GOOD PRACTICE: Proven technology and techniques for profitable environmental improvement
HOW TO SET UP ENVIRONMENTAL MANAGEMENT SYSTEMS IN THE TEXTILES INDUSTRY

This Good Practice Guide was produced by the Environmental Technology Best Practice Programme

Prepared with assistance from:

RPS Group plc
‘Environmental management systems are of benefit because they steer the business/company down the route of identification of key environmental effects, measurement of the impact of those effects and finally clear targets to improve. The process gives a real opportunity for environmental improvement and cost benefit.’

Dr P Cooper  
Chairman, BATC Environment Committee  
Technical Executive, Courtaulds Textiles

‘Marks & Spencer firmly believes that greater environmental responsibility improves efficiency and productivity. The need for high standards of environmental performance should be considered as an integral feature of quality management and product performance.’

R L Hill  
Environmental Affairs Manager  
Marks & Spencer

‘We are very pleased for Moorhouse & Brook to be the first UK textile manufacturer to register for EMAS, and having since attained ISO 14001 certification. The implementation of an EMS enabled the Company to have a more structured and focused approach to environmental risk, and has also benefited the Company in terms of reduced costs and improving relationships with its stakeholders.’

E G Smith  
Environment, Health and Safety Adviser  
Moorbrook Textiles Ltd.
A growing number of textiles companies now recognise that, to remain competitive and to meet customer requirements, it is essential to reduce operating costs and look beyond regulatory compliance. An environmental management system (EMS) provides a structured framework within which a textile company can develop its approach to managing environmental risks while becoming more efficient. It also demonstrates a company's commitment to continual improvement.

This Good Practice Guide will give you the tools to set up an EMS to address specific environmental issues and reduce your environmental impact. This can be achieved through an informal environmental management system or, alternatively, formal certification to a recognised standard such as ISO 14001 or the EC’s Eco-Management and Audit Scheme (EMAS). This Guide is applicable to all sectors of the textiles industry and companies of all sizes.

Whichever route your company chooses, a sound, well-conceived environmental management system is a practical management tool that can help your company:

- reduce waste and hence operating costs;
- gain competitive advantage;
- demonstrate compliance with legal obligations;
- improve its public image.

The Guide describes the benefits to textiles companies of managing environmental issues and explains the different elements that make up an EMS. It stresses the importance to the success of an EMS of obtaining senior management commitment and raising employee awareness. Practical advice on how to collect the information needed to develop your own EMS is provided. Industry Examples highlight the experiences and benefits achieved by those textiles companies that have already implemented an EMS.

Once you have set up the systems described in this Guide, you will be in a good position to apply for external certification.
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Environmental issues can no longer be ignored by the textiles industry. Companies are faced with increasingly stringent legislative controls and rising water and other raw material costs. Efficient and effective use of raw materials and improved process operations are vital if companies are to remain competitive. Pressure is also being exerted by suppliers and customers for companies to reduce their environmental impact. All these factors mean that environmental issues should be an essential part of your business plan.

Setting up an environmental management system (EMS) will provide your company with a framework through which its environmental performance can be controlled and improved. You can either develop your own EMS or follow the guidelines laid down in an international standard or a European Regulation (see Section 1.4). An EMS will help you identify opportunities to reduce your operating costs through reduced waste generation and reduced use of water and other utilities.

Questions frequently asked:

<table>
<thead>
<tr>
<th>What is an EMS?</th>
<th>An EMS provides a textiles company with an integrated approach to managing and monitoring its environmental effects and complying with environmental regulations.</th>
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<td>What is in it for us?</td>
<td>An effective and efficient EMS will provide a textiles company with the opportunity to reduce costs, to reduce its environmental impact, increase efficiency and enhance its reputation.</td>
</tr>
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<td>What is involved?</td>
<td>This Good Practice Guide provides textiles companies with a practical framework and methodology, which people with no previous experience of environmental management can use to carry out an environmental review, write a policy, plan a programme and implement an EMS.</td>
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</tbody>
</table>

The Guide is intended for use by both dedicated environmental managers and individuals who include environmental matters among their responsibilities.
1.1 THE UK TEXTILES INDUSTRY AND THE ENVIRONMENT

All textiles processes have an impact on the environment. The industry uses large amounts of natural resources such as water, while many operations use chemicals and solvents. All sectors use energy, produce solid waste, discharge effluent and emit dust, fumes, etc to the atmosphere. Many textiles companies are located in rural areas where environmental protection is more of a key issue.

All sites and businesses can benefit from a systematic approach to environmental management.

EMS will be of benefit to all sectors and all types of company within the textiles industry.

1.2 WHAT IS AN ENVIRONMENTAL MANAGEMENT SYSTEM?

An environmental management system provides order and consistency for organisations to address environmental concerns through the allocation of resources, assignment of responsibilities, and ongoing evaluation of practices, procedures and processes.

Extract from BS EN ISO 14004*

The aim of an EMS is to provide a systematic way of managing both the positive and negative impacts that a business has on the environment.

1.3 THE BUSINESS CASE FOR EMS

For textiles companies, the main drivers behind the development of an EMS are:

- reducing waste and hence operating costs;
- meeting current and anticipated legislative requirements;
- pressure exerted down the supply chain;
- competition from within the sector;
- concern for the global and local environment.

Implementing an EMS has many financial, production, marketing and other benefits for all companies - regardless of size and the extent of their impact on the environment. These benefits include the following:

1.3.1 Cost savings

Every business wants to be as efficient as possible and ensure that resources are not wasted. An EMS provides a structured approach to improve your environmental performance and minimise waste. Your operating costs will be reduced and your profits increased through:

- reduced consumption of raw materials, energy and water;
- improved yields;
- reduced waste treatment and disposal costs.

An EMS consists of a review of inputs and outputs for your operations (see Section 3.2) which will put you in a better position to manage them.

Remember:
If you don’t measure it, you can’t manage it.

* Extracts from British Standards are reproduced with the permission of BSI under licence no. PD1998 0448. Complete editions of the Standards can be obtained by post from BSI Customer Services, 389 Chiswick High Road, London W4 4AL.
1.3.2 Competitive advantage

An EMS can be used as an additional marketing tool to distinguish your company from your competitors. As the environment becomes a key business issue, this can lead to increased market share and entry into new markets. The ability to demonstrate to potential customers that you are operating an EMS may make the difference between winning and losing a contract.

1.3.3 Easier bank loans

The main clearing banks and other major financial institutions now assess loan applications partly on the basis of the environmental risks associated with the business. For example, for mills situated on the same site for many years, a legacy of site pollution is potentially a high environmental risk. Banks are keen to ensure that clients are aware of their potential environmental liabilities and regard an EMS as an indicator of good management practice.

1.3.4 Improved focus and employee awareness

An EMS provides a focus for a range of initiatives to improve your environmental performance. An environmental policy provides a goal to work towards and helps employees understand what you are trying to do. An EMS also provides a template for managing environmental risks, including identifying key personnel with responsibility for environmental issues. As risks are reduced, insurance premiums may fall.

Implementing an EMS helps to increase employee motivation and develop an interactive approach to environmental issues. A positive attitude among the workforce can lead to less waste and thus a higher yield. Innovative suggestions and a reduction in the number of non-compliances are other possible benefits from increased employee awareness.

1.3.5 Better relations with regulators

The Environment Agency and other regulators value EMSs as a sign of a well-managed site and a company striving to improve its environmental performance. The existence of a system to manage environmental risks and regular audits may lead to the business being regarded more favourably by regulators.

1.3.6 Improved regulatory compliance

Although an EMS does not guarantee compliance with regulatory controls, eg discharge consents, there are likely to be fewer instances of non-compliance. Proper management and regular audits reduce the chances of incidents, eg leaks occurring and remaining undetected for any length of time. In addition, plant breakdowns and operational discrepancies will be identified and repaired quickly, thus reducing the likelihood of processes/operations becoming non-compliant. Avoided costs include wasted raw materials, fines for breaches of statutory requirements and clean-up costs for pollution incidents.

1.3.7 Keeping ahead of environmental legislation

An EMS allows a company to anticipate and plan for forthcoming legislation, eg stricter emission limits or a ban on the use of a particular substance.

1.3.8 Improved public image

An EMS demonstrates a commitment to a policy of continual environmental improvement and can be used to provide good publicity for the company, both locally and nationally. Mills that have developed an EMS regard it as a marketing opportunity and give details in much of their promotional literature.
1.3.9 Customer and supply chain pressure

As part of its own EMS, a business is encouraged to assess the environmental performance of its suppliers and contractors. Companies often request evidence of an EMS, or an indication from a company of when they intend to implement an EMS, during the supply process, and some conduct independent audits. However, this practice can be expensive and is generally limited to those supplying goods over a pre-set threshold.

Many larger companies have an environmental policy that commits them to buying goods and services from organisations with a responsible approach to environmental management. An EMS provides evidence of such a commitment. Overseas customers are also becoming more aware of the benefits of requesting evidence of registration to a formal environmental standard. The pressure is greatest in countries like Germany, where a greater number of formal EMSs have been adopted than in the UK.

1.4 TYPES OF EMS

There are three strategies available to textiles companies wanting to implement an EMS:

- develop their own, in-house EMS;
- follow the guidelines of the international standard ISO 14001 (which supersedes BS 7750) or the EC’s Eco-Management and Audit Scheme (EMAS);
- pursue formal certification/verification to these standards.

All three strategies are voluntary, but different in their scope and approach. A business can hold registration to both ISO 14001 and EMAS.

BS EN ISO 14001 Environmental Management Systems - Specification with Guidance for Use is available from the British Standards Institution (BSI). ISO 14001 is part of the international ISO 14000 family of standards, applying to all sectors of industry and available on a site or countrywide basis. ISO 14004 Environmental Management Systems - General Guidelines on Principles, Systems and Supporting Techniques provides practical advice on the implementation and maintenance of an EMS.

EMAS applies to manufacturing organisations on a site-specific basis. It requires the preparation and independent validation of an Environmental Statement, which must be available to the public.

Appendix 3 describes the key differences between ISO 14001 and EMAS. Contact details for the BSI and the EMAS Competent Body in the UK are given in Appendix 4.

Both formal standards provide a framework for implementing an EMS, which can lead to external recognition of your achievement.

1.4.1 The advantages of external certification

External recognition is desirable if:

- your company is asked by a customer to implement a recognised EMS;
- your company wishes to enhance its public reputation;
your company wants to move into a new market area where environmental issues have a high priority;

- the third-party check imposes a discipline on your environmental management activities (which might not otherwise be achievable) and provides credibility for your EMS in the eyes of neighbours, lenders and other stakeholders;

- your competitors have external recognition of their EMS.

**Once you have set up the systems described in this Guide, you will be a good position to apply for external certification.**

### 1.5 WHAT AN EMS INVOLVES

An EMS consists of the following elements:

- commitment from senior management;
- appointing/identifying an individual to oversee the operation of the EMS;
- setting up a project team or steering group;
- developing an environmental policy;
- carrying out an environmental effects review and assessment of significance;
- identifying legislative requirements;
- developing an action plan;
- setting objectives and targets as part of an environmental improvement programme;
- assigning responsibility;
- writing procedures to control activities that have a significant environmental impact;
- developing staff awareness and providing training;
- establishing a controlled system of records;
- periodic auditing of the system to ensure it is operating effectively;
- public reporting (optional).

Fig 1 shows the main elements of a typical EMS.
1.6 SOURCES OF HELP

Implementing an EMS can involve considerable time and effort. However, help is available if your company is unsure. Table 1 lists sources that may be able to assist with advice and guidance.

<table>
<thead>
<tr>
<th>Source</th>
<th>Type of help</th>
</tr>
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| Environmental Helpline (freephone 0800 585794) | Two hours free advice  
Discretionary free counselling service for companies with fewer than 250 employees  
Names of possible consultants  
Literature |
| Training and Enterprise Councils (TECs)/Business Links | Advice and information |
| Local Green Business Groups | Advice |
| Universities | Graduate placements and industry partnerships |

Table 1  Sources of help for textiles companies wishing to implement an EMS

Further sources of help and information are listed in Appendix 4 and a glossary of terms is given in Appendix 5.

If you need advice or help on a particular element of environmental management systems, please contact the Environmental Helpline on 0800 585794.

1.7 THE IMPORTANCE OF TOP LEVEL COMMITMENT

Although an EMS needs to be adopted at all levels within the company, its effectiveness will depend on the level of commitment from the managing director and other senior staff. Before starting to design your system, it is therefore essential to obtain the full commitment of senior management to the aims and objectives of your EMS.

