevant and recent references in relation to its successful application in your type of organization.

Just a word of warning about some of the low-cost computer-based audit systems that are on the market. Remember that what you are actually purchasing is usually a computerized audit protocol or checklist. What we have attempted to demonstrate throughout this book is that the protocol is only one small part of the total audit process. Using any audit system without carrying out discussions, observations, documentary checks, and verification is unlikely to result in a meaningful outcome. The danger with some of the low-cost computerized audit software is the temptation just to go through quickly and answer the questions by yourself, without involving anyone else.

The use of external consultants as auditors will usually ensure that you get a professional job done and will bring a completely new set of eyes and therefore a new perspective to assessing your SHE standards. However, remember that consultants are expensive and will not have instant knowledge of your technology or processes.

Carrying out audits using your own internal auditors will not only be much cheaper in the long run, but also ensures that the learning gained by the auditors is contained within your organization. Knowledge and experience are difficult and expensive to acquire and the audit process is one way of developing that knowledge. The use of internal auditors also develops the perceived SHE commitment of the auditors and allows managers to demonstrate their verbal commitment in a practical way.

For those who choose to attempt to conduct their own audit process, the remaining chapters and appendices of this book are dedicated to providing protocols (Appendix 2) and easily accessible guidance relating to the audit process (Appendix 1) to enable readers to carry out their own audits in an effective and professional manner.

27 Audit Team Composition

Audit team composition will vary greatly depending on the level and type of audit. The team must have the appropriate skills and knowledge to conduct the audit, but must also have sufficient seniority to enable the lead auditor to stand up to challenges from the local senior management.

Ideally, an audit team should comprise at least two people, as one person is not a team, but an individual. You will have heard the expression that “There is no ‘I’ in team.” The exception to this rule is for Level 2 specialist auditing, where the auditor is an expert in the subject being audited, and finding two experts to work together may be difficult, expensive, or very inefficient. In normal circumstances, the use of a team approach is beneficial when it comes to making recommendations—the recommendation from a single auditor is at risk of being perceived as subject to that individual’s bias, whereas a “team” recommendation, even if it comes from a team of two, is more likely to be taken as a carefully considered view which has taken into account more than one perspective. Larger teams are more common when carrying out Level 3 SHE management audits, because of the quantity and breadth of subjects to be considered. However, a word of caution—large audit teams can create the atmosphere of an inquisition. In one case that I know, a team of seven auditors turned up for a week to audit a factory employing sixty people. This was insensitive and almost amounted to intimidation, particularly when you realize that the factory operated a shift system, so that the maximum number of people on site at any one time was about thirty. Almost irrespective of the size of the operation, it is rare for the audit team to exceed four people. If larger groups are needed, it is wise to go back and review the scope of the audit and consider narrowing the breadth. Due diligence audits may be an exception to this rule as these may require a series of specialist-type audits to be conducted in parallel in a very short time or where trainee auditors may be present, although their role may be primarily in an observation capacity. In no circumstances should there be more than one trainee on an audit team.

The auditees will wish to see that the audit team operates in a professional and efficient manner. As has been mentioned before, there is nothing worse than an individual on the audited site being summoned to see the auditors on ten different occasions for a few minutes each time. The auditors must be sensitive to the disruption their presence may cause to normal day-to-day operations or practices and must organize their schedules to minimize that disruption. Where the audit team exceeds two people, audit discussions should be conducted in subteams not exceeding two people. In large management, specialist, or due diligence audits, having subteams working in parallel substantially increases auditor involvement and efficiency and is usually well accepted by auditees.

The selection of members of a larger audit team is very important, especially if this is to be conducted overseas in a different regulatory climate. In these circumstances,

Audit Team Skill Requirements

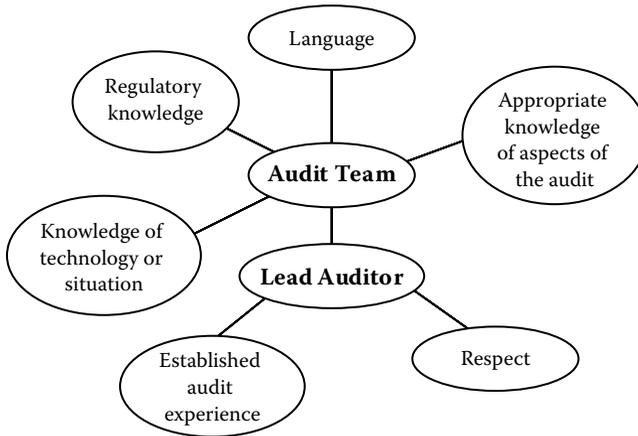


FIGURE 27.1 Audit team skill requirements.

the team not only requires the appropriate knowledge of the aspects to be audited, but it must also show that there is knowledge of the local regulatory regime, knowledge of the local language or dialect, experience of SHE auditing at the appropriate level, and knowledge of the type of operation or processes to be audited (Figure 27.1). In addition the team will require a leader (the lead auditor) who has respect and credibility with both the audited location and the audit team.

It is the responsibility of the lead auditor to undertake the management of the audit process. This will entail:

- Agreeing on the audit dates
- Agreeing on the scope
- Chairing the entry meeting
- Managing the audit process
- Optimizing the skills and knowledge of the other auditors
- Keeping the auditees informed of progress during the audit
- Chairing the exit meeting
- Compiling and editing the audit report

28 Using the Plaudit 2 Process

Plaudit, or the prevention of loss audit process, is just one of many systems available either in-house or commercially to assist the SHE auditor. The particular advantages of the Plaudit 2 process are that it:

1. Provides an established series of checklists or protocols
2. Covers a wide range of (sixty) different aspects of SHE
3. Identifies the need for verification and guidance on how to achieve this
4. Provides an audit score and performance banding and reduces subjectivity
5. Reduces variability of auditor performance and the comparability of previous and subsequent audits
6. Provides a simple process to allow any competent SHE professional to carry out effective audits

Plaudit 2 is best suited for management (Level 3) audits, but can also be helpful in carrying out Level 1 audits where there is no effective local procedure against which to audit. It is especially valuable as a benchmarking tool in organizations with multiple operating/retail locations.

GETTING STARTED (AUDIT PREPARATION)

As discussed in Chapter 6, the scope of the audit must be established. This is done as usual in cooperation with the auditee using the list of SHE aspects in Appendix 1.1. The auditee's representative (or audit manager) and the lead auditor will jointly agree which SHE aspects are relevant to the organization being audited. If in doubt whether some particular aspect is relevant, then leave it in the scope and allow the auditors to assess on the day whether it applies. Even if a previous Plaudit 2 audit has been carried out, it is advisable to review the scope of the audit to ensure that any changes in equipment or people are fully considered.

Formal notification to carry out the audit should then be given to the senior manager at the location (as described in Chapter 6) and, if appropriate, additional auditors should be appointed in line with the guidance in Chapters 4 and 27.

If the audit is a major management (Level 3) audit, then a detailed program for the audit should be prepared jointly by the auditee's representative and the lead auditor. Remember to limit the disruption on individuals during the formal discussion, by grouping those aspects where the same individual will take the lead. In these circumstances it is sometimes better for the auditee's representative to

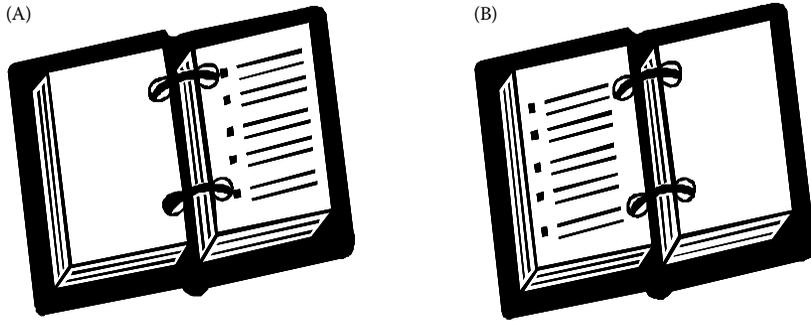


FIGURE 28.1 A, Layout for left-handed auditor; layout for right-handed auditor.

arrange the program of discussion as he or she will be in close contact with those concerned.

Prior to commencing the audit, the lead auditor should arrange for the checklists for the relevant SHE aspects in the agreed scope to be copied from Appendix 2. These can be either photocopied directly from the appendix or printed from the file in the CD-ROM at the rear of this book. It is usually helpful to print these single-sided and place them in a ring binder or book form, such that the blank sides can be used for additional note-taking. Remember to produce enough copies for all the auditors and to assemble with the printed page on the left for right-handed auditors and on the right for left-handed auditors, as this makes note-taking so much easier (Figure 28.1). If pages are printed in landscape format, the pages should be joined so that note-taking space is vertically below the relevant page of the protocol.

This document now effectively becomes the auditor's notebook and is the primary record of each auditor's findings.

Prior to commencing the audit, the auditors will require the following equipment:

1. Appropriate personal protective equipment for the site visits and inspections
2. The relevant Plaudit 2 checklists
3. Pens/pencils
4. Highlighter marker pens
5. Sticky notes
6. Clipboard (to allow note-taking during site visits)

COMMENCING A PLAUDIT 2 AUDIT

As described in Chapter 8, the audit will start with a safety briefing (if the auditors are not familiar with the essential health and safety requirements at the location) followed by a brief and workman-like entry meeting. This is usually followed by a familiarization tour of the facility, during which the auditors will already be noting points of interest as indicated in Chapter 9.

USING THE PLAUDIT 2 PROCESS

The real application of the Plaudit 2 process starts during the formal discussion. The Plaudit 2 protocols have been developed to identify ten key elements for each aspect. Each element is formulated in a way to minimize subjectivity and is intended to help the auditor come to a clear “yes” or “no” decision on compliance. The concept is that at the elemental stage there is no grading of compliance as seen in other systems; the judgment comes in deciding whether compliance has been achieved, rather than “how good” is the compliance.

The ten elemental requirements are detailed in the second column of the Plaudit 2 protocol as shown in Figure 28.2.

The third column (How to verify) is intended to assist the auditor is making a judgment whether the elemental requirement has been achieved and points the auditor to possible means of verification of compliance, if that has not been already established during the discussion.

The fourth (Act) column indicates whether further work is required by the auditor. This column uses initials only and the convention is:

C = Full compliance

V = Further verification is required

E = Area of excellence

K = Key action leading to a recommendation for improvement action

NC = Noncompliance

The fifth column is for the auditor’s notes. The sixth column (headed “OK”) is to provide a score. If the element is in full compliance, the score is recorded as “1”

001	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a current EHS Policy Statement?	View statement.			
-02	Does the statement cover E, H, & S?	Check for specific references to environmental, safety and occupational health management.			
-03	Is the statement signed by the current senior manager?	Identify the most senior manager (CEO?) and ensure the statement carries his signature.			
-04	Does the statement include details of key EHS?	Check that the named people are still here and that those mentioned are aware of their responsibilities and are acting upon them. Check for missing names.			
Aspect 001 total					

FIGURE 28.2 Example of audit element protocol.

otherwise the score is recorded as “0” showing that there is noncompliance. A “K” (key action for improvement) in the fourth column would normally be associated with a 0 (noncompliance) in the sixth column, and an “E” (area of excellence) in the fourth column would normally be associated with a 1 (full compliance) in the sixth column.

Once all elements for that SHE aspect contain a score, then the overall aspect score can be calculated by:

$$\text{Compliance \% for aspect} = \text{Total score of all elements in that aspect} \times 100$$

In the rare situation where the auditor judges that an element is not appropriate at this location, then the aspect score must be adjusted by:

$$\text{Adjusted aspect \%} = \frac{\text{Total score in column 6} \times 100}{\text{Number of relevant elements}}$$

The individual aspect scores are not usually presented to the auditees, but are converted to a gold, silver, or bronze band performance level. It is normal to provide a performance band for each aspect, so that local management can easily prioritize its corrective actions. Typically the performance bands would be:

- Gold — 80 to 100%
- Silver — 65 to 80%
- Bronze — 50 to 65%

It should be noted that it is possible that an aspect could achieve a 90 percent score and therefore a gold band performance, but that the one noncompliance is so gross that the auditors feel a need to adjust the elemental banding score to more effectively represent the severity of the noncompliance. In this instance, they would annotate the banding as “auditor adjusted.” It is not usual to effect any change on the total audit banding (i.e., the combined result for all SHE aspects that have been audited) when this situation arises.

After completion of the formal discussions (either immediately afterwards if time allows, or more commonly at the end of a series of discussions, i.e., at a natural break), the auditors will transfer key information for action from their protocol notes onto sticky notes. At this stage, aspect elements that have a C against them and are in compliance need no further action. However, where a noncompliance (NC), area of excellence (E), key action (K), or further verification (V) is required, these need to be transferred to sticky notes. (The experienced auditor will do this during the discussions using the sticky notes on his or her protocol book.)

Each sticky note must contain the aspect and elemental reference number (i.e., 003-08), the auditor’s initials, and a brief statement of the requirement as shown in [Figure 28.3](#).

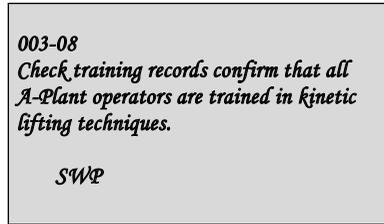


FIGURE 28.3 Example of completed audit sticky note.

Completed notes are then grouped on convenient stands, boards, or walls under four separate headings:

1. Areas of excellence (the “grin” bin)
2. Key actions (the “sin” bin)
3. For verification
4. In compliance

These displays are a key feature of the Plaudit 2 process as they allow the auditees to observe the progress of the audit and to advise the auditors where additional information may be found to assist in further verification. Of particular interest to the auditors are the “for verification” notes, as these are ones where there is no firm conclusion about compliance. Before commencing with site visits and further drill-down, the lead auditor will distribute the “for verification” notes equally among the audit team, in the most time-efficient manner. This may result in one auditor, for example, dealing with the review of training records related to all aspects of the audit and another dealing with all verification required in the maintenance department. The important thing is to recognize that it is highly probable that individual auditors will be attempting to verify issues that were identified by their colleagues in different discussions and about different aspects. Although this makes the most efficient use of the auditor’s time, it does require extremely good communication within the audit team and that the lead auditor can recognize the strengths and weaknesses within the team.

Verified notes are then initialed by the verifying auditor and marked as either compliant or noncompliant and then placed with the other relevant verified notes so that the auditor who initially raised the note can update his or her own records. Even notes that are verified as “in compliance” will continue to be displayed at this stage as an indication to the auditees of the audit findings. Toward the end of the audit there are likely to be a very large number (often several hundred) of sticky notes on the boards showing areas of compliance, a modest number of notes showing areas of excellence and key actions, and a significant number of notes showing noncompliance. The challenge for the auditors is to avoid presenting the management team with a great long shopping list of detailed requirements, but to converge this into a small group of six to ten management actions.

The auditors carry out this convergence process jointly, during the auditor's meeting. All the key action and noncompliance notes are placed together and the auditors try grouping them into sensibly associated management topics. For each group of notes, a management action is defined, which would capture all of the points raised by the notes in that group. It is this smaller number of management actions that are contained within the audit report and communicated at the exit meeting.

For readers who prefer to use electronic protocols, rather than printed-paper copies, an electronic version of the Plaudit protocol is available in an Excel spreadsheet format in the CD-ROM at the end of this book. However, the auditor should remember that although the software has some additional functionality that is not available in the paper versions (for example, it automatically computes the quantitative audit score) the software is only an alternative to the paper-based audit protocol and should not be used as an alternative to the full audit process. There is still a need to manage the process in the way described throughout this book. Preparation and planning are essential, as are the various different information-gathering steps of observation, discussion, and verification. It is easy to forget the importance of converging the findings into meaningful management actions and finally ensuring that the conclusions are acted upon.

29 Using the Plaudit Protocol Software

The Plaudit protocol software on the CD-ROM provides a user-friendly version of the protocol that appears in Appendix 2, and avoids the need for printing multiple paper copies. Like Appendix 2, the software is a resource that breaks down the audit into more than sixty different aspects of SHE management, but of course not all of these elements will be used at every audit. The auditor will need to agree with the auditee which aspects will form a part of the audit scope. As with Appendix 2, each aspect is broken down into ten elements, which are designed to try and force a yes or no answer in relation to whether the auditee complies with that element. As with the paper version, it will sometimes be the case that certain elements are not applicable, but the software has the ability to exclude certain elements that are not relevant. In these circumstances the audit score is automatically adjusted to take account of the smaller number of elements.

The software is based upon a Microsoft Excel spreadsheet and works using the Windows 97, ME, XP, and Vista operating systems. The software runs with Excel editions 2000, 2003, and 2007. The system was designed for screens with width/height ratios of 4:3 but will work well on widescreen, albeit with a greater need to use the vertical scroll bar.

Many modern computers have their security setting set at the factory at a level that automatically disables the operation of macros (short-cut buttons) in Microsoft Excel.

If this occurs, in order to operate the software, it will be necessary to either reduce the computer's security setting via the computer's Control Panel or to enable the macros.

In order to enable the macros:

For XP users:

- On opening the software, if the security setting is too high, a window will automatically pop up. Click on the Enable Macros button and the short-cut buttons in the software will be fully functional.

For Vista users:

- On opening the software, check the Security Warning immediately below the main toolbar. If it says that "Some active content has been disabled", click on the adjacent Options button. Then, in the Macros and ActiveX window, click the Enable This Content button, followed by OK. The short-cut buttons throughout the software will now be fully functional.

