

Environmental Management System
ISO 14001
In
HOTEL INDUSTRY



CLEAN TECHNOLOGY INITIATIVE
USAID

★ Development Alternatives

PREFACE

In just over ten years from now the number of international tourists will be approximately 940 million, equivalent to one-sixth of today's world population. Already, travel and tourism contribute eight percent to the world's GDP. While a boon to the economy of a country, tourism – like almost all industries – has its downside. The basic requirement for sustained success is a healthy physical and cultural environment. Yet most of the tourist infrastructure necessarily is located on or adjacent to some of the most fragile ecosystems, leading to their degradation. By its success, the tourism industry may be slowly and unwittingly eroding its core asset, to the detriment of the industry itself. It is also world's largest resource (energy, water, materials & food) consuming industry and generates disproportionate amounts of waste. Out of the total resources consumed in this sector, around 60% of it is consumed by the accommodation facilitating units such as hotels, motel, resorts, guesthouse etc. The range of goods used by this industry is vast and covers most of the manufacturing base of an economy from building materials to furniture and fittings.

Fortunately there are many things that hotels can do within their existing operations, often at little or no cost, that will save them money both in the short and long term. If a hotel is making efficient use of resources and reducing waste without compromising on quality or standard of service, it will increase the competitiveness of the business. Therefore hotels are in a position for not only to demonstrate their own responsibility to the environment, but also to encourage others-including their suppliers and business partners – to do the same. Thus hotels can be a formidable force for change towards sustainable development for which one of the way is to adopt the Environmental Management System ISO 14001.

An ISO 14001 EMS is a formal business process used by an organisation to address environmental issues and a tool to ensure and manage its external environmental impact according to its environmental policy. It result in reduced operational costs and liabilities, increased profitability, enhanced competitiveness and easier access to new markets. For many hoteliers, the implementation of Environmental Management Systems ISO 14001 certification process has not only resulted in a market advantage over its competitors, but also has directly benefited the bottom line. When measures are taken in routine fashion they can reduce water and related costs by 50 percent, provide significant savings in energy, solid waste reduction, chemicals and maintenance costs, and have a typical payback period of less than two years. Other additional advantages frequently include improved corporate/hotel image, internal management, local community relations, client satisfaction and reduced environmental liability. For especially small and medium sized hotels, implementing EMS ISO 14001 could well provide a rewarding combination of commercial realism and environmental commitment.

This Manual has been specifically designed keeping in mind the training needs of Hotel Industry. It illustrates practical examples, which helps the user to correlate with the routine functions of a hotel industry. The examples discussed in this manual are based on the experiences of three hotels where, EMS was successfully implemented and certified as per the requirements of ISO 14001. The publication of this Manual is part of a wider package of assistance under the project entitled Clean Technology Initiatives, which the United States Agency for International Development (USAID) has funded. Development Alternatives wishes to gratefully acknowledge the support provided by USAID and all the other partners of CTI including Tetra Tech India Ltd and industry partners. It is hoped that the project activities and the training material developed there from will assist Hotels to acquire the requisite expertise to meet various environmental challenges and ensure the successful implementation of the ISO 14000 series of standards.

New Delhi
March, 2002

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CTI Program

Clean Technology Initiative (CTI) is a USAID project implemented in partnership with ICICI Limited emphasising the promotion of cleaner technologies and introduction of voluntary initiatives among Indian industry to attain international standards. CTI aims to increase environmental protection in a sustainable manner, while enhancing industrial productivity and competitiveness. The project offered technical and financial assistance to some selected sectors of the Indian industry to adopt the voluntary initiatives and thereby create role models for further dissemination among others.

CTI draws on the expertise of American and Indian teams led by Tetra Tech, a leading U.S. environmental engineering and consulting firm to provide the technical assistance to industries. The project focused primarily on selected, rapidly growing and major polluting/resource consuming industrial sectors (including textiles, automobiles, steel, cement, paper and pulp, chemicals, hotels and industrial townships). It assisted industries to adopt voluntary initiatives such as Environmental Management Systems, Energy & Environment Benchmarking, Greening the Supply Chain Management, Life Cycle Assessment, etc to enhance industrial productivity, gain competitive advantage, reduce pollution and green house gas emissions, and incorporate best practices and cleaner technologies.

One of the sector selected under the CTI project was the hotel industry. Tetra Tech in partnership with Development Alternatives facilitated the design and implementation of EMS as per ISO 14001 for three hotels of India. These hotels are:

1. Hyatt Regency, Delhi (5 Star),
2. The Orchid, Mumbai (5 Star),
3. Best Western Radha Ashok, Mathura (3 Star)

Sector Specific Manual for Developing and Implementing EMS in Hotel Industry

PROJECT PARTNERS

Tetra Tech is the U. S. technical assistance-contracting firm for CTI project. It is a multinational consulting firm specialised in environmental consulting and engineering services. Currently, Tetra Tech is one of the largest environmental consulting firms in the United States, with approximately 8500 employees, nearly 180 offices, and annual revenue of over \$1000 million. Tetra Tech offers in-house capabilities in all areas of environmental work, and has taken the expertise gained in the United States to more than 25 countries in Asia, Latin America, and Europe. With field offices in every continent, Tetra Tech supports the work of international development banks, USAID, government ministries and multinational companies.

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Development Alternatives Group (DA) is a not-for-profit organisation established in 1983 to create large scale Sustainable Livelihoods. The DA group operates on the philosophy that sustainable development benefits not only the economy but also the environment and above all - people. The various thematic areas of DA is based on the people - nature, people – technology and people – people which led to the formation of the functional units called the Environment System Branch(ESB), Technology System Branch(TSB) and Institutional System Branch(ISB).

The mandate of Industry and Urban Environment team of the ESB is to facilitate sustainable development among the urban and industrial sectors of the society. The team built on the strengths of interdisciplinary expertise provided technical assistance to the CTI project along with other project partners. The CTI project took the assistance from this team for facilitating EMS in three units of the hotel and the hotel sector. Developing an energy and environment benchmarking model for the hotel sector was also facilitated by the same.

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2. The Orchid, Mumbai and
3. Best Western Radha Ashok, Mathura.

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Sector Specific Manual for Developing and Implementing EMS in Hotel Industry

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List of Abbreviations

ANSI	American National Standards Institution
BIS	Bureau of Indian Standards
CTI	Clean Technology Initiative
DA	Development Alternatives
EA	Environmental Auditing
EMAS	Environmental Management Assessment Scheme
EMP	Environmental Management Programme
EMS	Environmental Management Systems as per ISO 14001: 1996
EHS	Environment, Health and Safety
EPE	Environmental Performance Evaluation
ETP	Effluent Treatment Plant
H and S	Health and Safety
ICC	International Chamber of Commerce
ICICI	Industrial Credit and Investment Corporation of India
IER	Initial Environmental Review
ISO	International Organisation of Standards
LCA	Life Cycle Assessment
MR	Management Representative
NCR	Non-Conformance Report
O and T	Objectives and Targets
OCP	Operational Control Procedures
QMS	Quality Management Systems
R&D	Research and Development
SAGE	Strategic Advisory Group on Environment
SMART	Specific, Measurable, Achievable, Realistic and Time-bound
TEST	Trade in Environmental Services and Technologies (TEST) Programme
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

This sector specific manual has been developed and organised to assist hotel industry of India to design and implement Environmental Management System (EMS) that is consistent with the ISO 14001. Keeping in view the size and the service provided by hotel, this document attempts to provide the tool to design and implement an EMS for an overall improvement in environmental performance.

The various sections of this manual describe each element of the ISO 14001 standard and provide step-by-step procedures along with examples and sample formats of the EMS documents. Guidance for designing and implementing an EMS that is appropriate to the hotels is presented in this manual. This document is therefore not a rigid instruction manual. Some examples from the three hotels is also presented to make the user relate to a practical instance.

Who could use this manual?

This manual could be used by any individual who is interested in the design and implementation of EMS as per the ISO 14001 standard. However, the form and procedural contents of the EMS are very specific to the hotel industry. This manual is organised in the same pattern as the ISO 14001 standard itself. There are five phases of the EMS called the Planning, Policy, Implementing, Checking and Corrective Actions which are expanded into the seventeen elements of the standard. For each of the seventeen elements, the reader will first find the requirement of the ISO 14001, followed by the suggested steps to imbibe the element into the system. These are then followed by the documentation procedure as applicable to hotel.

This manual could be utilised as a tool and a resource to design and implement an EMS whenever any hotel need support to do so. However, expert advice for an effective implementation is required during the process.

1. INTRODUCTION

1.1 Background

The aim of the CTI-USAID program is to promote voluntary initiative for attaining international standard and thereby reduce pollution per unit of product or service delivered by the Indian industry. EMS as per ISO 14001 is one of the voluntary standard introduced among fourteen Indian industrial sectors under the CTI project. The sectors are chosen based on some selected criteria that included pollution intensity, resource consumption, and growth potential of each sector.

The hotel industry is selected as an important sector in this project because the CTI project focused only on the production industries. This sector added the value of implementing EMS in a service sector. Moreover, it was observed from the experience of Development Alternatives and other project partners including USAID that tourism is world's largest resource (energy, water, materials & food) consuming industry and generates disproportionate amounts of waste. Out of the total resources consumed in this sector, around 60% of it is consumed by the accommodation facilitating units such as hotels, motel, resorts, guesthouse etc. The range of goods used by this industry is vast and covers most of the manufacturing base of an economy from building materials to furniture and fittings.

Looking at these aspects, the project partners realised that it has become an imperative to implement a system to improve the environmental performance through Environmental Management System-ISO 14001 which is a formal business process used by an organisation to address environmental issues and a tool to ensure and manage its external environmental impact according to its environmental policy. It results in reduced operational costs and liabilities, increased profitability, enhanced competitiveness and easier access to new markets. For many hoteliers, the implementation of Environmental Management Systems ISO 14001 certification process has not only resulted in a market advantage over its competitors, but also has directly benefited the bottom line. When measures are taken in routine fashion they can reduce water and related costs by 50 percent, provide significant savings in energy, solid waste reduction, chemicals and maintenance costs, and have a typical payback period of less than two years. Other additional advantages frequently include improved corporate/hotel image, internal management, local community relations, client satisfaction and reduced environmental liability. For especially small and medium sized hotels, implementing EMS ISO 14001 could well provide a rewarding combination of commercial realism and environmental commitment.

Objectives of the manual

This manual is designed to encourage and help the hotel industry to establish and implement an environmental management system (EMS). The objectives of this manual are to:

- Create awareness hotelier on EMS and their potential benefits.
- Assist the hotel industry to design and implement EMS.
- Provide a user-friendly manual which shares the experience and learning of implementing EMS in hotels.

1.2 Structure of the manual

This manual consists of six chapters.

Chapter 1: Provides background for development of this manual with an outline of the objectives of the manual and its main features.

Chapter 2: Provides an overview of Indian Hotel sector in India with a brief insight into the various environmental challenges facing the sector while summarising the process of hotel industry.

Chapter 3: Provides the overview of environmental management systems and various steps involved in the design and implementation of EMS. It also provides a background on the International Organisation of Standards. A brief historical perspective on the ISO 14000 series of standard is addressed. It gives

information on the need, benefits and barriers of implementing EMS in hotels. The case studies of EMS implementation under the CTI project in three hotels of India are elucidated.

Chapter 4: The planning and implementing phase of the EMS as per ISO 14001 is explained with examples of procedures and formats for each clause from the CTI project. Each clause is explained with definitions and suggestions and its applicability in the hotel context.

Chapter 5: The checking and corrective action phase of the EMS as per ISO 14001 is explained with examples of procedures and formats for each clause from the CTI project. Each clause is explained with definitions and suggestions and its applicability in the hotel context.

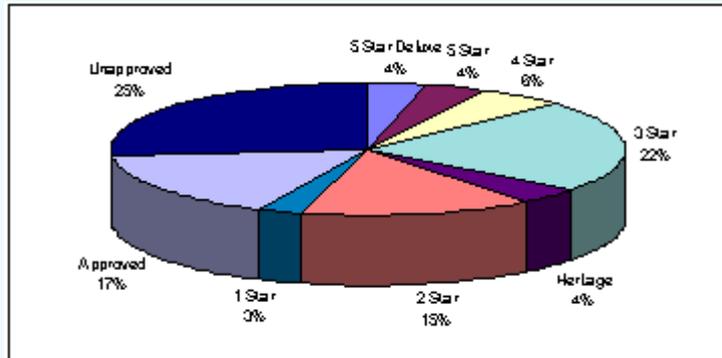
Chapter 6: The sustenance of the EMS after the first certification phase is explained with suggestions of do's and don'ts.

2. OVERVIEW OF HOTEL INDUSTRY IN INDIA

2.1 General Perspective

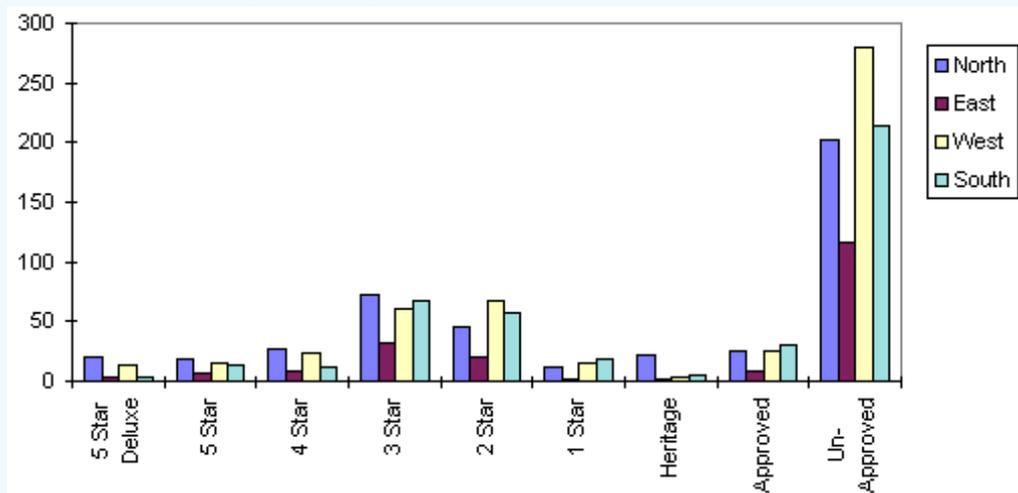
The Government of India has accorded hotels the status of “high priority industry” to enable sustainable development of the sector. Here the term hotel include hotels, motels, way side amenities, restaurants, beach, hill and desert resorts, heritage properties and other kind of tourist complexes which provide accommodation for or cater to the food requirements of both domestic and foreign tourists. According to the Federation of Hotel and Restaurant

Figure 2.1 Category Wise Percentage Break-up of Hotels in India



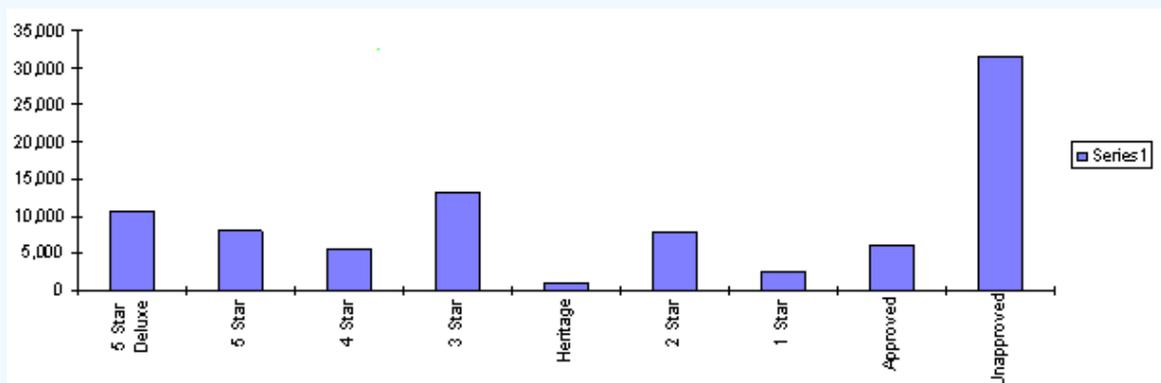
Association of India (FHRAI) there are around 1327 approved hotels (Five star Deluxe – 65, Five Star – 72, Four Star – 99, Three Star – 402, Heritage – 73, Two Star – 263, One Star – 50, approved 110 and 837 unapproved). There are around 665 restaurants and 303 associates registered. The categorywise percentages breakup and regionwise distribution of hotels in India is shown in Figure 2.1, 2.2 and 2.3.