One of the easiest ways of securing commitment is to estimate the potential cost savings from adopting an EMS. For example, by implementing no-cost and low-cost measures, you could reduce your water and effluent costs by 20% or more.* You should also be able to reduce your energy bills by 10% through good housekeeping and tighter control. Your detailed review of process inputs and outputs (see Section 3.2) may reveal opportunities for even more savings.

The commitment of senior managers is important in obtaining sufficient time, resources and money to achieve continual environmental improvement through an EMS.

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Moorhouse & Brook discovers the benefits of an EMS

Moorhouse & Brook, a busy Yorkshire mill famous throughout the world for its natural fibres, had always believed itself to be environmentally friendly. It did not consider its operations had a significant impact on the global, or even local, environment.

Managing Director Tim Hoyle describes the pathway that led his Company to be one of the first to achieve EMAS registration as ‘rather like a journey, not a destination’. The scheme prompted a fresh look at every aspect of the site’s operation - from recycling raw material packaging right through to new ways of disposing of toner cartridges from the office printers. ‘We knew that careful measurement and analysis of the effects of every stage of our process - from our use of energy and raw material to avoiding waste and our accident procedures - were essential to our EMAS approach. So we held a brainstorming session and constructed a fishbone diagram of all the inputs and outputs of the various processes in the mill. Then we walked round the entire site and identified areas where we could perhaps do things a little bit differently to minimise their environmental effects.’

As a result, Tim Hoyle and his team took a closer look at several areas of the Company’s operations.

Thread waste left over in the weaving process was one of the areas that attracted particular attention. This waste is now either recycled or sold as a raw material, along with processing wastes from other areas of the mill. Any remaining wool waste is ground up and used as a fertiliser in horticulture. Over 33 000 kg/year of waste from around the plant is now re-used on site or sold for recycling, producing significant cost savings for the Company.

Scouring routines have been changed to reduce the amount of effluent discharged. In addition, a survey was carried out to establish exactly where the drains went.

An acid storage tank identified as a risk to the environment due to the potential for damage caused by leakage has now been replaced with a double tank. An additional outer brick wall has been built around the tank so that, in the unlikely event of spillage, the acid would go into the controlled effluent system rather than the river.

As a result of EMAS, the amount of water used in relation to units of production is now measured. The data have led the Company to look at further improvements in its manufacturing processes.

Moorhouse & Brook’s initial review identified two policy objectives and 19 significant effects that needed to be addressed, some of which will always be ongoing to sustain continual improvement.
2.1 EMS TERMINOLOGY

Before you start to plan and implement your EMS, it is worth understanding the different terminology used in ISO 14001 and EMAS documentation. Use of the terms 'aspect', 'impact' and 'effect' are described below. Appendix 5 contains a glossary of useful terms.

- Environmental aspect - ‘element of an organisation’s activities, products or services that can interact with the environment’ (BS EN ISO 14001).
- Environmental impact - ‘any change in the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products or services’ (BS EN ISO 14001).
- Environmental effect - any direct or indirect impingement of the activities, products or services of an organisation upon the environment, whether adverse or beneficial. EMAS refers to environmental effects that are regarded as significant. These include emissions, discharges, contamination and waste. The term is used - with identical meaning - instead of environmental impact.

In addition, ISO 14001 and EMAS use two different words when talking about third-party recognition of an EMS. When a business seeks recognition to ISO 14001, it becomes certified after a certification visit by an external certification body. When a business seeks recognition as complying with EMAS, it becomes verified after a verification visit from an external verifier. This Guide uses the ISO 14001 terminology of ‘certification’. Readers are advised to substitute ‘certification’ with ‘verification’ when pursuing registration to EMAS.

2.2 WHO IS RESPONSIBLE?

Many mills have difficulty deciding who should be responsible for implementing their EMS. Some mills will be in a position to appoint an environment manager and some will not. If you fall into the latter category, you need to allocate time to someone with similar work responsibilities and skills.

Some companies have employed a student on work experience or a graduate placement to help implement some of the elements of an EMS, eg waste minimisation and energy efficiency. Students have also proved useful in campaigns to get employees motivated and involved.

The environment manager (described as the Management Representative in ISO 14001) is responsible for:

- undertaking the initial review;
- implementing and maintaining the EMS;
- co-ordinating the input from other people with complementary responsibilities.

In multi-site businesses, the environment manager could be responsible for the EMS at each site, in support of the site engineer or manager.
2.2.1 Seeking help from other people

Many companies have found that it has taken some time to implement their EMS because the person responsible has other roles with an equal call on their time. Help should be sought from the following people.

The site/process engineer
Much of an EMS revolves around greater efficiency from process operations and monitoring. Therefore it is logical for the person with responsibility for monitoring and maintenance of process equipment to be closely involved in the development and maintenance of your EMS.

The health and safety manager
Much of the information required under health and safety legislation is applicable to an EMS. Given these close links, the health and safety manager should also be asked to help develop your EMS.

The quality assurance manager
If your company has a quality assurance system, the documentation procedure is likely to relate to EMS requirements. Therefore, the department/individual responsible for quality assurance in your company should be able to help develop procedures and documentation.

The purchasing manager
In addition to providing information about your raw material and utility costs, the purchasing manager will need to be involved if liaison with suppliers is required.

2.3 CREATING A STEERING GROUP

Setting up a steering group will help you work through the early stages of implementation. The steering group should be cross functional and consist of representatives from all operational areas of the mill, together with a member of senior management. People with different roles and experiences will bring different skills and ideas. At its meetings, the steering group should:

- discuss progress;
- review objectives and targets, and if necessary, set new ones;
- discuss other elements of the EMS.

A formal agenda should be set and minutes kept. These will provide records for the management review process. Representatives from project groups or teams should be asked to report to the steering group. The steering group may evolve into the project team or environmental management team set up to operate the EMS. At a later date, the steering group meetings may develop into management review meetings.

Teams and Champions

Employees often turn out to be a company’s best resource. Identifying a Champion prepared to drive the environmental improvement programme has proved successful for many companies. Alternatively, you may find it better to identify different Champions to promote particular areas of the EMS, eg the waste minimisation programme. These individuals could also be made responsible for co-ordinating employee teams set up to implement a particular strategy.

An essential element of the success of an EMS is that the workforce regards itself as part of the system. It is also important that responsibility for specific tasks is assigned to individuals, eg the site engineer, site manager, section head and environment manager.
Involving teams and Champions at an early stage in implementing an EMS will help increase staff awareness at all levels and motivate individuals to take action and participate.

To maintain a programme of continual improvement it is essential to involve the workforce. An edict from senior management on its own will only achieve short-term success. For continual improvement and long-term success, training and communication are essential.

2.4 HOW ENVIRONMENTALLY AWARE IS YOUR COMPANY?

The checklist shown in Table 2 is intended to help you find out how your business stands on environmental issues. If you take a photocopy, you can repeat the exercise when you have implemented your EMS. You should notice a difference.

If you have answered ‘yes’ to some of these questions, this means your company already practises some elements of environmental management. Your next step should be to decide what else you need to do to improve your environmental performance.

If most of the answers are ‘no’, you will obtain significant benefits from following the advice given in this Guide and taking action to implement an EMS.

FIND OUT HOW YOUR BUSINESS STANDS ON ENVIRONMENTAL ISSUES
## Table 2 How environmentally aware is your company?

<table>
<thead>
<tr>
<th>EXAMPLE CHECKLIST</th>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td><strong>Compliance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you know who holds details of emission consents and other statutory requirements?</td>
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<td></td>
</tr>
<tr>
<td>Are you aware of all the environmental regulations applying to the business?</td>
<td></td>
<td></td>
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<tr>
<td>Does the company comply with all necessary regulations?</td>
<td></td>
<td></td>
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<tr>
<td>Is a monitoring system in place to check and report results?</td>
<td></td>
<td></td>
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<tr>
<td>Are regular internal audits carried out to ensure compliance?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Waste minimisation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has a waste review been carried out in all departments?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are production wastes, eg trims and bobbins, packaging and office wastes, recycled?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has a review of water use and process flows been carried out?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you considered and implemented options for reducing water use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are wastes separated at source to enable re-use/recycling wherever possible?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are all solid wastes, eg shoddy and offcuts, considered as a potential source of income?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you set targets for reducing waste from all parts of the business?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Energy efficiency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has an energy audit been carried out during the last three years?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have energy efficient lights been installed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has energy and water use been related to levels of production?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product and process design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are your packaging specifications designed to minimise waste and maximise re-use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are environmental standards a consideration in product design?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are the environmental impacts of production processes and the product in use considered?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Procurement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the company specify environmental standards to suppliers and make good environmental performance a factor in supplier selection?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is the environmental performance of your suppliers monitored?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you apply a ‘buy recycled’ policy specifying recycled content to the procurement of paper products and raw materials?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are you working with your suppliers to ‘design out’ hazardous materials, eg find alternative, less toxic solvents?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Information and communications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have an environmental policy that is communicated to all employees and available to the public?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is regular training on environmental issues given?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does the company produce publicly available information about its environmental performance?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Carrying out an initial review gives you the opportunity to take a strategic overview of your company’s attitude to environmental issues. It will enable you to:

- review the site’s compliance with legislation and statutory requirements;
- identify ways in which site operations have an impact on the environment;
- prepare/revise your environmental policy;
- quantify emissions, discharges, solid waste and material/utility use;
- find out how environmental issues are currently managed;
- set objectives and targets for improvement.

### 3.1 SOURCES OF INFORMATION

Much of the information needed to carry out an initial review will be available on site, but it may be held by different departments or individuals, e.g. the site manager, process engineer, energy manager or purchasing department. Table 3 suggests the type of information needed and how it might help.

It is not necessary to re-invent the wheel. Look around to see if the work has already been done or whether existing procedures can provide the information.

---

**‘Who needs water?’**

As part of its commitment to continual environmental improvement, a carpet manufacturer, registered under ISO 14001, examined the efficiency of water use by its foam applicator. The foam applicator was found to be using more water than necessary. A simple alteration to the process meant that soap could be used as an alternative sealing agent to water, eliminating the need for water in this process. As a result of this simple measure, water consumption fell by approximately 450 m³/year.
### Table 3: Example of internal information sources for the initial review

<table>
<thead>
<tr>
<th>Type</th>
<th>How it will help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consents/authorisations</td>
<td>Limits on emissions and discharges of specific substances. Details of monitoring programmes required.</td>
</tr>
<tr>
<td>Bills</td>
<td>Number of units of raw material and utilities (water and energy) bought and the cost per unit. Can also be used to identify where cost savings have been made.</td>
</tr>
<tr>
<td>Waste disposal records</td>
<td>Records kept to fulfil the company’s legal obligations under the Duty of Care should indicate tonnage, type of waste and cost of its disposal. Provide a good base-line from which to assess existing disposal practices, potential for improvement and cost savings.</td>
</tr>
<tr>
<td>Operating procedures</td>
<td>Existing health and safety and other operating procedures may dictate which procedures are used in particular processing operations. These will provide a good base-line to build on in your EMS.</td>
</tr>
<tr>
<td>Records of incidents</td>
<td>Such records may provide a fast route to identifying those areas likely to have a significant environmental effect.</td>
</tr>
<tr>
<td>Customer information</td>
<td>Indicates current customer base and whether customers have expressed an interest in the environmental performance of the business or the environmental impact of the product.</td>
</tr>
<tr>
<td>Supplier information</td>
<td>May indicate sources of raw materials and their likely environmental impacts. Raw material specifications will help you decide whether this is an area requiring attention and whether changes in procurement can be made. Suppliers are obliged to supply material safety data sheets with those materials falling under the COSHH Regulations*. This information is particularly useful for solvent management.</td>
</tr>
</tbody>
</table>

* Control of Substances Hazardous to Health (COSHH) Regulations 1994

---

**3.2 PROCESS INPUTS AND OUTPUTS**

A good way of getting started is to determine the quantities and costs of the raw materials, water and energy used by your company during the previous 12 months. Example questions are given in Table 4. The example forms in Appendix 1 will also help you record the information you need for your initial review.

Contact the Environmental Helpline on 0800 585794 for free advice on legislation and good environmental practice in the textiles industry.