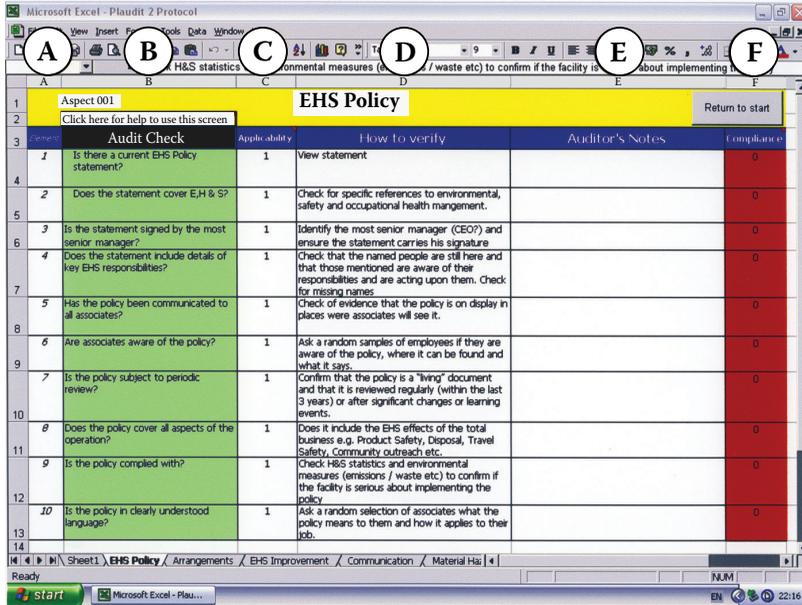


FIGURE 29.1 Worksheet showing one aspect in the plaudit protocol.

There is a HELP cell on the title page which reminds users about how to enable the macros.

In order to open the software, press the Click Here to Start button in the center of the title page which opens up the index screen to the 60 different aspects of Safety, Occupational Health and Environmental auditing.

The different SHE aspects are selected by clicking on the appropriate button on the index page of the software. Clicking on the button for the SHE aspect “EHS Policy” takes you directly to the page of the protocol shown in Figure 29.1.

The functions of the columns are as follows:

Column A Reference number of each element within this aspect (there are ten elements to every SHE aspect).

Column B This is the main audit check (question). The auditor should try to obtain information that allows him or her to conclude that the auditee either complies or does not comply with this audit check.

Column C This is the “Applicability” column and will usually be a line of “1”s. However, if the auditor concludes that one of the elements is not applicable at this location he or she can change this to 0 by floating the cursor over that cell and clicking 0 on the drop-down menu. This then removes that particular element from the audit score calculation.

Column D This column provides advice to the auditor on how he or she might verify the audit checkpoint.

Column E This column is free text for the auditor's notes.

Column F This column indicates the compliance. Floating the cursor over the cell brings up a drop-down menu where the auditor can select either a 1 or 0. Select 1 for full compliance, otherwise select 0.

There is a drop-down help cell and a return button which takes the auditor back to the index and enables him or her to navigate directly in a single click to any other of the sixty aspects. The software also provides graphs of the audit scores.

The Return to Start button on each aspect's worksheet returns the user to the index page.

To see the audit scores for reach aspect of the audit as a "% compliance", click the Go to Audit Summary button on the index page. For the overall audit compliance so far, enter the number of aspects audited in the yellow cell at the bottom of the index page and the overall compliance will be shown automatically in cell E34.

Before closing down the software, remember to click the Close button on the index page.

Users are reminded to save each new audit under a new unique file name, otherwise it will be necessary to return and delete all the previous information on the master file before it can be reused.

You are reminded again that this software provides an audit protocol or checklist; it is a tool but does not constitute the total audit process. You still need to do your audit preparation, and carry out discussions, observations, and verification checks to end with a meaningful outcome.

Glossary

- Accident:** An unplanned event giving rise to death, ill health, injury, damage, or other loss.
- Acute effects:** Consequences are immediate.
- Area inspection:** Process of visiting the workplace to meet people and see how work is performed and view people's behavior and working conditions.
- Aspect:** The SHE audit topic being studied.
- Assimilate:** Process of reading and gaining information from documents and electronic records.
- Audit:** A process of systematic examination to assess the extent of conformances with defined standards and recognized good practice and thereby identify opportunities for improvement.
- Audit checklist:** A summary of the key points to which the auditor requires responses.
- Audit fatigue:** Audits become so frequent that they start being resented or corrective action requests are ignored.
- Audit manager:** Person appointed at the audited unit to ensure that the audit program is fully implemented in a timely fashion. This role is primarily one of administration and the audit manager may or may not be directly involved in the detail of the audit discussions.
- Audit trail:** Method of confirming compliance via a paperwork route.
- Auditability:** Ability of the auditor to draw clear conclusions regarding compliance.
- Auditee:** Person, site, or organization being audited.
- Auditor:** Person carrying out the audit.
- bBA:** A measure of sound pressure adjusted for human exposure.
- Behavior:** An observable act.
- Benchmark:** Reference point.
- Bespoke checklist:** A one-off checklist prepared by the auditor charged with carrying out the audit, and derived directly from the procedure/instruction to be audited.
- Blacklist:** A list of those items that are overdue for periodic safety inspection.
- Brother's keeper:** Team responsibility; looking after each other.
- BS 5750:** British equivalent of ISO 14000.
- BSI:** British Standards organization.
- Cat Scan:** Electrical induction method of tracing underground pipes or cables.
- Caulking:** Flexible joint between two rigid components.
- CE Mark:** Declaration of conformity with safety standards (EU requirement)
- Change control:** Formal system to control the SHE consequences of changes to hardware, software, and personnel.

- Chartered engineer:** A fully qualified and experienced engineer recognized by the Council of Engineering Institutions.
- Chronic effects:** Long-term consequences.
- Codes of practice:** Practical guidance on the requirements contained in a standard. If the code of practice is “approved,” the code relates to specific legal requirements and may have a special legal status.
- Competency:** Inherent skill displayed by an individual.
- Compliance:** Having full conformity with a predetermined standard or requirement.
- Compliance audit:** Audit examining the compliance with local instructions or procedures.
- Confined space:** Any enclosed space where there is a reasonably foreseeable risk associated with that enclosed space.
- Conformance:** Meets the requirements of a documented standard.
- Consequences:** Results of an action.
- Continuous improvement:** A process of ongoing and never-ending improvement.
- Convergence:** Process of condensing a large number of detailed corrective actions into a manageable number of clear management recommendations.
- Corporate governance:** Process of directing and controlling all aspects of an organization, including the SHE performance.
- Corrective actions:** Ways of dealing with noncompliances.
- Corroborated evidence:** Substantiated proof.
- Crisis management:** Managing an event which has, or could have, triggered a significant real or perceived threat to safety, health, or environment or to the organization’s reputation or credibility.
- dB(A):** A weighed decibel — measure of sound pressure adjusted for human exposure.
- De minimus:** Trivial.
- Det Norske Veritas (DNV):** Headquartered in Oslo, Norway, an international consulting firm with numerous offices worldwide. Its primary focus is on safety and environmental risk.
- Display screen equipment:** Computer workstation.
- Display screen regulations:** U.K. regulations requiring the assessment of computer workstations to control ergonomic hazards.
- Dosimeter:** Instrument used to measure exposure to hazards such as noise or chemicals.
- Draw-down:** The area affected by the suction from a water abstraction borehole.
- Drill-down:** Practice of delving into more depth about a particular element or aspect during an audit.
- Due diligence audits:** Audit carried out when company takeovers are likely, to ensure that the buyer understands what he or she is getting.
- Duty of care:** A manager’s responsibility to ensure that certain SHE protection actions are taken.
- EHS:** Environmental, health, and safety.
- Element:** Key requirement to ensure compliance with this SHE topic or aspect.
- EMAS:** Eco management and audit scheme.
- Emission abatement:** Process of reducing environmental emissions.

- Entry meeting:** Meeting between the auditor and the auditees at the commencement of the audit.
- Environmental effect:** The consequences of an environmental release.
- Epidemiology:** The study of how often and why diseases occur in different groups of people.
- Equipment integrity:** Intrinsic ability of a piece of equipment to operate within its designed safety margins.
- Ergonomics:** The applied science of equipment design, as for the workplace, intended to maximize productivity by reducing operator fatigue and discomfort.
- Exit meeting:** Meeting between the auditor and auditees at the end of the on-site part of the audit, at which the preliminary audit findings will be shared.
- Exposure:** The act of being subjected to a hazard (usually a health hazard).
- Extract:** Short summary of the contents of a published technical article.
- Gravitas:** Quality of a person with knowledge and experience and who can speak with authority on the required topic.
- Guidance:** A documented suggestion of how a particular standard might be implemented.
- HASAW:** The U.K. Health and Safety at Work etc. Act 1974.
- Hazard:** Potential of a substance, activity, or article to cause harm.
- Hazard study:** A structured and systematic examination of a planned or existing process or operation to identify risks.
- Highway Code:** Rules governing the use of the road in the United Kingdom.
- HSE:** Health, safety, and environmental.
- HSE:** Health and Safety Executive—the U.K. health and safety regulator.
- HSG:** Governmental Health and Safety Guidance notes.
- Human factors:** SHE effects that arise from people's actions.
- Implementation:** Act of providing a practical means for accomplishing something or carrying it into effect.
- Incident:** Unplanned event giving rise to damage or other loss.
- Injury:** Physical bodily harm.
- ISO 9000:** Internationally recognized standard for business management, which ensures that businesses are operating to the same standards of meeting customers' requirements.
- ISO 9001:** Quality management systems—Requirements. A part of the ISO 9000 series.
- ISO 10011:** International quality assessment procedures.
- ISO 14000:** International standard for environmental management systems (requirements and guidance for use).
- ISO 19011:** International standard—Guidelines for quality and/or environmental management systems auditing.
- ISRS:** The international safety-rating scheme—a widely used commercial health and safety auditing process devised by the International Loss Control Institute.
- Leachate:** Water which drains from a landfill site.
- Letter of assurance:** An annual letter indicating how the unit complies with the company's standards and instructions.

- Level 1 audit:** Audit examining the compliance with local instructions or procedures.
- Level 2 audit:** Audit examining a single topic in great depth (e.g., environmental audit, or electrical safety audit).
- Level 3 audit:** Audit done at the “strategic” level in order to examine the adequacy of arrangements for managing safety health and environmental affairs in an organization.
- Lloyds:** Lloyds of London, insurance underwriters.
- Local exhaust ventilation:** Air mover systems that are permanently installed with the objective of reducing worker exposure to hazardous fumes.
- Loss prevention:** Ensuring that uncontrolled losses do not occur.
- Management audit:** Audits done at the “strategic” level in order to examine the adequacy of arrangements for managing safety, health, and environmental affairs in an organization.
- Manual handling:** Processes that involve the lifting or moving of items using only the power of the human body.
- Mentoring:** Advice and coaching from a knowledgeable and trusted colleague.
- MHSR:** U.K. Management of Health and Safety Regulations 1998, which specify the requirements for a risk-based approach to health and safety management.
- MSDS:** Material Safety Data Sheet. A form containing data regarding the properties of a particular substance.
- NAMAS:** National Measurement Accreditation Service providing measurement and testing accreditation for laboratories to ISO 17025.
- Noncompliances:** Actions that do not meet the requirements of the relevant documented standard.
- Nypro Ltd:** Site of a major explosion at Flixborough in the United Kingdom in 1973 when a plant modification resulted in an explosion killing 28 people.
- Occupational health:** Health effects that are work related.
- Occupational illness:** Illnesses directly attributable to an individual’s exposure to hazards at work.
- Occupational physician:** A qualified medical practitioner skilled in the diagnosis and treatment of occupational illness and occupational health issues.
- Open question:** A question that does not lead to a “yes” or “no” answer.
- Operational audit:** Audit examining the compliance with local instructions or procedures.
- OSHA:** Occupational Safety and Health Administration; the U.S. health and safety regulator.
- OSHAS 18001:** U.S. and U.K. standard for assessing health and safety management performance.
- Piezometer:** Groundwater monitoring borehole.
- Piper Alpha:** Piper Alpha drilling platform in the North Sea. The site of a major explosion in 1988 which killed 167 oil workers.
- Plaudit/Plaudit 2:** The Solway Consulting Group’s system for audit process management.
- Post-it® Notes:** Self-adhesive colored notelets produced by the 3M company.
- PPE:** Personal protective equipment (i.e., gloves, goggles, hardhats, etc.).

- Product stewardship:** The responsible and ethical management of the SHE aspects of a product throughout its life-cycle.
- Proforma:** A standard form, or preprepared format.
- Protocol:** A preprepared checklist used to guide the auditor through the audit discussions and ensure that all key requirements are covered.
- Quality audit:** Systematic and independent examinations to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.
- Quality Guild:** A network of quality-assessed small businesses.
- Quality manual:** Document that defines the quality system in an organization.
- Risk:** Likelihood that a substance, activity, or process will cause harm in the actual circumstances in which it is used.
- Risk assessment:** Process for identifying risks in the workplace, such that risks may be controlled as much as is reasonably practicable.
- R-SAC:** Hierarchy for simplifying document reviews (*Reason/Select/Assimilate/Challenge*).
- Safe system of work:** A formal procedure that results from systematic examination of a task in order to identify all the hazards. It defines safe methods to ensure that hazards are eliminated or risks minimized.
- Safety inspection:** Safety assessment where the assessor uses his or her own knowledge and experience as the criteria for compliance. The inspection usually uses primarily observation skills.
- Serial audiometry:** Hearing surveillance.
- Scope:** The intention of, or the requirements to be considered.
- SHE:** Safety, health, and environmental.
- Shoring:** Provision of supports to prevent the collapse of an excavation.
- SPA:** Safety performance assessment. A safety assessment focused on a particular topic.
- Specialist audit:** Audits examining a single topic in great depth (e.g., environmental audit, or electrical safety audit).
- Stakeholders:** People who may either affect or be affected by aspects of SHE management. They may include not only employees, but also visitors, contractors, customers, and neighbors.
- Standard:** Written requirement that can serve as the basis for comparison.
- STOP:** Behavioral program developed by E. I. DuPont de Nemours and Company.
- Substance:** A chemical compound and its impurities, which may be either naturally occurring or manmade.
- TECs:** Training and Enterprise Companies.
- TWA:** Time-weighted average. Noise or chemical exposure averaged over an 8-hour period (usually).
- Underlying cause:** Fundamental systemic reason why something happens.
- User friendly:** Easy to use. Idiot proof.
- Validate:** To ratify or confirm.
- Validation:** Confirmation of competence.
- VDU:** Visual display unit (e.g., computer screen).

Verification: Process of confirming that things are done the way that people say they are.

Waring, A: *Safety Management Systems*, Chapman & Hall, London, 1996.

Wiel's disease: An infection carried by rat's urine which infects sewer water.

Workplace: Location where the paid work activities are carried out (e.g., office, workshop, school, home, car).

World-class performance: Sort of health, safety, and environmental performance achieved by "Best in Class."

WRULD: Work-related upper limb disorder.

Appendix 1: Auditor Guidance

This appendix is provided for those wishing to carry out their own audits and provides a quick reference section for essential audit information.

- 1.1 Audit subjects
- 1.2 Auditor selection criteria
- 1.3 Audit preparations
- 1.4 Example of audit notification letter
- 1.5 Typical audit process sequence
- 1.6 Contents of the auditor's manual
- 1.7 Auditor's personal equipment
- 1.8 Preparation of audit checklist
- 1.9 Entry meeting
- 1.10 Generic audit questions
- 1.11 Discussion preparation
- 1.12 Discussion questions for informal discussions
- 1.13 Audit observations
- 1.14 Reporting
- 1.15 Example of a report executive summary

APPENDIX 1.1: SHE ASPECTS FOR CONSIDERATION IN THE AUDIT SCOPE

AUDIT SUBJECTS

1. Organization and arrangements for SHE policies
2. Occupational health and hygiene arrangements
3. Management of SHE improvement
4. SHE communication processes
5. Communication of material hazards
6. Control of public statements on SHE matters
7. Training arrangements
8. Chemical inventories
9. Hazard identification and assessment
10. Control of exposure to noise and substances
11. Provision of SHE information to customers
12. Control of biological hazards (*Legionella*, Weil's disease, etc.)
13. Control of SHE on capital projects
14. Control of modifications and temporary repairs
15. Fire management
16. Provision and maintenance of plant technical information
17. Epidemiology arrangements
18. Safe operation of pressurized systems
19. Lifting equipment
20. The safety of buildings and structures
21. Safety assurance of trips and alarms
22. Safe systems of work arrangements
23. Isolation of plant and equipment from process materials or sources of energy
24. Permits to work and risk assessment
25. Entry into confined spaces
26. Excavation or break-in to walls/ceilings
27. Control of hot work (welding and grinding)
28. Control of sources or ignition in hazardous areas
29. Working on or adjacent to live electrical conductors
30. Control of visitors
31. Lone working
32. Working with asbestos
33. Safe working on roofs
34. Travel and driver safety
35. Manual handling and loading arrangements
36. The use of personal protective equipment

37. Guarding of machines
38. Safe operation of overhead and mobile cranes
39. Safe operation of forklift trucks
40. Abrasive wheels
41. Gas detectors
42. Housekeeping
43. Employee safety awareness campaigns
44. Scaffolding and temporary access arrangements
45. Selection and monitoring of external warehouse
46. SHE arrangements in laboratories
47. Working with visual display terminals
48. Emergency plans
49. Use of contracted services
50. Toll manufacturing
51. Environmental impact assessments
52. Management of effluent and wastes
53. Protection of ground and groundwater
54. Product safety arrangements
55. Arrangements for SHE information reporting
56. Accident investigation
57. Solid waste disposal
58. Control of air emissions
59. Drainage
60. Soak aways and ditches
61. Landfills
62. Storage tank secondary containment
63. Drum storage
64. Loading and unloading of liquids
65. Groundwater abstraction
66. Ground contamination—Historical review
67. Site investigations
68. Waste minimization
69. Energy conservation
70. Water conservation
71. SHE auditing arrangements

Note: Subject interviews should be clustered together so that all the subjects relevant to one individual are dealt with together to avoid unnecessary disruption for your managers.