Figure 2.2 Region Wise Distribution of Hotels in India



Source: Federation of hotel and Restaurant Association of India

Figure 2.3 Category Wise Number of Rooms in Hotels of India



Source: Federation of hotel and Restaurant Association of India

2.2 Environmental perspective

Hotel industry consumes a vast range of goods in construction and operation. They generally use huge amounts of energy, consume large amounts of water and generate disproportionate amounts of waste.

Hotels are fortunate in that there are many things they can do within existing hotel operations, often at little or no cost, that will save them money both in the short and long term. If a hotel that is minimising its energy and water consumption, if it is making efficient use of resources and reducing waste without compromising on quality or standard of service, it will increase the competitiveness of the business. And so along with their own responsibility to the environment, they are well positioned to encourage others-including their suppliers and business partners – to do the same. So hotels can be a formidable force for change towards sustainable development.

The range of goods used by the Hotel Industry is vast and covers most of the manufacturing base of an economy from building materials to furniture and fittings. Hotels also use full range of professional services from advertising agents to merchant banks and communicate via diverse media. This interdependence with so many other businesses gives hotels a unique opportunity to challenge business partners to help in environmental mission and to look at how they might change their own activities to be more environmentally conscious.

It is vital that hotels make their customers aware of their schemes and educate them to (seek co-operation) co-operate with hotels in their initiatives. By spreading the word they can influence their competitors. However, caution need to be exercised in reviewing the 'green initiatives' taken 'yesterday' are still remaining green even 'today'. For example: the harmful effects of propellants used in spray cans were not known till very recently (ozone depletion). Therefore one has to keep abreast of the new and emerging environmental challenges and maintains flexibility in mending the ways of environmental protection.

A number of leading hotels in India has launched proactive programs to improve the environmental performance of their products, processes, services, and facilities. However, challenges faced by these hotels include (1) gauging their performance against others within their industry and (2) identifying GHG and energy efficiency improvement opportunities. But such initiatives have not been much publicised, may be due to the high level of competition in this sector. It is also found that some of the international chain of hotels operating in India does not even have an environmental policy in place while their counterparts in other countries are known for their green image. However, of late, the scenario in India is rapidly changing for better, as the local and global environmental pressures are becoming increasingly evident.

Indian hotel industry is just beginning to realise that energy and environmental management is the cutting edge strategies for their business profitability. A clear message has come across when the environmental initiatives of Maurya Sheraton (The Welcome Group of Hotels) have been paid off when the US President preferred the most environment friendly Hotel in the capital, i.e., Maurya Sheraton, during his recent visit (March, 2000) to India.

With the establishment of International Standards for Environmental Management i.e., EMS, ISO 14001, hotel industry world-wide is taking advantage of implementing these standards that are comparable across the world. Acting together, hotels could be a formidable force in influencing a substantial and diverse body of people by challenging the suppliers about the environmental impact of their goods and services and by asking if there might be alternatives. The more hotels demand environmentally friendly goods, the greater the market will be and cheaper the goods will become to obtain which would be good news for everyone as well as for the environment.

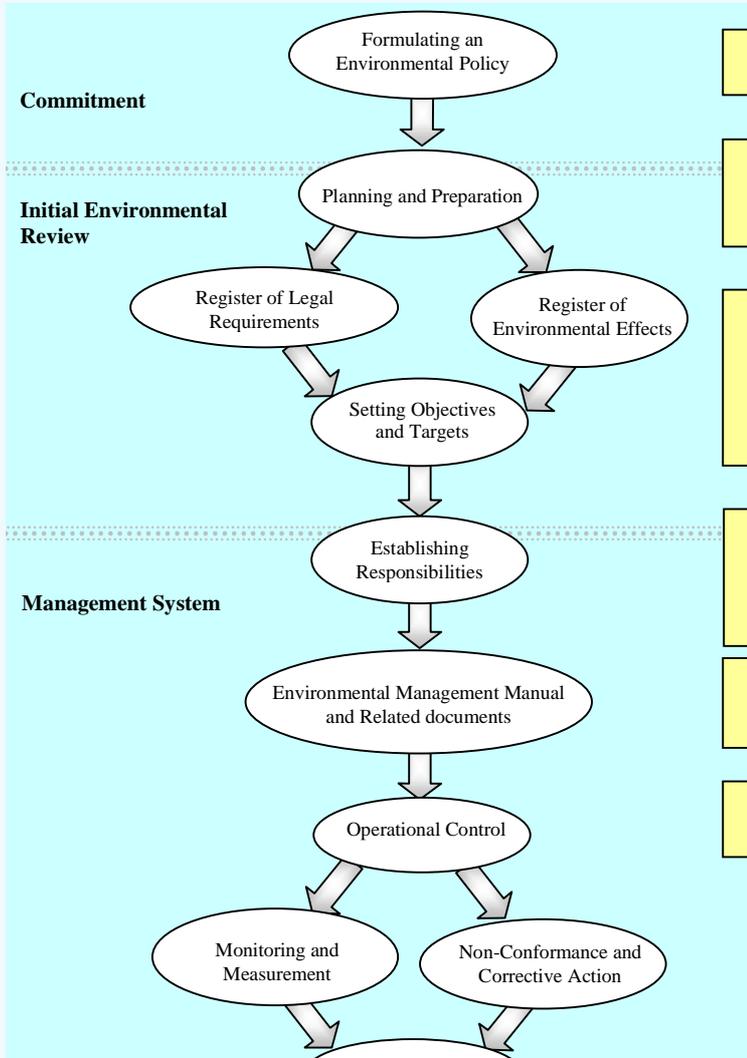
3. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) and ISO 14001

3.1 Overview of EMS

An EMS is a set of problem identification and problem-solving tools that can be implemented by the employees in an organisation in many different ways, depending on the organisation's activities and needs. EMS follows the Deming's well known Quality Management approach of "Plan, Do, Check and Act" which is a system methodology rather than a command and control approach. This section provides an overview of the various steps involved in establishing an EMS as listed below:

1. Commitment: formulation of an environmental policy - An environmental policy establishes a set of principles against which environmental performance is measured.
2. Initial environmental review: planning and preparation - The initial environmental review is to evaluate the current environmental status of the organisation. It lays the foundation for an effective EMS.
3. Initial environmental review: register of environmental aspects and impacts - This step involves identification of environmental aspects and impacts; evaluation of environmental aspects for their significance and prioritisation of significant aspects for action.
4. Initial environmental review: register of legal requirements - This register helps in documenting the legal requirements applicable to the organisation and updating the new legislation and requirements.
5. Setting objectives and targets - Objectives and targets help to translate the purpose into action. Objectives and targets should be set with the context of meeting the aims of the environment policy and should be monitored regularly to determine the progress.
6. Establishing responsibilities - Effective implementation of EMS and meeting the objectives and targets within the designated time frame require a properly defined structure and responsibility in the organisation. Roles and responsibilities for all personnel must be clearly defined and documented.
7. Environmental management manual and related documents - environmental management manual acts as the principal source of reference and support document for EMS implementation. Documents demonstrate the compliance with the requirements of EMS and record the extent to which the planned objectives have been met.
8. Operational control and procedures - Operational control provides the mechanism by which the environmental policy, objectives and targets are converted into action for which it requires certain procedures to be laid down.
9. Monitoring and measurement - Monitoring and measurement provides documented evidence that an organisation's EMS is performing in accordance with its environmental policy and management programme.
10. Non-conformance and corrective action - An EMS provides transparency across the range of operation and activities in relation to certain environmental criteria so that the system will identify any deviation or problem, which could be identified and rectified accordingly.
11. Records - Records are evidence that the EMS is working according to the requirements of environmental policy and that environmental objectives and targets are being met.
12. Environmental management system audit - The purpose of an audit is to assess whether an EMS confirms to the requirements of the environmental policy and related environmental performance criteria.
13. Management review - The management review is an opportunity to assess the overall performance of an EMS, to consider whether or not the EMS is working effectively and whether it continues to fit the purpose for which it was designed.
14. Registration for an EMS - Registration for an EMS provides formal recognition of an organisation's commitment to continual improvement to its overall environmental performance where by external certifying agency confirms that an organisation is following or confirming to the standard after conducting periodic audits.

Figure 3.1 Overview of Environmental Management Systems



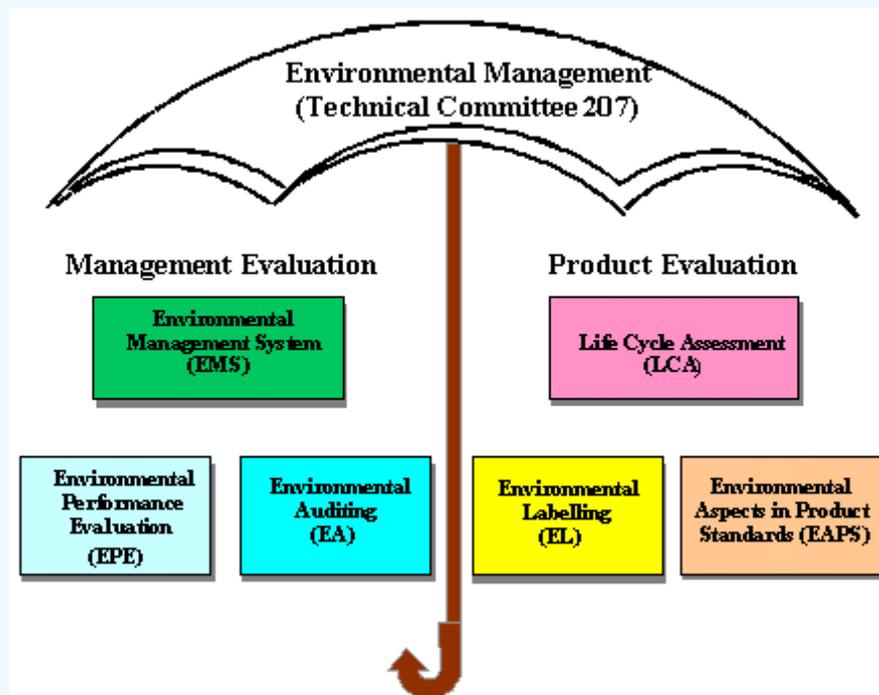
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3.2 Background of ISO 14000 standards

The International Organisation for Standardisation (ISO) is a world-wide federation founded in 1947 to promote the development of international manufacturing, trade and communication standards. ISO is composed of member bodies from 119 countries. The American National Standards Institute (ANSI) is the representative of ISO from the United States, while the Bureau of Indian Standards (BIS) is the representative from India

The ISO 14000 series of standards grew out of the commitment of ISO to support the objective of “sustainable development” discussed at the United Nations Conference on Environment and Development, in Rio de Janeiro, in 1992. Soon after the Rio summit, in 1993, ISO launched the new technical committee, ISO/TC 207 which developed a series of international environmental standards (Figure-3.2). Its official scope is “standardisation in the field of environmental management tools and systems.” TC 207 held its first plenary session in Toronto, Canada, in June 1993 and meets annually to review the progress of its subcommittees in developing standards in the ISO 14000 series. ISO receives input from government, industry and other interested parties before developing a standard. All standards developed by ISO are voluntary. However, countries and industries often adopt ISO standards as requirements for doing business.

Figure 3.2 : Series of International Environmental Standards developed by the Technical committee



ISO 14000 is a series of voluntary generic standards developed/being developed by ISO that provides business management with the structure for managing environmental impacts. The standards include a broad range of environmental management disciplines including the basic management system, auditing, performance evaluation, labelling and life cycle assessment. The ISO 14000 family may be categorised into seven major groups as shown in the **Box-3.1** below.

The standards are basically of two types: specification (normative) and guidance (informative). All the standards except ISO 14001 are guidance standards. This means that they are descriptive documents, rather than prescriptive requirements. Any type of organisation can register with ISO 14001, the specification standard which is a model for an environmental management system.

Extensive and comprehensive deliberations of the TC 207 resulted in the finalisation of a single, generic internationally recognised EMS specification standard, ISO 14001 in September 1996. Throughout the world EMS is implemented according to the normative standard of ISO 14001. This is mainly because of its established global credibility over the years.

Box- 3.1 ISO 14000 STANDARDS

GROUP	STANDARDS
Environmental Management Systems Environmental Auditing	ISO 14001, ISO 14004, ISO/TR 14061 ISO 14010, ISO 14011, ISO 14012 ISO 14015, ISO 19011
Environmental labelling	ISO 14020, ISO 14021, ISO 14024 ISO/TR 14025
Environmental Performance Evaluation	ISO 14031, ISO/TR 14032
Life Cycle Assessment	ISO 14040, ISO 14041, ISO 14042 ISO 14043, ISO/TR 14047 ISO/TR 14048, ISO/TR 14049
Environmental Management Vocabulary	ISO 14050
Environmental Aspects in Product Standards	ISO 14062, ISO Guide 64

3.3 ISO 14001: Environmental Management System

ISO 14001 is a management system standard. This is the only “normative” standard in the series. This means that ISO 14001 is the only standard against which certifiable audit is carried out. It is not a performance or product standard, although the framers developed it with the idea that the result of its implementation would be lead to better organisational environmental performance. The standard represents a shift towards holistic proactive management and total employee involvement. ISO 14001 urges employees to define their environmental roles from the bottom up and requires top management commitment, resources and visibility to support them. It is a comprehensive framework that contains core elements for managing a organisation’s processes and activities to identify significant environmental aspects the organisation can control and over which it can be expected to have an influence. Any organisation or facility or organisation of any size anywhere in the world can use the standard. ISO 14001 International Standard is applicable to any organisation that wishes to :

- Implement, maintain and improve an environmental management system
- Assure itself of its conformance with its stated environmental policy
- Demonstrate such conformance to others
- Seek certification/registration of its environmental management system by an external organisation
- Make a self-determination and self-declaration of conformance with this International Standard

While ISO 14001 is more likely to be used in manufacturing or processing industries, it can also be applied to service sector such as construction, architecture, health care, hospitality, transportation, telecommunication, local bodies, townships etc. ISO 14001 is not an environmental performance standard, it does not require a organisation to establish or disclose performance levels or disclose audit results. Therefore, the key features of ISO 14001 are :

- It is a voluntary standard
- It is a flexible management systems specification
- Based on the Deming’s Plan-Do-Check-Act model
- It focuses on continual improvement in environmental performance
- It has strong commitment to environmental legal compliance
- It enhances commitment to pollution prevention and resource conservation

Sector Specific Manual for Developing and Implementing EMS in Hotel Industry

Any organisation designing and implementing EMS as per the ISO 14001 standard should consult two important documents. They are:

ISO 14001: Specification document
ISO 14004: Guidance document

Both of these documents are published in 1996. The specification document consists of the definitions and the requirements of the standard. The guidance document gives the guidelines on principles, systems and supporting techniques for practical help to any organisation. If an organisation would like to go for auditing its system, then should consult the ISO 14010 series that contain general principles of auditing, principles of EMS auditing and also include qualification criteria for environmental auditors.