The Environment Agency, the Scottish Environment Protection Agency (SEPA) and your local authority can also provide information on regulatory requirements in the textiles sector.
Initial review

DETERMINE THE QUANTITIES AND COSTS OF RAW MATERIAL, WATER AND ENERGY USED

**Table 4 Initial review questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Amount</th>
<th>Cost (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much electricity did the company use last year?</td>
<td>kWh</td>
<td></td>
</tr>
<tr>
<td>How much gas did the company use last year?</td>
<td>kWh</td>
<td></td>
</tr>
<tr>
<td>How much steam did the company use last year?</td>
<td>kg</td>
<td></td>
</tr>
<tr>
<td>How much water did the company use last year?</td>
<td>m³</td>
<td></td>
</tr>
<tr>
<td>How much effluent did the company discharge last year?*</td>
<td>m³</td>
<td></td>
</tr>
<tr>
<td>How much raw material was purchased last year?*</td>
<td>m³</td>
<td></td>
</tr>
<tr>
<td>What solvents were purchased last year? In what quantities?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much waste was produced last year?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was the waste?*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much did the company spend on waste disposal last year?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How much product did the company produce last year?</td>
<td>units</td>
<td></td>
</tr>
<tr>
<td>How do raw material purchases equate with waste amounts?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* You may find the forms in Appendix 1 helpful.

When they start asking questions, most companies find that a lot is already being done. The essential point is to know where the information is and how it is collected.

Keep copies of all documents for future reference.
Questions like those in Table 4 and the information gathered on the forms in Appendix 1 will help you identify a base-line for your operations and the associated costs. You will then be in a position to answer the following questions:

- Can waste levels be reduced?
- Can we save money?
- How can money be saved?
- Can we re-use/recycle more of our waste?

3.3 ARE WE ACHIEVING COMPLIANCE?

As part of your initial review, you also need to ask questions about the site’s record on complying with consents and process authorisations. You need to find out what are the legal requirements regarding emissions to air, land and water and whether compliance is being achieved. Table 5 summarises the areas that you should assess. You may have already entered some of this information on the forms in Appendix 1.

<table>
<thead>
<tr>
<th>Area</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site history</td>
<td>Historical use, wells, infill</td>
</tr>
<tr>
<td>Processes on site</td>
<td>Delivery, labelling and storage of materials</td>
</tr>
<tr>
<td></td>
<td>Water and energy use</td>
</tr>
<tr>
<td></td>
<td>Emissions to air, land and water</td>
</tr>
<tr>
<td></td>
<td>Authorisations and licences</td>
</tr>
<tr>
<td>Health and safety</td>
<td>Asbestos, noise, dust, COSHH*</td>
</tr>
<tr>
<td>Waste management</td>
<td>Segregation, record-keeping, use of waste contractors</td>
</tr>
<tr>
<td>Building/plant design</td>
<td>Buildings, bunded areas, drainage (including surface water)</td>
</tr>
<tr>
<td>Office and canteen activities</td>
<td>Paper use, energy use, food waste</td>
</tr>
</tbody>
</table>

*  Control of Substances Hazardous to Health (COSHH) Regulations 1994
3.3.1 Site history

An investigation of previous activities at the site should identify any potential liability for cleaning-up previous contamination. Many textiles businesses have been operating on their sites for long periods of time, with no records of previous use of the land. However, it is essential to assess whether past operations could have resulted in contamination of land or groundwater.

Questions to ask about the site

- When was the site acquired?
- What expansions/changes of use have occurred since the site was acquired?
- Has there been any known contamination of the site?
- Has a contaminated land survey of the site ever been undertaken?
- Where is waste discharged from, what is discharged, and where does it go?

3.3.2 Processes on site

As part of your initial review, you should prepare a list of:

- all processes on site;
- the materials used in each process;
- the quantities and cost of these materials;
- the source and method of delivery of each material;
- how these materials are stored;
- the emissions to air, water and land from each process.

The example forms in Appendix 1 are intended to help you collect these data in a systematic manner. The forms can be adapted to add information on labelling and anything else that you consider relevant.

You also need to identify:

- all relevant authorisations and consents;
- where they are kept, ie who holds them;
- the limits imposed by these licences.

Fig 2 suggests a format for collecting information about environmental effects in a consistent manner. When completed, this form can be filed in your Register of Environmental Effects (see Section 5).

3.3.3 Health and safety

The health and safety procedures associated with each process should be identified. For example, COSHH assessments will provide useful information on quantities, storage requirements and management. Safety data sheets can form part of your EMS.

3.3.4 Waste management

Under the Duty of Care, all waste producers must know what happens to their waste and keep records of all disposal activities. Check that the waste contractors you use are licensed to carry your particular waste; and keep your copy of waste consignment notes. These notes may help you identify the type and quantity of wastes that have been generated on site. It is also worthwhile identifying how waste is segregated.
**Department/Process:** Curing  

**Date:** 23 September 1997  

**Description of Process:**

*Pigment dyes are cured onto fabric and in finishing processes in an oven using a range of chemical treatment processes.*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Receiving medium (ie air/land/water)</th>
<th>Notes</th>
<th>Level of significance (to be completed later)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC emissions</td>
<td>Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions of formaldehyde</td>
<td>Air</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Questions to ask about waste segregation**

Do you know what waste your site generates?  
What steps are taken to segregate waste?  
Do you know where your waste is disposed of?

**Use of multi-trip yarn cones**

One spinner reduced plastic yarn cone waste by maximising the use of re-usable cones. Rugged cones, which can tolerate at least eight round trips via the dyer and weaver, are used whenever possible. Although the cones cost 10 - 12 pence each, the cost per trip is only one penny (for an average life of 10 - 12 trips). This represents a considerable saving over one-trip plastic cones, which currently cost approximately 3 - 4 pence each.

Although many spinners build the cost of the cone into the price of the yarn, some companies have introduced a return-deposit that explicitly identifies the cost of the cone. Many weavers appreciate both the lower cost of the yarn and the opportunity to return the cones.
3.3.5 Building/plant design

When assessing potential for non-compliance, you should look at the design of buildings and bunded areas.

Questions to ask about bunded areas

Are tanks bunded?
Are the bunds solid, with no cracks or missing bricks?
Is the capacity of the bund sufficient to hold the total volume of the tank plus some rainwater, ie 110%?

Many textiles companies may have old sites, often with no accurate plans or records of the drainage system. This situation creates the potential for unconsented discharge if a substance enters a watercourse when it was assumed to be going to the sewer.

A drainage survey is a good way of ensuring that the company knows where all its liquid waste is going.

Ask long-serving employees for help - they may be able to give you a head-start on identifying drainage pathways.

3.3.6 Office and canteen activities

Office and canteen activities can also have a significant effect on the environment and should be reviewed alongside process operations.

Do not limit your review to the obvious.

3.4 PREPARING A LIST OF ENVIRONMENTAL EFFECTS

Identifying and understanding your company’s environmental effects will help you to reduce them. When preparing a list of all the environmental effects at your site, you will find it easier to take each department or process in turn (see Fig 2). Environmental effects not covered by legislation should also be included in your initial review, as they may turn out to be significant (see Section 5).

Table 6 lists some of the environmental issues associated with textiles companies. These may lead to environmental effects such as air pollution, poor water quality, groundwater contamination, contaminated land, use of natural resources and global warming.
### Emissions to atmosphere
- Dust, eg lint
- Fumes, eg isocyanates and formaldehyde
- Solvents or volatile organic compounds (VOCs)
- Nitrogen oxides (NO\textsubscript{x})
- Sulphur oxides (SO\textsubscript{x})
- Water vapour

### Discharges to water
- Effluents from scouring, eg washing, rinsing, cooling, bleaching, cleaning
- Chemical oxygen demand and biochemical oxygen demand
- Colour
- Heat (as indicated by water temperature)
- pH of effluent
- Suspended solids, sludge
- Pentachlorophenols (PCPs)
- Other mothproofing agents and pesticides

### Solid wastes
- Process wastes, eg offcuts, fibres and cones
- Hazardous wastes, eg machine oils and scrapings
- Packaging wastes, plastics, cardboard, paper and wood
- Empty chemical drums
- Litter on site and surrounding area

### Noise, odour, visual impact and vibration
- External and internal noise from machinery
- External and internal vibration from machinery
- Visual impact of mill, signs and waste storage

### Chemicals, eg dyestuffs, caustics and detergents
- Purchasing, storage and disposal
- Toxicity

### Fire or flood water runoff and control of hazardous chemicals

<table>
<thead>
<tr>
<th>Raw materials</th>
<th>Wool, cotton, nylon, viscose, polyester, etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water consumption*</td>
<td>Mains (process and domestic use by employees)</td>
</tr>
<tr>
<td></td>
<td>Borehole (process only)</td>
</tr>
</tbody>
</table>

| Energy consumption* | Coal, electricity, gas, oil and steam (from other parts of the process) |

* Quantities related to production levels.

### Table 6 Some environmental issues associated with the textiles industry

#### 3.4.1 Normal and abnormal operating conditions

Normal conditions occur when operations are routine and planned. Abnormal conditions are those when operations are different in some way, eg when machinery is being started up or cleaned. During abnormal conditions, equipment may not be operating optimally and the environmental effects may be different (they could be better or worse). Environmental effects should therefore be assessed under both normal and abnormal conditions.

You should also consider the potential for accidents and emergencies, eg leakage, spill, fire or accidental damage. These are not planned situations and conditions can therefore be very different. You should assess whether such a situation could lead to significant environmental effects.

ISO 14001 requires environmental effects to be considered during normal operating conditions, abnormal operating conditions and emergency situations.
3.4.2 Indirect effects

The indirect effects of a company’s operations are not always immediately obvious, but should be considered during your assessment of environmental effects. Indirect effects of a textiles operation might include:

- the transport of raw materials to the site and of finished goods to customers;
- the fate of product packaging;
- the disposal of goods, eg carpets, at the end of their useful life.

Indirect effects need particular care as they are often associated with issues over which your company has no direct control. For example, deliveries of your products may have been contracted out to a transport company.

**Driver training**

Good driving technique can reduce fuel consumption by up to 25%. For example, increasing your speed from 50 mph to 70 mph typically increases fuel consumption by 25%. Short journeys also have a significant impact; 40% of UK trips are less than three miles; and catalytic converters take at least six miles to become fully effective.
Creating an environmental policy is a crucial part of the early stages of an EMS. Your environmental policy sets out the company’s long-term commitments and objectives. It should cover the priority issues identified by your initial review. Creating an environmental policy and beginning the process of identifying levels of significance (see Section 5) can be carried out in parallel.

4.1 CONTENTS

The company should produce a clear statement of what it wants to achieve in the areas where it has the greatest impact. For textiles companies, these are typically:

- compliance with statutory requirements;
- energy efficiency;
- waste minimisation;
- efficient use of water;
- raw material consumption;
- communications with the public and employees.

The environmental policy should be scoped, ie placed in the context of the business and explaining, in general, its operations. As the textiles industry covers a broad range of activities, it is useful to provide a brief explanation of where the business sits within the various sectors.

It is generally accepted that an environmental policy should, as a minimum, conform to the requirements of ISO 14001, ie:

- be appropriate to the nature, scale and environmental impacts of the company’s activities, products and/or services;
- include a commitment to continual improvement and pollution prevention;
- include a commitment to comply with relevant environmental legislation, and the requirements of other management standards that the company has achieved, eg ISO 9001 and Investors in People;
- provide the framework for setting and reviewing environmental objectives and targets;
- be communicated to all employees;
- be available to the public.

You may also wish to include company-specific details in the policy. Figs 3 and 4 give examples of the environmental policies prepared by two textiles companies. Fig 4 shows how environmental issues can be combined with other important management issues.
Environmental Policy

John Heathcoat and Company Ltd. will conduct its business with respect and care for the environment and requires all employees, contractors and suppliers to carry out their activities in accordance with this policy.

Specifically the company will:-

• Assess the environmental sensitivity of processes and the impact of operations on the local, regional and global environments.

• Manage energy and water wisely in all operations.

• Comply with all applicable environmental legislation and consents.

• Limit waste generation, discharges and emissions and handle waste in a responsible manner, reusing and recycling materials where possible and economic, to minimise the need for disposal.

• Operate in a planned and responsible manner, preventing pollution through spills and accidental discharges. The Company will maintain emergency plans.

• Make continuous efforts to minimise the environmental effects of our operations with regard to the economically viable application of best available technology.

• Work with suppliers, customers and contractors to promote awareness of the importance of environmental issues and the need to work in an environmentally responsible manner.

• The Company will report on environmental performance annually.