APPENDIX 1.2

AUDITOR SELECTION CRITERIA

All members of the audit team should have:

- Formal auditing training
- Prior auditing experience
- Experience of similar activity to that carried out in the audited unit
- A thorough understanding of the relevant regulatory requirements
- Excellent interpersonal skills
- Sufficient seniority to stand up to the local senior manager
- Knowledge of the local language and culture (if overseas)
- Professional SHE knowledge

The lead auditor should also have:

- Wide experience of SHE auditing
- Credibility with the audit team
- Credibility with the auditees
- An understanding of the efficient running of the audit process
- Good organizational skills

APPENDIX 1.3

AUDIT PREPARATIONS

The lead auditor is responsible for:

- Agreeing on the audit dates
- Agreeing on the scope
- Ensuring that there are auditable standards against which compliance can be assessed
- Agreeing on the audit program with the audit manager
- Identifying the preaudit documentation requirements
- Providing suitable audit checklists or protocols
- Compiling the audit manual (if required)
- Chairing the entry meeting
- Managing the audit process
- Optimizing the skills and knowledge of the other auditors
- Keeping the auditees informed of progress during the audit
- Chairing the exit meeting

- Compiling and editing the audit report
- Obtaining a copy of the most recent audit report covering the same location and scope

APPENDIX 1.4

EXAMPLE OF AUDIT NOTIFICATION LETTER

Dear _____

Occupational Health, Safety, and Environmental Management Audit

Thank you for the opportunity to carry out a Level __ Safety, Health, and Environmental management audit at your site. I would suggest that the audit should be scheduled for week commencing _____.

I would propose that the audit program should follow our usual process of:

1. Audit discussions with nominated persons responsible for managing various aspects of health and safety performance.
2. Physical condition inspections of most site areas.
3. Verification discussions on the plant with staff at all levels to confirm the information gathered during audit interviews.

Based on my previous experience I would suggest that a program for the audit would be along the following lines:

1. Proposed Audit Program

Day 1

Auditor health and safety induction

Audit entry meeting: All members of the senior management team and any other interested parties should attend this. The entry meeting will be short (twenty minutes) and will explain the process that is to be followed. I suggest a starting time of _____.

Management discussions: (You will be asked to nominate one person to talk about each of the topics on the audit scope list.) The nominated people should be the most knowledgeable person on site on each topic, and are not necessarily managers. I shall be interested in hearing about what procedures or instructions exist, what training has been done and how you ensure compliance. I normally allow an average of fifteen minutes for each subject.

Day 2

Site tour and verification discussions (starting at _____). I normally start the day following up the topics discussed with managers the previous day. The day will be spent either on the plant or looking at training records, etc.

Day 3

Management discussions (starting at _____).

Day 4

Site tour and verification discussions: Follow-up of Day 3 management discussions.

Day 5

Site tour and verification discussions (starting at _____). Follow-up of management discussions.

Exit meeting preparation (____ hrs). This is for me to prepare for the exit meeting.

Exit meeting (____ hrs). To be attended by those who attended the entry meeting on Day 1. This meeting usually takes about an hour.

The scope of the audits will include environmental management as well as health and safety, in order to meet your requirements.

2. *Reporting:* Following our normal practice I usually produce a report similar to the example attached which includes detailed auditor comments as well as the “Key Recommendations.” However, it is cheaper and sometimes clearer to have a report that is “Key Recommendations” only. Please let me know your preference. The report is usually submitted initially as a draft to ensure that the audit sampling approach has not picked up something that is nonrepresentative.
3. *Audit Scope:* Attached to this letter is an initial checklist of those Safety, Health, and Environmental aspects that you may want to include in the scope of the audit. (Final scope to be agreed on between you and me at least three weeks before the audit date.)

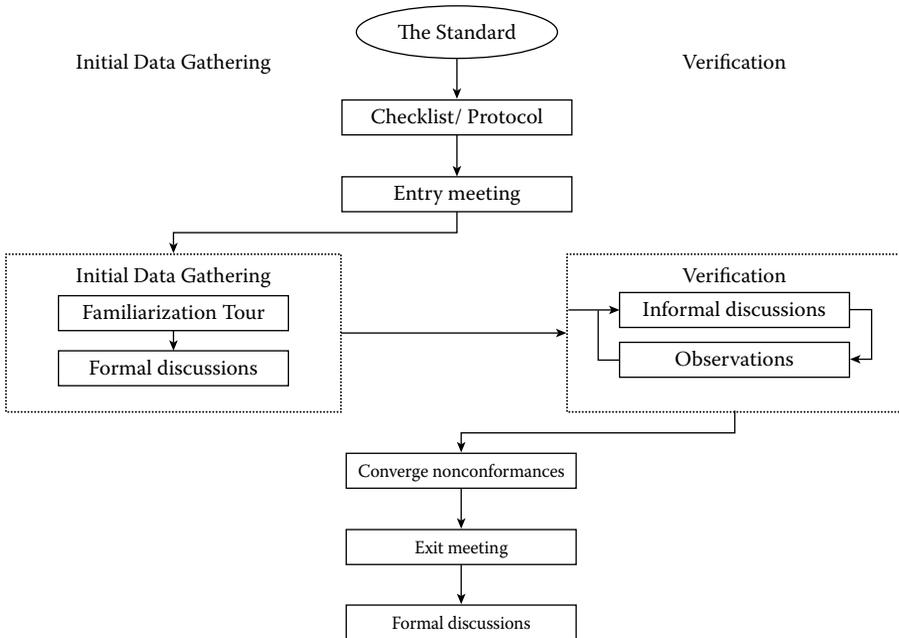
Please give me a call to let me know if these provisional dates are suitable and so that we can agree on what aspects of your Safety, Health, and Environmental management systems you wish to include in the audit scope.

I look forward to having this opportunity to learn from the good practices that you have in place.

Yours sincerely,

APPENDIX 1.5

TYPICAL SEQUENCE OF AUDIT PROCESSES



APPENDIX 1.6

CONTENTS OF AUDITOR'S MANUAL

The auditor's manual is a loose-leaf file in which information is compiled for the benefit of the auditors. Typically it might contain copies of the following:

- Audit notification letter and communications with the auditee
- Audit scope
- Entry meeting presentational material or notes
- Audit program
- Location layout plan (for large and complex offices or factories)
- Organization chart of the management of the audited unit
- Previous audit reports
- Auditor's guidance notes or rules
- Checklists or protocols
- Quantitative reporting process if required

- Blank copies of auditor’s working papers
- Target numbers of discussions to be carried out

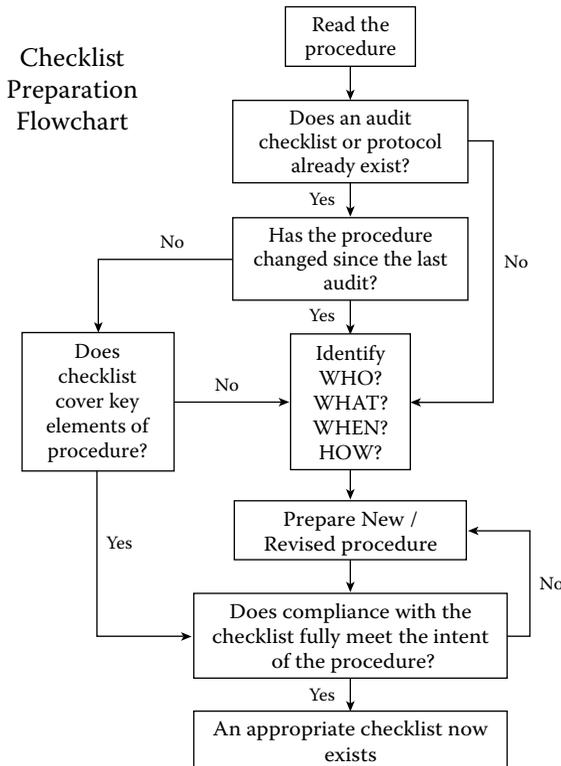
APPENDIX 1.7

AUDITOR’S PERSONAL EQUIPMENT

- Appropriate personal protective equipment for the site visits and inspections
- Relevant audit checklist or protocol
- Notepaper
- Pens/pencils
- Highlighter marker pens
- Self-adhesive notes
- Clipboard (to allow note-taking during site visits)

APPENDIX 1.8

The audit checklist should be derived from the standard being audited, by asking the questions identified in the checklist preparation flowchart:



APPENDIX 1.9

ENTRY MEETING

Purpose:

- Introduce the members of the audit team to the auditee's senior management
- Review the scope and the objectives of the audit
- Provide a short summary of the methods, procedures, and program to be used to conduct the audit
- Establish official communication links between the audit team and the auditee
- Confirm that the resources and facilities needed by the audit team are available
- Confirm the time and date for the closing meeting
- Clarify any unclear details on either side

Possible presentational preparation could require slides to be prepared to indicate:

- Purpose of the audit
- Names and background of auditors
- Audit scope
- Audit program
- Logistics and arrangements
- Reporting arrangements and exit meeting

APPENDIX 1.10

GENERIC AUDIT QUESTIONS

1. Why does the standard or instruction exist?
2. What legislation applies and is it understood?
3. Are written procedures/instructions in place to ensure that the requirement is met?
4. When were the procedures last reviewed and updated?
5. Are all the responsibilities for managing and carrying out the procedures assigned? (Are the named people still alive?)
6. Are the people who are required to act on this requirement trained and validated?
7. Does local monitoring or auditing regularly assess the degree of compliance with this requirement?
8. What are the latest corrective actions and what is their state of implementation?
9. What are the consequences of failure to comply with this requirement?

APPENDIX 1.11

DISCUSSION PREPARATION

Attitude and Approach

- Be calm, objective, and detached
- Be courteous, alert, and responsive
- Be friendly and nonaggressive
- Don't jump to conclusions or make assumptions
- Don't be judgmental

Setting

- Go to the auditee's work area
- Make sure that you are on equal ground
- Try to keep it one to one
- Minimize distractions

Nonverbal Communications

- Shake hands
- Maintain eye contact
- Don't invade their "space"
- Tolerate silence
- Check your own understanding
- Stand beside rather than across a desk

Types of Question

- Avoid yes/no questions
- Avoid leading questions
- Ask open-ended questions
- Remember the all important
"How do you know?"
"Show me"

APPENDIX 1.12

DISCUSSION QUESTIONS FOR INFORMAL DISCUSSIONS

- Why are you doing that?
- When did management last discuss SHE with you and what did you talk about?
- What training have you had to ensure that you understand the risks of your job?
- Why shouldn't that *liquid be spilled on the floor*?
- How do you make sure that you cannot be harmed by this task?
- Show me where I can find copies of the health and safety instructions.
- Show me how you would isolate that equipment.
- Show me what you would do if *the fire alarm sounds*.

- Show me what protective equipment you use to do this job.
- What are the risks associated with this job?
- How have risks of injury/environmental harm associated with this task been controlled?

Note: Words in italics are given as examples only.

APPENDIX 1.13

AUDIT OBSERVATIONS

Remember audit observations entail focused looking, which is derived from physical evidence.

- Observe both behaviors and conditions.
- Notice the unusual.

Observations are usually reliable evidence, but remember the limitations of:

Abnormal behavior/conditions

Limited time of audit (are you seeing a representative sample?) Look in out-of-the-way places:

- At (i.e., directly at the item being studied)
- Above
- Beyond
- Behind
- Beneath

Remember that our observations are influenced by:

- Our experiences
- Our training
- Our interests

Finally, do you understand what you are seeing?

- Is it an optical illusion?
- Does it need more explanation?
- Is it illogical?
- Does it comply with the standard?

APPENDIX 1.14

REPORTING

Check in what format the auditee requires the report to be compiled:

- Proforma style (most likely for Level 1 audits)
- Conventional free text report (most likely for Level 2 and 3 audits)

Before compiling the report:

- Be sure of your facts
 - Base recommendations on evidence
- Provide a balanced response
 - Positive recognition
 - Opportunities for improvement
- Separate “Noncompliances” from “Observations”
- Recognize the scale of your recommendations
- In reviewing your findings, see if there are any significant trends or patterns—these will be more important than individual discrepancies
- Try to avoid making issues out of trivial errors
- Avoid:
 - Generalizing
 - Vagueness
 - Legal opinions
 - Using unfamiliar terminology
 - Criticism of individuals

Finally, a free text report might have the following sections:

1. Acknowledgments
 - a. Appreciation for help and cooperation provided during the audit
 - b. Lead auditor’s appreciation of work done by audit team
2. Introduction
 - a. Name and role in the organization of the location being audited
 - b. Indication of the scale / size of the operation being audited
 - c. Date and duration of audit
 - d. Names and job titles of auditors
 - e. Date of last audit
3. Scope of audit
 - a. Statement of the purpose of the audit
 - b. List of the SHE aspects covered by the audit
 - c. Indication of who agreed on the scope
4. Executive summary
 - a. Short summary of main outcomes of the audit including:
 - i. Areas of excellence
 - ii. Opportunities for improvement
5. Main recommendations
6. Detailed findings (optional—include this only at the specific request of the auditee, as this will significantly extend the length of the report)
 - a. A brief sentence or paragraph relating to the auditor’s findings for each aspect
7. Scoring (only if mandated by the organization)
8. Arrangements for follow-up of actions

Keep it simple.

APPENDIX 1.15

EXAMPLE OF EXECUTIVE SUMMARY FOR A LEVEL 3 SHE MANAGEMENT AUDIT REPORT

Executive Summary

This audit of the Safety, Health, and Environmental Management Systems at _____ Ltd _____ site was carried out on request by _____.

Local management and employees are to be congratulated for the high level of environmental awareness observed within the company, for the quality of health care systems, and for the excellent fire safety management processes. Further areas of excellence were observed in the areas of engineering, where design and equipment standards are high and maintenance information procedures and routine SHE assurance work were found to exceed the requirements. Detailed work in the areas of *Legionella* monitoring and control, laboratory procedures, and VDU assessments are all worthy of specific recognition.

The desire to improve was clearly in evidence as seen by recent work on new control procedures for contractors and the eagerness with which some new ideas were immediately acted upon during the audit.

The primary concern of the auditor is that the systematic approach, which is used to control production quality, is not extended into the SHE area. Although some formal procedures do exist, they are not consistently communicated and enforced. This is particularly concerning in the Safe Systems of Work area where isolation standards are not well observed.

There is a need to establish robust safety, health, and environmental systems that are enforced through a routine program of local auditing.

Management accountability for SHE is not totally clear. The practice of focusing safety matters, in particular, through the safety representatives and safety manager appears to bypass line management. Every opportunity should be taken to reinforce the concept that SHE management is a line management responsibility that is supported by functional professionals and representatives. Greater communication of SHE matters including “learning points” could go a long way toward raising SHE awareness at all levels.

Training standards were found to be patchy and threatened by recent organizational changes. It is important that training “needs” are clearly identified for all individuals such that skills and knowledge shortcomings may be recognized and supplemented. The importance of maintaining effective sustainable training records must be recognized and fully implemented.

Although engineering SHE assurance is generally of a high standard, arrangements should be put in place to ensure the routine proof testing of critical safety and environmental protection trips. The modification control and project risk analysis systems are in need of strengthening.

Personnel are well aware of “food contact” controls for product health and safety, but there is little knowledge of other product regulatory matters. Although the products

are of relatively benign nature, evidence should be available to assure customers that all relevant regulatory requirements have been met.

Housekeeping standards within the factory were observed to be in need of attention. This problem should be addressed urgently to avoid injuries arising. Housekeeping is an ideal area for management to demonstrate commitment in a way that will involve all employees.

Appendix 2: Plaudit

2 Audit Protocol

Aspect
No.