3.4 The Clauses of ISO 14001

The five main phases of the EMS are the following :

1. Environment policy
2. Planning
3. Implementation and operation
4. Checking and corrective action
5. Management review.

The five phases are based on the Deming Cycle of Plan-Do-Check-Act (Figure 3.3)

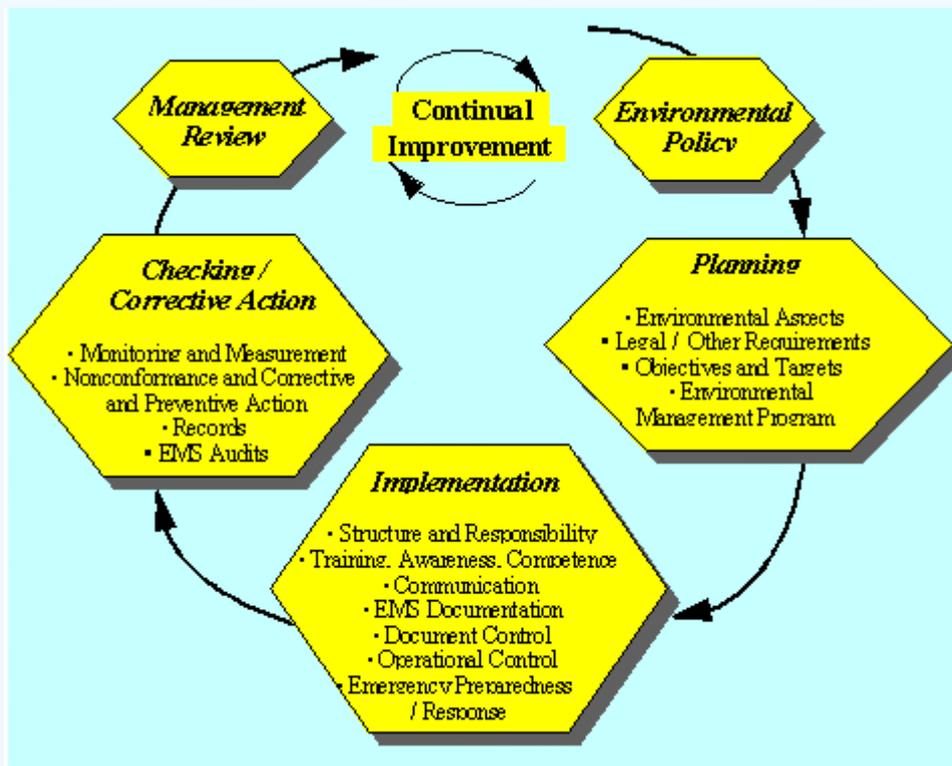
Environmental policy commits the top management to regulatory compliance, pollution prevention and continual improvement in environmental performance. The policy developed by an organisation should be appropriate to the nature, scale and impacts of the organisation's activities, products and services. It should be communicated to all employees and made available to the public.

Planning requires the identification of all environmental aspects (activities, products and services that can interact with the environment) and their associated impacts (change the environment). Of the various environmental impacts, the significant ones are to be identified and will be the focus of the EMS. In the process of short-listing significant impacts, it is ensured that the legal requirements of the organisation are suitably considered. With the significant impacts and the environmental policy as the basis, objectives and targets are established in order to make improvements in the environmental performance. For each of the objectives and targets, a management programme is developed outlining the means and time frame within which the stated goal is to be achieved.

Implementation and operation is the element that will lead the organisation to achieve the environmental policy commitments. A suitable structure is to be designed and specific responsibilities to the employees across different levels need to be attached to achieve the policy commitments. The awareness levels have to be improved and competency to tackle the environmental impacts has to be built with an aid of appropriate training. Communication within the organisation as well as with external agencies/individuals is also to be structured. Good documentation and document control is to be designed for the effective functioning of the system. Operational control over all the significant impacts needs to be established to ensure that there is no slippage in environmental performance. And a suitable emergency preparedness and response mechanisms need to be in place to deal with unforeseen, environmentally harmful situations that may arise.

Checking and correcting requires to have procedures in place for monitoring and measuring environmental parameters, performance and progress related to the objectives and targets. The organisation also needs to have procedures for taking corrective and preventive action to any non-conformances that may have been identified. ISO 14001 also emphasises on periodic audits to ensure that the system is effective and conforming to its requirements.

Management review is required by ISO 14001 on a periodic basis to assess whether any changes are needed in the policy which reflects the top management's commitment. It also reviews the improvement in environmental performance made through objectives and targets. Also, helps to address any major non-conformances identified through audit or otherwise. Management review is to ensure that the EMS designed and implemented is effective.



3.5 Benefits of implementing EMS in Hotel

The benefits of an EMS in the three hotels was realised at different stages of the design and implementation . In some cases the benefits were reflected after the audit of the system took place. The CTI team, along with the hotel management understood these benefits over time. Some of the benefits are briefly described below:

- Continual improvement through pollution prevention initiatives - ISO 14001 required continual improvement in environmental performance through the implementation of pollution prevention initiatives. It required the hotel to identify and implement opportunities for reducing emissions and reducing waste. In hotels resource conservation like conservation of water, electricity was an immediate positive impact after the implementation.
- Better cost containment - EMS improved cost control by encouraging conservation of material inputs, reducing energy use, increasing productivity, lowering treatment/disposal costs, promoting resource savings. In addition, it leads to the timely operations and maintenance of equipments and infrastructures which reduce environmental costs. In disposal.
- Assuring regulatory compliance- Implementing ISO 14001 improved the relationship with regulators. In addition, implementing an EMS also helped in building awareness among all staff on the requirement of compliance and the applicable legislation and regulations. This also enhanced the confidence level of the hotel in terms of being a legally compliant hotel.
- Enhancing staff morale - One important benefit achieved was that the understanding of environmental issues by the staff helped them to take up responsibilities on their own. There was a realisation that every environment degrading activity of theirs has a direct or indirect impact on their own daily life. The staffs were more happy and enthusiastic about their work and responsibilities. This moral boost led to improved efficiency.

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- Reduced environmental risk - Environmental risk is considered as a single largest hidden risk for many organisations. Undertaking environmental risk assessment as part of the environmental management process reduced the risk of the occurrence of events that could have adverse environmental consequences.
- Improved public image and community relations – The hotel received a lot of public applause after the implementation and certification of the EMS. The community relations with the hotel management became more smooth.

3.6 Barriers to implementing EMS

There are some barriers to designing and implementing an EMS. The more important ones and their associated enabling measures have been listed in this section.

- Lack of top management commitment and visibility - The importance of top management commitment cannot be under-emphasised. In many organisations, the top management pays only lip service to the EMS and this weakens the EMS considerably. As top management time is always difficult, efforts were made by the CTI team to obtain their attention to the EMS by organising occasional meetings. The top management was made aware of the EMS progress after every step.
- Frequent changes of personnel and top management- This problem was a major obstacle to proceed with the design and implementation of EMS at every stage. The replacement of new member with the previously trained member slowed the process to certain extent.
- Common perception that the costs outweigh the benefits – Sometimes the management thought that the costs to implement the EMS and the costs in terms of professional time investment was much more than the total benefits. But all the hotels found that the pay back period of return-on-investment for developing and implementing the EMS is sometimes less than a year.
- Resources – Budgets and Manpower constraint - One of the main impediments of developing an EMS is the provision of inadequate budgets. Top management needs to address the EMS as a further development of the institutional infrastructure of the organisation. Lack of financial resources results in sub-standard training, consulting and auditing inputs that may delay EMS development and also make difficult the maintenance of an effective EMS. It is important to allocate sufficient budgets.
- Insufficient training at all levels - In order to motivate about EMS, it is most important to provide training at all levels of the workforce. Passive and unenthusiastic training are often barriers to an ineffective EMS.
- EMS not recognised as the responsibility of the whole organisation – This was a major barrier in the initial stages of the process. The responsibility assigned was restricted to the core team. But later in the process integration was achieved through involvement of all departments. The roles and responsibilities were allocated by the management.

3.7 Benefits of EMS in Hotel Industry : Experiences from the CTI Project

As already mentioned in the previous sections that three hotels of India were selected to implement EMS under the CTI project. The following paragraphs give a brief note on background of each hotel and the benefits achieved.

The Orchid-An Ecotel Hotel, Mumbai

Launched in 1997, The Orchid, Asia's First Ecotel Hotel, a leading landmark in the city of Mumbai, has gained international importance due to its pioneering efforts in the eco friendly sphere. The Mission Statement of The Orchid sums up its core values in accepting responsibility for living in close harmony with nature and community. In continuation to this Orchid has reinforced its commitment to eco friendly practices by achieving the ISO- 14001 Environment Management System certification in just twelve months of commencing the process. When the management decided to lead the way in reflecting the hotel's intrinsic values, little did they realize then that the venture would place the hotel at the very top. It started with the formation of the core team headed by Management Representative

(MR). The initiative was executed by involving the team – HODs, department representatives and internal auditors. The MR being a team player streamlined the entire initiative, and was able to not only foster team spirit and use the principles of the orchid culture, but he was able to tactfully handle the orchid team members and channelise their energies in the direction to achieve the goal. In spite of being an ecotel where the orchidians have been already practicing environmentally friendly systems and procedures, it was a challenge for the orchid team to find ways and means to go further in this endeavor. Each Orchidian rose to the challenge to document and implement the ISO 14001 environment management system. The system was audited by Bureau Veritas Quality International (BVQI) and was found to be in accordance with the requirements of the environment standard ISO 14001. During the process and in spite of a busy period in terms of occupancy approximately 80% from May 2000 to May 2001, the orchid team stuck to their guns and went through a structured program provided by consultants “Development Alternatives.

It is not really an easy task for Orchid to strike a balance between environmental improvement and five star deluxe hotel services. But Orchid’s genuine desire to reduce adverse environmental impacts without sacrificing five star services can be seen by taking a glance on its everyday operation, even the slightest aspects.

- Energy saved, at the push of a button on the Bedside Control Panel, a unique “Ecoswitch” which automatically increases the AC’s thermostat by two degrees in 2 hours, without affecting comfort levels. Guests, who generally actively participate in this venture, are then rewarded and motivated with Certificates and a free subscription of the environment-based magazine ‘Sanctuary’. About 16,000 guests used the Eco-Button and saved energy.
- Packaging was reduced by 30% by our suppliers which also brought down waste.
- For the aesthetics potted plants are used instead of cut flowers.
- The Restaurants doesn’t use the table cloth and thus reduce the load on laundry.

As per the Managing Director of Orchid, the ISO 14001 initiative has been the result of “The Orchid team work, persistence and culture – we will exert vigorous effort such that others join in enthusiastically”. Quality is never an accident, but the result of hard work and dedication, and this is what has paid rich dividends. Today the Orchid looms high above the horizon, a leader in its own right, culminating with the hotel bagging ISO 14001 certificate.

Cost Reduction – Benefit Of ISO 14001 Implementation At Hyatt Regency, Delhi

The Environmental Management System (EMS) of Hyatt Regency, Delhi covers all environmental aspects associated within boundary wall of the hotel arising out of its activities, products and services. This standard (ISO 14001) enabled the hotel to establish an effective EMS, achieve continual improvement of environmental performance and ensure regulatory and related legislative compliance. EMS allowed the hotel to address, control and improve the short-term and long-term impacts of its activities, products and services, thereby helping to operate in an environmentally responsible manner, anticipate and meet growing environmental performance expectations. The total timeframe of EMS implementation took fourteen months. Initial six months went in carrying out the detailed initial environmental review and prioritising the significant environmental aspects, so as to act immediately in minimising the adverse environmental impacts. Hyatt Regency, Delhi is the first hotel in the world under Hyatt International chain to get the ISO 14001 certificate from Det Norske Veritas (DNV), September 2001.

Mainly challenges were faced in the beginning of implementing the EMS. Most of the core group members representing various departments took the initiative as an additional burden, as they felt a lot of time goes in documentation and reviewing their own day to day work under initial environmental review. But later the same group realised that it gave an opportunity to see their own activities under environmental perspective. The second major challenge faced is the support from management. The key, followed in achieving commitment on the part of management was in identifying the environmental aspects, which affected the organisation activities, products and services.

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Engineering Department – Outstanding Initiatives

The detailed process flow analysis for each and every utility and function of engineering department was done as part of the initial environmental review. This helped in understanding the operational efficiency (performance) of utility and the related environmental impacts caused by the operation. Among all identified environmental impacts the significant ones (resource conservation possibilities) were identified to take an appropriate action, such that adverse environmental impacts could be reduced. The actions are made as detailed environmental management programme and related operational control procedures to adopt. Some of the initiatives taken in conservation of resources are mentioned in Table-1. Payback period for all the initiatives taken was less than eight months. The total energy (includes electricity and all other fuels used) saving achieved in the year 2001— 2002 , was accounted to be more than one crore rupees, which was about 11.83% increase when compared to the previous years savings.

Initiatives and Benefits	Cost saving
Installation of metal halide lamps and fittings in Tennis Court. <ul style="list-style-type: none"> • Reduction in electrical load from 32 kWh to 8 kWh. • Reduction in lamp replacement cost. • Reduction in manpower cost for handling fused bulbs • Improvement in distribution of light. 	Rs. 115 per hr.
Installation of compact fluorescent lamp <ul style="list-style-type: none"> • Replacement of 3000 candle lamps of 25 w in guest floor corridors, lobby porch & in banquet area with CFL of 5W. • Installation of a condensing coil in hot water tank to recover heat from the condensate mainly from Laundry and installation of plate type heat exchanger to recover additional heat from the condensate 	Rs. 2,00,000 per month. Rs.20,000 per month
<ul style="list-style-type: none"> • Reduction in contract demand from 4118 KVA to 3000 KVA. 	Rs. 1,67,700 per month.
<ul style="list-style-type: none"> • Up gradation of capacitor panel to improve power factor from 0.96 to 0.99 	Rs.1, 50,000 per month.
<ul style="list-style-type: none"> • Usage of treated water from effluent treatment plant for gardening and water cascades. 	Rs.17, 000 per month
<ul style="list-style-type: none"> • Removal of gas-pilot-burners from Kitchen. 	Rs.8500 per month.
<ul style="list-style-type: none"> • Renovation of chilled pool plant with installation of a plate type heat exchanger to use the chilling effect from central air conditioning plant to avoid running of compressor from April to October. 	Rs. 13,000 per month
<ul style="list-style-type: none"> • Installation of a heat exchanger in steam boilers-exhaust for heat recovery. 	Rs. 90,000 per month.