The environmental policy will be implemented by means of an environmental management plan which describes the organisation, responsibilities and arrangements in place to attain the aims of this policy. Through a programme of audits we will monitor, control and set improvement targets to promote environmental protection in all activities.

The Company recognises that operating with concern for the environment is good business practice and will ensure all employees are aware of environmental issues and are trained to fulfill their responsibility. The Company will assign adequate training, and resources to implement this policy.

This policy is displayed on the premises. It is also publicly available on request.

Fig 3 Example environmental policy
Health and Safety, Quality and Environment Policy Statement

This Policy Statement covers the Designing, Purchasing, Manufacturing, Storage, Selling and Transportation of all Products and Services offered by Interface Europe Ltd.

Health and Safety

Interface Europe Ltd is committed to the integration of Health, Safety and Welfare concerns of all its employees throughout all of its activities. We recognise that excellence in Health and Safety directly enhances individual and Company performance and contributes to overall Company success.

Management recognises European and National Legislation, with regard to Occupational Health and Safety, and regards this as the minimum standard acceptable, whilst striving to exceed this wherever possible.

The Company also recognises that it has responsibility for the health and safety of its employees whether on Company premises or undertaking Company Business elsewhere. This duty of care extends to non-employees visiting or working on Company premises. The Company realises that it has a responsibility to the General Public and will endeavour to conduct its Business in such a manner as to ensure minimum risk at all times. Site Health and Safety Manuals will reflect this policy in Detail.

Quality

Interface Europe Ltd consider the Quality aspects of our Business to be of great importance, as only products and services leading to lasting Customer satisfaction safeguard the continuity of the Company. Management practices and employee work activity will, without exception, strive to promote on-time delivery of products and services to our Customers, which are fit for their intended purpose. Manufactured in conformance with agreed standards.

In addition, the Company is committed to a policy of ‘right first time’ and to a policy of continuous improvement in the Quality of products and services.

Site Quality Manuals will be prepared which accurately and adequately describe the application of this Corporate Quality Programme. The requirements of the Quality programme shall be fully applied by all Company Personnel. Fundamental to this Policy is our commitment to ISO Quality Management Systems.

Environment

Interface Europe Ltd recognise and accept the need to Develop Business practices that contribute to a reduction of negative effects to the Environment in which we work and live.

Compliance with relevant Environmental Legislative and Regulatory requirements aimed at the prevention of pollution, in respect of emissions, discharges and incidents, shall be fundamental to the Company’s Environmental Objective.

Site Environment Manuals will be prepared which accurately and adequately describe the application of this Corporate Environment Programme.

Interface Europe Ltd shall seek continuous improvement of Environmental Performance throughout the whole organisation, through efficient and safe use of natural resources and its commitment to ISO Environmental Management Systems.

J.H. Walker
CEO and President
4.2 WHO NEEDS TO SEE THE POLICY?

Communication is fundamental to the success of an EMS. All employees and people closely involved with the company need to be aware of the policy and involved in its development. The policy should be distributed to all employees. Possible methods include:

- a company newsletter;
- posters on selected notice-boards around the site;
- distribution to individual employees.

Making the policy publicly available will help to highlight the company's environmentally responsible attitude. Public availability is a necessary requirement of any formal EMS.

If possible, the policy should be dated and state how often it will be reviewed by senior management - every six months, annually or biennially.

Call the Environmental Helpline on freephone 0800 585794 for advice and other examples of policies.
5.1 IDENTIFYING SIGNIFICANT ENVIRONMENTAL ISSUES

Your initial review will have identified all areas of your operations with an impact on the environment. The next task is to assess which environmental effects are significant. This will help you prioritise your actions.

It is up to the company to decide which effects are significant. An environmental effect is normally considered significant if it:

- is controlled by legislation, eg a discharge consent;
- has the potential to cause a demonstrable impact on the environment;
- is related to a key company objective, eg reducing water use;
- is of concern to interested parties, eg customers.

5.1.1 The need for consistency

There is no set approach for evaluating significance. It is up to your company to choose the most appropriate approach and decide the threshold levels for significance. The key to success is to develop a consistent approach that allows each issue to be treated in the same way.

If you decide to seek external certification of your EMS, it is the company’s responsibility to define its own levels of significance and which effects to consider. It will be your job to satisfy the certifier.

‘Identifying levels of significance and being able to repeat the process in a consistent manner was the most difficult part of implementing ISO 14001. It took a few attempts, but we decided to keep it simple and it has worked.’

One simple method is to judge the significance of your environmental effects against a number of criteria, as shown in Fig 5. Start with normal operating conditions. Significance should also be assessed for abnormal operating conditions, eg plant start-up. An effect that is not considered significant under normal operating conditions may become significant under abnormal operations or accident situations.

You may find it helpful to use the scoring system given in Table 7 to identify levels of significance. With this system, any effect that scores three or above is regarded as a significant issue. Significant environmental effects should be included in your action plan (see Section 7.2).

<table>
<thead>
<tr>
<th>Level</th>
<th>Score</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negligible</td>
<td>1</td>
<td>Very small effect and low probability of occurrence.</td>
</tr>
<tr>
<td>Minor</td>
<td>2</td>
<td>Small effect and low probability of occurrence, even under abnormal conditions.</td>
</tr>
<tr>
<td>Significant</td>
<td>3</td>
<td>The activity has an effect under normal operating conditions, and under abnormal conditions results in a breach of statutory requirements. The effect and probability of its occurrence are moderate.</td>
</tr>
<tr>
<td>Highly significant</td>
<td>4</td>
<td>Under abnormal conditions, the activity would result in a major breach of statutory requirements. Due to the quantity and type of material, the effect would be excessive.</td>
</tr>
</tbody>
</table>

Table 7 Scoring system for deciding levels of significance
Alternatively, you can develop your own point-scoring system by awarding a numerical score to each environmental effect.

In the example matrix shown in Table 8, each environmental effect is awarded a score to reflect its relative importance under four key criteria during normal operating conditions.

<table>
<thead>
<tr>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>3</td>
</tr>
<tr>
<td>Impending</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental damage</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known impact</td>
<td>3</td>
</tr>
<tr>
<td>Possible impact</td>
<td>2</td>
</tr>
<tr>
<td>Limited impact</td>
<td>1</td>
</tr>
<tr>
<td>No impact</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interested parties</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considerable interest</td>
<td>3</td>
</tr>
<tr>
<td>Moderate interest</td>
<td>2</td>
</tr>
<tr>
<td>Little interest</td>
<td>1</td>
</tr>
<tr>
<td>No interest</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volume/ frequency</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
</tr>
<tr>
<td>Nil</td>
<td>0</td>
</tr>
</tbody>
</table>

![Significance rating formula](image)

**Fig 5 Flow diagram for assessing significance**

**Table 8 Matrix to score environmental effects under normal operating conditions**

**Whichever method you use to evaluate significance, it is important to record the reasons for your decision.**

**If you need further advice on assessing the significance of your environmental effects, contact the Environmental Helpline on 0800 585794.**
5.2 COMPILING YOUR REGISTER OF ENVIRONMENTAL EFFECTS

Your collection of lists of environmental effects and levels of significance constitute your Register of Environmental Effects. These lists, which can be paper-based or computer-based, should be filed. The way in which you determined the levels of significance should also be available for inspection.

The Register of Environmental Effects should be held and updated by the person with overall responsibility for implementing and maintaining your EMS.

Fig 6a shows the system used by a textiles company to evaluate significance. Fig 6b shows an example Register of Environmental Effects from a carpet manufacturing company that has achieved certification to ISO 14001. In this system, effects are considered significant if the severity rating (S) is greater than 7 or the overall rating indicated by the Risk Priority Number (RPN) is greater than 100. The RPN is defined as follows:

Risk Priority Number (RPN) = Severity x Occurrence/existence x Detection/controls

<table>
<thead>
<tr>
<th>Score</th>
<th>Severity</th>
<th>Occurrence/existence</th>
<th>Detection/controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>Effect is a legal requirement under Environment Agency, DETR or HSE control</td>
<td>Daily activity/always in existence</td>
<td>Little or no controls exist</td>
</tr>
<tr>
<td></td>
<td>Effect is a non-renewable resource</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effect could result in a major fire or spillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 - 8</td>
<td>Effect is a legislative requirement under local authority control</td>
<td>Weekly activity</td>
<td>Effects would become evident to the company but controls are not formally developed</td>
</tr>
<tr>
<td></td>
<td>Effect is controlled by water company/authority consent</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effect is a natural resource</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effect could result in a medium-sized fire or spillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 - 6</td>
<td>Effect is controlled by company policy/procedures</td>
<td>Monthly activity</td>
<td>Visual and/or mechanical controls exist</td>
</tr>
<tr>
<td></td>
<td>Effect could be a nuisance to employees and/or local residents</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Effect could result in minor fire or spillage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 - 3</td>
<td>Effect could have a visual impact on the local community</td>
<td>Occurs 2 - 3 times/year</td>
<td>Records of procedure and/or controls and/or measurements exist</td>
</tr>
<tr>
<td></td>
<td>Effect could be considered an eyesore by employees and visitors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Effect has little or no impact on the environment</td>
<td>Occurs once a year or less frequently</td>
<td>Comprehensive reports/studies/records exist to demonstrate control of this effect</td>
</tr>
</tbody>
</table>

Fig 6a  Scoring matrix used to produce example Register of Environmental Effects from a carpet manufacturer
### Controlled discharge to water:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Severity (S)</th>
<th>Occurrence/existence (O/E)</th>
<th>Detection/controls (D/C)</th>
<th>RPN = S x O/E x D/C</th>
<th>Significance S &gt; 7 or RPN &gt; 100</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet printer</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>216</td>
<td>✓</td>
<td>Discharge consent parameters are currently maintained by manual sampling and dosing. Install automatic sampling and dosing to prevent human error and improve control/detection rating.</td>
</tr>
<tr>
<td>Boiler blowdown</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>96</td>
<td>✓</td>
<td>Consent conditions are monitored and checked by the maintenance department.</td>
</tr>
</tbody>
</table>

### Noise, vibration and visual impact:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Severity (S)</th>
<th>Occurrence/existence (O/E)</th>
<th>Detection/controls (D/C)</th>
<th>RPN = S x O/E x D/C</th>
<th>Significance S &gt; 7 or RPN &gt; 100</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>216</td>
<td>✓</td>
<td>Noise monitoring undertaken in-house. Levels recorded. Any complaints from local residents regarding noise are noted and investigated.</td>
</tr>
<tr>
<td>Vibration</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>8</td>
<td>✗</td>
<td>None</td>
</tr>
</tbody>
</table>

*Fig 6b  Example of a Register of Environmental Effects from a carpet manufacturer*
Maintaining a Register of Legislation can help your company comply with existing legislation and make you aware of impending legislation. This knowledge will also help you to highlight the key processes that are likely to have an impact on the environment.

A Register of Legislation is a requirement of any EMS and is a very useful method of summarising your obligations for compliance. It will also help those responsible for achieving compliance to be aware of the legal requirements.

To gain external certification, you need to be able to show how legislative information is collected and maintained within the company. External certification also requires demonstration of a method of keeping up-to-date with new legislation and changes to existing legislation.

6.1 CONTENTS

While carrying out your initial review, it is logical to identify the legal controls affecting different processes. This will help to ensure that nothing is overlooked. Overlaps will occur because the same legislation will apply to different processes.

Your Register should list all Acts, Regulations and approved codes of practice, eg process guidance notes and industry codes of practice, pertaining to your activities, products or services. You do not need to hold copies of all these documents, but merely understand their requirements. However, you will find it useful to hold copies of key legislation and those documents specifying numerical limits and key techniques.

To produce a Register of Legislation, you need to draw up a list that gives:

- the environmental issue covered by the legislation;
- the title of the legislation;
- details of the medium affected, ie air, water and/or land;
- a summary of relevant requirements;
- the location of the full document (if held).

The suggested layout for a Register of Legislation shown in Fig 7 will allow a mill to demonstrate that it possesses a system for tracking, distributing and updating legislation. Fig 7 can be adapted to include company-specific detail. One sheet should be completed for each piece of relevant legislation.

The Register forms part of the EMS documentation. Depending on the documentation structure you choose, the Register should be included either as a separate file or a sub-section of the Management Manual (see Section 8.1). It should be referenced clearly in the appropriate section of the Manual. The system should be simple and easy to follow.
Appendix 2 lists significant legislation for textiles companies. This list is not exhaustive and you should seek advice from the appropriate regulator. Appendix 4 contains contact details for regulatory and other organisations that can also provide assistance.