- 001 Arrangements for Safety, Health and Environmental Policies.
- 002 Occupational Health & Hygiene arrangements
- 003 Management of SHE improvement
- 004 SHE Communication processes
- 005 Communication of Material Hazards
- 006 Control of Public statements on SHE Matters
- 007 Training Arrangements
- 008 Chemical Inventories
- 009 Hazard identification and assessment
- 010 Control of exposure to noise
- 011 Control of exposure to respiratory hazards
- 012 Provision of SHE information to customers
- 013 Control of biological hazards
- 014 Control of SHE on Capital projects
- 015 Control of modifications and temporary repairs
- 016 Fire management
- 017 Provision and maintenance of technical information
- 018 Safe operation of pressurized systems
- 019 The safety of buildings and structures
- 020 Trips and alarms
- 021 Safe Systems of work arrangements
- 022 Isolation of equipment from process materials or sources of energy
- 023 Permits to work & Risk Assessment
- 024 Entry into confined spaces
- 025 Excavation or break in to walls/ceilings
- 026 Control of hot work (welding and grinding)
- 027 Control of sources or ignition in hazardous areas
- 028 The control of visitors
- 029 Lone working
- 030 Working with asbestos
- 031 Safe working on roofs
- 032 Travel and driver safety
- 033 Manual handling and loading arrangements
- 034 The use of personal protective equipment
- 035 Guarding of machines

- 036 Safe operation of overhead and mobile cranes
- 037 Safe operation of forklift trucks
- 038 Abrasive wheels
- 039 Housekeeping
- 040 Employee safety awareness campaigns
- 041 Scaffolding and temporary access arrangements
- 042 Selection and monitoring of external warehouse
- 043 SHE arrangements in laboratories
- 044 Working with visual display terminals
- 045 Emergency plans
- 046 Use of contracted services
- 047 Product safety arrangements
- 048 Environmental Impact Assessments
- 049 Solid waste disposal
- 050 Control of Air Emissions
- 051 Drainage
- 052 Soakaways & ditches
- 053 Landfills
- 054 Storage Tank Secondary Containment
- 055 Drum Storage
- 056 Loading & Unloading of Liquids
- 057 Groundwater Abstraction
- 058 Ground Contamination – Historical Review
- 059 Site Investigations
- 060 Waste Minimization

ASPECT 001 SHE Policy					
001	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a current SHE policy statement?	View statement.			
-02	Does the statement cover SHE?	Check for specific references to environmental, safety, and occupational health management.			
-03	Is the statement signed by the current senior manager?	Identify the most senior manager (CEO?) and ensure the statement carries his or her signature.			
-04	Does the statement include details of key SHE responsibilities?	Check that the named people are still here and that those mentioned are aware of their responsibilities and are acting upon them. Check for missing names.			
-05	Has the policy been communicated to all associates?	Check that the policy is on display in places where associates will see it.			
-06	Are associates aware of the policy?	Ask a random sample of employees if they are aware of the policy, where it can be found, and what it says.			
-07	Is the policy subject to periodic review?	Confirm that the policy is a “living” document and that it is reviewed regularly (within the last three years) or after significant changes or learning events.			
-08	Does the policy cover all aspects of the operation?	Does it include the SHE effects of the total business, e.g., Product Safety, Disposal, Travel Safety, Community Outreach, etc.			
-09	Is the policy complied with?	Check health and safety statistics and environmental measures (emissions/waste, etc.) to confirm if the facility is serious about implementing the policy.			
-10	Is the policy in clearly understood language?	Ask a random selection of associates what the policy means to them and how it applies to their job.			
Aspect 001 total					

ASPECT 002 Occupational Health and Hygiene Arrangements					
002	Audit Check	How to Verify	Act	Notes	OK
-01	Are persons appointed with responsibility for SHE management?	Talk to the named individuals. Are they fully aware of their responsibilities?			
-02	Are the responsibilities of the appointed person clearly written down?	Does the appointed person know and carry out these responsibilities?			
-03	Is the appointed person suitably trained and experienced?	Check training records. Does the person have an appropriate external qualification? Is he or she suitably knowledgeable and experienced in the activities carried out at this facility?			
-04	Does the appointed person carry appropriate authority?	Is there evidence that the management team responds to issues raised by the appointed persons? Do they have the ear of the most senior manager?			
-05	Does the facility have an occupational physician appointed?	Check if the physician actually visits the facility on a regular basis (at least weekly) and whether the appointee has occupational health qualifications.			
-06	Is there a medical room on site for minor medical treatments?	Visit the room and check if the facilities are suitable for the anticipated medical emergencies.			
-07	Does the facility have a first aider (ERT) always in attendance?	Check who is the first aider on duty today and what qualifications he or she has.			
-08	Is personal protective equipment provided to control residual hazards?	Visit protective equipment store. Is appropriate equipment available to all users? Check if associates are wearing equipment in designated areas.			
-09	Is SHE information communicated at all?	Is there a communication cascade process? Do associates have an SHE consultation process? Ask associates when they last attended a safety meeting.			
-10	Do people know and understand the relevant SHE Law?	Check how the facility stays up-to-date with changes in the law. Check if regulatory audits are carried out.			
Aspect 002 total					

ASPECT 003 Management of SHE Improvement					
003	Audit Check	How to Verify	Act	Notes	OK
-01	Does a structured process exist to manage improvements in SHE?	Talk to managers at the highest level to assess their commitment and personal involvement in managing SHE improvement.			
-02	Do improvement targets exist?	View the targets and ask where the current performance is against the target.			
-03	Are injury records maintained and used for accident prevention?	Examine the records. Are they the legally reportable injuries only, or are all minor injuries also recorded and used for prevention?			
-04	Does an occupational hygiene program exist?	Check if the hygiene monitoring plans are being fully carried out. Are these plans adequate for the nature of activities at the facility? Are safe limits ever exceeded?			
-05	Is there a waste minimization plan in place?	Check what wastes are produced and what recycling plans are in place. Ask to see evidence of the last few years' waste performance.			
-06	Is there a need to monitor atmospheric emissions?	Check if legal limits are applied to the emissions. Check the last two months' emissions monitoring records and ask about noncompliances.			
-07	Do regulatory controls apply to wastewater discharges?	Check if the discharges are to a sewer or to water courses. How are rogue discharges prevented? Check monitoring results and any noncompliances.			
-08	Does a medium-term (three- to five-year) SHE improvement plan exist?	View the plan. Check for progress against outstanding actions.			
-09	Are progress reviews carried out periodically?	Check if the management team routinely reviews SHE performance and improvement plans and assess whether this results in action.			
-10	Are associates involved in planning SHE improvement?	Check action plans to see if this is just management led. Talk to associates about how they see themselves involved.			
Aspect 003 total					

ASPECT 004 SHE Communication Processes					
004	Audit Check	How to Verify	Act	Notes	OK
-01	Do arrangements exist for SHE communication?	Check to see if there is a structured cascade process which regularly cascades SHE information from management to all associates and customers.			
-02	Is information cascaded in an effective way?	Talk to associates—did they remember and understand the key points from the last communication?			
-03	Is all the information available to associates necessary for them to carry out their jobs?	Talk to a spectrum of different associates. Ask if they have access to sufficient information to do their jobs. Where would they go to get additional information? Can they read and understand it?			
-04	Is communication two-way?	Is there a suggestions scheme? Ask associates for SHE examples of where managers listen or don't listen to what they say.			
-05	Are the minutes of SHE meetings available to all?	Check notice boards, etc., for examples of minutes being displayed. Talk to associates about whether minutes are read.			
-06	Is the learning from all injuries passed on to all?	Talk to associates—what was the last learning event that they were told about? What have they learned?			
-07	Does a process exist for associates to flag SHE concerns?	Check what the process is and whether it has been used recently. Do associates know it exists?			
-08	Are records maintained to ensure key communications reach everyone?	Check communication records to ensure that important messages are communicated to those absent on the day of the initial communication.			
-09	Are changes in instructions and procedures communicated?	Does a process exist for communicating changes to essential operational and SHE instructions, including the reason for the change?			
-10	Is SHE information communicated to neighbors?	Check how it is done. Talk to a sample of neighbors—is the organization perceived as a good neighbor? Are there any current issues?			
Aspect 004 total					

ASPECT 005 Material Hazards					
005	Audit Check	How to Verify	Act	Notes	OK
-01	Is there an inventory of hazardous materials in use at the facility?	During the site inspection, observe chemicals in use and ask to see the Materials Safety Data Sheet (MSDS) and check if it is on the inventory.			
-02	Does an MSDS exist for all chemicals in use?	Who maintains the files of MSDS? Check if they are up to date. Do associates understand them and know where to access them?			
-03	Have the risks of using hazardous materials been assessed?	Ask to see examples of assessment for chemicals that you select from the inventory. Are the defined controls in place?			
-04	Are material hazards effectively controlled?	Select a number of commonly used and less commonly used chemicals and check if they are being handled in accordance with the MSDS.			
-05	Do associates understand the hazards of materials?	Talk to associates and ask if they know the hazards of the materials that they are using and how those hazards should be controlled.			
-06	Are materials correctly stored?	Examine a selection of both bulk and small quantity chemicals to check if they are stored in a way likely to prevent injury or incident.			
-07	Are engineering controls inspected and maintained?	Where engineering controls are required to control exposure (e.g., fume cupboards, local extraction, etc.) check records to ensure that these are regularly inspected and tested.			
-08	Do associates need periodic medical or exposure monitoring?	Check if any chemicals in use are subject to periodic medical surveillance or if dosimeter checks are required. Check if these are actually happening.			
-09	Do associates understand exposure limits?	Talk to associates and test their understanding of workplace exposure limits and the effects of time-weighted averaging.			
-10	Is there a process to control the introduction of new substances?	Check with purchasing people if arrangements are in place to prevent the purchase or sampling of new substances until an MSDS is available and risk assessed.			
Aspect 005 total					

ASPECT 006 Control of Public Statement on SHE Matters					
006	Audit Check	How to Verify	Act	Notes	OK
-01	Is there an approved spokesperson to talk to the media on SHE matters?	Who is it? Is there at least one deputy? Talk to them.			
-02	Was the spokesperson selected on the basis of the impact he or she has?	Has the spokesperson been selected on the basis of public empathy or just seniority? Does he or she have sufficient SHE competence to talk knowledgeably?			
-03	Is the spokesperson trained in media relations?	Examine training record or course attendance certificate. What practical experience has the person had since training?			
-04	Is there a chosen media interview site on the facility?	Has thought been given as to where to hold interviews and why? (The Chief Execs Office may not carry the right message.)			
-05	Are key staff trained in what action to take if the press makes contact?	Is there a policy on whether to admit press or answer phone calls from the media? Check if key administrative assistants/receptionists/security are aware.			
-06	Does the facility make a point of issuing regular good news?	Check media files to see copies of latest press releases and whether they led to media coverage.			
-07	Is good SHE performance immediately obvious?	Observe the facility from the point of view of the passer-by. Is it obvious that good SHE performance is important (signs, visitor induction)?			
-08	Are plans in place to deal with the media consequences of an emergency?	Check to see if a preprepared media release exists and whether this goes to the media, local dignitaries, emergency responders, head office, and employees.			
-09	Are plans in place to respond to unsolicited approaches from the media?	Check plans. Is there any responsibility allocated to keep track of local environmental activists or any company activities that may lead to local opposition?			
-10	Is there a risk to the public from defective products?	Check how the organization would respond to public concern about products. Is there a product recall and damage limitation plan?			
Aspect 006 total					

ASPECT 007 Training Arrangements					
007	Audit Check	How to Verify	Act	Notes	OK
-01	Are training needs clearly identified for individuals?	Check if a training-needs analysis has been done for all associates.			
-02	Does a training program exist for all associates?	Select associates at random and ask to see their training plan or program. It's a good idea to ask to sample these at all levels (check that the boss has one).			
-03	Is SHE induction training carried out for all new associates?	Check records. Look particularly for records for contract, agency, and casual workers.			
-04	Are training records for all associates maintained?	View records. Select individual names at random and explore the detail of their training. Check if records are up to date.			
-05	Are records of training specifications and content maintained?	Check records to see if it is clear exactly what each trainee has been trained in (i.e., is the training suitable and sufficient?).			
-06	Is all training subject to competent validation?	Check if training is formally validated and check competence/qualification of validators.			
-07	Are trainees closely supervised before they are fully competent?	Talk to associates who are still undergoing training and assess their level of supervision/mentoring.			
-08	Are associates trained to an externally verifiable standard?	Check qualification certificates/training records where external standards apply.			
-09	Is refresher training carried out where necessary?	Check records associated with those activities (e.g., fork lift truck driving) where there is a need for routine refresher training.			
-10	Does a process exist to ensure training is provided when things change?	Check whether training relates to the current situation. Equipment may have changed, or procedures may have been revised.			
Aspect 007 total					

ASPECT 008 Chemical Inventories					
008	Audit Check	How to Verify	Act	Notes	OK
-01	Does an inventory exist of all chemicals used or stored on the site?	During site tours, note a sample of what chemicals are in use. Pay particular attention to the small quantities used in workshops or samples in offices.			
-02	Does a procedure exist to prevent unauthorized chemicals being used?	View the procedure. Has this been applied in the case of those chemicals you identified during your site inspection?			
-03	Does the inventory record approximate quantities and location?	Do the quantities roughly agree with your observations during the site tour?			
-04	Is there an MSDS available for all chemicals used?	Check who maintains the inventory and keeps the records of MSDS. Is this information readily available to the users?			
-05	Are chemicals stored in a suitable way?	Check standards of bulk storage installations and also minor chemical stores in such places as laboratories, workshops, and cleaner's cupboards.			
-06	Are chemical hazards clearly identified at the storage point and container?	During site inspection, check hazard identification labels. Do users recognize the hazards, and are proper controls in place?			
-07	Is the chemical inventory available to the emergency services?	Check if the inventory is available to the fire service in the event of an emergency on site and, if so, how often it is updated.			
-08	Do associates understand the hazards of what they handle?	Check that associates understand the hazards and risks associated with the hazardous chemicals that they are using. Are the controls adequate?			
-09	Is transportation of chemical samples in private cars forbidden?	Check if procedure or policy exists to prevent the transportation of chemical samples in private cars. If it exists, how is it enforced?			
-10	Does the chemical inventory include intermediates?	If the facility manufactures or blends chemicals, does the inventory include those chemicals which are partially produced or blended?			
Aspect 008 total					

ASPECT 009 Hazard Identification and Assessment					
009	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a list of the key hazards associated with this facility?	Check if the list is thorough, selecting some hazard you have seen at random. Does the list include business travel or hazards from adjacent facilities?			
-02	Have all hazards been identified and risks assessed?	Ask to see some risk assessments relating to work in progress. Are the assessments out-of-date generic ones or are they really specific to the task in hand?			
-03	Have hazards been identified systematically?	Check for evidence of hazard studies, job safety analysis, noise assessments, or other systematic ways of hazard identification.			
-04	Are hazard controls in place?	Check for use of the hierarchy of controls: (1) elimination, (2) substitution, (3) engineering controls, (4) system of work, (5) training, (6) personal protective equipment (PPE).			
-05	Is management responsible for managing hazards?	Check if hazard management is management led or whether associates are left to identify all the hazards for themselves.			
-06	Is suitable PPE available to control residual hazards?	Check the quality and availability of PPE. Is it suitable and are associates trained in its use and limitations?			
-07	Does hazard identification include environmental hazards?	Check for evidence that routine hazard and risk assessment includes environmental risk.			
-08	Is hazard and risk identification done by qualified persons?	Check if a list of qualified hazard and risk assessors exists and whether their training and validation is appropriate.			
-09	Are risk assessments reviewed when circumstances change?	Check if reviews are carried out if the associate changes (e.g., from experienced to inexperienced or from male to female, i.e., different strength or physique).			
-10	Do situations exist where the task stops altogether because the hazard is too great?	Ask when the last time it was that a task did not proceed at all because assessment viewed it as too hazardous. Does it ever happen? Or are those jobs left until night shift?			
Aspect 009 total					

ASPECT 010 Control of Exposure to Noise					
010	Audit Check	How to Verify	Act	Notes	OK
-01	Are there places at the facility where noise is a problem?	Ask what the noise level is. Compare this with the legal permitted levels.			
-02	Are noise surveys carried out?	View the results of recent surveys. Do they record what was going on at the time, i.e., was all or part of the installed equipment running at the time?			
-03	Are noise contour maps available?	View the contour maps. Do they cover all the known noisy areas?			
-04	Are all noisy work areas clearly identified on site?	Check signage/designations on site and that these agree with the noise maps.			
-05	Do associates always wear suitable hearing protection?	During site inspection observe compliance of people in noisy areas with the hearing protection rules. (Remember to wear your own hearing protection.)			
-06	Do workers in noisy areas have serial audiometry tests?	Check if audiometric tests are available and what action is taken by management if noise-induced hearing loss is detected.			
-07	Is effective emergency communication present in noisy areas?	Ask how associates would hear an emergency evacuation alarm. Look for visual alarms to supplement the usual audible alarm system.			
-08	Is noise dosimetry used for transient workers?	Where associates are exposed to variable noise levels, check if there is a need for personal noise sampling (dosimeters).			
-09	Do associates understand noise limits, dBA, and time-weighted averages (TWA)?	Ask associates in noisy areas if they have been trained in understanding noise limits, the dBA scale, and TWA?			
-10	Do associates receive a preemployment hearing test?	Check if a hearing baseline is set when associates join the organization. Otherwise, the company may be liable for hearing loss predating this employment.			
Aspect 010 total					

ASPECT 011 Control of Exposure to Respiratory Hazards					
011	Audit Check	How to Verify	Act	Notes	OK
-01	Is exposure to dust and fumes controlled?	What exposures exist, and how are they controlled?			
-02	Are all exposure hazard areas clearly identified on site?	Check signage/designations on site.			
-03	Do associates always wear suitable respiratory protection?	During site inspection observe compliance of people in exposure hazard areas with the defined respiratory protection.			
-04	Do workers at risk of chemical exposure need routine medical checks?	Is a program of health checks under way for the associates who could be affected? How are those associates identified?			
-05	Are hygiene monitoring checks done routinely to monitor exposure levels?	Check what monitoring is carried out, and whether it is area or personal monitoring. Check that the people carrying out the sampling and analysis are properly qualified.			
-06	Do associates understand exposure limits TWA?	Ask associates in exposed areas if they have been trained in understanding exposure limits, TWA, and what limit apply to them?			
-07	Are personal breathing apparatus (BA) sets used on the site?	Check why this is. Is it for emergency use (e.g., a site fire service) or is it routinely used in the course of daily operations?			
-08	Are BA sets maintained by a competent person?	Who does the checks? Are they competent? How is usage controlled?			
-09	Are BA users clearly authorized and trained?	Check the authorization list and training records. Do users go through mask fit training and checks?			
-10	Are BA users subject to frequent medical checkups?	View the program of checkups. Has anyone missed an appointment, but is still using a BA set?			
Aspect 011 total					