Benefits through implementation of EMS

There were lot more other benefits Hyatt Regency, Delhi achieved by implementing EMS, such as :

- Environmental awareness among all staff members, contract staff, vendors & contractors
- Adopted pro active approach so that waste / pollution is prevented or minimised at the source itself
- In spite of having a comprehensive emergency preparedness, EMS helped in preparing environmental mitigation measures
- Reduced the environmental legislative and regulatory burden
- Above all helped in establishing and maintaining the system for continual improvement

Implementing EMS-ISO 14001 in Three Star Hotel - A Challenge

The process of EMS –ISO 14001 at Best Western was initiated in June 2000. To gain the public image by being the Asia's first 3 star hotel to be certified as ISO 14001 became a driving force for the hotel's pursuit of the environmental management standards. Before implementing its EMS, Best Western did not formally know how its actions and processes impacted the environment. It was through the rigorous exercise along with the employees that Environmental Aspect and Impacts of each department of the hotel was identified. For the significant environmental aspect the objectives and targets were set. The focus was on energy conservation (electricity and LPG). In addition to implementing the environmental policy Best Western has to comply with the statutory requirements on environmental protection for hotel industry set by the government. There are several areas that different ordinances cover, such as water pollution control, air pollution. One of the major achievements under EMS was that emergency preparedness plan was designed for the hotel which is usually overlooked in smaller properties.

Best Western believes that EMS can only be successful if it is "experienced" by the employees. They believe that human beings are the critical factor in the system. Accordingly, in the implementation phase, the first step of Best Western was to convince and motivate the employees. The major barrier to implementation of EMS is the lack of human resource rather than financial ones. It was also true that the environment was not a core business issue in the hotel and the lack of allocation of resources conspire to keep the status of environmental issues low on the business. In spite of these barriers the continuous commitment of the top management has resulted in the successful implementation of EMS.

As a result of the increased transparency of the processes, it has been possible to detect optimisation and cost saving potential. Further benefits are a general enhancement of the organisation's image and a positive effect on relations with the competent authorities.

It is not excessively complicated to implement an Environmental Management System, but it does require a methodology and strict adherence to a series of steps, in order to build it on solid foundations and ensure that it is suitably adapted to the real situation of the hotel concerned.

Somehow a way has to be found to give environmental management the same sort of attention as financial management, marketing management, and human resources management. Like these, it has to be an integral part of every decision hotel makes. It cannot be a specialist area for engineers or legal advisors or the public relations department. It cannot be driven by a need to meet minimum standards or just to comply with regulations. Environmental Management must become ingrained into hotel's very nature.

4. PLANNING AND IMPLEMENTING EMS AS PER ISO 14001 IN HOTELS

This chapter starts with an outline of the various stages in the designing of EMS as per ISO 14001. While there are several methodologies for designing and implementing an EMS, this section describes the methodology adopted by many of certified ISO 14001 organisations in India. This methodology is confirmed to be effective and used by this project.

4.1 Defining Scope for Environmental Management System :

First and foremost important thing before initiating the EMS in hotel is to very clearly define the scope. Scope here means, the fence line of the EMS. This decision is usually taken by the top management in consultation with few key members on whether all or part of the functional units of the hotel is covered under the EMS.

EMS designing and implementation in any organisation as per ISO 14001 gives flexibility of defining the scope. The scope can be later extended for the second certification. The different services/ functionaries provided by the hotel can be classified as front of the house and back of the house.

Front-of-the-house

- Guestrooms
- Restaurants & Bars
- Recreational Facilities
- Hygiene & Health care Facilities
- Other Facilities

Back-of-the-house

- Kitchen
- Kitchen Stewarding
- Engineering
- Chiller plant
- Boiler plant
- Fire fighting system
- Water & wastewater
- Solid waste storage
- Housekeeping
- Hazardous material storage
- Purchase department
- Administration
- Security

Initiating the EMS

An appreciation-cum-commitment on EMS awareness programme is perhaps the best way to flag-off the EMS / ISO 14001 journey within the organisation. This is ideally a two-day programme for the top and senior management of the organisation. The thrust of this programme is to inform the top and senior management about the benefits of EMS /ISO 14001 would be for their organisation, to describe the main elements of ISO 14001 and to decide on the most suitable methodology.

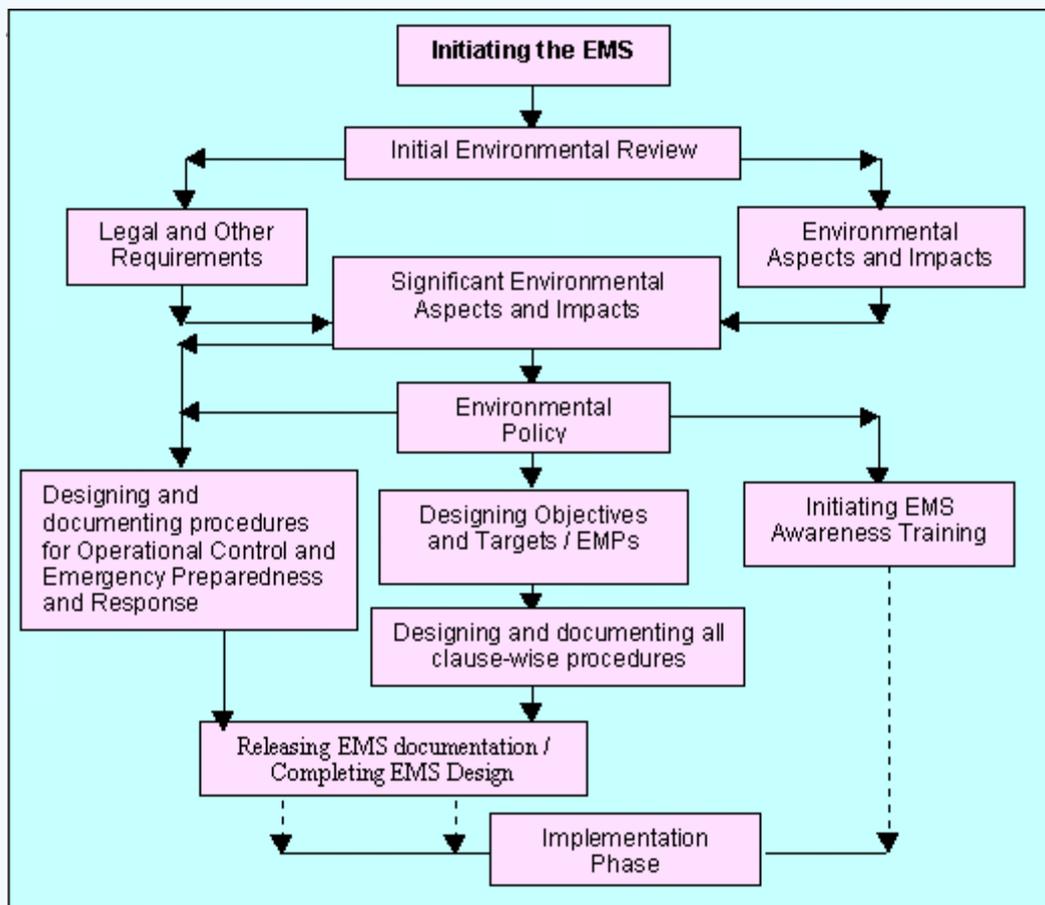
Following this programme, the top and senior management have to decide on one or more management representatives for the EMS and establish a core team, who would work actively in developing the EMS for the organisation. As the management representative holds the responsibility for the EMS, he or she is chosen keeping in view the person's standing within the organisation. Abilities to co-ordinate, report and effectively liaise with the rest of the team are the important traits that a management representative (MR) should possess. Once the MR/s appointment is done, the core group is to be

established. While formulating the core group, it is important to keep in mind the variety of skills and the knowledge base that is required, for example :

- Understanding of environmental issues
- Appreciation of the organisation culture
- Knowledge on the processes / operations
- Management Systems experience
- Auditing experience
- Training expertise
- Health and safety background
- Ability to get things done within the organisation

Although all the above qualifications might not be present in all the team members but the core group should be competent in majority of the above areas. Following the appointment of the management representative and the core group, it is important to have the core group training. A two-day awareness programme on environmental issues and EMS as per ISO 14001 is to be organised. This programme should also focus on the road map for designing and implementing the EMS.

Figure 4.1: Stages in Initiating and Designing the EMS



4.2 Initial Environmental Review

After imparting the initial training on the EMS within the organisation, the first step is to undertake the Initial Environmental Review (IER). Broadly, there are two components to the IER – review of legal and other requirements, and review of aspects and impacts vis-à-vis its activities, products and services that may interact with the environment. The output of the IER is an understanding of the legal and other requirements applicable to the organisation, and the formulation of a list of significant environmental aspects and impacts that need to be addressed within the EMS.

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The initial environmental review (IER) sets the parameters of the environmental management system. It defines what needs to be managed, measured and recorded and also brings out gaps in the existing management system. The scope of the initial environmental review should be defined according to the scope of the EMS. The organisational activities, and the areas to be investigated include the following:

- Environmental aspects and impacts
- Current policies and procedures for managing environmental responsibilities
- Legal and other requirements
- Abnormal operations, accidents and incidents

Categorisation of activities, processes and services into functional / operational areas is an important step. There are different methods used to compile these information. These methods are best developed through group discussions. There is no “right” way to build this list. The process adopted by the organisation, however, should be documented. Some of the common methods are the following:

Flow diagrams: The process flow diagrams are first depicted to understand how the input raw materials which are converted into the final products. The various inputs and outputs in the different steps in the process flow are superimposed on the flow diagrams. Once again, as in the case of input-output diagrams, environmental aspects and impacts are captured.

Input-output diagrams: These are box diagrams used to depict the inputs and outputs to different unit processes within the local bodies. As the normal use of these inputs is required for the process, these are generally not captured as environmental aspects. The excessive use of inputs and the generation of outputs are then captured as environmental aspects. Then the impact against each aspect is determined.

Questionnaire administering: This questionnaire gives the fair idea of the different services and functionalities available in the urban local bodies. This will also help in understanding the various activities, products and services of the organisation in the day-to-day basis. After filling the questionnaire a specific section or function or service related detail questionnaire can be prepared to understand the activity / product / service in detail.

Historical analysis: Studying the historical records also provides information on the aspects and impacts. This method is particularly required for identifying emergency situations and abnormal occurrences (past accidents).

Current EMS: The environmental issues that the current EMS is addressing are captured suitably in the aspects and impacts format.

Legal review: With the review of legal and other requirements, a clear idea is attained about the environmental issues which need to be controlled. These issues are brought into the aspects and impacts compilation list.

Site inspection: This method is best employed after a first compilation using other methods. A site inspection is taken along with the first compilation. Walk-through inside the hotel to understand the various activities taking place. The coverage of the aspects and impacts in the first compilation is verified, and then improved to form the final compilation.

Aspects and Impacts

Environmental aspect is defined as an element of an organisation’s activities, products or services that can interact with the environment. As given in the definition, it covers not only the organisation’s activities, but also its products and services. The definition also uses the word ‘can’, which implies that both existing and potential needs to be considered. The following may be considered while identifying the aspects of a process, service or product. Any activity leading to :

- Air emissions,
- Releases to water (lake, river, pond, sea, surface water etc.)

- Generation of solid waste (Hazardous or non-hazardous)
- Contamination of land.
- Use of resources like water, electricity etc.
- Creation of noise
- Hazard to safety and health
- Potential emergency situations
- Past accidents / incidents.

Environmental impact is defined as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products or services.

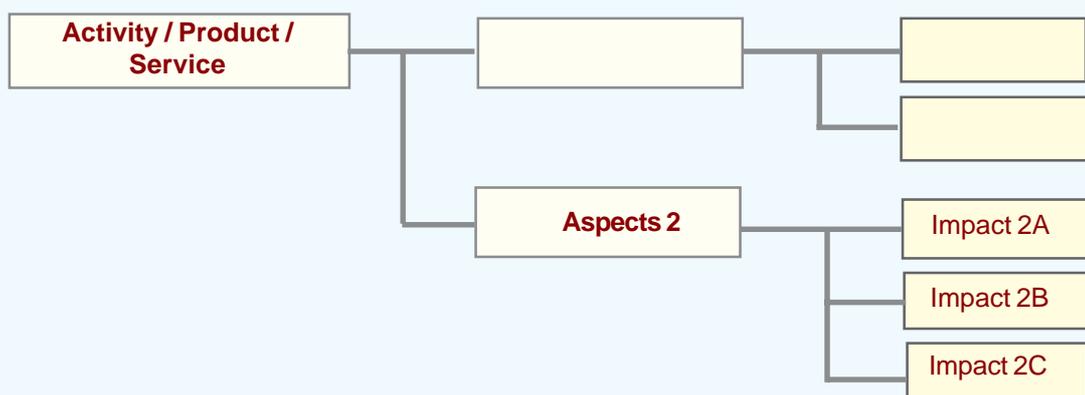
For each service/functional units of the hotel, an exhaustive list is used to include relevant activities and operations, and their associated environmental aspects and impacts under normal, abnormal and emergency situations. The definition of the above situations is as follows:

- Normal Situation (N) refers to normal operation.
- Abnormal Situation (A) refers to operational activities other than normal operation including equipment start up and shut down operation and planned maintenance.
- Emergency Situation (E) refers to accidents and all other emergency cases.

Determining aspects and impacts

Determining a hotel’s aspects and impacts is carried out as a part of the IER. It is a simple and straightforward exercise, which is done using several methods available to undertake the compilation. Prior to proceeding to these methods, there are two important points that are to be noted. First of all, it is important to recognise that both direct (over which the hotel has control) and indirect (over which the hotel has no control but can influence) needs to be covered in the compilation. Secondly, it is to be recognised that normal (existing during regular operation), abnormal (during start-up, shutdown or other specific conditions) and emergency conditions need to be considered while compiling the aspects and impacts.

Figure 4.2 : Aspects and Impacts Linkages with Activity, Product or Service



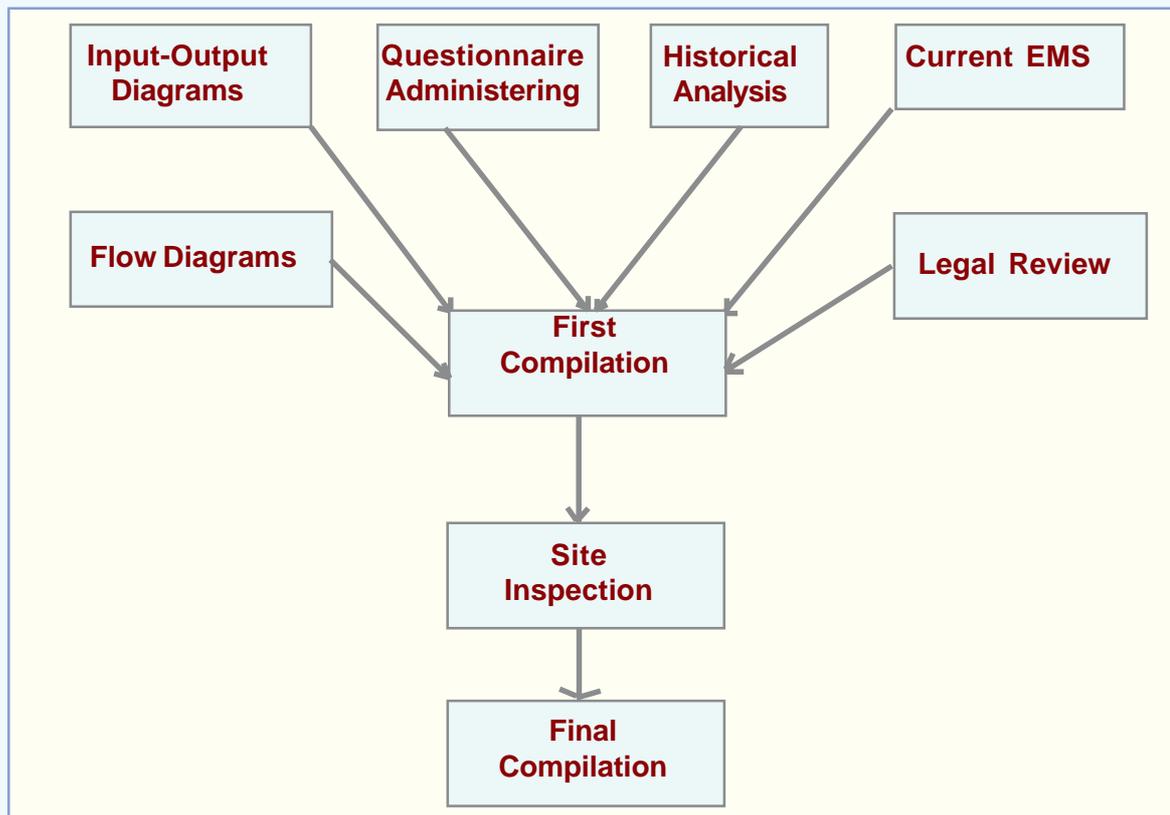
First step to determine aspects and impacts is to map hotel’s activities, products and services. Categorise activities, processes and services into areas so that they are reviewed one by one.