Advice on environmental legislation affecting textiles companies can be obtained through the Environmental Helpline on 0800 585794.

6.2 RESPONSIBILITY

Responsibility for compiling and maintaining the Register of Legislation should be given to someone with knowledge of the EMS and processes in operation on site. This should preferably be the environment manager, who should review all the information relating to legislation and codes of practice, and decide which are applicable. If a piece of legislation is applicable, details should be entered on a form such as those shown in Fig 7. Notes on the key points should also be circulated to the people with responsibility for complying with the legislation.

6.3 FINDING INFORMATION

Different companies tend to have their own preferred sources of information, but the following may be useful. Contact details are given in Appendix 4.

- Environmental Helpline on 0800 585794.
- Environment Agency/Scottish Environment Protection Agency (SEPA).
- Health and Safety Executive.
- Environmental Health Officers in local authorities.
- Water companies/authorities.
- Trade associations representing the various sectors of the textiles industry.
- Trade journals and magazines.
- Local Green Business Clubs.
- Equipment and chemical suppliers.
- Dedicated legislative updating services.
- The Stationery Office.
<table>
<thead>
<tr>
<th><strong>Register of Legislation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Company:</strong></td>
</tr>
<tr>
<td><strong>Document No:</strong></td>
</tr>
<tr>
<td><strong>Title of Act/Regulation/Code of Practice:</strong></td>
</tr>
<tr>
<td>(if applicable, include Section reference):</td>
</tr>
<tr>
<td><strong>Environmental issue:</strong></td>
</tr>
<tr>
<td><strong>Applicable to process/product:</strong></td>
</tr>
<tr>
<td><strong>Summary of requirements:</strong></td>
</tr>
<tr>
<td><strong>Consent requirements:</strong></td>
</tr>
<tr>
<td><strong>Regulatory authority:</strong></td>
</tr>
<tr>
<td><strong>Process authorisation:</strong></td>
</tr>
<tr>
<td><strong>Regulatory authority:</strong></td>
</tr>
<tr>
<td><strong>Location of full document:</strong></td>
</tr>
</tbody>
</table>

*Fig 7 Suggested format for a Register of Legislation*
7.1 SETTING OBJECTIVES AND TARGETS

The aim of an EMS is to manage environmental issues so as to achieve continual improvement. An EMS does not guarantee improved environmental performance - accidents and incidents can still happen. However, it does allow quick detection, mitigation and, if necessary, remediation of any pollution incident.

To bring about continual improvement, you need to set specific objectives and realistic targets. These should be based on the information collected during your environmental effects review.

- Objectives are the long-term goals that the business sets itself for achieving improved environmental performance. They indicate the company’s aim regarding a particular significant issue.
- Targets provide interim points on the way to achieving objectives.

Objectives and targets can be used to both motivate employees and measure cost savings. Targets also provide a base-line for audits (see Section 9).

The setting of objectives and targets comes from the initial review. When you set objectives and targets, you need to identify the individual or department responsible for ensuring that they are met. You also need someone to oversee the implementation of changes to ensure that targets are met. To achieve certification, it is necessary to show that objectives and targets have been set and to demonstrate your performance towards achieving them. You must have a monitoring programme and keep records of your monitoring regimes.

It is not necessary to deal immediately, or before a certification visit, with every issue identified as significant. It is only where non-compliance will occur that action should be taken immediately. Such issues should already have been assigned a high level of significance. Your action programme should give a timetable for achieving all targets.
7.1.1 What type of targets?
Quantifiable and measurable targets will allow your company to demonstrate progress in making improvements against a specific timescale.

Targets should be realistic - there is little benefit in setting a target that sounds good but is unachievable. Start simply and then build on success. Once the target has been reached you should assess whether further improvement is possible, and set a revised target.

Reducing solvent use
A carpet manufacturer registered under ISO 14001 assessed the quantity of solvents used on site. As well as environmental issues, solvent use has health and safety implications for delivery, storage, emergency procedures and transport around the site. Measures were taken to reduce the volumes used.

Before 1995, the company used 8,500 tonnes/year of solvent. By 1996, solvent use had fallen to 3,500 tonnes/year and this figure was maintained in 1997. There has also been a change in the type of solvents used in favour of less toxic substances. Water-based alternatives and/or natural substitutes, eg citrus/lemon extract, are also being investigated.

7.1.2 Decide your priorities
Prioritising your objectives and targets will ensure that resources and efforts are assigned to tackling the most significant environmental effects first. However, if it will be expensive or difficult to achieve a particular objective and legislative compliance is not an issue, you may find it more worthwhile to give priority to some easier targets. Quick paybacks will help to maintain interest in the EMS and obtain commitment from all levels of the business.

Make a fast start
- Identify priority areas for action.
- Identify quick, no-cost measures to reduce waste, eg water and energy use.
- Make a fast start on obvious opportunities to reduce waste and save money.

7.1.3 Avoid being over-ambitious
To achieve cost-effective management of environmental issues, your EMS should work for your company.

When setting targets be SMART:
- Specific
- Measurable
- Achievable
- Realistic
- Time-bound

Continued failure to meet over-ambitious targets will only reduce confidence in the system. There is no need to rush to implement your EMS - it is up to you to set a pace that suits your company.
Targets should be documented and communicated to all employees. Table 9 shows an example record.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Responsibility</th>
<th>Target completion date</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Reduce waste from offcuts</td>
<td>Sarah Jones</td>
<td>20 May (Year 2)</td>
<td>✓</td>
</tr>
<tr>
<td>Target 1 - 2% reduction</td>
<td>Kevin Lloyd</td>
<td>10 July (Year 1)</td>
<td></td>
</tr>
<tr>
<td>Target 2 - 5% reduction</td>
<td>Kevin Lloyd</td>
<td>10 Dec (Year 1)</td>
<td></td>
</tr>
<tr>
<td>Target 3 - 8% reduction</td>
<td>Kevin Lloyd</td>
<td>12 March (Year 2)</td>
<td></td>
</tr>
<tr>
<td>2 Reduce water use in the dye-house</td>
<td>Sarah Jones</td>
<td>15 July (Year 2)</td>
<td></td>
</tr>
<tr>
<td>Target 1 - 5% reduction</td>
<td>James Price</td>
<td>10 June (Year 1)</td>
<td>✓</td>
</tr>
<tr>
<td>Target 2 - 10% reduction</td>
<td>James Price</td>
<td>7 Jan (Year 2)</td>
<td></td>
</tr>
<tr>
<td>Target 3 - 15% reduction</td>
<td>James Price</td>
<td>25 April (Year 2)</td>
<td></td>
</tr>
</tbody>
</table>

Table 9 Setting objectives and assigning responsibilities

### 7.2 DEVELOPING AN ACTION PLAN

Procedures need to be set up to get the company from A (the current situation) to B (the situation set as an objective). Such procedures should be documented in an action plan so that those involved understand their responsibilities.

First assess the current situation. Then compare it with what you want to achieve. The documented procedure should set out the steps/actions needed to get from A to B. Fig 8 shows an example action plan.

<table>
<thead>
<tr>
<th>Objective:</th>
<th>Reduce waste to landfill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target:</td>
<td>Reduce waste to landfill by 10 tonnes over 12 months</td>
</tr>
<tr>
<td>Current situation (A)</td>
<td>Action</td>
</tr>
<tr>
<td>All waste goes into the same skip.</td>
<td>Segregate waste before it is put into skips.</td>
</tr>
<tr>
<td>Four skips/week removed by contractor.</td>
<td>Identify ways of reducing production of most common wastes.</td>
</tr>
<tr>
<td></td>
<td>Compact waste and recycle as much as possible.</td>
</tr>
<tr>
<td></td>
<td>Tell employees about segregating waste.</td>
</tr>
<tr>
<td></td>
<td>Purchase compactor.</td>
</tr>
<tr>
<td></td>
<td>Record amount of waste put into skips.</td>
</tr>
<tr>
<td></td>
<td>Find alternatives to landfill, eg investigate recycling options.</td>
</tr>
</tbody>
</table>

Fig 8 Example action plan
8.1 MANAGEMENT MANUAL

The Management Manual is the central document supporting your EMS. It defines exactly how your company manages each of the elements of its EMS and provides a central point of reference for the implementation and maintenance of the overall system. The Manual should, therefore, be relevant to the operations and processes employed.

The Manual is usually produced, maintained and controlled by the environment manager (the Management Representative under ISO 14001). A checklist can be used (see Fig 8) to schedule the actions necessary to meet objectives and targets. Adopting this approach will allow you to combine all management requirements in a complete Management Programme. The environment manager should also be responsible for monitoring the progress of the Management Programme. This will, in turn, provide information for the management review.

8.1.1 Manual contents

The Manual should be simple, concise and well-structured, in a form suitable for use as the basis for information gathering. It should also signpost other documents that make up the EMS, eg the Register of Environmental Effects, the Register of Legislation and evidence that an initial review has been carried out. The Manual should also be suitable for use by an external assessor as a key reference document.

Your Management Manual, which can be paper-based or in an electronic format, describes how your EMS operates. One possible format is to use the headings given in ISO 14001:

- Environmental policy:
  - environmental aspects/effects;
  - legal and other requirements;
  - objectives and targets;
  - environmental management programmes.
- Planning.
- Implementation and operation:
  - structure and responsibility;
  - identification of role of environment manager;
  - training and awareness;
  - communication;
  - environmental management system documentation;
  - document control (cross-referenced to procedures);
  - operational control;
  - emergency preparedness and response.
Checking and corrective action:
- monitoring and measurement;
- non-conformance and corrective/preventive action;
- records;
- environmental management system audit.

Management review.

Each section heading needs a description of the operations to achieve compliance with these requirements. This may be a short statement directing the reader to other documents or more detailed information about operational procedures.

8.2 OPERATIONAL CONTROL AND RECORD-KEEPING

As part of your EMS, you need to demonstrate that the mill is controlling its significant environmental effects on a daily basis. Procedures to monitor and control these effects should be developed and made available for easy reference at all times. This could be part of, or an extension of, an existing quality system. These documented procedures, which should be easy to understand and updated as necessary, will ensure the smooth functioning of your EMS. Procedures can be changed at any time to improve the integrity or ease of operation of the system. Any changes must be properly documented and controlled. Fig 9 shows an example format for a procedure on waste training.

Employees should be provided with detailed instructions on how to operate processes and carry out activities that could have a significant environmental effect. Your documentation should also indicate, in the event of a non-compliance arising either suddenly or over a period of time, who has responsibility for investigating and rectifying the problem.

Records should be kept to allow you to determine performance compared with objectives and targets. Your record-keeping system should be designed to comply with the requirements of any standard that the company may seek to achieve.

Suitable work procedures and/or record-keeping systems may already be in place as part of your health and safety or quality systems.
# EXAMPLE OF A FORMAT FOR PROCEDURES

<table>
<thead>
<tr>
<th>Company:</th>
<th>Textiles Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure:</td>
<td>Waste training</td>
</tr>
<tr>
<td>Ref. No.:</td>
<td>4.7</td>
</tr>
<tr>
<td>Subject:</td>
<td>Training of employees to handle waste</td>
</tr>
<tr>
<td>Issue:</td>
<td>1</td>
</tr>
<tr>
<td>Issued by:</td>
<td>Environment manager</td>
</tr>
<tr>
<td>Signature:</td>
<td>J. Smith</td>
</tr>
<tr>
<td>Date:</td>
<td>30/6/98</td>
</tr>
<tr>
<td>Approved by:</td>
<td>Managing director</td>
</tr>
<tr>
<td>Signature:</td>
<td>K. Brown</td>
</tr>
<tr>
<td>Date:</td>
<td>3/7/98</td>
</tr>
</tbody>
</table>

**Purpose:** To inform and train all employees undertaking operations involving waste about normal and emergency procedures so as to ensure their health and safety and to minimise risks to the environment.

These procedures are designed to eliminate or reduce waste. Where this is not possible, efforts should concentrate on re-use, followed by recycling or energy recovery. If none of these is possible, then the waste should be rendered harmless and disposed of in an appropriate manner.