ASPECT 012 Provision of SHE Information to Customers					
012	Audit Check	How to Verify	Act	Notes	OK
-01	What SHE information needs to be provided to customers?				
-02	Do products require a declaration of safety?	Check if an assessment has been done to ensure that the product is safe. In Europe do products carry a CE mark and declaration of conformity?			
-03	For chemical products is an MSDS available?	View the MSDS.			
-04	Is packaging suitable for the product?	Does the packaging carry a risk phrase and safety phrase in the language of the country in which it will be used?			
-05	Does the packaging carry safe handling information?	Examine a sample of product packages.			
-06	Does the packaging carry recycling information?	Examine a sample of product packages.			
-07	Does bulk packaging carry ergonomic information?	Check for indications of weight, lifting points, stacking limits, and “way up” markings.			
-08	Are product support contact details available?	Is there evidence of a help line (telephone number or e-mail address)?			
-09	Is transport emergency advice available?	Check if this is available in all areas where the product is distributed. Is it needed and available outside office hours?			
-10	Is there a procedure for the safe handling and return of empties?	Check if the empty container returns process is functioning effectively.			
Aspect 012 total					

ASPECT 013 Control of Biological Hazards					
013	Audit Check	How to Verify	Act	Notes	OK
-01	Are there arrangements in place to control biological hazards?	Check the procedure exists. In particular explore such things as Weil's disease risk from working in or adjacent to drains or sewers.			
-02	Do evaporative cooling towers pose a biological threat?	Check for evidence of effective algae control treatment in the cooling tower ponds.			
-03	Are any products or research arrangements biologically hazardous?	Check if effective controls are in place. Can extraction systems transfer the hazard elsewhere?			
-04	Is there an effective vermin control scheme in place?	Check how often the bait is laid and carcasses are removed. Ensure that bait does not cause a hazard to associates or the general public.			
-05	Are first aiders (ERTs) or medical staff exposed to blood-borne pathogens?	Check that there is an effective means of protecting medical staff. Are "sharps" embargoed? Similar protection will be required for public service workers who may be exposed to dirty needles.			
-06	Is there an inoculation program to control biological health risks?	Check if associates and medical staff are aware of what inoculations are available and what are their limitations and side effects. Are they up-to-date?			
-07	Are arrangements in place to deal with bites/stings?	Check if there is a known risk of bites or stings from vermin or wild animals and what antidote/treatment would be required.			
-08	Is there a private potable water supply?	Check that there are effective means of purification and that its effectiveness is proved by routine sampled.			
-09	Do biological hazards arise from effluent/sewage treatment?	Check for evidence that treatment process is functioning correctly.			
-10	Is kitchen/mess room waste disposed of in sealed containers?	Check kitchen and food preparation areas for signs of poor waste disposal standards that could lead to vermin or unhygienic/ biological hazards.			
Aspect 013 total					

ASPECT 014 Control of SHE on Capital Projects					
014	Audit Check	How to Verify	Act	Notes	OK
-01	Are all capital projects subject to a hazard study?	Check hazard study records. Are all relevant stages of the hazard study (studies 1–6) completed? Check if all actions are completed.			
-02	Do projects have a list of regulations pertinent to the project?	View a sample of the lists.			
-03	Has an environmental impact assessment been carried out?	Check if assessments are always carried out. Are these required for local authority approval or environmental permits?			
-04	Has a list of additional health and safety reviews been produced?	Check if list is thorough. Consider noise, substances, manual handling, safe maintenance, hygiene, relief and blow down, temporary works, etc.			
-05	Has the project considered the SHE aspects of start-up?	Ask to see examples of commissioning plans. Has adequate time been allocated for this activity? Does commissioning include personnel training?			
-06	Are any statutory notifications required?	Check if the appropriate regulatory bodies have been informed about the project or its construction?			
-07	Have new operating instructions been provided?	Check if the project has allowed for the inclusion of new instructions and the training of associates in those instructions.			
-08	Is a full dossier maintained of the technical information?	Ask to see examples of project technical data files. Where the project is carried out by a contractor ask to see its project manuals.			
-09	Are SHE requirements a part of the purchasing specifications?	Check if purchases specify SHE requirements. For example, do motors have a maximum noise spec or an energy efficiency spec?			
-10	Is the SHE standard specified for equipment handover?	Check contracts to see if SHE performance limits have been set and what evidence exists to show that these were met.			
Aspect 014 total					

ASPECT 015 Control of Modifications and Temporary Repairs					
015	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a procedure to ensure that changes are properly controlled?	Examine the procedure. Does the definition of a change include people changes as well as technical changes? Is there an authorization process?			
-02	Is the procedure being applied to all modifications?	Check a random selection of completed modifications. Are the assessments thoroughly completed and installed as designed?			
-03	Are modifications subject to suitable authorization?	Check if modification designers and approvers are competent in the relevant aspects of the design (i.e., qualified engineers of the right discipline).			
-04	Is there a precommissioning check before start-up?	Do a random check to see if the modification was installed as designed and that this was checked before start-up. Were operators trained?			
-05	Are changes included in the plant data records and drawings?	Check a selection of master drawings to ensure that the changes are incorporated into the master technical records.			
-06	Are temporary repairs considered modifications?	Check if such things as temporary clamps on leaking pipe work or construction temporary works are included in the modification procedure.			
-07	Are there arrangements to deal with emergency modifications?	Does the procedure allow for a shortcut in the process in an emergency? Check if this is still done by competent people and retrospectively recorded.			
-08	Do all changes carry a unique identification?	Select a modification at random from the records and then try to find it during site inspection tours.			
-09	Are changes carried out to the same standard as the original equipment?	Look for evidence of the original design specifications or equivalent being used in the modification.			
-10	Is there a regulatory check before start-up?	Does a competent person consider whether the change meets all the relevant regulatory requirements? Is this person different from the designer, i.e., is there a double check?			
Aspect 015 total					

ASPECT 016 Fire Management					
016	Audit Check	How to Verify	Act	Notes	OK
-01	Has a fire risk assessment been carried out for the premises?	Ask to see a copy of the fire risk assessment. Was this carried out by a competent person? Have the recommendations been fully implemented?			
-02	Is there a fire alarm system that can be acted upon by all?	Ask to be present at a test. Can the alarm be heard everywhere? Particularly examine noisy and remote areas. Are visual warnings also required?			
-03	Is the alarm routinely tested?	Check for records of weekly alarm tests. Ask when the last full evacuation test was done (annually for all?).			
-04	Is there a fire evacuation procedure?	View the procedure. Do associates and visitors know what to do in the event of a fire? Ask if they know the location of their evacuation assembly point.			
-05	Is there any unusual fire risk associated with the premises?	Ask if there are any flammable substances in use either in the premises or in the neighborhood. What precautions are taken? Are they suitable?			
-06	Is suitable firefighting equipment available?	Is equipment well maintained and subject to periodic inspection? Check inspection dates on firefighting equipment during plant inspection tours.			
-07	Are automatic fire suppression systems regularly checked?	See sprinkler test records. Do these include test operation of clack valves? Ask how smoke alarms and rate-of-rise detectors are tested.			
-08	Are escape routes well maintained and identified?	Check during plant tour to see if fire doors will open and whether escape routes are well sign posted. Does emergency lighting work/get tested?			
-09	Is there a means of accounting for all in an emergency?	Ask to be shown how the facility accounts for all occupants in an emergency—including transients such as visitors, contractors, and the public.			
-10	Does the external fire service visit the premises?	Check for a fire certificate or equivalent. Does it reflect building changes? Is the fire service included in fire management exercises?			
Aspect 016 total					

ASPECT 017 Provision and Maintenance of Technical Information					
017	Audit Check	How to Verify	Act	Notes	OK
-01	Do up-to-date records exist of equipment and building design?	See if records are maintained up-to-date and whether there is evidence that they are used.			
-02	Do records include maintenance histories and SHE events?	Check if any SHE critical equipment regularly leads to accidents, breaking down, or underperforming and whether this leads to any improvement action.			
-03	Is the technical information available to those who need it?	During on-site discussions with associates, check whether they are aware of the technical information and how often they use it.			
-04	Is the technical information adequate?	Does it include such things as design drawings, manufacturers operating and maintenance manuals, SHE assessments, modification records, permits, etc.?			
-05	If the facility is leased, is there access to technical information?	Check who has responsibility for what. Are these clearly identified? Do these include responsibilities for SHE liabilities and SHE information?			
-06	Does SHE information have to be provided with products?	Are product technical files required? Do products require verification (F&DA approval), certification (i.e., electrical), or marking (e.g., marking)?			
-07	Do products provide appropriate user information?	Check product packaging or manuals for evidence of user instructions and risk and safety phrases. Is this user friendly?			
-08	Is product technical help available?	Try calling the help line. Is the responder able to answer obvious SHE questions?			
-09	Is product failure information maintained?	Check what is available. Is this of a standard to use for anticipated failure rates for customer hazard analysis assessments?			
-10	Is SHE data made available to the community?	Is environmental emission and noise data available for the community? Is this in a form which is easily understandable?			
Aspect 017 total					

ASPECT 018 Safe Operation of Pressurized Systems					
018	Audit Check	How to Verify	Act	Notes	OK
-01	Does a procedure exist to control the design and use of pressure systems?	Check the existence of the procedure. Does it relate to both pressure vessels and pressurized pipe work systems? Is it up-to-date?			
-02	Does a register exist of all pressurized systems?	Identify pressurized systems during the site tour and check that these are on the inventory. Ask if recent new equipment has been included.			
-03	Are all pressure systems protected by a pressure relief device?	Are safety valves in evidence on pressure systems? Are there set pressures equal to or below the safe working pressures of the pressure system?			
-04	Does a register exist of all pressurized relief devices?	Identify devices during the site tour and check that these are on the inventory. Does the inventory include atmospheric system protection (Swan necks, etc.)?			
-05	Do all pressure systems have a thorough periodic inspection?	Check that there is a scheduling system to plan the inspections and that none is overdue. Are the inspections carried out by a competent person?			
-06	Do all pressure relief devices have a periodic inspection and retest?	Check that there is a scheduling system to plan the inspections and tests and that none is overdue. Are the inspections carried out by a competent person?			
-07	Is a competent person appointed for design verification?	Ask who is responsible for approving pressure system designs and modifications. What are their qualifications?			
-08	Are arrangements in place for change of duty of pressure equipment?	Check if secondhand equipment is ever used or if equipment is ever used for purposes other than those it was designed for. Ask how safety is ensured.			
-09	Does inspection include inspection of the system peripherals?	On piping systems are the pipe supports/hangers, insulation, or trace heating checked? On vessels, do checks include sights glasses, vibration dampers, etc.?			
-10	Is there a robust process to remedy actions identified at inspection?	Check how the inspection recommendation is acted upon. Take a recent inspection report and follow through to see if the work is completed.			
Aspect 018 total					

ASPECT 019 Safety of Buildings and Structures					
019	Audit Check	How to Verify	Act	Notes	OK
-01	Is responsibility for building maintenance clearly defined?	Check if building is leased or owned. Check who has responsibility for what. Are these clearly identified? Do responsibilities include upkeep and alteration?			
-02	Are regulatory requirements being met?	Who controls planning and building control applications to the authorities? Are the statutory welfare requirements being met?			
-03	Is there a procedure to control changes to the building structure?	Check that these are authorized by a competent person and that no changes are occurring without approval.			
-04	Is a competent person appointed for design verification?	Ask who is responsible for approving structural changes. What are their qualifications? (This is probably an external architect—talk to the architect and see what he or she has done recently at the site.)			
-05	Do all buildings and structures have a periodic inspection?	Check that there is a scheduling system to plan the inspections and that none is overdue. Does a competent person carry out the inspections?			
-06	Are walls, etc., scanned for services before drilling/cutting into them?	Does the procedure require a scan for buried pipes or electric cables before drilling or cutting into walls and surfaces? Check that the scanner works.			
-07	Are safe floor loadings clearly marked?	Check for evidence of floor loading during site tour. Ask how associates know whether they are exceeding the floor loading.			
-08	Is there a procedure for testing for asbestos in buildings?	Is there a record of where asbestos exists within the building? Are the locations clearly marked?			
-09	Is there a procedure to control the installation of temporary buildings?	Check if portakabins and trailers have been through any planning or safety assessment.			
-10	Is the building secure when unoccupied?	Check what the security arrangements are. Is the building locked and patrolled when unoccupied? Who monitors fire alarms, etc.?			
Aspect 019 total					

ASPECT 020 Trips and Alarms					
020	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a register of all SHE critical trips and alarms?	View the list.			
-02	Are trips and alarms regularly tested?	Examine the procedure or policy which calls for periodic testing.			
-03	Is there a formal process for setting test frequencies?	Ask the person who manages the trip and alarm test program how test frequencies are decided. Does it seem logical, suitable, and sufficient?			
-04	Is there a schedule for the testing of trips and alarms?	Examine the schedule. Are any tests overdue? Explore the reasons for tests going overdue. Is it a one off reason or endemic?			
-05	Are tests fully functional?	Check if tests are just circuit tests or whether they instigate the intended function (i.e., when tested does the trip actually stop the motor?).			
-06	Is testing carried out by a competent person?	Check whether the testers are properly trained, competent, and authorized.			
-07	Is there a process for correcting faulty trips and alarms immediately?	Check records to see if faults are permanently remedied.			
-08	Is there a process for tracking repeated failures?	Check whether repeat faults have been a short-term fix or whether they address the long-term underlying problem.			
-09	Does the alarm checking cover vehicles and mobile plant?	Ask to be shown how this is recorded.			
-10	Are lamps on enunciators regularly checked?	Is there a system of lamp-checking trip and alarm enunciator lights on a regular basis (once/day/shift) to check for bulb failures?			
Aspect 020 total					

ASPECT 021 Safe Systems of Work Arrangements					
021	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a procedure defining the safe systems of work?	View the procedure. Does it cover all aspects of the enterprise, including office e-work and travel?			
-02	Does the system include the provision of suitable operational procedures?	Select a task at random and check that it has an associated instruction which refers to the SHE requirements to complete the task.			
-03	Does the system cover nonroutine tasks (e.g., maintenance/contract?)	Check if a “permit to work” process exists and whether it covers all maintenance, contractor, and nonroutine tasks.			
-04	Does the safe system specify the need for effective isolations?	Is there an effective “lock-out” or other system to ensure that energy and process fluids are effectively isolated and risks minimized?			
-05	Is there a safe system to ensure the safety of visitors?	Check that visitors (this may include yourselves) to the site are properly inducted and aware of the main hazards and emergency arrangements.			
-06	Does associates’ behavior confirm that they work safely?	During the tour, observe associates’ behavior. Are they wearing the appropriate personal protective clothing?			
-07	Does the safe system include the provision of safe plant and equipment?	During the tour, observe equipment standards. Are they well maintained and suitable for their purpose?			
-08	Is there a safe system of work for business travel?	Check for evidence of business travel safety risk assessments. Are there daily road driving limits and are the lowest-risk modes of travel employed?			
-09	Are hazards identified and risk controlled?	Look for examples of a systematic approach to controlling hazards and managing risk.			
-10	Are the safe systems regularly audited?	Ask to see recent audit reports and the audit plan. Follow up a sample report to see if actions are completed.			
Aspect 021 total					

ASPECT 022 Isolation of Plant and Equipment from Materials or Energy					
022	Audit Check	How to Verify	Act	Notes	OK
-01	Does a policy exist relating to the need for adequate isolation?	View the policy or procedure. Does it cover both process fluid isolation and energy isolation standards?			
-02	Do competent persons carry out isolations?	Is there a list of approved persons? Have they been trained and validated?			
-03	Is it forbidden to work under isolations performed by programmable systems?	Check that competent persons always carry out isolations and that these cannot be overridden by automation systems such as computers or other forms of automatic control.			
-04	Are isolations tamper proof?	Are isolations locked off with the key held only by the authorized person or person engaged in the work (i.e., some form of lock-out system)?			
-05	Is there an energy isolation plan for each task?	Look at a job in progress. Ask to see examples of the forward thinking that went into the isolations associated with the task.			
-06	Is the effectiveness of the isolations tested before starting work?	Does the procedure require a lock, tag, and try concept (i.e., after isolations are done is the start button tried to see if the drive starts?)?			
-07	Is there a formal process for multiple isolations?	Check a task that involves either multiple energy isolations or both fluid and energy isolations to see if these are coordinated and cross referenced?			
-08	Is there a process to ensure that work is complete before isolations are removed?	Ask to see what checks are made to ensure that the task is completed before energy or fluids are reinstated.			
-09	Are all points of isolation equipped for lock off?	Check a random sample during the tour. Office machines may rely on physical disconnection.			
-10	Are all energy and fluid sources clearly identified?	Check this during the plant tour.			
Aspect 022 total					