The different methods used to compile aspects and impacts are depicted in **Figure 4.3**. These methods can be used altogether or some of these methods can be selected to develop a first compilation of aspects and impacts. Each of these methods is briefly explained below:

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Flow diagrams: The process flow diagrams are first depicted to understand how the input raw materials are converted into the final products. The various inputs and outputs in the various steps in the process flow are superimposed on the flow diagrams. Once again, as in the case of input-output diagrams, environmental aspects and impacts are captured.

Figure 5.5 : Different Methods for Determining Aspects and Impacts



Input-output diagrams: These are box diagrams used to depict the inputs and outputs to different unit processes within the hotel. As the normal use of these inputs is required for the process, these are generally not captured as environmental aspects. The excessive use of inputs and the generation of outputs are then captured as environmental aspects (**Box 4.4**). Then the impact against each aspect is determined.

Figure 4.4: Input-Output Flow from Hotel Industry

Input	Departments	Output
<ul style="list-style-type: none"> • Energy(Electricity, steam etc) • Water • Running of DG set, boiler • Maintenance of equipment's 	<p style="text-align: center;">Engineering</p> 	<ul style="list-style-type: none"> • Air emissions • Noise generation • Solid waste (Tins, cans, cardboard)
<ul style="list-style-type: none"> • Water • Chemicals • Energy (Electricity, Steam) • Packaging Material(Plastic, Paper, cardboard) 	<p style="text-align: center;">pa Laundry</p> 	<ul style="list-style-type: none"> • Waste water • Solid waste(plastic,
<ul style="list-style-type: none"> • Water • Raw food material (vegetables, meat) • Ingredients • Chemicals (for washing) • Energy (electricity, LPG, steam) 	<p style="text-align: center;">KB</p> 	<ul style="list-style-type: none"> • Waste water • Vegetable scrap • Packaging waste (bottles, sachets) • Left out food waste
<ul style="list-style-type: none"> • Water (cleaning bathrooms, mopping) • Chemicals (cleaning & polishing) • Changing of linen • Keeping guest amenities 	<p style="text-align: center;">housekeeping</p> 	<ul style="list-style-type: none"> • Waste water • Soiled linen • Packaging waste • Used cosmetic bottles, soap etc
<ul style="list-style-type: none"> • Purchasing • Un packaging of material • Storing • Transport 	<p style="text-align: center;">Purchase</p> 	<ul style="list-style-type: none"> • Solid waste (packaging material) • Air emissions

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Need for evaluating aspects and impacts for significance

Box 4.1: Tips - Determining Environmental Aspects and Impacts

- ◆ Identify areas with the greatest effect on the environment and classify them according to their extent of impact.
- ◆ Look at activities not controlled by applicable laws and regulations
- ◆ Involve as many people as possible in the process of identifying environmental impacts. Include top management, production line employees, and staff from different departments, such as environmental, safety, sale & marketing, engineering, line management, maintenance, procurement or other departments as appropriate.
- ◆ Consider accessing information from other interested external parties, which can add value to the search. Off-site operations can also have potential environmental impacts.
- ◆ Consider both normal and abnormal conditions when looking at environmental impacts.
- ◆ While identifying environmental issues, consider ancillary activities too.
- ◆ The easiest and most cost effective phase to eliminate environmental problems is during early stages of the product and process design. It is also during these stages that products can be modified to reduce waste.
- ◆ In selecting priorities, consider issues such as cost vs. benefits, availability of appropriate cleaner technology and future legislative requirements.
- ◆ Areas will differ in priority. For example, atmospheric emissions may be more important than land use.
- ◆ Scheduling brainstorming sessions may be rewarding to gain staff input from different areas.

The final compilation of aspects and impacts is generally fairly comprehensive. It will be impossible for any hotel to address all the environmental aspects and impacts in this list. In fact, it is also not the requirement of ISO 14001, which specifies that the EMS needs to address only the significant environmental aspects and impacts. By significant, it is meant to include the most important or critical impacts on the environment. ISO 14001 also requires that these significant environmental aspects and impacts form the basis for the improvements in environmental performance that is to be achieved through implementing objectives and targets. Therefore, the evaluation is required for determining significant environmental aspects and impacts.

Methods for evaluating significance

There are no prescriptive methods for evaluating significance provided by ISO 14001. In fact, the standard leaves it to the hotel to decide on an evaluation or rating

Box 4.2 : Criteria for evaluation suggested in ISO 14004	
Environmental concerns	Business Concerns
<ul style="list-style-type: none"> - Scale of the impact - Severity of the impact - Probability of the occurrence - Duration of the impact 	<ul style="list-style-type: none"> - Potential regulatory and legal exposure - Internal party concern - External party concern - Resource conservation potential

method. The standard expects the hotel to uniformly employ the evaluation method on all aspects and impacts that have been identified. Some guidelines have been proposed in ISO 14004 for use as criteria in the evaluation method (Box-4.2). Many companies have adopted this criterion while selecting the evaluation method for their organisation's aspects and impacts.

Evaluation methods that have been used for significance assessment are subjective in nature. But quantitative tools are used in order to reduce the level of subjectivity. Table 4.1 presents a format for evaluation of significant aspects. This evaluation method provides a good idea about

how the criteria suggested in ISO 14004 have been used and how quantification has been used to aid judgement.

As shown in Table 4.1, the hotel has used a simple format to capture environmental aspects and impacts along with their evaluation. Each aspect is categorised as either normal or abnormal or emergency situation and each impact is evaluated against four criteria (SC, SE, PR and DU), which are quantified, and four over-riding qualitative, binary criteria (Legal, internal party concern, external party concern, Resource conservation Potential). If the answer is positive against any of the over-riding criteria or it is an emergency situation, then it is considered to be a significant impact. Otherwise, the evaluation is to be done against the four quantified criteria and a multiplicative total is reached. If it is above a cut-off score, then it is considered to be significant. The cut-off has to be determined by the organisation itself.

Table 4.1 : Significant Aspect Evaluation Format

Activity Product	Env. Aspects	Status	Env. Impacts	Business Concern				Environmental Concern				Total Weightage	Sig/ Non Sig
				LC	IPC	EPC	RCP	SCA	SEV	PRO	DUR		
		N / A / E	LP/AP / NP/FF / WP/SH /RCP										
				Y/N	Y/N	Y/N	Y/N	1-5	1-5	1-5	1-5		

* The parameters under these heads are expanded below.

A method for evaluation of significant environmental aspects as adopted by one of the hotels In implementing ISO 14001 is explained below:

All the identified aspects categorised in two main groups:

- Business concern
- Environmental concern.

The following parameters were considered under the Business Concern

- Legal Concern (LC): If the activity attracts any legal concern (environmental legislation) then YES is to be filled in the format, it becomes a significant aspect.
- Internal Party Concern (IPC): If more than 'X' % of the employees (value for 'X' was decided by the hotel) are concerned with the impacts, then YES is to be filled in the format, it becomes a significant aspect. The township defined the residents to be the internal party.
- External Party Concern (EPC): If more than 'X' % of the external parties) are concerned with the impacts, then YES is to be filled in the format, it becomes a significant aspect. The township defined the neighbouring communities to be the external party.
- Resource Conservation Potential (RCP): If the aspects (oil leakage / material wastage, water leakage etc.) amounts to substantial saving, then YES is to be filled in the format, it becomes a significant aspect.

If 'YES' was the answer for any of the four questions in Business concern then it became a significant aspect. Its should be noted that if there is one YES in Business concern then there is no need to go for the environmental concern, as it is a significant aspect by virtue of the above procedure.

When all the four Business concerns are "No" then the next step of considering Environmental Concern was taken up

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The environmental concern had four parameters. The point value of each parameter was chosen by the hotel according to the degree of impact of each. The four parameters are explained below :

SCALE: Extent or area over which the impact is experienced due to the aspect.

SEVERITY: Magnitude of impact felt by people due to this environmental aspect.

POINT VALUE		DESCRIPTION
1.	MINOR	Noticeable but not harmful
2.	MODERATE	Noticeable with some irritation
3.	HIGH	When treatment required

PROBABILITY: Frequency of occurrence of the impact

POINT VALUE		DESCRIPTION
1.	VERY LOW	This aspect is found to occur :
2.	LOW	This aspect is found to occur :
3.	MODERATE	This aspect is found to occur :
4.	HIGH	This aspect is present once in
5.	VERY HIGH	This aspect is present almost activity / process is carried ou

DURATION: Indicates the extent of time during which the aspect is felt or experienced.

POINT VALUE		DESCRIPTION
1.	Short	Felt for less than 1 to 6 Hours.
2.	Moderate	Felt for less than 6 to 12 Hours.
3.	Long	Felt for less than 12 to 18 Hours.
4.	Very long	Felt for more than 18 Hours.

Evaluation methods that have been used for significance assessment are subjective in nature. But quantitative tools are used in order to reduce the level of subjectivity. **Table 4.1** presents a format for evaluation of significant aspects. This evaluation method and the simple format adopted by the hotel gave an easy approach to quantify the evaluation criteria and to prioritise the significant aspects and impacts.

Writing a procedure

ISO 14001 requires the hotel to establish and maintain a procedure to identify the environmental aspects of its activities, products and services, and also to evaluate their significance. It is preferable to document this procedure although ISO 14001 does not explicitly require the same. Essentially, this procedure needs to explain how the following are undertaken within the hotel:

- (i) Identification of aspects and impacts,
- (ii) Evaluation of aspects and impacts,
- (iii) Maintaining the aspects and impacts information up-to-date and
- (iv) How it is ensured that the significant aspects and impacts are considered for setting objectives and targets.

The information given in Box-4.3 below can form a part of the procedure documentation as annexes, while the main text provides information on who does what and how frequently.

4.3 Legal and Other Requirements

Awareness on legal and regulatory requirements is a fundamental requirement of an EMS. The ISO 14001 Standard requires environmental legal requirements to be identified and accessible. A practical approach to do this is by developing a register.

Environment legislations of the country need to be abide by any organisation. Therefore, while designing an EMS, it is necessary to incorporate all the applicable legislative requirements. For this purpose, any hotel needs to access all concerned legal information, assess the same for its applicability and review whether the compliance status. Generally these include the national requirements, state requirements, permit conditions, etc.

Moreover, organisations are now choosing to abide with a number of voluntary agreements in order to gain competitive advantage in the markets. Broadly, these include organisation specific codes, affiliated association requirements and international agreements. If a hotel is subscribing to any such other requirements, then they should review these requirements while designing the EMS.

Tips for identification of legal requirements

The process of identifying applicable regulations, interpreting them and determining their impacts on the operations can be a time consuming task. However, there are many ways of obtaining information about the applicable regulations, which includes:

- Regulatory agencies (central pollution control board and state pollution control board)
- Industrial associations/trade group public libraries
- Seminars and workshops; Publications
- Newsletters/magazines
- Consultants/commercial services
- Ministry of Environment & Forests

Box-4.3: Setting the legal framework for EMS

Legal requirements include:

- National requirements
- State or local requirements
- Permit conditions

Other requirements might include (for example):

- Organisation-specific codes
- Standards in locations where you sell products
- Voluntary initiatives (Green Globe, Ecotel etc.)
- International Chamber of Commerce (ICC) Charter for Sustainable Development
- Other industry codes or programs to which your organisation voluntarily subscribes

It is helpful to start by identifying regulatory requirements by preparing a list of the known regulations.

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Developing a register of regulations and other requirements

A register is developed while undertaking a review of legal and other requirements in order to evidence the process of such a review. This also helps to keep a periodic track of these requirements. Ideally, the organisation's Environment department undertakes this compilation along with the support of the Legal department.

This Register needs to be comprehensive and has to be written in simple language. Broadly, this Register needs to cover the procedural requirements and prescribed standards pertaining to each legal and other requirement. This Register

Box-4.4 : Format for the Legal Register

Name of the regulations / Act / other requirements :
Obligations under the act / other requirement :
Responsibilities :
Rights :
Area of applicability to the urban local bodies :
Reference documents :

also provides the guidance to maintain evidence for compliance. The Register should focus on the consent conditions that are site-specific, rather than the generic requirements given in the Acts / Rules. The register is a working document, which should be reviewed regularly to take account of new regulations and change in activities, products and services. Box 4.4 provides a sample format for legal register and Box 4.5 provides sample contents of the legal register.

Box-4.5: Environment Legislative Register Contents

1. Table of Contents
2. Revision History
3. Authorisation
4. Distribution List
5. Environmental acts
 - Water (Prevention and Control of Pollution) Act, 1974: Obligations, Responsibilities, Rights
 - Water (Prevention and Control of Pollution) Cess Act, 1977: Obligations, Responsibilities, Rights
 - Air (Prevention and Control of Pollution) Act, 1981: Obligations, Responsibilities, Rights
 - Environmental (Protection) Act 1986: Obligations, Responsibilities, Rights
 - Manufacture, Storage and Import of Hazardous Chemical Rules, 1989: Obligations, Responsibilities, Rights
6. Procedural Requirements
7. Applicable Standards and In-house Limits
8. Emission Limits Set by Pollution Control Board
9. Emission and Discharge Consents, Effluent and Air Monitoring Reports and Explosive Licenses for installations
10. Annexure

Writing a procedure

ISO 14001 does not explicitly state that there is a requirement of a documented procedure for establishing and maintaining access to information on legal and other requirements. However, the benefit of documenting the procedure helps to periodically contact agencies for new information and their applicability.

4.4 Environmental Policy

An environmental policy is the declaration of commitment to the environment. The policy serves as the foundation for EMS and provides a unifying vision of environmental principles which guide the actions of employees and management. Being signed by the top management, it sends a strong signal within the rank-and-file of the hotel that the top management supports the implementation of the policy.

The policy development is preferably undertaken after completing the IER. It is first drafted by the core EMS team and then circulated to the workforce to seek involvement / ownership at all levels. In parallel, the organisation's senior and top management also go through it. Feedback received is incorporated into the policy by the core EMS team and then put forward to the top management for endorsement.

The hotels under the CTI project had sent the policy to a graphics designer to get some creative input on layout and presentation. They also translated the policy into local languages. The policy was then preferably released on an important day, such as the World Environment Day or the Earth Day, through an event that was specifically organised for this purpose. This helped them to spread awareness among the mass.

Inputs into policy development

While developing an environmental policy, a hotel collects all the background information that it would require. Box -4.6 lists the various inputs that are used in policy development.