**Related procedures:**
- 4.1 Waste inventory
- 4.2 Waste handling and storage
- 4.3 Controlled waste consignments
- 4.4 Special waste consignments
- 4.5 Waste carriers and contractors
- 4.6 Waste disposal, treatment or recycling contractors

**Circulation list:**
- Environment manager
- Site engineer
- Health and safety manager
- Personnel manager
- Production employees
- Other relevant employees

**Relevant legislation:**
- Environmental Protection (Duty of Care) Regulations 1991
- Waste Management Licensing Regulations 1994
- Special Waste Regulations 1996 (as amended)
- Chemicals (Hazard Information and Packaging for Supply) 1994 (as amended) (CHIP2)
- Control of Substances Hazardous to Health Regulations 1994 (COSHH)
- Fire Precautions Act 1971
- Fire Certificates (Special Premises) Regulations 1976

(Continued)
PROCEDURE

1. Operations involving waste include placing waste into collection receptacles, transporting waste around the site, labelling waste and other such activities.

All employees who may handle waste should be trained in the following:

- Identifying waste and deciding the procedures to be followed for its disposal, eg training in what can and cannot be placed in collection skips and receptacles for general waste.
- Identifying new types of waste for which no procedures exist, eg a new type of waste is produced following a production problem.
- Labelling requirements for on-site and off-site movement of waste.
- Packaging requirements for waste.
- Location of waste stores for each type of waste and access arrangements to these stores.
- Sampling of waste.
- Reporting unusual occurrences or suspected waste offences committed by others, including waste carriers and contractors.
- Health and safety precautions.
- Emergency procedures.
- Safe operation and authorised personnel restrictions for working with any specialised waste handling equipment, eg the waste compactor.
- Record-keeping procedures.
- Documentation procedures for waste consignments including authorisation to complete and sign waste transfer or consignment notes.

Where appropriate, information should also be provided in the form of notices, pamphlets, etc.

Responsibility ENVIRONMENT MANAGER

2. Training records must be maintained for each employee.

Responsibility PERSONNEL MANAGER

3. Induction training for new employees must include waste handling procedures.

Responsibility ENVIRONMENT MANAGER

SITE ENGINEER

PERSONNEL MANAGER

Fig 9 Example procedure: waste training
8.3 MANAGEMENT OF THE EMS

Communication is a key factor in the development and success of an EMS. Your steering group (see Section 2.3) can fulfil this function. Extra meetings may be necessary during the early stages of the implementation process to provide sufficient time and to make sure everyone is aware of their responsibilities.

Once the EMS is running smoothly, these meetings can be integrated into other regular management meetings. Depending on the way your management system works, meetings can be held weekly, monthly or as required. Minutes should be taken and records kept.

Management meetings should have a set agenda that allocates time for discussing:

- audit reports;
- proposed schemes that need management approval;
- issues of non-compliance;
- other EMS issues.

Real benefits from systematic waste minimisation

An independent weaving company in East Lancashire began monitoring its various waste streams and systematically identified options to eliminate or reduce them.

As part of this waste minimisation programme, the company prepared an action plan and produced graphs showing the amount of waste generated each month as a percentage of production throughput, ie the number of pieces produced.

This approach became part of a wider environmental and quality management system, enabling the company to reduce its waste to less than 3%, improve site efficiency and save money. The company is committed to reducing waste even further through a programme of continual improvement.
8.3.1 Task forces

In addition to the EMS steering group, you may find it useful to set up separate teams to tackle specific issues such as:

- waste minimisation;
- water use;
- energy efficiency.

A formal brief will provide such groups with both a scope and a focus for developing ideas. These groups, which should be co-ordinated by the environment manager or the senior manager with responsibility for the environment, should consist of people from different departments. Ask the task forces to develop proposals for submission to the EMS steering group. You can also ask them to report back to other employees. This approach is a useful way of involving employees from all levels of the business in your EMS.

8.4 RESPONSIBILITY FOR ENVIRONMENTAL ISSUES

Senior managers should be aware of their legal responsibilities, as directors can be held personally liable for non-compliance. Therefore it is essential that they are involved with the EMS from the outset.

Organograms and charts showing the different levels of responsibility and the company organisational structure are simple methods for showing at a glance where responsibility lies for different issues. These should be included in your EMS manual.

8.5 EMERGENCY PLANNING

Procedures for emergency planning are an important element of your EMS and are essential for external certification. Most companies already have health and safety procedures for emergencies. Certification requires evidence of emergency procedures that take account of the need to protect watercourses, groundwater, storm water drains and the atmosphere from pollution during an incident.

The potential for, and response to, accidents and emergencies should be identified. This requires a risk assessment of all situations with environmental effects with the aim of identifying the potential for pollution as a result of an accident or emergency. Identified risks should be managed to prevent, or reduce, the likelihood of pollution.

External certification requires a company to demonstrate that it has tested its procedures either through a drill, a desk exercise simulating the situation, or a full-scale exercise. Companies that operate shift working may find it difficult to get all the workforce to participate in a drill or simulation exercise. However, an external certifier will need to be convinced that environmental protection measures developed for emergencies will work. Emergency services should be consulted and involved in any plan you draw up.
To know how well your company is performing against its objectives and targets, you need to carry out regular internal audits. Internal audits involve a systematic inspection and comparison of actual operating methods with the procedures specified in the Management Manual. The aim is to assess whether your EMS is operating correctly and that activities undertaken by the company comply with work procedures and the company’s environmental policy, objectives and targets.

An environmental audit should not be confused with an environmental review. While the initial review ‘kick-starts’ the EMS, internal audits maintain its momentum. In addition to ensuring that your EMS is operating correctly, environmental auditing helps to maintain increased environmental awareness and a sense of responsibility among employees.

An audit of your EMS should include:

- an assessment of the documented system;
- a site visit;
- interviews with employees;
- inspection of operating conditions and equipment;
- a review of records, written procedures and other relevant documentation;
- an assessment of how the EMS operates in different departments (including levels of awareness);
- identification of conformances and non-conformances with the system and, if appropriate, with elements of ISO 14001 and/or EMAS.
9.1 AUDIT PROGRAMME

A detailed audit programme should be prepared and the scope of the audit set. Background information can be collected at this stage. The needs and objectives of the audit should be determined to ensure that visits and interviews are well-structured and that essential information is gathered in the correct format. Procedures should be drawn up to ensure the collection of consistent and reliable data. Methodologies, including recording procedures, should be clearly documented.

9.1.1 Audit objectives

The aim of the audit may be to assess progress against the objectives or targets set for a particular process or the whole site, eg water consumption. Alternatively, it may be checking for compliance with regulatory requirements in a particular area of the site, eg consent conditions. The environment manager should also decide whether full or interim audits are appropriate for particular areas/procedures.

The base-line for any audit should be the monitoring required by consents and authorisations set by the Environment Agency, Scottish Environment Protection Agency, local authority and/or water company or authority. The audit should check that the monitoring procedures are supplying accurate information.

9.1.2 Audit checklist

To achieve consistency between audits, you may find it helpful to develop a checklist for each process or area being audited. This checklist should:

- identify the auditor;
- state the audit number and the date;
- identify the process/activity/procedure to be audited;
- identify environmental issues and their level of significance;
- identify relevant targets;
- state whether the target has been met, ie yes or no;
- give the number(s) of any corrective action request (CAR) form(s);
- include a space for comments.

9.1.3 Non-conformance

If a non-compliance, ie a failure within the system, is identified, the reason(s) should be investigated. The auditor should discuss the problem with the person responsible for achieving compliance and, if possible, identify the reasons for failure to comply, eg equipment failure or operator error. The auditor is also responsible for suggesting a way of correcting the fault and preventing it from happening again. Corrective actions should be applied and the non-conformance documented on the appropriate forms and in the audit report.

9.1.4 Corrective actions

Where difficulties are identified, corrective actions should be taken. The corrective actions should be documented and follow-up checks carried out to confirm that the situation has been rectified.

9.1.5 Frequency

Auditing should be a regular occurrence and conducted on a rolling cycle according to an audit timetable drawn up by the environment manager.
The frequency of audits will depend on the significance of the environmental effects, ie issues with high levels of significance should be audited more frequently. For example, the frequency for monitoring emissions from an authorised process is specified in the authorisation; failure to monitor could constitute non-compliance with the authorisation. The specified monitoring programme should form part of your audit cycle. An issue with a lower priority may be audited less regularly, eg six-monthly or annually.

9.1.6 Audit report
Audit reports should be presented regularly to senior managers with responsibility for the environment. This will ensure that:

- any changes to work programmes or requirements for extra resources can be agreed;
- management is fully aware of operations and performance against objectives.

The cost benefits of recycling water
A Scottish cloth finisher is saving approximately £5 000/year by recycling cooling water from its solvent-scouring plant for use in wet processing. Apart from reducing water and effluent costs, recycling also achieves energy savings due to use of pre-heated water and reduced demand on borehole pumps.

9.2 SELECTING AUDITORS
One of the most difficult aspects of auditing is deciding who should conduct the audit. The person auditing processes should be competent to do so, ie they should be familiar with the EMS and understand the operations of the textiles industry.

An auditor or audit team should possess the ability to:

- make a judgement about the strengths and weaknesses of your EMS;
- gather relevant information about the system and associated operations;
- evaluate the audit findings;
- prepare a written report to management.

Auditors will also need to:

- be aware of the company's environmental policy and objectives;
- have a knowledge of the site and its various operations;
- be familiar with the systems used for record-keeping, documentation and internal controls;
- have experience of interviewing, organising meetings and writing reports.

The person responsible for a particular procedure should not be the person who audits it and, if possible, the internal auditor should be selected from a different department. If you have more than one site with an EMS, it is worth occasionally bringing in auditors from other sites.

The audit can be conducted by one person or one team as long as they are competent. If the team includes a quality assurance auditor with knowledge of management, they should be accompanied by someone with appropriate knowledge of the environmental issues affecting the company.

The three auditing standards in the ISO 14000 series (ISO 14010, 14011 and 14012) set out the qualifications required by an external auditor examining an organisation with a view to certification.
The key to a successful EMS is commitment from all employees. If employees are not committed, the system will be difficult to implement.

10.1 WHO NEEDS TO KNOW WHAT?

Some parts of the workforce will need more information about environmental issues than others. This will depend on the level of responsibility assigned to them. Start by looking at job descriptions and deciding the level of environmental information needed to carry out particular tasks.

A good way of encouraging involvement in the EMS is to examine whether bonus and suggestion schemes will work for your company. Could an existing scheme be adapted to include environmental issues? Such schemes can often be used to motivate and encourage ownership of an EMS.

Certification requires you to demonstrate that employees’ training requirements have been identified through a training needs analysis. You will also need to prove that contractors have received appropriate training before being allowed on site.
10.1.1 Basic information

Most employees will benefit from a general awareness training session that:

- highlights the company’s commitment to environmental management;
- explains why environmental management is being adopted;
- describes what the company hopes to achieve from implementing an EMS;
- introduces the company’s environmental policy.

Senior management should receive training to make them aware of their own responsibilities relating to environmental protection.

Motivating employees through waste saving targets

A large company estimates that, on average, 30 - 35% of its turnover is wasted due to production mis-management, machinery breakdown due to inadequate maintenance, low yields and poor quality control. The company is now tackling these problems through employee training and motivation schemes. Each year, the production manager calculates the percentage of turnover lost due to waste in the previous year. Employees are made aware of this figure and given targets to encourage them to improve their working practices. Involving employees in this way has increased their pride in the job and, as a consequence, reduced waste and increased efficiency.

10.1.2 Greater understanding

Individuals who are expected to manage particular elements of an EMS and explain them to others need a greater level of training. This could include:

- more detailed information about specific elements of the EMS and the environmental concerns related to a specific environmental issue;
- an introduction to the environmental legislation governing the issues they are required to manage;
- an introduction to EMS documentation and procedures.
Those people with direct responsibility for implementing and auditing the EMS should undertake a dedicated training programme, eg a recognised external course. Their training should cover:

- auditing;
- environmental management system standards;
- environmental and other relevant legislation;
- the external certification process.

10.1.3 Training records

You should keep records of all training received, with an indication of the course content, dates and duration.

10.2 CONTRACTOR AWARENESS

Contractors and suppliers are also part of your EMS. They should be made aware of their relationship to the EMS and, as a minimum, be presented with a copy of your environmental policy. Depending on their duties on site, a higher degree of awareness may be necessary. Making contractors aware of environmental issues at the site should help to reduce the likelihood of a contractor being responsible for pollution for which your company is held liable.

Contractor training and awareness could include:

- presenting them with a copy of your environmental policy;
- a short introduction by a company employee;
- a video presentation highlighting various environmental issues around the site.