ASPECT 023 Permits to Work and Risk Assessments					
023	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a formal permit system to control work?	Check if this applies to all tasks other than those for which a formal instruction exists or where there is a formal exemption.			
-02	Are issuers of permits trained and authorized?	Check training records. See if nonauthorized persons ever issue permits to work.			
-03	Do the permits clearly specify the task to be done?	Check a random sample of the permits.			
-04	Does the permit identify all the hazards and assess the risks?	See if hazards are always clearly identified on the permit form.			
-05	Does the permit identify isolations required to do the work?	Check if isolations are clearly specified and carried out by a competent person.			
-06	Does the permit identify how to control residual hazards?	Check permit for details of how hazards are to be controlled. Look particularly for protective equipment requirements. Are they always adopted?			
-07	Is there a formal authorization step in the process?	Is the permit always authorized by a trained “issuer” and accepted by a trained “acceptor”?			
-08	Is there a clearly defined time limit for each permit?	Examine a permit to see if there is a clearly stated expiration date and time. Is this in line with the procedure?			
-09	Are users of the permit familiar with the stated requirements?	Check some tasks in progress and ask the workers what are the permit requirements.			
-10	Is the permit process regularly audited to ensure compliance?	Ask to see examples of recent audit reports. Have the corrective actions been implemented?			
Aspect 023 total					

ASPECT 024 Entry into Confined Spaces					
024	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a clear formal definition of a confined space at this location?	Check that the definition covers all locations where there is a risk of dust and fumes causing a hazard.			
-02	Is there a formal permit to authorize entry into a confined space?	View the permit instruction and examples of completed permits.			
-03	Is a rescue plan always available?	Ask to be shown examples of recent rescue plans. Have these ever been tested through a rescue exercise?			
-04	Are suitable air tests always carried out?	Ensure that the air test always tests for oxygen, but also for other anticipated gases like flammables, CO, H ₂ S, etc.			
-05	Are gas analyzers regularly calibrated?	See the recent calibration record. Does a competent person do the calibration?			
-06	Has the space been isolated from hazard sources?	Are piped services physically disconnected and have sources of energy, heat, and cold been removed?			
-07	Does the task introduce hazards into the space?	Check if the nature of the task being performed introduces hazards that render the space unsafe (i.e., inert welding gases, etc.).			
-08	Are entries permitted using breathing apparatus?	Check if there are procedures in place to ensure that BA sets are properly maintained, and users are trained, competent, and have mask-fit tests.			
-09	Is adequate air circulation provided?	What are the arrangements for clean air circulation in the space? Are air movers of “suction” rather than “blower” design?			
-10	Are confined spaces identified and have access controlled?	Check for the presence of signs. Is there a physical gate or guard to prevent access when an entry permit is not in place?			
Aspect 024 total					

ASPECT 025 Excavations or Break-ins to Walls and Ceilings					
025	Audit Check	How to Verify	Act	Notes	OK
-01	Are adequate checks carried out to identify buried services?	Check procedure. Does it call for drawing/records check and inductive (CAT) scans to identify the presence of live conductors and metal pipes?			
-02	Are arrangements in place to prevent falls into excavations?	Examine an excavation. Is it adequately fenced? Is safe access provided into the excavation?			
-03	Is a permit required to commence an excavation or break-in?	View a sample of permits.			
-04	Are permit issuers and users trained and competent?	Are permit issuers trained in recognizing and controlling the hazards associated with excavations and break-ins? Are users also trained?			
-05	Is the excavation shored to prevent collapse?	Observe the shoring standards on an excavation.			
-06	Are checks carried out to ensure the absence of risks from ground contaminants?	What sorts of checks are carried out? Are users aware of the risks from ground contaminants and biodegradation (hydrogen sulfide)?			
-07	Is the excavation treated as a confined space?	What precautions are taken? Do users carry personal gas monitors?			
-08	Are risks from mobile plant and engine exhausts controlled?	Can exhaust gases affect workers in the excavation? Is the mobile plant operating on stable land?			
-09	Are arrangements in place to control the presence of water?	Examine the risks from drowning, slipping, mobile pump exhaust gas, and disease.			
-10	Do excavation controls apply to floors, walls, and ceilings?	Does the procedure consider the weakening effect and premature collapse of part or all of the structure?			
Aspect 025 total					

ASPECT 026 Control of Hot Work (e.g., Welding and Grinding, etc.)					
026	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a clear formal definition a “hot work” at this location?	Check that the definition covers welding, burning, grinding, and all other applications of naked flames.			
-02	Is there a formal permit to authorize hot work?	View the permit instruction and examples of completed permits.			
-03	Is there a competent issuing authority?	Check the training and experience of the person who issues hot work permits. Is there a trained and experienced deputy?			
-04	Does the procedure require the presence of a standby person?	Check if the standby person understands his or her responsibilities. Does the person always have a fire extinguisher available?			
-05	Is the work area checked for combustibles?	Check a hot work job in progress. Has the area been adequately checked to exclude the presence of combustibles?			
-06	Do workers wear the correct personal protective equipment?	Are welders using welding screens, gauntlets, and protective aprons? Do grinders wear gauntlets and protective aprons and dark goggles?			
-07	Is the air tested for the presence of flammable gases?	Ask to see the flammable gas detectors. Are they recently calibrated and in a suitable position?			
-08	Are passers-by adequately protected?	Check if screens or tenting are erected to prevent the effects of welding “flash” or grinding sparks. Is access below the job barriered off?			
-09	Are worker sources of ignition controlled?	Ask how burners ignite their equipment. Do they use spark guns?			
-10	Are welders aware of gas and fume hazards?	Talk to welders and ask them if they understand the hazards of welding flux fume or inert gases (argon or CO ₂).			
Aspect 026 total					

ASPECT 027 Control of Sources of Ignition in Hazardous Areas					
027	Audit Check	How to Verify	Act	Notes	OK
-01	Are area classifications carried out?	Ask to see the drawings that define the electrical classification of each area.			
-02	Is the area classification up-to-date?	Ask about a recent equipment change in a hazardous area. Does this change the classification? Has this been incorporated in the area classification drawing?			
-03	Is electrical equipment in hazardous areas subject to inspection?	Ask to see the inspection schedule. Are all the inspections up-to-date?			
-04	Do procedures exist to control the use of temporary equipment?	What controls are required to introduce temporary or portable electrical equipment into hazardous areas? Are hot work permits issued?			
-05	Do purchasing specs define area classification requirements?	Discuss orders for equipment in hazardous areas with the purchasing clerks. Do they understand its relevance?			
-06	Is electrical earthing (grounding) adequate?	Are earth straps required across flanged joints? Are all earthing straps in place as required by the equipment design specs?			
-07	Is static electricity controlled?	Are bulk containers grounded during off-loading? Do associates wear antistatic footwear? Do they understand static generation from steam leaks, etc.?			
-08	Is there a de-matching policy?	Is there a means of controlling the use of personal items like matches, cigarette lighters, mobile phones, calculators, etc. in the hazardous area?			
-09	Are flammable gas vents fitted with flame arrestors?	Check the existence of some flame arrestors. Are they routinely inspected to ensure that they don't become blocked?			
-10	Are lightning conductors effective?	Do lightning conductors exist and are they checked for continuity?			
Aspect 027 total					

ASPECT 028 Control of Visitors					
028	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a process to ensure the safety of visitors?	Do visitors sign in and sign out? What about regulars like delivery drivers and postmen? Did everyone sign out yesterday?			
-02	Are visitors always accompanied by a company representative?	Are you as an auditor a visitor? Are you always accompanied, or have you been given appropriate training?			
-03	Do visitors know what to do in an emergency?	Ask a visitor.			
-04	Are visitors given an appropriate safety induction?	Is there any system for checking that they have understood the basics?			
-05	Are visitors aware of the primary hazards at this location?	Ask a visitor. Do they understand both safety and occupational health hazards?			
-06	Is protective clothing provided for visitors where appropriate?	Do visitors wear protective equipment in the appropriate places?			
-07	Do all visitors have a prearranged appointment?	Would it be possible for someone to gain access as a visitor with malicious intent?			
-08	Are visitors accounted for in an emergency?	Are visitors told where their assembly point is and to whom they should report?			
-09	Is the health and safety culture clear to visitors?	Is the safety culture visible? Look for notices and visible publicity such as accident statistics, safety committee minutes, posters, warning signs, etc.			
-10	Are visitors clearly identifiable?	Do visitors wear badges or clearly labeled coveralls or hats?			
Aspect 028 total					

ASPECT 029 Lone Working					
029	Audit Check	How to Verify	Act	Notes	OK
-01	Is “lone working” a recognized issue at the location?	Do any workers operate alone in remote locations where there could be difficulty in communication if anything went wrong?			
-02	Is there a procedure for lone worker emergency response?	Is it possible for associates to have a medical or safety emergency at work without management being aware in a reasonable time?			
-03	Is there a regular check on all associates during the working period?	Do supervisors/managers check on the well-being of all their staff during the working day or shift?			
-04	Do lone drivers know what action to take in the event of emergency?	How would management know if there had been an accident or medical emergency while drivers are away from their base? Does anyone check if they are OK?			
-05	Is there regular contact with lone travelers?	Ask how the health and safety of travelers is ensured.			
-06	Is there an assessment of associates at high risk when working alone?	Are associates with certain medical conditions (e.g., epilepsy, heart conditions, blackouts, etc.) required to always work in pairs or have some form of immobilization alert?			
-07	Is there an assessment of experience before associates work alone?	Do individuals undergo a competence validation before being permitted to work alone?			
-08	Is lone working taken into account in task risk assessments?	View the risk assessments. Contact a lone worker and ask if he or she has valid risk assessments with them.			
-09	Do service contractors have lone working safety checks?	Particularly vulnerable groups are out-of-hours cleaning contractors and security personnel.			
-10	Is the lone worker alarm system periodically tested?	This may be a proprietary lone worker alarm or a telephone/beeper system. Ask what the response time was at the last test.			
Aspect 029 total					

ASPECT 030 Working with Asbestos					
030	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a register of asbestos-containing materials at the location?	View the register. Does it contain records of asbestos insulation, ceiling tiles, fire-resistant panels and blankets, gland packing, asbestos cement sheets, etc., containing asbestos?			
-02	Are asbestos-containing materials clearly marked?	During site inspection note the presence or otherwise of asbestos labels.			
-03	Are asbestos materials properly sealed?	Is asbestos insulation outer sealant in good condition to prevent the escape of free fibers?			
-04	Is there a procedure for the removal of asbestos?	Is removal limited to licensed contractors? Check the contractor's license.			
-05	Is there a clear procedure for the disposal of asbestos?	Is asbestos waste sealed in clearly marked impermeable bags? Are bags sealed before removal from the enclosure? Is waste sent without delay to a licensed disposal site?			
-06	Is asbestos removal only done within a sealed enclosure?	Is the enclosure checked and approved before use to stop fiber leakage? Is a filtered air supply provided? Is it connected directly to a changing room/shower?			
-07	Are air tests carried out before the enclosure is removed?	Ask to see examples of past fiber counts. Does an approved laboratory do the test analysis?			
-08	Are asbestos workers subject to regular medical surveillance?	Talk to asbestos workers. Ask when they had their last health checkup.			
-09	Do asbestos workers have suitable welfare arrangements?	Do asbestos workers have separate changing facilities for clean and dirty work wear? Is there a hot water shower facility between them? Is contaminated work wear disposed of to waste?			
-10	Do asbestos workers wear suitable respiratory protection?	Check respirators are suitable for asbestos.			
Aspect 030 total					

ASPECT 031 Safe Working on Roofs					
031	Audit Check	How to Verify	Act	Notes	OK
-01	Is access to roofs formally controlled?	Check for access control notices or procedure.			
-02	Does the roof access procedure consider the risk of falls?	Check procedure.			
-03	Are the edges of roofs suitably barriered when work is in progress?	Observe a selection of flat roofs.			
-04	Is safe, well-secured access provided to the roof?	Check for presence of stairs/ladders.			
-05	Are crawling boards always used to access fragile roofs?	Where are the crawling boards? Ask to see them.			
-06	Are arrangements made to prevent falls through skylights?	Ask how skylights are protected. Talk to workers who work on roofs to see what controls they actually use.			
-07	Do roof workers always use suitable fall arrest equipment?	Do workers understand the limitations of fall arrest equipment? How often is the equipment checked? What is used as anchors?			
-08	Are all fragile roofs clearly labeled?	Look for labels during site tour.			
-09	Does the procedure apply to working in loft spaces and above ceilings?	The hazards of falling through ceilings are similar to those of fragile roofs. Check if there is full body access to any lofts or above ceilings.			
-10	Have relevant workers been warned of the hazards of roof working?	Talk to roof workers and ask what sorts of accidents happen on roofs. Have they been told of the frequency of fatalities in this type of work?			
Aspect 031 total					

ASPECT 032 Travel and Driver Safety					
032	Audit Check	How to Verify	Act	Notes	OK
-01	Does a policy exist to address the health and safety aspects of travel?	View the policy.			
-02	Is there a clear limit on how far associates may drive in one day?	Check travel and mileage claim forms. Are business travelers complying with the policy?			
-03	Is the frequency and duration of rest periods defined for travelers?	Check tachograph records for heavy goods drivers. Do car travel departure and appointment times allow for rest periods?			
-04	Are drivers' driving licenses checked before travel is authorized?	Is there a process to ensure that drivers have the appropriate type of vehicle license? Are there periodic checks to ensure that the license is still valid?			
-05	Are company vehicles well maintained?	Is there a scheduled maintenance program for vehicles, and is it up-to-date?			
-06	Are associates required to use the lowest risk mode of transport?	Are risk assessments carried out for business travel? Are alternatives such as audio conferences, etc., used whenever possible?			
-07	Are appropriate immunizations provided for overseas travel?	Is there a requirement for medical advice before traveling overseas? Are immunizations made available? Talk to travelers to see what advice they receive.			
-08	Is there a formal process for dealing with travel emergencies?	Ask what would happen if an associate had a medical emergency while overseas. Is there a method of providing independent medical advice?			
-09	Do travelers understand the health risks of travel?	Talk to travelers. Do they know the risks of deep vein thrombosis, tiredness, drinking water, dietary change, sexually transmitted disease, etc.?			
-10	Are associates trained in hotel evacuation safety?	Talk to travelers. Do they check exit routes? What should they do in the event of a fire outside their room?			
Aspect 032 total					

ASPECT 033 Manual Handling Arrangements					
033	Audit Check	How to Verify	Act	Notes	OK
-01	Are manual handling operations that involve risk of injury avoided?	Is there a policy or procedure in place?			
-02	Are manual handling operations properly assessed?	View some of the risk assessments. Has a trained and competent person carried these out?			
-03	Are associates informed of the results of manual handling assessments?	Check how associates are made aware of the workplace controls necessary to reduce the risks associated with manual handling hazards.			
-04	Are associates trained in kinetic lifting techniques?	Observe associates doing lifting. Are they applying the principles of kinetic lifting (e.g., bending knees, straight back when lifting items)?			
-05	Are the weights of items that are lifted clearly identified?	Ask associates how they know the weights of items that they lift. Examine production areas, warehousing, goods inward, and maintenance areas.			
-06	Is installed lifting/handling equipment correctly used?	During the site inspection observe how and if associates make full and proper use of the installed handling equipment.			
-07	Are associates aware of their own manual handling limitations?	Talk to associates. Do they understand how stature, position, and repetition can effectively reduce the weight of what can be safely handled?			
-08	Do product designs consider the handling requirements?	Check product safety files.			
-09	Are manual handling risks considered in goods purchasing?	Check if this is incorporated into purchasing specifications or whether it is just done on an ad hoc basis.			
-10	Are manual handling risks in offices considered?	Check with office staff.			
Aspect 033 total					

ASPECT 034 Use of Personal Protective Equipment (PPE)					
034	Audit Check	How to Verify	Act	Notes	OK
-01	Is the need for PPE based on risk assessment?	See examples of risk assessments.			
-02	Is PPE considered to be a last line of defense?	Ask workers why they wear protective equipment and how decisions are made about what PPE is required.			
-03	Is PPE a “personal” issue?	Check if equipment is issued on a personal rather than shared basis. If equipment is shared, what are the hygiene arrangements?			
-04	Are associates fit checked for their PPE?	Are hardhat sweatbands correctly adjusted? Are respirators checked for good contact/fit? Is equipment too large/too small?			
-05	Are associates trained in the safe removal of contaminated PPE?	Ask individuals how they would remove a pair of contaminated goggles without casing injury.			
-06	Are records maintained of personal issues of PPE?	Ask to see the records. Are they updated when there are new technical developments in PPE quality or standards?			
-07	Is PPE inspected and well maintained?	Is there a procedure to ensure that all PPE is maintaining in a condition that is fit for purpose?			
-08	Are PPE purchases specified by a competent person?	Check if a safety specialist or other competent person specifies PPE.			
-09	Is the wearing of PPE routinely monitored?	Check with managers about how they ensure that associates wear the specified protective equipment.			
-10	Are PPE requirements clearly labeled in the work areas?	Check if signs are visible, clearly understood, and follow normal conventions.			
Aspect 034 total					