Box-4.6: Inputs for policy development

- | | |
|--|--|
| * Results of the IER | * Values and beliefs of the organisation |
| * Business strategy and strategic plans | * ISO 14001 requirements |
| * Any existing environmental statements | * Other quality and H and S policies |
| * Stakeholder views | * Legal and regulatory requirements |
| * Industry standards | * Codes to which the organisation subscribes |
| * Statement of environmental principles by external groups | * Examples of similar policy statements |

Characteristics of a good, well-written policy

A good policy should be simple, direct, short, concise and realistic. It should not be bombastic and should necessarily avoid technical or environmental jargon. It should embody the power to motivate and should clearly communicate the direction of the EMS. It should be compatible with other policies and integrate with the overall business strategy. As it is a policy being designed as per ISO 14001, it should meet all the requirements of the standard. **Box-4.7, Box- 4.8, Box-4.9** includes the environmental policy of the three hotels that participated in the CTI-USAID project. The policy should not be viewed in isolation. Many of the issues overlap with other legal and stakeholders interest.

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Figure 4.7 : Environmental Policy Hyatt Regency, Delhi

We, at Hyatt Regency Delhi, are committed to comply with all environmental legislation and other requirements for the conservation of our environmental resources through a sustained endeavour of eco-friendly initiatives by:

- ◆ Maintaining and upgrading resource-conservation techniques.
- ◆ Establishing and maintaining effective pollution prevention systems.
- ◆ Optimal utilisation of resources like electricity, fuels and water.
- ◆ Reduction in the consumption of paper and non-biodegradable materials.
- ◆ Maintaining and increasing the green cover in and around the hotel.
- ◆ Creating awareness amongst employees through training and encouraging guest participation.
- ◆ Ensuring that suppliers understand and comply with our environment policy.

We pledge to achieve the above by providing a framework through ongoing environmental objectives and targets by continual improvement.

This policy will be disseminated to all employees and the general public.

Detlev Truernit
General Manager

Date : 1st June, 2001

Figure 4.8 : Environmental Policy Hyatt Regency, Delhi

We, at Hyatt Regency Delhi, are committed to comply with all environmental legislation and other requirements for the conservation of our environmental resources through a sustained endeavour of eco-friendly initiatives by:

- ◆ Maintaining and upgrading resource-conservation techniques.
- ◆ Establishing and maintaining effective pollution prevention systems.
- ◆ Optimal utilisation of resources like electricity, fuels and water.
- ◆ Reduction in the consumption of paper and non-biodegradable materials.
- ◆ Maintaining and increasing the green cover in and around the hotel.
- ◆ Creating awareness amongst employees through training and encouraging guest participation.
- ◆ Ensuring that suppliers understand and comply with our environment policy.

We pledge to achieve the above by providing a framework through ongoing environmental objectives and targets by continual improvement.

This policy will be disseminated to all employees and the general public.

Detlev Truernit
General Manager

Date : 1st June, 2001

Figure 4.9 : Environmental Policy The Orchid Hotel, Mumbai

We, at The Orchid Mumbai, Asia's First Five Star Hotel to be certified as an ECOTEL HOTEL commit ourselves towards continually improve our Environment Management in the Hospitality Industry so as to remain leaders by:

- ◆ Optimising the usage of resources such as energy, water and paper.
- ◆ Striving to go beyond the applicable Environmental Laws and Ecotel requirements.
- ◆ Continue pollution prevention practices.
- ◆ Implementing Environmental Awareness in our suppliers, team members, guests and the local community.

We shall achieve our environmental goals by providing a framework for setting and reviewing environmental objectives and targets.

We shall make this policy available to all our Team Members, Guests, Business Partners and the Public.

Mr. Param Kannampilly
Technical Director

Date : 3/5/2001

Figure 4.10 : Tips - Environmental Policy

- ◆ Policy should be related to hotel’s products and services as well as supporting activities
- ◆ Policy to be simple and understandable
- ◆ Make sure that employees understand the policy
- ◆ Make sure that policy is relevant to the hotel
- ◆ Policy can be a stand alone document or it can be integrated with other hotel policies

4.5 Objectives and Targets

Improvements in environmental performance within the EMS are achieved through objectives and targets. As defined in ISO 14001, an environmental objective is an overall environmental goal, arising from the environmental policy, that hotel sets itself to achieve and which is quantified where practicable. And, an environmental target is a detailed performance requirement, quantified where practicable, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

While ISO 14001 distinguishes between an objective and target in its definition, it does not specify how it is to be used. Many companies use the term “objective and target” in a combined sense for improvement initiatives always. Other companies distinguish between the two terms in the EMS while developing the improvement initiatives. And, other companies view objectives as organisation-wide while targets are at a departmental level. All the different ways of using the term “objective and target” are acceptable. Some sample examples of objectives and targets are given in **Box 4.11**.

Figure 4.11 : Example of objective and target in hotel industry

- | | | |
|---------------------|---|--|
| 1) Objective | : | Reduction in LPG consumption |
| Target | : | 10% reduction in LPG consumption in F&B - (Production) |
| 2) Objective | : | Reduction in electricity consumption |
| Target | : | 15,000-kWh/ annum reduction in electricity consumption in corridor and other related area in guest floor |

Formulating the first set of objectives and targets

Objectives and targets are formulated in a SMART manner – S-specific, M-measurable, A-achievable, R-realistic and T-time bound. It is also important to get a good balance within the portfolio of objectives and targets. It should address liability issues as well as opportunities. It should involve the management (staff) employees as well as the operational (line) employees. It should have both short-term and long-term objectives and targets. It should have a combination of both study-type and implementation-type objective and targets.

Figure 4.12 : Approval format for Objectives and Targets

1. Activity, Product or Service
2. Significant Environmental Aspect
3. Significant Environmental Impact
4. Is improvement in environmental performance possible?
5. Viability – Technical and Financial – Comments
6. Investment required (Rs.)
7. Payback, if any
8. Proposed Objective
9. Proposed Target
10. Proposed by
11. Approval
12. Remarks

Submitted by	Issued by	Approved By	Date
--------------	-----------	-------------	------

Prioritisation of objectives and targets

The significant environmental aspects form the basis for objectives and targets. Generally, prioritisation criteria are developed to decide on which of these significant environmental aspects need to be focused for establishing objectives and targets. ISO 14001 requires the prioritisation be based on a consideration of legal and other requirements, its significant environmental aspects, its technological options and its financial, operational and business requirements and the views of interested parties. Some organisations classify as urgent/vital importance, high priority, medium priority and low priority by qualitatively assessing the above, while the others adopt a more structured approach towards prioritisation. The approval of objectives and targets is usually done in a participatory manner.

Writing a procedure

Although not an explicit requirement of the standard, it is preferable to have a documented procedure for formulating objectives and targets. Essentially, this procedure will contain how new objectives and targets are proposed, how these are checked for consistency with the environmental policy and approved by the top management, how they are maintained and kept up-to-date during implementation, and what is done on the completion of these objectives and targets.

4.6 Environmental Management Programmes (EMPs)

EMPs are essentially detailed action plans for the implementation of approved objectives and targets. It specifies the different intermediate stages in the implementation, and includes the timeline and responsibility against each stage. An EMP answers what needs to be done, when does it have to be done, who needs to do what and how it is to be done. Usually captured in a standard format, an EMP also answers the question regarding the means for achieving the action plan and often includes the resource requirements as well. Table 4.2 provides the format for EMPs. EMPs should not be developed in a vacuum — it should be coordinated or integrated with other organizational plans, strategies, and budgets.

Table 4.2: Format with examples for Developing Environmental Management Program

Objective and Target	Target Period / Date	Responsibilities	Environmental Management						
			Implementation Programme	Fr					
Objective Reduction in LPG consumption Target 10% reduction in LPG consumption in F&B – (Production)	31/7/2002	Kitchen Steward (EKS) Over all responsible for the implementation of the EMP 1	EMP1: Installing FLUX Gas-O-Max™ to each LPG burner 1. Collection of baseline data about LPG consumption 2. Gather information about the energy conservation techniques and work out feasibility plan. 3. R&D of the technology (FLUX Gas-O-Max™). 4. Obtaining quotation for FLUX Gas-O-Max™. 5. Preparing a detailed plan including cost computation, installation schedule and issue purchase requisition for management approval. 6. Instalation of Bulbs	Jan	Feb	Apr (May(June	July(

ISO 14001 does not require a procedure for developing an EMP. While some companies have adopted a procedure, there is really no need. What is important is that the EMPs include the designation of responsibility at each function, the means and the timeframe by which they are to be achieved. These are best included in the EMP format itself so as to ensure that all ISO 14001 requirements are met in each of the EMPs.

To ensure its effectiveness, environmental management program should define:

- ◆ The responsibilities for achieving goals (who will do it?)
- ◆ The means for achieving goals (how will they do it?)
- ◆ The time frame for achieving those goals (when?)

ISO 14001 also requires that new development; new or modified activities are amended where relevant to ensure that good environmental management applies to such projects. While this may be addressed through a documented procedure, it is best to include considerations of new developments in the procedure for aspects and impacts itself.

Tips - Environment Management Program

- ◆ Involve the employees in establishing and carrying out the program
- ◆ Clearly communicate the expectations and responsibilities defined in the program to those who need to know
- ◆ Re-evaluate the action plan while considering changes to products, processes, facilities or materials
- ◆ Keep it simple and focus on continual improvement of the program over time.

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Whenever there is a new development, the aspects and impacts during construction and operation of the activities involved are determined. If there are significant impacts, these are addressed through operational control. These could also be addressed through objectives and targets if required.

Writing the Procedure

ISO 14001 does not require a procedure for developing an EMP. While some organizations have adopted a procedure, there is really no need. What is important is that the EMPs include the designation of responsibility at each function, the means and the timeframe by which they are to be achieved. These are best included in the EMP format itself so as to ensure that all ISO 14001 requirements are met in each of the EMPs.

4.7 Structure and responsibility

For an EMS to be effective, organisational structure and responsibilities must be clearly defined and communicated. The commitment of all employees is needed for an EMS to live up to its full potential.

Appointing Management Representative (MR)

The appointment of the MR is the main requirement of this clause on structure and responsibility. An MR should possess decision-making skills, has the ability to co-ordinate and get things done. A MR can be at any level within the organisation. Some prefer having their chief executive as the MR, others prefer having the Manager and still others prefer having the Environment Health & Safety department head to be the MR. Each of these options has their relative merits and demerits. All of these are acceptable within ISO 14001, and there is no prescriptive procedure for this. More than one MR can be appointed based on the scale of operation of the hotel and the requirement of skills/ expertise. Deputy MRs or Assistant MRs can also be appointed by the MR to assist in specific activities within the EMS. This has also been successfully adopted in a number of townships.

Defining roles, responsibilities and authorities

A good EMS clearly define roles, responsibilities and authorities. Role defines who undertakes solely the direct action, while responsibility defines who is accountable. Authority defines who undertakes the decision-making. These could be done by one employee/position or by several employees/positions. This is dependent on the nature and type of task involved. All these definitions should be documented and then communicated to the respective employees within the EMS.

While developing the roles, responsibility and authorities, hotel should note that ISO 14001 encourages environmental management to become more of a line function rather than remaining as a staff function. Therefore, it is critical to place the responsibility for implementing EMS on the line managers as well. A good EMS also assigns roles and responsibilities to the operational managers/executives. In fact, broad and successful definitions can be provided in a centralised manner and this can be supported with assigning roles, responsibilities and authorities in the various policies, procedures and programmes of the EMS.

Organisation also adheres to its hierarchy especially when assigning responsibilities and authorities for the EMS. Having a separate hierarchy for the EMS results in no integration into the organisation's overall management systems and hence is considered to be a bad practice. It is preferable to use the organisational chart while assigning responsibilities and authorities for the EMS.

Allocating resources

Resources can be classified as direct & indirect. Time of the employee and finance are the direct and indirect resources respectively. A organisation needs to provide human resources, specialised skills, technology and financial resources for a successful, effective EMS implementation. Top management of organisations is to review resource requirements in their periodic management review meeting. It is

best to include the allocation of financial resources as a part of the annual budgets and to incorporate EMS integrally into the organisation's business plans.

Writing a procedure

A two to three-page statement should be documented to evidence that they are meeting the ISO 14001 requirements and this statement/procedure forms a part of the organisation's EMS Apex Manual. This statement/procedure covers the following:

- The appointment of MR
- Definitions of overall roles and responsibilities
- Provision of resources required for the EMS.

Specific roles, responsibilities and authorities are preferably referred in the respective procedures and programmes.

4.8 Training, Awareness and Competence

Training is necessary to bring about a basic, fundamental change in the rank and file of the organisation. Attitudinal changes, behaviour pattern changes and modifications in thinking processes are required in an effective EMS. To convey the environmental message across the organisations and provide new skills, training is the important vehicle. While the EMS may involve a number of communication and documentation, it is important to support the team with training sessions. This also helps the workforce to imbibe new concepts in relation to the organisation's functioning.

Assessment of training needs

Training needs assessment is critical to understand the focus of the training programmes. Ideally, it is done once in six months or once in a year. It is important to undertake this assessment in a decentralised way. The outputs of this assessment form the basis of the training calendar.

Tips for developing a training calendar

- Assess training needs and requirements
- Define training objectives
- Select suitable methods and materials
- Prepare training plan to identify who, what, when, where, how
- Track training records
- Evaluate training effectiveness
- Improve training program as and when needed

A training calendar is generally categorised into awareness and competence training. To execute awareness training, a module comprising general environmental awareness, environmental policy, EMS/ISO 14001 awareness and do's and don'ts within the organisation is formulated. Awareness modules are preferably translated into the local language for the trainer to connect better with the operational workforce. Awareness modules are delivered by the organising own specialist trainers or from other organisations as well. While the needs assessment covers who participates in these awareness sessions, it is a good practice to periodically cover top/senior/middle management, supervisors, employees, contractors and suppliers.

The characteristics of a good training are the following :

- Provides with information
- Increases awareness
- Builds knowledge
- Improves understanding

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- Motivates action
- Enhances skills
- Interactive process with healthy audience participation
- Combines different training methods
- Collects feedback – immediate and after-a-while

The portfolio of competence training needs vary from time to time and it is important to keep them dynamic. To execute competence training, the hotel needs to assess whether the capacity to render the training exists within them or not. If not, then the employees should be sent for inter- organisation training programmes or invite external faculty to conduct such training. Box 4.13 for suggested topics of training in hotel

Box 4.13: Suggested topics of Training

- General Environmental awareness
- EMS and ISO 14001
- Emergency Preparedness Plan
- Environmental laws
- House hold waste management
- Water conservation
- Hospital waste management
- Paper recycling

All the three hotels under the CTI project designed different training programmes for its management and staff. Refer Table 4.3 & 4.4 for the training related formats.

Apart from conducting the regular training programs, occasional sessions have to be conducted when the following occurs :

- New employee is hired
- Individual doesn't follow procedure / instruction
- Procedures are altered
- New process, material or equipment is introduced
- Objectives and/or targets are altered
- New regulation is introduced in the organization's activities

Table 9 : Environmental Training Plan for the Year _____

Type of training	Programme details	Target audience	Training mode	Date / month	Remarks

Table 10 : EMS Training Need Identification Form

FOR PERIOD _____ DATE _____

Sl. No	Name	Designation / Section	Department Need Identified	Training Language In Which Training Required (Hindi / English)	Remarks

Writing a procedure

ISO 14001 requires a procedure (s) for undertaking awareness and competence sessions. There are different ways of writing this procedure: one could be to have a separate procedure for awareness training and another for competence training. These procedures could be centralised or decentralised across various departments. In all, the training procedure should cover the process of training needs assessment, the methodology of formulation of training modules and methods, process of selection of trainers, execution of training and feedback. Records are formatted records which maintain the schedule and acts as evidence of conducted programmes. For instance, attendance-cum-feedback record of any training programme contains type, name, date, duration, feedback, and some specific questions.