To prove that contractors have received the correct training, ask them to sign to acknowledge that they have received the information (as they do after a health and safety briefing). This will help if you seek external certification.
11.1 ENVIRONMENTAL REPORTING

Some companies promote their responsible approach to environmental management through the publication of environmental reports. Such reports provide an opportunity to present environmental information in context and to demonstrate to interested parties a responsible attitude to environmental matters. However, before publishing an environmental report, a company needs to have confidence in its EMS and be able to justify all the information presented in the report.

11.2 ENVIRONMENTAL STATEMENTS (EMAS ONLY)

A mill seeking verification to EMAS must prepare an Environmental Statement. This Statement defines the company’s environmental performance and must be available to the public. The Environmental Statement has to be validated by an independent accredited verifier and updated as required to accommodate changes to products, processes and services.

An Environmental Statement should:

- be simple, consistent and balanced;
- contain reliable and accurate information;
- be comprehensive, covering all the relevant issues;
- be positive and include the good news;
- not edit out bad news;
- not include irrelevant detail (if necessary, use appendices to present technical details);
- avoid jargon;
- be provided as a bound document, with all the pages numbered and referenced.

11.2.1 EMAS requirements

Under EMAS the Environmental Statement must contain the following information:

- a description of activities carried out by the company and the location of the site;
- identification and assessment of all activities with a significant environmental effect;
- data on solid waste, emissions, discharges, raw material use, energy consumption, water use and any other significant environmental effects;
- an outline of the company’s environmental policy and a description of the environmental management system;
- a summary of the environmental improvement programme;
- other factors relevant to the company’s environmental performance, including the introduction of new technologies to reduce environmental effects;
- significant changes since the last Statement;
- the deadline for the next Statement;
- the name of the accredited verifier.
Any textiles company implementing an environmental management system can achieve cost savings and improve its environmental performance. To do this, you need to:

- Obtain commitment from senior management.
- Appoint/identify someone to oversee the implementation and operation of your EMS.
- Develop an environmental policy.
- Conduct an initial review of your company’s environmental effects.
- Evaluate the significance of your company’s environmental effects and draw up a Register of Environmental Effects.
- Identify legislative requirements and draw up a Register of Legislation.
- Set objectives and targets.
- Develop an action plan to tackle priority areas.
- Assign responsibility.
- Develop employee awareness and conduct training.
- Develop a mechanism and timetable for carrying out internal audits.
- Review progress and, if necessary, revise your policy, objectives and targets.
- Remember that EMS is a never-ending process aimed at continual improvement.

If you need more information, phone the Environmental Helpline on 0800 585794 for advice.

The Environmental Helpline can also arrange for you to be sent copies of Environmental Technology Best Practice Programme publications that will help you implement an EMS. These include:

- Good Practice Guide (GG62) Water and Chemical Use in the Textile Dyeing and Finishing Industry
- Good Practice Guide (GG42) Waste Management in the Worsted and Knitwear Sectors
- Good Practice Guide (GG79) Reducing Costs Through Waste Management: The Woollen Sector
- Good Practice Guide (GG84) Reducing Costs Through Waste Management: The Cotton and Man-made Fibre Sector
- Good Practice Guide (GG86) Reducing Costs Through Waste Management: The Garment and Household Textiles Sector
- Good Practice Guide (GG26) Saving Money Through Waste Minimisation: Reducing Water Use
- Good Practice Guide (GG27) Saving Money Through Waste Minimisation: Teams and Champions
- Good Practice Guide (GG67) Cost-effective Water Saving Devices and Practices
- Good Practice Guide (GG82) Investing to Increase Profits and Reduce Wastes
Various Case Studies from textiles companies, demonstrating the economic and environmental benefits of adopting good practice, are also available.
These blank forms are for you to photocopy and use to record the information you need for your initial review. Please adapt them as necessary for your processes and site.
### Inventory of Raw Material Use

List all raw materials, chemicals and solvents used in the process.

<table>
<thead>
<tr>
<th>Raw materials</th>
<th>Quantity</th>
<th>Annual cost (£/tonne)</th>
<th>Source (supplier/origin)</th>
<th>Delivery method (eg tanker, rail, mains supply, borehole, etc)</th>
<th>Form (Liquid/solid)</th>
<th>Storage (Where? How?)</th>
<th>Location of relevant records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Emissions to Air, Water and Land

### Process: ...........................................

<table>
<thead>
<tr>
<th>Amount</th>
<th>Monitoring method and frequency</th>
<th>Responsibility</th>
<th>Location of records</th>
<th>Authorisation*</th>
<th>Regulator**</th>
</tr>
</thead>
</table>

**Discharges to air**

- Dust
- Fumes
- Lint
- Isocyanates
- Formaldehyde
- NO\textsubscript{x}
- SO\textsubscript{x}
- Water vapour
- VOCs
- Other emissions
- Odour
- Noise

**Discharges to water**

- COD
- BOD
- PCPs
- pH
- Heat (water temperature)
- Suspended solids
- Sludge
- Other

**Solid waste**

- Offcuts
- Fibres
- Cones
- Plastics
- Cardboard
- Machine oils
- Scrapings
- Paper
- Wood
- Empty chemical drums
- Other

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* eg IPC authorisation, LAPC authorisation, trade effluent discharge consent, consent for discharge to controlled waters, waste consignment notes.

** eg Environment Agency/Scottish Environment Protection Agency, local authority, HSE, water company/authority.

*GG137 published by the Environmental Technology Best Practice Programme.*

Helpline: 0800 585794
This list, which states the position for England and Wales as of 1 January 1998, is not exhaustive. It contains some of the legislation that a textiles company needs to consider and include in its Register of Legislation. Any relevant amendments should also be included in the Register.

Textiles companies should contact the Environmental Helpline on 0800 585794 for information about recent legislative changes and advice on specific legislation affecting their site.

**KEY LEGISLATION**

- **Environmental Protection Act 1990:**
  - Integrated Pollution Control (IPC) and Local Air Pollution Control (LAPC);
  - provides for regulations on waste handling, storage and transfer;
  - contains measures relating to statutory nuisance, eg noise and odour.

- **Environment Act 1995:**
  - provides for guidance on contaminated land;
  - contains measures to tackle ambient air pollution through local air quality management areas;
  - contains provisions for regulations relating to producer responsibility;
  - provides for the powers of the Environment Agency (England and Wales) and the Scottish Environment Protection Agency.

**WASTE**

- **Environment Protection (Duty of Care) Regulations 1991** apply to anyone who produces, imports, transports, keeps, treats, recycles or disposes of controlled waste (any industrial, commercial or household waste). Requires producers to take all reasonable steps to look after their waste and prevent its illegal disposal by others. Requires certain paperwork, including transfer notes.

- **Environment Protection (Prescribed Processes and Substances) Regulations 1991** and subsequent amendments define the industrial processes subject to Integrated Pollution Control (IPC) and Local Air Pollution Control (LAPC). The following process guidance notes may apply to your operations:
  - Environment Agency Integrated Pollution Control Guidance Note IPR6/6 *Textile treatment processes*;
  - Secretary of State’s Process Guidance Note for processes prescribed for Local Air Pollution Control (LAPC) PG6/8(97) *Textile and fabric coating and finishing processes*.

- **Special Waste Regulations 1996** (and subsequent amendments) give a definition of special waste (the UK term for hazardous waste) and set out additional controls on its disposal. Involve a pre-notification procedure and consignment notes.

- **The Landfill Tax Regulations 1996** (and amendments) provide for the levying of a tax on waste disposed of to landfill. The Landfill Tax (Qualifying Material) Order 1996 sets out which wastes qualify for the lower rate of tax.
Producer Responsibility Obligations (Packaging Waste) Regulations 1997 set out requirements for businesses to provide data and calculate obligations relating to packaging waste.

Litter Control Areas Order 1991 brings Section 90 of the Environmental Protection Act 1990 into force. It enables local authorities to designate areas as Litter Control Areas, to which the public is permitted to have access, but must keep free of litter and refuse to a required standard.

Controlled Waste Regulations 1992 (SI 1992/588) define controlled waste, ie household, industrial and commercial. They also set out the types of household waste for which a charge can be made by the collection authority and the cases where a disposal licence is not required.

**AIR**

- Clean Air Act 1993 covers issues relating to chimney heights and emissions of dust, grit and smoke.
- Air Quality Standards Regulations 1989 relate to measures to control pollution from certain atmospheric pollutants, ie sulphur dioxide, suspended particulates, lead and nitrogen dioxide.

**WATER**

- Water Resources Act 1991 controls discharges to controlled waters under a consent imposed by the Environment Agency on the basis of Statutory Water Quality Objectives (SWQOs). Also covers the awarding of abstraction licences by the Environment Agency.
- Water Industry Act 1991 controls discharges to sewer under consents imposed by the water companies and authorities. The Trade Effluent (Prescribed Processes and Substances) Regulations 1989 as amended by the Trade Effluent (Prescribed Processes and Substances) Regulations 1990 and the Trade Effluent (Prescribed Processes and Substances) Regulations 1992 are also relevant.

**NOISE**

- Control of Pollution Act 1974 (COPA) covers issues relating to construction and demolition site noise, noise abatement zones and miscellaneous noise sources.
- Control of Noise (Measurement and Registers) Regulations 1976 describe methods used for recording and measuring noise emissions.
- Noise and Statutory Nuisance Act 1993, which came into effect on 5 January 1994, makes noise in the street a statutory nuisance. This includes audible intruder alarms and loudspeakers and is enforced by local authorities.

**HAZARDOUS MATERIALS**

- Control of Substances Hazardous to Health (COSHH) Regulations 1994 cover storage and handling of potentially hazardous materials and waste.

**RADIATION**

- Radioactive Substances Act 1993 requires all premises where radioactive substances are used to be registered with the appropriate regulator. Also applies to mobile radioactive apparatus, and may apply where apparatus is used for checking dye levels in textiles.
BUILDINGS

- Town and Country Planning Act 1990 allows for regulations to be developed for planning-related issues.
- Planning (Listed Building and Conservation Areas) Act 1990 relates to the maintenance of the special historic character of the area.
- Building Regulations 1991 relate to bodies undertaking certain building operations.

SOURCES OF HELP

If you are not sure which legislation, regulations and codes of practice apply to your site, you should seek advice from:

- the Environmental Helpline on 0800 585794;
- the Northern Ireland Environmental Enquiry Point 0800 262227;
- the Environment Agency (in England and Wales), the Scottish Environment Protection Agency (SEPA) and the Environment and Heritage Service (in Northern Ireland);
- your trade association;
- your local authority.
Table A1 summarises the similarities and differences between ISO 14001 and EMAS. While both standards are concerned with environmental improvement, EMAS has an additional commitment to environmental protection. One of the main differences between EMAS and ISO 14001 standards is that EMAS requires the preparation of an Environmental Statement.

It is possible for companies to have their environmental management system accredited under ISO 14001 and to have the site registered under EMAS.

<table>
<thead>
<tr>
<th>Element</th>
<th>ISO 14001</th>
<th>EMAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial review</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Environmental policy</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Organisation and personnel defined and documented</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Training</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Evaluation of environmental effects</td>
<td>Procedure for establishing significant environmental aspects</td>
<td>✓</td>
</tr>
<tr>
<td>Register of Environmental Effects</td>
<td>Identification of environmental aspects</td>
<td>Externally verified</td>
</tr>
<tr>
<td>Register of Legislation</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Objectives and targets</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Continual improvement</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Management Programme</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Management Manual</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Contractors and suppliers</td>
<td>Procedures and policy must be communicated</td>
<td>Must ensure compliance with policy</td>
</tr>
<tr>
<td>Conduct audits</td>
<td>Internal audits, frequency not specified</td>
<td>At least every three years, externally verified</td>
</tr>
<tr>
<td>Monitoring</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Reviews</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Public statement</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Certification (of company or site)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Verification (of site)</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Table A1  Comparison of ISO 14001 and EMAS
Further advice and guidance about how to set up environmental management systems may be obtained through the Environmental Helpline on 0800 585794 and from the organisations listed below.

The list is not exhaustive and has been compiled from information currently available to the Environmental Technology Best Practice Programme. The listing of an organisation should not be regarded as an endorsement of its services or products by the Programme. Similarly, the Programme makes no claim for the competence or otherwise of any organisation not listed.