ASPECT 035 Guarding of Machines					
035	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a register of all physical guards at the location?	Check the register. Is there a clear method of physically identifying the guard shown in the register?			
-02	Are guards periodically checked?	Does the quality of the check ensure that the integrity of the guard system is maintained as intended in the original design?			
-03	Is there a periodic function test on all guard interlocks?	Check if guard interlocks are tested in a safe manner and at the beginning of each working period.			
-04	Are guards designed to prevent contact with moving parts?	Check a sample of guards. Visually examine (don't touch) whether the guards prevent penetration, over- or underreaching.			
-05	Are light beam and pressure pads considered as guards?	Are all beams and pad operations tested on a regular basis?			
-06	Is there a check on guard integrity after maintenance?	Is this requirement written into the work control permitting procedure?			
-07	Can routines such as lubrication and speed checks be done without guard removal?	Ask how couplings are lubricated and how speed measurements and rotation checks are done.			
-08	Are guarding standards applied to mobile plant?	Examine mobile plant during site inspections.			
-09	Are guards attached with tamper-proof fixings?	Guards should require a tool (spanner) for removal, in order to reduce the chance of removal by operators. Be vigilant for missing bolts, wing nuts, and lever clamps.			
-10	Are electrical guards in place?	Check that electrical cabinet doors are closed and junction/fuse box covers are in place.			
Aspect 035 total					

ASPECT 036 Safe Operation of Cranes					
036	Audit Check	How to Verify	Act	Notes	OK
-01	Are all cranes clearly marked with the safe working load?	Don't check only the major cranes. Look for derricks, hoists, and runway beams.			
-02	Are cranes on a register or list?	Examine the register.			
-03	Are cranes subject to a periodic thorough examination?	Check if a competent person does the examination. Are any inspections out of date? How do operators know that the crane in use has been examined?			
-04	Is lifting gear on a register and periodically examined?	Check the register. Are all items of lifting gear (i.e., strops, shackles, lifting eyes, chains, pull lifts, etc.) in good condition and examined by a competent person? Are there any overdue examinations?			
-05	Are all crane drivers and users trained and competent?	Check training records.			
-06	Are ropes and chains changed periodically?	Check maintenance records.			
-07	Do procedures exist to check credentials of contract crane drivers?	Pay particular attention to contract mobile cranes when used on site. Are drivers' training certificate and crane latest test certificates checked?			
-08	Is there a formal process for checking ground stability?	This is for mobile cranes. Are outriggers or wheels on stable ground when lifting? Are load spreading plates used? Has the travel route been checked to ensure it is load bearing (i.e., no weak culvert, etc.)?			
-09	When traveling with loads are banks men used?	This normally applies to overhead traveling cranes. Is someone appointed to ensure that the suspended load does not collide with people or equipment?			
-10	Is there a policy of not standing under suspended loads?	Ask to see the policy statement. Do your observations confirm that this is followed?			
Aspect 036 total					

ASPECT 037 Safe Operation of Forklift Trucks (FLT)					
037	Audit Check	How to Verify	Act	Notes	OK
-01	Are all FLT's clearly marked with the safe working load?	Observe markings on trucks.			
-02	Are trucks fit for purpose?	Check that internal combustion engines are used in enclosed and unventilated spaces. Are aisles wide enough for the type of truck used?			
-03	Do competent persons periodically inspect trucks?	Check inspection records.			
-04	Are truck masts and lifting components periodically checked?	Check inspection records.			
-05	Are all drivers suitably trained and validated?	Ask a selection of drivers to show their FLT licenses.			
-06	Are daily safety checks carried out on all trucks?	Examine daily or shift records.			
-07	Do drivers observe safe driving practices?	Observe operating speeds, use of audible warnings, and safe maneuvering.			
-08	Is recharging or refueling carried out in a safe place?	On electrical trucks ensure charging bays are well ventilated to disperse hydrogen and are in good condition. Ensure gas and liquid fuels are safely stored and banded (dyked).			
-09	Are pedestrians segregated from FLT traffic?	Check locations of walkways in FLT areas.			
-10	Are FLT trucks well maintained?	Check maintenance records. Examine trucks for evidence of collision damage.			
Aspect 037 total					

ASPECT 038 Abrasive Wheels					
038	Audit Check	How to Verify	Act	Notes	OK
-01	Are all grinding machines clearly marked with max speed?	Label should be on the machine or immediately adjacent. Does this speed agree with the speed marked on the wheel or disc?			
-02	Are all grinding machines/grinders on a register or list?	Examine the register. Does it include handheld tools as well as fixed machines?			
-03	Does a competent person install wheels?	Check the training records and experience of the competent person.			
-04	Are grinding machines correctly adjusted and well maintained?	Visually examine some fixed grinding machines. Are the wheels dressed and not subject to eccentric wear? Are the work piece rests close to the wheel? Are guards and visors in place?			
-05	Are spindle speeds checked periodically?	Check speed records. Can tachometers be used without guard removal?			
-06	Are goggles/face visors specified as personal protection?	Look for signs by machine or a safety procedure.			
-07	Are portable grinders subject to periodic inspection and maintenance?	Electrical machines need to have portable appliance testing. Ask to see examples of these tools. Pay particular attention to the condition of flexes and air hoses.			
-08	Are frequent users of grinders checked for evidence of HAV?	Ask what arrangements are in place to check for vibration white finger or hand arm vibration (HAV) syndrome (very common in metal fabrication).			
-09	Is protection provided for adjacent workers and passers-by?	Does the grinding procedure specify the need for screens and distance barriers to protect other people?			
-10	Are fire hazards controlled?	Grinding provides a source of ignition. Ask how this fire hazard is controlled.			
Aspect 038 total					

ASPECT 039 Housekeeping					
039	Audit Check	How to Verify	Act	Notes	OK
-01	Is housekeeping maintained to high standards?	Check if there are formal arrangements to ensure housekeeping standards are maintained. Ask what is considered to be an acceptable standard.			
-02	Are housekeeping inspections carried out periodically?	Ask to see the housekeeping inspection forward plan. Is guidance/training provided for those carrying out the inspection?			
-03	Are housekeeping actions dealt with promptly?	Check the process for completing actions. Check how many outstanding actions remain from the last few inspections.			
-04	Are all personnel made aware of the importance of housekeeping?	Discuss this with associates. Do they understand the link between housekeeping standards and injury potential?			
-05	Do senior managers set a good example of housekeeping?	Are the senior managers' offices housekeeping standards safe and setting a good example? Do they take part in housekeeping inspections?			
-06	Is there a policy of cleaning up after a job is completed?	Examine some recently completed jobs.			
-07	Are storage facilities adequate?	Is there a "place for everything and everything in its place" or are materials stored in the work area?			
-08	Are walkways clearly identified?	Ensure that walkways and emergency routes are kept clear.			
-09	Are spillages promptly cleaned up?	Check product, lubricant, and waste skip/dumpster areas.			
-10	Do facilities exist for the satisfactory disposal of waste materials?	Check if waste bins, trash cans, skips/dumpsters are available and there is a system for waste disposal.			
Aspect 039 total					

ASPECT 040 Employee Awareness Campaigns					
040	Audit Check	How to Verify	Act	Notes	OK
-01	Is people's behavior recognized as important in incident prevention?	Explore what proportion of injuries/incidents are recognized to be caused by unsafe or environmentally unfriendly behavior.			
-02	Are safe or unsafe behaviors measured?	See the measurements and look for examples of improving trends.			
-03	Is there an established and formal behavioral improvement process?	Check if the process identifies behaviors or just unsafe/environmentally hazardous conditions.			
-04	Are there up-to-date safety and environmental statistics displayed?	Check the SHE reporting notice boards—are they up-to-date with relevant information for the expected reader?			
-05	Are arrangements in place to highlight known hazards?	Look for examples of posters, photographs, and safety or environmental messages on display. Are they up-to-date and eye-catching?			
-06	Are accident and incident reports available to all?	Ask associates how they learn about the messages from incident investigations.			
-07	Are annual statistics used to plan improvement actions?	Ask to see injury, occupational illness, and environmental incident statistics. Find out how any trends are acted upon.			
-08	Are associates involved in defining awareness campaigns?	Check safety/environmental committee minutes. Find out who leads the improvement campaigns.			
-09	Are awareness campaigns based on "leading" as well as "lagging" indicators?	Lagging indicators are things like injuries and past events. Leading indicators might be something like striving toward a future achievement of one million hours without an injury.			
-10	Is the effectiveness of awareness campaigns measured?	Ask how the management team knows which campaigns were successful and which were not. Look for evidence that they have learned from this.			
Aspect 040 total					

ASPECT 041 Scaffolding and Temporary Access Arrangements					
041	Audit Check	How to Verify	Act	Notes	OK
-01	Is some means of safe temporary access used whenever working at heights?	Look for evidence of scaffold registers, use of lanyards and mobile elevating working platforms. Standard ladders do not usually constitute a safe workplace unless the work duration is very short and the ladder is secured.			
-02	Do trained and competent personnel only erect scaffolding?	Check a sample of scaffolder training records.			
-03	Are all scaffolds inspected before use?	Check some scaffolds and review the inspection record. Is it still valid?			
-04	Do all temporary access platforms have a safe means of access/exit?	Look for evidence of dedicated ladder access on scaffolds. Is there a method of preventing access until the first inspection is completed?			
-05	Is a check done to ensure that the scaffold is fit for its purpose?	Check the intention of the access. A scaffold can be structurally sound, but may be too low to allow the work to proceed safely.			
-06	Has the required load on the scaffold been assessed?	Check if the scaffold has been designed just for one man working, or will it need to have a load-bearing capability?			
-07	Is the area beneath scaffolds protected against falling objects?	Check if this area is barriered off (or some other appropriate form of personnel protection) to prevent injury from falling objects.			
-08	Do trained personnel only operate mobile working platforms?	Check that procedures allow only trained operators to drive powered mobile, elevating working platforms.			
-09	Are personnel working at height required to wear fall harnesses?	Observe whether workers using lanyards and harnesses are correctly clipped on to an appropriate immovable object.			
-10	Are all ladders and step ladders registered and periodically inspected?	Check a selection of ladders. Are they numbered and do they have a valid inspection?			
Aspect 041 total					

ASPECT 042 Selection and Monitoring of External Warehouses					
042	Audit Check	How to Verify	Act	Notes	OK
-01	Are arrangements in place to assess the SHE implications of external warehousing?	Check the procedure or other formal arrangements to see what aspects of SHE hazards have been considered. Is a manager appointed to monitor these arrangements?			
-02	Is the warehouse suitable for storing this material?	If materials are chemical or biological substances, consider what could happen in the event of loss of containment.			
-03	Could a release of this material affect operators or the public?	Look for evidence that the warehouse operators are suitably trained to handle this material in an emergency.			
-04	Is some form of license or authority needed to store this material?	Check to see if the warehouse holds a valid authorization.			
-05	Is storage suitable to prevent impact damage?	Check if the storage area is segregated from general vehicular or forklift truck traffic.			
-06	Is there a suitable means of fire suppression?	Is the fire system just an alarm or will it automatically extinguish the fire? What is the expected turn out time for the fire brigade?			
-07	Could other materials stored in the warehouse adversely react with our materials?	Is there a clear understanding of what else is currently or could be stored in the warehouse? Has the possibility of chemical interactions been risk-assessed?			
-08	Is there effective fire segregation in the warehouse?	Check the segregation and that the function of fire doors is periodically tested.			
-09	Are the warehouse management's SHE standards checked?	Ask what aspects of SHE are checked. Are the warehouse management's intentions borne out in practice?			
-10	Is the site notified of all incidents in external warehouses?	Ask to see all the notifications in the last year.			
Aspect 042 total					

ASPECT 043 SHE Arrangements in Laboratories					
043	Audit Check	How to Verify	Act	Notes	OK
-01	Is unauthorized access to the laboratory effectively controlled?	Check if laboratory doors are kept locked when unoccupied and arrangements are in place to restrict entry to authorized persons.			
-02	Are harmful substances kept under control?	Check how oxidizing agents, carcinogens, radioactive sources are stored. Are quantities at the minimum required (or don't exceed the maximum permitted by law)?			
-03	Are accurate records maintained of all experimentation?	View records and laboratory notebooks.			
-04	Have all substances in use been assessed to determine their hazard to workers' health?	Ask to see the assessments. Are they adequate, and do they identify the safeguards required to control exposure?			
-05	Are risk assessments carried out for all experiments and tests?	Ask to see the risk assessments.			
-06	Are experimental methods defined for all experiments and tests?	Observe if test/experimental methods are being followed. Do these methods cover the essential health and safety requirements?			
-07	Are waste substances disposed of in a safe and environmentally appropriate way?	Check the liquid, solid, and gaseous waste receptors. How do they ensure that regulatory limits are achieved?			
-08	Are harmful gases controlled in enclosed systems or fume cupboards?	Ask how the integrity of fugitive gas control systems is assured. Look at test and inspection records for fume ventilation systems.			
-09	Is there a policy not to allow food and drink within the laboratory?	Check for signs of eating and drinking utensils. Where is the mess room?			
-10	Are antidotes available for ingestion of known toxins?	Ask to see the antidotes. Who is authorized to administer these?			
Aspect 043 total					

ASPECT 044 Working with Visual Display Units (VDUs)					
044	Audit Check	How to Verify	Act	Notes	OK
-01	Are the risks of repetitive strain injury and eye strain understood?	Discuss with computer users.			
-02	Have assessments of workstations been done?	Check if actions from assessments have been implemented to minimize the risk of eye strain or repetitive strain injury.			
-03	Are chairs for computer users adjustable in height?	Observe the chairs in use. Are the adjustments correctly set?			
-04	Is an upright posture maintained while sitting?	Observe workers' sitting position. Ask if lumbar support is comfortable.			
-05	Are VDU screens positioned to minimize glare?	Observe position and orientation of computer or other VDU screens. If facing the light, are glare filters used?			
-06	Are screens at correct height (roughly at eye level)?	Observe screens in use.			
-07	Are forearms horizontal when using keyboard?	Observe keyboard usage.			
-08	Is adequate space provided between top of legs and the table?	Discuss with computer users.			
-09	Is there a policy to take short breaks when using computers for long periods?	Discuss with computer users.			
-10	Are footrests provided when required?	Check that computer users' feet touch the ground when sitting at their workstation.			
Aspect 044 total					

ASPECT 045 Emergency Plans					
045	Audit Check	How to Verify	Act	Notes	OK
-01	Has the facility assessed all reasonably foreseeable incidents?	Ask to see what scenarios have been considered. Do these cover SHE and neighboring facility incidents?			
-02	Is there an alarm system that can be heard by all?	Check if associates know what the alarm sounds like and when it was last tested.			
-03	Do arrangements exist for the prompt treatment of injuries?	Is there an in-house ERT or first aid/medical service? What arrangements exist to make use of local medical/hospital services?			
-04	Are procedures in place to summon assistance from external emergency services?	How are the external services called—by phone or by automated system? Have these arrangements been tested recently?			
-05	Do plans exist to mitigate the effects of environmental releases?	Does the emergency plan deal with environmental escapes and notification of the relevant authorities?			
-06	Can all personnel be accounted for in an emergency?	Ask to see the arrangements for head counts in the event of an emergency. How are contractors and visitors accounted for?			
-07	Are all people aware of what action to take in an emergency?	Ask a random sample of associates what action they would take in an emergency. Were you notified of what action to take when you arrived?			
-08	Are evacuation drills carried out?	Ask to see the records of evacuation drills and the learning actions that arose from them.			
-09	Are assembly points located in safe areas?	Visit the assembly points.			
-10	Do emergency procedures deal with terrorist threats?	Has thought been put into dealing with bomb threats, serious vandalism, or terrorist action?			
Aspect 045 total					

ASPECT 046 Use of Contracted Services					
046	Audit Check	How to Verify	Act	Notes	OK
-01	Are the contractors competent to perform the service?	The fact that they have done it before is not good enough. What formal assessments have taken place to demonstrate the contractor's competence?			
-02	Does the contractor apply the same SHE standards?	Ask to see the contractor's SHE policy statement and to demonstrate its safe system of work. Check its accident/incident frequency rates.			
-03	Does the contractor have professional SHE resources?	Are these of sufficient number to be suitable for the work being carried out?			
-04	Does the contractor have on-site supervision?	Ask to meet the supervisor— <i>now</i> . Don't delay while they find someone to send to the site.			
-05	Does the contractor have suitable and sufficient tools?	Examine the condition of a random selection of contractor's tools. Especially check the condition of portable electrical tools and appliances.			
-06	Does the contractor carry out risk assessments?	Ask to see the risk assessments and work method statements. Are they adequate?			
-07	Does the contractor supply all the necessary PPE?	During the site familiarization tours/inspections, check that contractors are wearing suitable protective equipment and that it is in a good state of repair.			
-08	Is contractor work checked before being signed off?	Ask what sorts of quality checks are done on contractor work. How is the company qualified to assess the work of specialist contractors?			
-09	Do contractors have suitable eating and welfare facilities?	Examine the contractor mess room and locker/washing facilities. Do they meet regulatory requirements?			
-10	Are all injuries to contractors reported?	Ask to see evidence that contractor injuries are treated in the same way as employees.			
Aspect 046 total					