4.9 Communication

Effective environmental management requires effective communications, both internally and externally.

For an EMS to be healthy and efficient there has to be a constant exchange of information within the organisation to keep the employees aware and, between the organisation and its stakeholders to keep itself abreast of the latest developments/happenings that have a bearing on the EMS. Sustaining effective communication is important for a vibrant and effective EMS.

Effective communications will help :

- Motivate the workforce
- Gain acceptance for plans and efforts
- Explain environmental policy and EMS
- Ensure understanding of roles
- Demonstrate management commitment
- Monitor and evaluate performance
- Identify potential system improvements

Types of communication

Communication can be classified as internal and external. And, within internal and external, communication can be further classified as proactive and reactive. Each of these different types of communication is briefly described in this section.

Internal Proactive: MR and EMS Core Group undertake proactive communication on EMS achievements, both directly related to the system and on improvements in environmental performance, on a periodic basis to keep the enthusiasm for the EMS alive within the organisation. Declaring regular awards and rewards for employee suggestions and actions also boost the interest in the EMS. As internal proactive communication, all key, important issues are regularly disseminated throughout the organisation.

Internal Reactive: All employees need to be able to communicate their views, opinions and suggestions based on what they witness within the organisation. While the senior and middle management generally have meetings/discussion sessions, the operators and the rest of the work force are often without such a forum. It is important and useful to create such forums to establish a good criss-cross communication channel within the organisation. Poor housekeeping lapses in operational control and weaknesses in emergency preparedness are some of the environmental issues that have been repeatedly addressed through effective internal reactive communication channels.

Internal Methods of Communication

Newsletters
Intranet
Staff meetings
Employee meetings
Bulletin boards
Brown bag lunches
Training

External Proactive: Proactive external communication can be achieved through policy, annual reports, information bulletins and discussions with external groups. ISO 14001 requires the organisation to consider external communication only related to significant environmental aspects. Here again, it is not mandatory to communicate to external interested parties regarding all significant environmental aspects. It is only required to consider the processes. Many organisations communicate proactively to the neighbouring community only issues pertaining to the emergency situations as that they may have a bearing on them.

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External Reactive: Whenever an external stakeholder complains or seeks a clarification, the EMS needs to respond with an explanation within a reasonable time frame. This is the ISO 14001 requirement as well. The organisation needs to be responsive to external stakeholder issues and address them effectively.

Writing a procedure

ISO 14001 requires the establishment and maintenance of a procedure for internal and external communication. The procedure can cover different types of communication. Under each part, it can document the information flows, methods adopted, process of decision making and responsibility disbursement. ISO 14001 requires that any external communication received and responded is documented, and all significant aspects are considered for proactive external communication.

External Methods of Communication

- Open houses
- Focus or advisory groups
- Web site or e-mail list
- Press releases
- Annual reports
- Advertising
- Informal discussions

4.10 EMS Documentation

EMS documentation is to support EMS implementation. It is to be used by the employees as a reference source that can be consulted whenever required. EMS documentation also serves to demonstrate to an external stakeholder about the organisation's initiatives in environmental management. For instance, external agency auditors use EMS documentation extensively for auditing the EMS. In some organisations where the EMS implementation is slack, this happens and is indicative of an ineffective EMS.

Characteristics of good EMS documentation

Some good characteristics of EMS documentation are as follows :

- Worded in a simple and direct style. Unnecessary wordy texts are to be strictly avoided.
- Elaborate documentation is not a sign of good documentation. It is important that organisations strive to keep the documentation manageable and effective.
- Should be available only where it is required. Distributing manuals to locations where they are not used is unnecessary and should not be undertaken. It is important to keep the structure slim and trim.
- Provides direction to related documentation and does not re-document. Needs to provide linkages and connectivity with existing and new documents.

Constituents and Tiers of EMS documentation

EMS documentation comprises of policies programmes procedures, forms/formats and statements that are relevant to environmental management within the organisation. Generally, EMS documentation is captured in one or many manuals, and there are a number of ways in which a organisation can develop its documents.

Structure of EMS Documentation and Records

- Level I:** EMS Apex Manual
- Level II:** EMS Department Manual
- Level III:** EMS Records

In the past, a tiered structure of documentation was preferred. In this structure, Tier 1 is the EMS Apex Manual, which makes broad clause-wise references on how the organisation meets the requirements of ISO 14001. This Tier 1 manual was often visualised as a document that can be given to external agencies upon request. Tier 2 is the EMS Common Procedures Manual, wherein the functional details of the clause-wise ISO 14001 requirements are included. Tier 3 is the EMS Departmental Procedures Manual, which includes the operational control procedures, EMPs and other procedures that are relevant only at the departmental level. Tier 4 is the Work Instructions to support the Department Procedures. Tier 5 is the EMS Forms and Formats that are used in by procedures and programmes in any of the Manuals.

More recently, a flat documentation structure has been preferred with only one manual for each department. This manual contains all the policies, programmes, procedures and forms and formats that are relevant to that Department. The concept of a broad, general EMS Apex Manual has been omitted as its use was found to be limited. In fact, many organisations are referring to the functional, clause-wise procedures as the EMS Apex Manual in current times.

There is no prescriptive choice of using a tiered or flat structure. An hotel needs to consider its existing management systems to take the final decision on the structure. Box 4.14 gives a sample for the documentation of a procedure.

Box 4.14 : Format for Documentation of ISO 14001 Procedures

Name of the Hotel		
Environmental Procedure Manual		
Document No.	ISSUE NO. : 1 REV. No. : 0	
	ISSUE DATE : REV. DATE. :	PAGE 1 OF

Purpose
 Scope
 Responsibility
 Description of the Activities
 Relevant Records and Reference Materials
 Reference
 Enclosures
 Formats

	NAME	DESIGNATION	SIGNATURE
Issued By		Management Representative	
Approved By		Head of the Department	

Developing the EMS documentation should be at pace with the EMS initiation. It is important to remember that developing EMS documentation is not the most important part of the process. Therefore, it is not advisable to start on the EMS documentation until the completion of the planning stage. The burden of documentation can be lessened by a participatory approach among the staff under the supervision of the MR.

Document control

Document control is required to maintain the EMS documentation that is in place to support EMS implementation. Proper document control ensures that the EMS documentation is streamlined and little or no time is spent on addressing difficulties with the EMS documentation. Poor document control may result in a lot of employee time and effort consuming to interpret documentation for the purpose of EMS implementation.

Writing a procedure

ISO 14001 requires the organisation to establish and maintain a procedure for document control. This procedure covers how it is ensured that the documents can be located, the documents can be

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periodically reviewed/ revised as necessary, the documents can be approved for adequacy by authorised personnel, the current versions of all documents should be available at various locations, the obsolete documents have to be promptly removed and the obsolete documents must be retained for legal/knowledge purposes. The procedure also ensures that the documentation is legible, dated (with revision dates), readily identifiable, maintained in an orderly manner and retained for a specified period. **Box 4.15.**

Box 4.15: Purpose of Documentation Control

- Location of EMS documents for accessibility
- Periodic review of documents
- Update the documents with the new versions
- Remove obsolete documents

It is important to keep the procedure simple and straightforward. It carries three parts: how the various documents are created, how they are transmitted within the organisation and how they are modified. Documents could be of different types and, within the two parts, it is necessary to include how each different type of document is tackled. For instance, the clause-wise procedures may follow a particular document control mechanism while the department procedures may follow another mechanism. This is often done because the overall responsibility for the clause-wise procedures is normally with the MR while the overall responsibility for the department procedures is with the Department Head.

4.11 Operational Control

Operational control maintains the baseline of environmental performance within the organisation as opposed to objectives and targets that improves the environmental performance. It is easy to understand that without operational control there could be a chance that organisation improves through objectives and targets in some areas and deteriorates in other areas. Operational control is required to prevent this deterioration in environmental performance and maintain a baseline from where continual improvement in environmental performance can be planned through objectives and targets.

Operational control procedures are similar to standard operating practices in a quality management system setting. In an EMS, each significant environmental aspect needs to be addressed through operational control procedures.

In the section on environmental aspects, it was stressed that the organisation needs to identify environmental aspects, which it controls and it can influence. Operational control is required for all of these aspects that have turned out to be significant. Those, which it controls, will be through operational control procedures, while those, which it influences, will be addressed through guidelines developed for suppliers or contractors as the case may be.

Writing a procedure

ISO 14001 requires documentation of operational control procedures related to significant environmental aspects. All significant environmental aspects over which the organisation has control are first listed. The number and description of the separate operational control procedure is then determined. Many significant environment aspects may be addressed through one operational control procedure. For instance, if several departments do hazardous waste handling, there could be one common operational control procedure to prevent spillage and all departments can use the same. On the other hand, one significant environmental aspect may require more than one operational control procedure. For instance, if different departments do operation and maintenance, then a particular activity may require one operational control procedure for the operating department and another for the maintenance department.

Once the description of the operational control procedure is written, care needs to be taken to cover issues related to operations/maintenance, checking and action if deviation occurs in the text of the operational control. The text should necessarily include operating criteria for the activity, which can be determined from a variety of sources – legal standards or equipment standards or previous year's performance. The procedure should flow in a logical and sequential manner. Organisation tends to use

standard formats for their operational control procedures. Box 4.16 provides the format for documenting the operational control procedure. While written text is most commonly used in operational control procedures, flow diagrams and pictorial presentations can also be used.

Work instructions can be seen to be a part of the description of the operational control procedure itself or can be treated separately as well.

For those significant environmental aspects over which the organisation has no control and only has an influence, guidelines need to be prepared for dissemination by the appropriate department (E.g., suppliers and contractors). These guidelines are generally similar in content to an operational control procedure but more generic as the operations are controlled by an external agency whose equipment/operational details may not be available with the organisation.

Although writing of the procedure is not a ISO 14001 requirement, but often included in the EMS manual for completeness along with the other procedures.

4.12 Emergency Preparedness and Response

Compilation and prioritisation of aspects and impacts helps the organisation to identify emergency situations. It is through this identification in the early stage of designing the planning clause that the

Box 4.16: Format for Operational Control Procedure

Purpose
Scope
Responsibility
Operating Criteria
Description of activity
Cross References
Records

Box 4.17: Effective emergency preparedness and response program includes:

- Assessing the potential for accidents and emergencies
- Preventing incidents and their associated environmental impacts
- Plans / procedures for responding to incidents
- Periodic testing of emergency plans / procedures
- Mitigating impacts associated with these incidents

EMS recognises the existence of emergencies. A response plan helps prevent mishaps which might occur during emergency situations. Any organisation needs to have a preparedness plan to respond to such situations. Therefore, an effective EMS addresses emergency preparedness and response as well. Box 4.17 for the characteristics of an effective emergency preparedness plan.

Emergencies are addressed within the EMS because :

- Safety management has people as its focus, while environmental management has environment as its focus. There may be some environmental emergencies that have no safety repercussions. For instance, a sudden excessive discharge of coloured effluent into the river may not be treated as an emergency under safety but these are definitely emergency situations under the EMS.
- Many emergencies identified under safety management have environmental repercussions as well. In fact, the impact on people is also considered to be an environmental impact as humans are a part of the environment. There is clearly an overlap between the two subject areas and hence, it is deemed necessary to address emergencies under the EMS.

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Issues addressed in the Emergency Preparedness and Response plan are the following:

- Areas covered under legal regulations like LPG Act, Petroleum Act
- Fire, explosive and spill prone areas
- Requirement under the factory act / others

Emergencies can be broadly classified as major and minor :

- Major emergencies :

It generally includes those incidents, which leads to the evacuation of the whole or facet of the hotel premises. This needs to cover the three phases of an emergency, i.e. prior, during and after the incident. The coverage includes what kind of preparedness measures are to be undertaken, the sequence of actions as response if the emergency occurs, post-incident reviews and specifies who is responsible at the different stages. Many hotels have on-site emergency plans, which need to be reviewed to see whether they are sufficient.

- Minor emergencies :

It generally includes those incidents, which are localised to a particular section of the hotel premises and can be sorted out in relatively short timeframe and with little effort. Here again, this covers the three phases of an emergency, i.e. prior, during and after the incident. The coverage includes what kind of preparedness measures are being undertaken (training and maintenance of equipment), the sequence of actions as response such as the use of the appropriate fire extinguisher, post-incident reviews and specifies who is responsible at the different stages.

Testing the emergency procedure is done by conducting mock drills and other procedures. Revising the procedure addresses the outcome of either the testing or the actual occurrence which has led to the improvement of the procedures and strategies to prevent and mitigate the environmental impacts that it causes.

Writing a procedure

ISO 14001 requires establishment and maintenance of procedures to identify potential for and response plans to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them. ISO 14001 also requires that the procedures are tested, reviewed and revised periodically.

5. CHECKING AND CORRECTIVE ACTIONS

5.1 Monitoring and Measurement

Monitoring is required to gauge as to whether the management system is performing in line with the expectations. Monitoring and measurement enables an organization to:

- Evaluate environmental performance
- Analyze root causes of problems
- Assess compliance with legal requirements
- Identify areas requiring corrective action
- Improve performance and increase efficiency (or) productivity

Monitoring helps to track important operational control procedures that are important for the hotel. The established objectives and targets also monitored periodically. While some organisations use a format for a progress report for objectives and targets, others review the progress in the periodic meetings. If the monitoring outputs indicate delay, then the organisation organises a top management discussion or management review meeting, to take necessary actions. A good EMS has a periodic legal compliance monitoring procedure. This monitoring is best done proactively on a periodic basis. This monitoring is also done reactively when complaints are obtained from external interested parties, especially neighbours or the regulatory authorities. The provision for such monitoring needs to be made on an ongoing basis. This monitoring is generally undertaken through a combination of centralised and decentralised responsibilities keeping in view the way the organisation is structured. There is no specific requirement on the frequency of monitoring and this needs to be decided on a case-to-case basis based on the issue or parameter under question.

Examples of some key technical parameters identified for monitoring are as follows :

- Water effluent: pH, COD, BOD and TSS of final effluent
- Stack emissions: SPM, SO₂, H₂S and NO_x
- Ambient air quality: SPM, SO₂, NO_x
- Consumption of power
- Consumption of chemicals
- Consumption of water, fuels

Calibrating equipment

Almost all equipment used for environmental data measurements are to be calibrated periodically. In most organisations, some of the measurements are done using their own instruments while the others are done using instruments of contracted by monitoring agencies. The hotel needs to establish a calibration schedule for the environmental data measuring devices and a procedure for checking the instruments used by outside agencies are calibrated by well-established and recognised laboratories.

Townships with QMS generally have a well-developed calibration procedure. It is only required to check that all the environmental data measuring devices are also included in that calibration procedure. In general, it is not wise to have a separate calibration procedure for EMS and another for QMS.

Writing a procedure

ISO 14001 requires that the organisation establishes and maintains documented procedures for monitoring and measuring. This procedure needs should cover :

- Tracking of organisation-wide environmental parameters
- Tracking of operational control
- Monitoring progress of objectives and targets
- Calibration of environmental data measuring devices
- Monitoring of legal compliance.