ENVIRONMENTAL TECHNOLOGY BEST PRACTICE PROGRAMME

The Programme, through the Environmental Helpline (freephone 0800 585794), provides free up-to-date advice on a wide range of environmental, legislative and technical issues. The Programme can:

- provide detailed guidance on waste minimisation and cost-effective cleaner technology;
- suggest other sources of information;
- send you free copies of relevant Environmental Technology Best Practice Programme publications;
- arrange for a specialist to visit your company if you employ fewer than 250 people.

OTHER ORGANISATIONS

**British Library Environmental Information Service**
Tel: 0171 412 7955  Fax: 0171 412 7495
Provides a free enquiry service and carries out detailed research on a fee basis. Has access to a wide range of environmental information.

**British Standards Institution (BSI)**
Complete editions of British Standards and copies of ISO 14000 series standards can be obtained from:
BSI Customer Services,
389 Chiswick High Road,
London W4 4AL.
Tel: 0181 996 7000  Fax: 0181 996 7001

**Business in the Environment (BiE)**
Tel: 0171 224 1600  Fax: 0171 486 1700
Produces a range of publications and videos to help businesses improve their environmental performance. Also guidelines on EMS, including supply chain and performance indicators.

**Centre for Environment and Business in Scotland (CEBIS)**
Tel: 0131 555 5334  Fax: 0131 555 5217
Provides impartial environmental information to businesses in Scotland.

**Chartered Institution of Water and Environmental Management (CIWEM)**
Tel: 0171 831 3110  Fax: 0171 405 4967
A professional body formed to advance the practice of water and environmental management.
CBI Environment Business Forum
Tel: 0171 379 7400  Fax: 0171 240 1578
Provides environmental advice and information to Confederation of British Industry (CBI) member companies. Publications on a range of environmental issues are available to members and non-members.

Department of the Environment, Transport and the Regions (DETR)
General enquiries Tel: 0171 276 3000
Contaminated land enquiries Tel: 0171 276 8461
Environmental protection enquiries Tel: 0171 276 3788
Responsible for the setting of national and international standards on environmental protection.

Department of Trade and Industry (DTI)
Helpline Tel: 0171 215 5000
The DTI’s Environment Directorate helps businesses respond to environmental challenges and market opportunities.

EMAS Competent Body (Institute of Environmental Assessment)
Tel: 01522 540069  Fax: 01522 540090
Provides information for companies wishing to participate in the Eco-Management and Audit Scheme (EMAS).

Energy Efficiency Best Practice Programme
Tel: 01235 436747  Fax: 01235 433066
On behalf of the DETR, the Energy Efficiency Best Practice Programme runs seminars and produces a number of free publications to promote energy efficiency.
The Energy Helpline on 0541 542541 provides free, independent advice on energy-related issues affecting small to medium-sized enterprises.

Environment Agency
General Enquiries Tel: 0645 333111  Fax: 01189 500388
Head Office, Bristol Tel: 01454 624400  Fax: 01454 624409
Head Office, London Tel: 0171 820 0101  Fax: 0171 820 1603
Through its regional and local offices, the Environment Agency provides a single point of contact for companies in England and Wales.
Anglian Region Tel: 01733 371811  Fax: 01733 231840
Midlands Region Tel: 0121 711 2324  Fax: 0121 711 5824
North East Region Tel: 0113 244 0191  Fax: 0113 246 1889
North West Region Tel: 01925 653999  Fax: 01925 415961
Southern Region Tel: 01903 820692  Fax: 01903 821832
South West Region Tel: 01392 444000  Fax: 01392 444238
Thames Region Tel: 0118 953 5000  Fax: 0118 950 0388
Welsh Region Tel: 01222 770088  Fax: 01222 798555
EcoFacts Service Tel: 0881 882288

Environmental Auditors’ Registration Association (EARA)
Tel: 01522 540069  Fax: 01522 540090
Provides information on criteria for auditors.
**Environmental Helpline**
Tel: 0800 585794
Run by the Environmental Technology Best Practice Programme.

**Green Business Clubs**
Green Business Clubs provide a forum for discussing environmental matters with other business people. For details of your nearest Green Business Club, contact the Environmental Helpline.

**Health and Safety Executive (HSE)**
InfoLine Tel: 0541 545500
Provides advice on the handling and storage of chemicals and offers guidance on health and safety legislation.

**Institute of Environmental Management (IEM)**
Tel: 0131 555 5334 Fax: 0131 555 5217
Offers a professional support programme and provides a forum for the exchange of information between people with environmental responsibilities.

**Institute of Wastes Management (IWM)**
Tel: 01604 620426 Fax: 01604 621339
A professional association that provides information and training on all aspects of waste management.

**National Society for Clean Air and Environmental Protection (NSCA)**
Tel: 01273 326313 Fax: 01273 735802
A non-government organisation that encourages the reduction of air pollution, noise and other contaminants. Publishes a range of booklets and briefing material.

**Northern Ireland Environmental Enquiry Point**
Tel: 0800 262227 Fax: 01846 676054
Provides an environmental information and signposting service for companies in Northern Ireland.

**Scottish Environment Protection Agency (SEPA)**
Head Office, Stirling Tel: 01786 457700 Fax: 01786 446885
Through its regional and local offices, SEPA provides a single point of contact for companies in Scotland.
- North Region Tel: 01349 862021 Fax: 01349 863987
- East Region Tel: 0131 449 7296 Fax: 0131 449 7277
- West Region Tel: 01355 238181 Fax: 01355 264323

**The Stationery Office**
Tel: 0171 873 9090 Fax: 0171 873 8200

**Waste Exchange Network**
Tel: 01642 606055 Fax: 01642 603726

**Waste Management Information Bureau (WMIB)**
Tel: 01235 463162 Fax: 01235 463004
Provides an information retrieval service on all aspects of non-radioactive waste management.
**Waste Watch**
Tel: 0171 248 0242  Fax: 0171 248 1404
Provides information on waste management and recycling.

**Welsh Office Business Services Unit**
Tel: 01222 825172  Fax: 01222 823661
Helps businesses in Wales address environmental issues and take advantage of the expanding market in environmental technology.

**United Kingdom Accreditation Service (UKAS)**
Tel: 0181 943 6311  Fax: 0181 943 6664
Holds a list of accredited certifiers and verifiers for ISO14001 and EMAS.

**TEXTILES TRADE ASSOCIATIONS**

For textile-specific details on both environmental regulation and management best practice:

- **Ayrshire Textiles Group**  Tel: 01290 425180
- **British Apparel and Textile Confederation**  Tel: 0171 636 7788
- **British Carpet Manufacturers’ Association**  Tel: 0171 580 7155
- **British Interior Textiles Association**  Tel: 01706 217298
- **British Textile Fibres Association**  Tel: 0161 624 3611
- **British Textiles Technology Group**  Tel: 0161 445 8141
- **Confederation of British Wool Textiles**  Tel: 01274 652207
- **Knitting Industries’ Federation**  Tel: 0116 254 1608
- **Lancashire District Textiles Association**  Tel: 01254 580248
- **Northern Ireland Textiles and Apparel Association**  Tel: 01846 689999
- **Nottinghamshire and Derbyshire Clothing and Textile Association**  Tel: 01623 440612
- **Scottish Textile Association**  Tel: 0141 226 3262
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continual/continuous improvement</td>
<td>Year-on-year enhancement of overall environmental performance (not necessarily in all areas of activity) resulting from continuous efforts to improve in line with the environmental policy.</td>
</tr>
<tr>
<td>Eco-Management and Audit Scheme (EMAS)</td>
<td>An EC initiative designed to encourage good management practices to improve environmental performance. The voluntary scheme requires independent validation and involves publicly reporting on environmental performance by the publication of an Environmental Statement.</td>
</tr>
<tr>
<td>Environment</td>
<td>The surroundings/conditions in which an organisation operates and which influences the development or growth of people, animals or plants. The environment extends from within the organisation to the global ecosystem.</td>
</tr>
<tr>
<td>Environmental aspect</td>
<td>Any element of a company’s activities, products or services that can interact with the environment.</td>
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<tr>
<td>Environmental audit</td>
<td>A systematic and documented verification process to assess whether the environmental management system conforms to criteria set by the organisation.</td>
</tr>
<tr>
<td>Environmental effect/impact</td>
<td>How the activities, services, products or processes of an organisation affect the environment, either directly or indirectly. Can be adverse or beneficial.</td>
</tr>
<tr>
<td>Environmental management system (EMS)</td>
<td>The organisational structure, responsibilities, practices, procedures, processes and resources for implementing environmental management.</td>
</tr>
<tr>
<td>Environmental policy</td>
<td>A written statement of the organisation’s intentions and principles in relation to its environmental performance. Gives rise to the organisation’s environmental objectives and targets.</td>
</tr>
<tr>
<td>Environmental Statement</td>
<td>A publicly available, written statement of an organisation’s intention to achieve continual improvement in environmental performance. When verified by an accredited third party, it acts as a main criterion of EMAS.</td>
</tr>
<tr>
<td>Improvement programme</td>
<td>A documented programme clearly describing the means, timescales and responsibilities for achieving the organisation’s objectives and targets.</td>
</tr>
</tbody>
</table>
**Integrated Pollution Control (IPC)**
An approach to pollution control that recognises the need to look at the environment as a whole. Aims to prevent pollution at source and to protect land, air and water from the release of certain substances from the more polluting industrial processes (known as Part A Prescribed Processes). Regulated by the Environment Agency (the Scottish Environment Protection Agency in Scotland) under Part I of the Environmental Protection Act 1990.

**Interested party**
Individual/group concerned with, or affected by, the environmental performance of an organisation.

**ISO 14001**
Standard developed by the International Standards Organisation (ISO) that specifies the requirements of an environmental management system. Applicable to those organisations wishing to implement, maintain and improve a formal EMS.

**Local Air Pollution Control (LAPC)**
A system of pollution control introduced by Part I of the Environmental Protection Act 1990. Applicable to emissions to atmosphere from the less polluting processes known as Part B Prescribed Processes. These processes require authorisation from the local enforcing agency to operate. In England and Wales these are the local authorities; in Scotland this is the Scottish Environment Protection Agency.

**Management Manual**
Documentation that describes the overall environmental management system and how it operates. Indicates responsibilities, procedures and resources for implementing the organisation’s EMS.

**Management Representative**
The employee appointed by management with responsibility for implementing and maintaining the environmental management system. Employees nominated for this role should have some knowledge of environmental issues to be able to perform their duties effectively.

**Objective**
Overall environmental goal, arising from the environmental policy, that an organisation sets itself to achieve. Should be quantified wherever practicable.

**Register of Environmental Effects**
A list of the environmental effects related to the activities, services, products and processes of the organisation, together with an indication of their significance.

**Significant**
That which the organisation decides is important, based on a range of environmental performance criteria.

**Special waste**
Any controlled waste consisting of, or contaminated with, substances that make it ‘dangerous to life’. Criteria for determining whether or not a waste is special are given in the Special Waste Regulations 1996 (and subsequent amendments).

**Target**
Detailed performance requirement arising from an environmental objective, and that should be set and met to achieve that objective. Should be quantified wherever practicable.

**Trade effluent consent**
Consent granted under the Water Industry Act 1991 authorising
the discharge of effluent from trade premises into a public sewer. Granted by the sewerage undertaker for the area in which the consent applies (usually the local water company/authority).

**Transfer Notes**

A written description of any controlled or special waste that has been transferred by an organisation to a waste contractor. These notes, which are required by law for each shipment of waste, must contain details of amount, composition and storage, together with full details and signatures of the waste producer and the waste contractor.

**Waste minimisation**

A systematic approach to eliminating or reducing the amount of waste at source.
The Environmental Technology Best Practice Programme is a joint Department of Trade and Industry and Department of the Environment, Transport and the Regions programme. It is managed by AEA Technology plc through ETSU and the National Environmental Technology Centre.

The Programme offers free advice and information for UK businesses and promotes environmental practices that:

- increase profits for UK industry and commerce;
- reduce waste and pollution at source.

To find out more about the Programme please call the Environmental Helpline on freephone 0800 585794. As well as giving information about the Programme, the Helpline has access to a wide range of environmental information. It offers free advice to UK businesses on technical matters, environmental legislation, conferences and promotional seminars. For smaller companies, a free counselling service may be offered at the discretion of the Helpline Manager.

FOR FURTHER INFORMATION, PLEASE CONTACT THE ENVIRONMENTAL HELPLINE

0800 585794

e-mail address: etbppenvhelp@aeat.co.uk

world wide web: http://www.etsu.com/etbpp/