ASPECT 047 Product Stewardship					
047	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a written policy statement regarding product safety?	This may be integrated into the company health and safety policy.			
-02	Are associates aware of their product stewardship responsibilities?	Ask a sample of associates.			
-03	Does product design consider the full product life cycle?	Check if life cycle assessments have been done. What happens to the product at the end of its life?			
-04	Is the performance of suppliers considered before contracts are let?	Ask if third-world suppliers are used and how their SHE standards compare with those of this organization.			
-05	Is adequate SHE information available for the product?	Ask to see MSDS, certificates of conformity, and other regulatory statements to confirm the product is safe to use and be disposed of.			
-06	Is the packaging and storage of the product appropriate and safe?	View the product storage and packaging.			
-07	Is there a safe method for distributing the product?	Ask how the product is stored and transported. Is there a problem if it is stored or transported with other products?			
-08	Do emergency plans exist to handle incidents involving the product?	Ask if the public or distribution employees could be affected by some sort of distribution emergency (fire or road traffic accident).			
-09	Are customers trained in the safe handling of the product?	Ask to see evidence of training carried out.			
-10	Do product labels meet the regulatory requirements?	View a sample of the product labels.			
Aspect 047 total					

ASPECT 048 Environmental Impact Assessments (EIA)					
048	Audit Check	How to Verify	Act	Notes	OK
-01	Does the EIA contain a description of the activity/process?	Ask to be shown the most recent EIA to be carried out at this location.			
-02	Have the feasible alternatives been considered?	Check if this appears in the EIA or whether it was never documented.			
-03	Have the foreseeable environmental issues been identified?	Are <i>all</i> the foreseeable environmental issues in the report?			
-04	Have environmental pathways and receptors been identified?	Check in the EIA. Often this may be diagrammatic.			
-05	Have aesthetic measures to reduce visual impact been specified?	Check what was proposed and what consultation was done in respect to this, as it will have been a qualitative judgment.			
-06	Have technical measures to minimize environmental impact been specified?	Are the technical measures appropriate to the main environmental effects?			
-07	Has the impact of the activity on people been assessed?	Wherever possible this should be quantified. For example, the increase in noise at the site boundary.			
-08	Has the impact on other species been assessed?	Look for consideration of the effect on aquatic life, birds, bats, flora, etc.			
-09	Is there a record of applicable regulatory requirements?	Check that the regulatory record is in the EIA and not in some other database.			
-10	Does the EIA consider the effect of no action?	Ask if there could be a worse environmental consequence if nothing were to be done.			
Aspect 048 total					

ASPECT 049 Solid Waste Disposal					
049	Audit Check	How to Verify	Act	Notes	OK
-01	Is waste production managed to be the minimum possible?	What is the waste policy? What arrangements are in place to reduce waste?			
-02	Are waste streams clearly identified?	Find out what the waste streams are. Check if these are all nonhazardous. Are the waste areas on site clearly identified?			
-03	Is waste production monitored, labeled, and recorded?	Ask to see the records for the last year—do they comply with local regulations? Is waste on site clearly labeled?			
-04	Is the waste disposal routed to a legally approved receptor?	Check if the waste is destined for a recycling facility, waste sorting facility, landfill, or incinerator.			
-05	Is all waste contained in a purpose-designed container before leaving the site?	This might include the use of skips/dumpsters or specialty refuse (garbage) vehicles, etc. Compacted bales of paper/cardboard would be considered to form an integral container.			
-06	Is waste transported by an approved contractor?	Check if the hauler is aware of its legal responsibilities in relation to the transportation of waste.			
-07	Does waste undergo any form of primary treatment before leaving the site?	Possible types of treatment could include waste sorting and segregation, compaction, shredding, filtration, or drying (to reduce water content).			
-08	Are waste storage areas designed to prevent the risk of ground or wind-blown pollution?	Check the storage areas. Ensure that the waste is not liable to blow away, and that the storage is protected from rain, which may wash contaminants into the ground.			
-09	Are storage areas protected against fire?	Ask how fire prevention and control relates to the storage area. Are there any sources of ignition?			
-10	Are the waste handling companies and final destination audited?	Ask to see examples of recent audits.			
Aspect 049 total					

ASPECT 050 Air Emissions					
050	Audit Check	How to Verify	Act	Notes	OK
-01	Are the regulatory requirements understood?	Are the emission limits clearly documented and understood by those most likely to cause the emissions?			
-02	Are all emission sources clearly identified?	Ask to see the list of sources of hazardous or environmentally harmful emissions.			
-03	Are all emissions periodically quantified by measurement?	Ask to see the most recent measurements. Do they exceed the permitted levels? Is the person taking the measurements competent?			
-04	Are operating procedures designed to ensure emissions do not exceed the permit?	Review a sample of the relevant procedures.			
-05	Is emission control equipment calibrated and well maintained?	Review the calibrations—are they sufficiently frequent? Is the equipment undamaged and fit for its purpose?			
-06	Are the emission points located to minimize the impact on neighbors?	Particularly check sensitive locations near public areas and domestic properties.			
-07	Are deviations from the permitted emissions recorded and investigated?	Ask to see the most recent examples.			
-08	Are combustion gases considered an environmental emission?	Check records relating to boiler stacks. If coal/heavy oil fired, is there an issue relating to soot blowing?			
-09	Is there a process for dealing with complaints from neighbors?	Find out how these are handled. Do they include both substantiated and unsubstantiated complaints?			
-10	Is environmental noise monitored?	What is the current noise level around the site boundary (especially at sensitive areas)?			
Aspect 050 total					

ASPECT 051 Drainage					
051	Audit Check	How to Verify	Act	Notes	OK
-01	Are foul/chemical drains segregated from surface water?	Check if surface water discharges to a water course or soak away; threat there is no risk of contamination. Are changes to the system rigorously controlled?			
-02	Is the drainage system recorded on up-to-date drawings?	View drawings.			
-03	Are the limits of wastewater composition clearly defined?	Ask to see the discharge permits. Are internal controls set lower than the permit concentrations to allow for minor errors?			
-04	Are the main drains periodically inspected?	Ask to see closed circuit television recordings of inspections.			
-05	Is the surface area draining to each gully defined?	View drawings.			
-06	Are clayware drains protected from thermal shock?	Ask how it is ensured that high-temperature liquids cannot enter clayware drains.			
-07	Are manholes and inspection chambers periodically tested?	Check to see if manholes are numbered with flow directions marked. Ask to see the inspection records.			
-08	Are oil traps inspected and routinely emptied?	Is there a procedure requiring the emptying of oil traps? View the records.			
-09	Are redundant drains sealed off?	Look for signs of redundant plant and check if drains have been sealed off.			
-10	Is drain integrity checked by periodic pressure testing?	Ask to see the pressure test standard and results.			
Aspect 051 total					

ASPECT 052 Soak Aways and Ditches					
052	Audit Check	How to Verify	Act	Notes	OK
-01	Is drainage to soak aways checked for unauthorized discharges?	What checks are in place?			
-02	Are soak aways inspected periodically for settlement?	Is there a robust periodic inspection system?			
-03	Are groundwater samples taken periodically?	Are the samples taken down hydraulic gradient from the soak away? Is monitoring based on a risk assessment of potential contaminants?			
-04	Are plans in place to eliminate the use of soak aways?	Look for evidence that this is included in some form of plan to which there is commitment.			
-05	Are soak aways remote from nearby watercourses?	Check which way the groundwater flows—does the flow increase the risk of water from the soak away reaching the watercourse?			
-06	Are the receptors for drainage from ditches identified and controlled?	Ask if the receptors (i.e., watercourses, aquifers, etc.) are formally recorded.			
-07	Is ditch vegetation checked for signs of contamination?	Ask to see evidence that these checks are carried out. View the ditches yourself and look for signs of dead vegetation.			
-08	Are ditches secure to prevent unauthorized dumping/vandalism?	Is access controlled by fences or other security system?			
-09	Are plans in place to eliminate open ditches?	Look for evidence that this is included in some form of plan to which there is commitment.			
-10	Are potential targets periodically monitored?	Ask to see the analysis results from recent samples.			
Aspect 052 total					

ASPECT 053 Landfills					
053	Audit Check	How to Verify	Act	Notes	OK
-01	Are records of deposited materials maintained?	Ask to see the records. Do these go back to the time when the site started to use this landfill?			
-02	Are borehole records maintained?	View borehole records. Are there any problem contaminants?			
-03	Is each landfill cell fitted with vapor venting?	Check landfill for evidence of vent pipes.			
-04	Is the landfill inspected?	Ask to see the most recent regulatory inspection reports. Have actions been followed through?			
-05	Is newly deposited waste covered daily?	Check for evidence of exposed material.			
-06	Is the landfill compacted?	Are the spreading machines designed to compact as well as spread the waste?			
-07	Is the landfill lined with an impervious material?	Ask to see cross-sectional drawings of the landfill. Look for evidence of a clay or other impervious lining.			
-08	Is leachate from the landfill regularly monitored?	Where is the leachate monitored? What are the most recent results? Where does the leachate discharge?			
-09	Are the landfills subject to independent audit?	Ask to see examples of third-party audits.			
-10	Are measures taken to control wind-blown debris and exclude the public?	Is the landfill secure and fenced to prevent wind-blown debris carrying beyond the boundary?			
Aspect 053 total					

ASPECT 054 Storage Tank Secondary Containment					
054	Audit Check	How to Verify	Act	Notes	OK
-01	Are tank bunds/dykes periodically inspected?	Ask to see inspection record.			
-02	Have tank bunds/dykes had a recent water containment check?	Ask to see the test report.			
-03	Are bund/dyke drain valves kept routinely locked closed?	Check during the plant familiarization tour if bund/dyke valves are opened only for rainwater draining. Is the rainwater analyzed before it is drained?			
-04	Is all equipment requiring regular operator intervention outside the bund/dyke?				
-05	Is the weather seal between the tank base and the tank intact?	Ensure that weather seals are intact to prevent rainwater corrosion of the base.			
-06	Do all overflow points discharge inside the bund/dyke?	Look for all points where overflows discharge and ensure they are within the secondary containment area.			
-07	Is the bund/dyke capacity suitable for the tanks contained in it?	Rules vary from country to country, but the capacity should be no less than the volume of the largest tank.			
-08	Is the bund/dyke capacity suitable to contain contaminated firewater?	Particularly check this if there are installed sprinkler/water quench systems.			
-09	Do leakage test probes exist for single-walled underground tanks?	Work from the principle that underground tanks will probably be leaking. How do they check for this?			
-10	Are redundant tanks removed?	Check during the plant familiarization tour.			
Aspect 054 total					

ASPECT 055 Drum Storage					
055	Audit Check	How to Verify	Act	Notes	OK
-01	Are drums always stored on banded pallets?	Do a visual check.			
-02	Are drum storage areas designed to drain spillages to a containment area?	Look for evidence of curbing and a collection sump. Where does the sump discharge?			
-03	Are records maintained of all materials stored in drums?	Ask to see the historical records.			
-04	Are all drums clearly labeled (including intermediates and wastes)?	Do a visual check. Especially look for wastes and intermediates that may not have proprietary labels.			
-05	Are drums protected from the weather (rusting or ultraviolet attack)?	Do a visual check. Metal drums suffer from rusting and plastic drum from ultraviolet light embrittlement.			
-06	Are all drums in a good state of repair?	Look for signs of impact damage or missing filler caps.			
-07	Is there a properly designed method for removing the drum contents?	Do a visual check. Look for examples of drum pumps or tilting pallets. Check in both cases how minor spills are handled.			
-08	Are drums protected from extremes of temperature?	Do a visual check for barreling of the drums (overpressure) or sucking in (vacuum).			
-09	Are empty drums recycled?	Check if drums go back to the supplier for reuse. Recycling as rubbish bins does not count.			
-10	Has there been a fire-risk assessment?	Have the contamination consequences of a fire in the drum area been taken into account?			
Aspect 055 total					

ASPECT 056 Liquid Loading/Unloading					
056	Audit Check	How to Verify	Act	Notes	OK
-01	Are transfer points paved and curbed?	Do a visual check.			
-02	Is the containment surface suitable?	Tar macadam is inappropriate for hydrocarbon material, concrete is unsuitable for acids, resin surfaces are unsuitable for plastic pellets, etc.			
-03	Are construction or subsidence joints effectively sealed?	Do a visual check on the condition of caulking. Look for examples of subsidence cracking.			
-04	Can the containment system contain the full contents being discharged?	This is especially important if the discharging container is a large road or rail tanker.			
-05	In the event of a spillage can the product flow be isolated easily?	Check if this isolation can be done remotely. If there is a discharge/spillage, will the isolation point be affected, preventing its operation?			
-06	Are the contents of hoses drained to a safe place?	Check what happens to the contents of the loading hose once loading is completed.			
-07	Is a system in place to prevent vehicles driving away while coupled?	Ask how they prevent drive-aways when loading/unloading hoses are still coupled?			
-08	Are vehicles earthed during the loading/offloading process?	Do a visual check.			
-09	Is spillage from sample points collected ?	Observe sample points in use.			
-10	Do procedures exist to control the washing out of containers?	Ask if container or tanker cleaning is permitted, and if so what happens to the washings.			
Aspect 056 total					

ASPECT 057 Groundwater Abstraction					
057	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a regulatory permit for the abstraction?	Ask to see the permit.			
-02	Is the pumping level maintained constant in normal use?	Look out for evidence that the pumping levels are dropping continuously.			
-03	Are samples routinely taken from the well?	Ask to see sample analysis results. Are the analyses appropriate to what could be anticipated?			
-04	Are the well draw-down areas protected to prevent contamination?	Ensure that well head areas are secure or enclosed.			
-05	Is the zone of influence of the well known?	Check if the well could be abstracting water from a neighbor's property.			
-06	Is the well string pump a good fit in the well?	Ask if internal recycling within and around the well pump could be leading to excessive power consumption.			
-07	Is the well liner inspected periodically?	When was the last inspection?			
-08	If used for drinking water, is the water treated?	Ask what sort of treatment system is used—how does this fit with the regulatory requirements?			
-09	Is well head pipe work protected against temperature extremes?	Consider whether frost damage or thermal expansion could be a problem when the well is shut down.			
-10	Was a historical review conducted before the well was installed?	Did the historical review indicate if toxic or ecotoxic chemicals could have contaminated the well catchment area?			
Aspect 057 total					

ASPECT 058 Ground Contamination—Historical Review					
058	Audit Check	How to Verify	Act	Notes	OK
-01	Are all the current contamination sources known and recorded?	Ask to see the historical review report.			
-02	Has a review been done of the possible historic uses of the land?	Ask to see the historical review report.			
-03	Is the hydrogeology of the site known?	Ask to see a copy of the hydrogeological map.			
-04	Has an inspection been done to find evidence of contamination?	This inspection should have looked for evidence of old spillages, leachate, or existing of old tipping sites.			
-05	Have all historic contaminants been identified?	Ask to see the list.			
-06	Has a literature review been carried out?	Look for evidence that they have reviewed company records, local authority and regulator records, aerial photographs, retired employees, etc.			
-07	Has it been established that the site is not of special ecological interest?	Ask to see flora/fauna survey reports.			
-08	Has it been established that the site is not of archaeological interest?	Ask to see detailed local maps.			
-09	Has the historical review been used to define the sampling strategy?	Ask to see a demonstration of the link between the sampling strategy and the historical review findings. (Often found in a consultant's report.)			
-10	Have all environmental targets been identified?	These might be watercourses, ground or ground contamination, potable water abstraction, etc.			
Aspect 058 total					

ASPECT 059 Site Investigations					
059	Audit Check	How to Verify	Act	Notes	OK
-01	Has soil sampling been carried out?	Ask to see trial pit or gas probe survey results.			
-02	Was the sampling strategy based on a historical review?	Ask to see the historical review summary.			
-03	Did a competent person carry out sampling?	Were samples collected and stored in a way that would not change the contamination levels? Did samples follow a chain of custody to the laboratory?			
-04	Were samples representative of the area being studied?				
-05	Was sample analysis carried out in a laboratory certified by a suitable authority?	Check if laboratory is registered with the EPA (USA), NAMAS (Europe) or other equivalent body.			
-06	Are monitoring boreholes sited on the downstream boundary?	There may be other monitoring boreholes, but the down hydraulic gradient may indicate contaminants migrating from the site.			
-07	Does borehole design prevent pollution ingress into hole?	Check for the presence of an aboveground upstand to prevent contaminants leaking down to the groundwater. Are the boreholes locked?			
-08	Are unused boreholes properly sealed?	Check state of boreholes that are not regularly monitored.			
-09	Are boreholes designed to monitor water at a specific depth?	Check the piezometer tube design to see if the slots are set at the required depth.			
-10	Is there a clearly specified borehole sampling method?	Ask to see the method statement.			
Aspect 059 total					

ASPECT 060 Waste Minimization					
060	Audit Check	How to Verify	Act	Notes	OK
-01	Is there a policy of waste minimization?	Ask to see the records of waste produced over the last five years. Is it reducing?			
-02	Is there a waste segregation process?	Ask to see what is segregated and how it is controlled.			
-03	Is waste recycled as much as possible?	Ask to see examples of waste recycling. Is everyone involved?			
-04	Are the offices involved in waste reduction?	Is paper usage minimized and paper recycled? Are other consumables (ink cartridges, cups, etc.) recycled?			
-05	Is the use of recycled materials part of the purchasing policy?	Ask to be shown examples of purchases involving recycled materials.			
-06	Are packaging materials all recycled?	Check if suppliers' packaging is returned to source and if maintenance packaging (cable reels, etc.) is returned.			
-07	Is production waste measured and controlled?	Is production efficiency as high as possible to minimize waste?			
-08	Are surplus materials disposed of for gainful use?	Are they sold or given to schools/charities?			
-09	Is old IT equipment sent for recycling or reuse?	What happens to obsolete computers?			
-10	Are alternative uses considered for waste materials?				
Aspect 060 total					