5.2 Non-conformance and Corrective and Preventive Action

Although ISO 14001 does not explicitly give any formal definitions, it is useful to have some definitions for these three terms :

Non-conformance: It is a deviation of any size or magnitude from the EMS requirements and from ISO 14001 requirements upon which the EMS is based. A non-conformance can be identified through EMS audits or through day-to-day observations. It is a common misconception that a non-conformance can be identified only through an EMS audit. In fact, having a check, only through EMS audits is a limiting approach of keeping an EMS healthy and effective. Although ISO 14001 is not prescriptive on this matter, organisations are strongly encouraged to adopt an approach of raising non-conformances both through EMS audits and through day-to-day observations.

In relation to non-conformance and corrective and preventive action, organisations must carefully define the responsibilities and authorities for handling, investigation, mitigation of impacts caused, completing corrective and preventive action, verifying its appropriateness vis-à-vis its elimination, magnitude and commensurateness. It is important to specify these responsibilities and authorities with due care and consideration.

Corrective and Preventive action: Action that is taken to rectify a non-conformance is termed as corrective action, while action that is taken to ensure the non-recurrence of the non-conformance is termed as preventive action. It is important to distinguish between corrective and preventive action in an EMS. Corrective action amends the non-conformance, need not tackle the root cause of the problem and is generally in the immediate-term. On the other hand, the preventive action ensures non-recurrence of the non-conformance and necessarily tackles the root cause of the problem and is generally undertaken in the short-to-medium term.

Classifying non-conformances

Historically, non-conformances tend to be classified based on its importance and criticality. Clear definitions are laid out for the classification. Each non-conformance is studied vis-à-vis these definitions.

Certification agencies and other external auditing agencies still continue to classify non-conformances into critical, major and minor. They communicate the importance of the non-conformance as per the external auditing guidelines to the organisation. As this manual focuses on the intra- organisations, the classification of non-conformances is not further elaborated. Organisations are encouraged not to classify non-conformances and address all deviations within the EMS, irrespective of their importance (i.e, critical, minor, major).

Deciding on a NCR format

A non-conformance report (NCR) format needs to be simple and easy-to-use. It is important to separate corrective and preventive action in the case of the EMS, as these are often distinct from each other. For instance, consider an oil spillage as a significant environmental aspect and its operational control has failed. The non-conformance will be the failure of operational control, the corrective action will be to clean the area in an environmentally responsible manner and the preventive action will be to rectify the problem that resulted in an oil spillage. Table 5.1 provides a sample NCR format.

Table 5.1: NCR Format	
Non-conformance / Suggestion	
-----	Auditor Signature
Corrective Action	
Closing Date	Signature
-----	Preventive Action
Closing Date	Signature
-----	MR Comments:
MR Signature	

Writing a procedure

ISO 14001 requires that the organisation establishes and maintains procedures related to non-conformances, corrective and preventive action. This procedure should address both non-conformances raised through EMS audits as well as through day-to-day observations. The procedure should also define the responsibilities, authorities and a logical sequence for handling, investigation, mitigation of impacts caused, completing corrective and preventive action, verifying its appropriateness vis-à-vis its elimination, magnitude and commensurateness, and making the necessary changes in the documented procedures. And, finally the procedure should provide a mechanism for tracking open non-conformances and ensuring that suitable action is taken in a reasonable time frame.

5.3 Records

As emphasised in the case of EMS documentation, records are also required to support and evidence EMS implementation, and not vice versa.

Sometimes, updating of records is undertaken for the sole purpose of evidencing EMS implementation. It is a clear indication of a non-functioning EMS and steps need to be undertaken to thoroughly overhaul the system if that happens. Salient characteristics of records are as follows :

- Legible
- Identifiable
- Traceable
- Properly stored
- Retrievable
- Protected against damage
- Retention times

Types of Records Maintained

- Legal, regulatory and other code requirements
- Results of environmental aspects identification
- Reports of progress towards meeting objectives and targets
- Job descriptions and performance evaluations
- Training records
- EMS audit and regulatory compliance audit reports
- Communications with customers, suppliers, contractors and other external parties
- Sampling and monitoring data
- Equipment calibration records
- Results of management reviews

Records store data/information related to all facets of environmental management – training, audit, communication, operational control and management reviews. This data/information can be viewed as the contemporary history books of the organisation. It has been proven that analysing past data/information with the current levels results in better monitoring, evaluation, control and overall management.

Tips on EMS records

- Do not create new records when existing records can be modified
- If there are common types of records within each department, then adopt similar numbering for them
- If electronic records are possible, do not keep hard manual records
- Take back-ups religiously if electronic records are being maintained
- Keep the number of records to a minimum

Writing a procedure

ISO 14001 requires the establishment and maintenance of procedures related to: identification, maintenance and disposition of environmental records. Under identification, it is necessary to include how records are numbered, are traceable to the activity, product or service, and are readily retrievable. Under maintenance, a organisation's procedure addresses how records are kept up-to-date and by whom. Under disposition, it is required to address the legibility, storage and retention times pertaining to records. This procedure is generally no more than one page in length.

5.4 EMS Audit

EMS audit is a systematic and documented verification process of objectively obtaining and evaluating evidence to determine whether an organisation's EMS confirms to the EMS audit criteria set by the organisation, and for communication of the results of this process to the management. The emphasis lies in the EMS audit being an objective verification process to collect evidence against EMS audit criteria. In the case of an EMS designed as per ISO 14001, the EMS audit criteria will be the ISO 14001 requirements as well as the designed EMS specifications. By systematically undertaking EMS audits and reporting its results to the management its findings, information pertaining to the health and effectiveness of the EMS becomes periodically available for review and further action.

Training EMS auditors

Trained EMS auditors are required to undertake EMS audits. The consultant conduct a 2-3 days internal auditors training. The number of EMS auditors varies based on the size of the organisation. It is advisable to use the EMS core group members as EMS auditors as their knowledge level on the EMS is relatively higher than that of the other employees.

Organisation must choose trainers who have an environmental background and the importance of this choice cannot be under-estimated. The orientation towards getting the EMS audits to provide outputs to improve environmental performance is important and a trainer with an environmental background is most appropriate for such a training delivery.

There are two types of training available in India currently – internal EMS auditor training and an inter-organisation EMS auditor training programme. It is useful to have all the proposed internal EMS auditors trained in the former, and some of the EMS auditors trained in the latter course as well. Being an inter-organisation programme, the range of inputs provided in the latter course is wider and learning from other organisations will also be possible.

Audit programme, scope and frequency

Some organisations adopt a monthly audit programme wherein each month certain departments are audited, while other organisations adopt one audit for each half-year wherein they will cover all the departments. By opting for one or the other or a combination, the organisation decides on the frequency and scope of the individual audits. Usually, certification agencies in India conduct a surveillance audit on an annual basis, covering all the departments twice every year. However, in the early stages of the EMS, organisations tend to have audits more frequently to help the EMS establish itself.

Organisations do not always carry out these audits across all clauses of ISO 14001. Some audits are restricted to certain clauses and procedures. For instance, in one EMS audit, the focus can be on the Clause 4.4.6 Operational Control Procedures. The organisation decides whether it wants all the audits across all the clauses or otherwise.

Audit Instruments

Organisations use the following as the audit instruments :

- Examination of documents
- Interviewing staff
- Physical site verification

Although using a particular instrument might vary but preference is given to the physical site verification. Organisations are also strongly encouraged to develop audit checklists that the EMS auditors can administer. These checklists are generally developed by the EMS auditors and updated periodically with the increasing level of maturity in the EMS.

Undertaking an internal EMS audit

Generally, after about one or two months of implementing the EMS, the organisation needs to organise an internal EMS audit. Although called an internal EMS audit, it is best to have an expert external auditors steer this process along with the trained internal auditors. By adopting this approach, the internal EMS auditors observe audit experts and learn out of their observations for their own audits. The choice of the external auditors is important, as they should have a strong environmental orientation, stress on physical implementation and not solely on documentation.

This audit is initiated with an opening meeting, which is followed by a series of audit meetings covering the MR, relevant Department Heads and the top management. The coverage of this audit is to be comprehensive, covering all the departments. The external auditors conduct each audit meeting along with two other internal auditors, and the number of audit days must be decided on this basis. This audit adopts the methodology of examining documents, undertaking physical site observations and interviewing personnel. The EMS audit procedure is followed for raising audit findings pertaining to these audit meetings. This audit is closed with a formal closing meeting in which the top management is requested to attend. While the internal auditors are following their procedures for raising the audit findings, it is preferable to request the external auditors to also produce a full-fledged audit report for purpose of comparison and reference.

Reporting audit findings

Organisations are required to decide how the audit findings are classified, communicated and addressed within the EMS.

Writing an audit procedure

ISO 14001 requires the organisation to establish and maintain programmes and procedures for periodic EMS audits. In the audit procedure, the organisation covers the audit training, scope, frequency, methodologies, responsibilities and reporting Box 5.1. Audit programme can be attached to the audit procedure as an annex. This audit programme specifies the schedule, which is based on the environmental importance of the activity and results of the previous audits.

Box 5.1 Format for audit procedures

- Audit planning
- Audit scope (areas and activities covered)
- Audit frequency
- Audit methods
- Key responsibilities
- Reporting mechanisms
- Record keeping

5.5 Management Review

The top management needs to be continually involved in and committed to the EMS. While in some organisations, this involvement/commitment is naturally forthcoming, this is not the case in all organisations. This is ensured through the management review process, which provides the required EMS-related information to the management for periodic analysis and decision-making.

Planning the agenda of the review

While the scope of the management review should be comprehensive, it need not address all the clauses of the EMS in every review meeting. In fact, this approach will render the management review meeting too structured and might make the process uninteresting. The coverage can be obtained in a different manner and can be achieved over a period of time, as it is not necessary that every item be addressed in every meeting. Box 5.2, which provides a list of possible agenda items.

Many organisations convert the management review meeting to an audit results review meeting. This is an erroneous practice as the non-conformance and corrective and preventive action mechanism addresses the audit findings, and only important points emerging from the audit needs to be carried to the management review meeting.

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Experience indicates that it is rather difficult to cover all the items put forward in the agenda during the conduct of the meeting. Therefore it is important to prioritise the agenda items and put forward the more important ones first.

Box 5.2: Agenda items for management review

Specific

- Completed objectives and targets
- Suggestions for new objectives and targets
- Financial allocations for new objectives and targets
- Instances of legal non-compliance if any
- Analysis of environmental performance data
- Salient points from the previous audit
- List of repeated and overdue open non-conformances
- Specific concerns raised by stakeholders
- Incidents of environmental emergencies
- Instances of major operational control failures
- Manpower and other resources required
- Other financial resources / budgets required

General

- Suitability, adequacy and effectiveness of the EMS to the changing business
- Confirming that continual improvement is being achieved by the EMS
- Need for modifying the environmental policy.

Preparing for the management review

Organisation needs to plan for every management review meeting. The background work is related to each of the agenda items and, involves information compilation, analysis and presentation. All that is presented in the management review should enable top management decision-making. It is important to remember that top management time for the review is limited and the best use of their time and should be planned for the management review meeting.

Conducting the first management review

Following the first internal audit and with an idea of how the EMS has performed, the first management review meeting is to be conducted. This meeting should have an agenda in line with what was suggested for inclusion in the procedure. The coverage should include the following :

- Review of objectives and targets
- Analysis of environmental performance data
- Instances of legal non-compliance (if any)
- Salient points from the first audit
- Specific concerns raised by stakeholders (if any)
- Incidents of environmental emergencies (if any)
- Instances of major operational control failures
- Additional manpower and other resources required based on the first few months of implementation experience.

The readiness of the EMS to approach a certification agency is ascertained during the meeting. The observations, conclusions and recommendations of this management review are recorded as minutes.

Writing a procedure

ISO 14001 does not require a procedure for undertaking a management review but it is preferable to have one as it serves as a useful guideline. The coverage of this procedure includes membership, frequency, a list of possible agenda items, preparation of minutes and reporting mechanisms for follow-up actions. The list of agenda items broadly addresses the continuing suitability, adequacy and effectiveness.

ISO 14001 requires that the review be documented. Organisation maintains the agenda and minutes of the management review as records. In these records, observations, conclusions and recommendations are noted for suitable follow-up action.

5.6 Certification of EMS

Approaching certification agencies

Hotel need to approach the different certification agencies and inform them that they would like to obtain certification for their EMS. Some of the certification agencies that are active in India include the following: Aspects Certification Services, Bureau of Indian Standards, BVQI, DNV, IRQS, KPMG, TUV, Underwriters Laboratory. In response, the certification agencies send their brochures and forms to be completed. Based on the information furnished by the hotel, the chosen certification agency provides their quotations along with a brief description of their auditing expertise. Often organisations decide on the certification agency based solely on the lowest quote. But, this may not result in an effective certification and surveillance audits for the hotel. What is most important is the expertise of the auditor's vis-à-vis environmental issues pertaining to the hotel. Selection of the certifying agency should consider their auditing procedures/guidelines and technical expertise that would be used to support their audits. While an hotel cannot insist on a particular auditor for the certification surveillance audits, it can make a decision based on an assessment of the agency's auditing expertise.

Once the decision is taken, the hotel need to enter into a contract with the chosen certification agency. This contract is usually for undertaking one pre-assessment, one main assessment audit and five surveillance audits. Surveillance audits are conducted at six months interval to maintain the EMS. The ISO 14001 certificated normally issued are valid for three years.

Pre-audit by the Certification agency

The hotel invites the certification agency to undertake a pre-assessment audit after the contract is finalised. This audit is generally for a short duration – one or two days – wherein the certification auditors examine the EMS manuals and also take a cursory visit around the site. The auditors can raise the major issues which needs to be addressed by prior to the certification audit and also provide advice on other matters pertaining to the EMS.

Some certification agencies do not undertake a pre-audit but adopt a two-stage assessment audit. In such cases, the hotel needs to invite the certification audit for the first stage audit. This audit is undertaken like a full-fledged certification audit and prepares the hotel for the final certification audit. The findings of this first stage audit needs to be addressed by the hotel and the more important ones need to be necessarily closed prior to second assessment audit.

Undertaking second internal EMS Audits

After two to six weeks following the first EMS audit, the second EMS audit is organised. This second internal EMS audit is to be performed preferably only by the internal EMS auditors. The expert external EMS auditors may be invited to give their expert opinion as observers but not to conduct the audit. The focus of this second audit is to ensure that all the audit findings of the first internal EMS audit and the pre-assessment/first stage audit has been closed or is being addressed adequately.

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Apart from addressing the previous audit findings, this audit also covers other areas. It is best to make this audit as comprehensive as possible, cover all departments and all the clauses of ISO 14001. This audit adopts the methodology of examining documents, undertaking physical site observations and interviewing personnel. The EMS audit procedure is adopted for raising audit findings and follow-up is initiated soon after the audit.

Main assessment audit by the Certification agency

Once the hotel is confident on their readiness for the main assessment of the EMS, invitation is sent to the certification agency. This audit is generally thorough and comprehensive and often includes technical experts (sector specific expert and/or issue specific expert) to provide the necessary support to the certification agency team. The certification agency conducts this audit as per their procedures/guidelines and, at the end of this audit, the auditors recommend the hotel for ISO 14001 certification. It is important to note that the auditors can only make recommendations to the certification agency's board and it is the board, which decides whether to grant certification following their review. However, if an organisation's EMS is recommended, it is rather unlikely that the board will conclude differently.

Surveillance and re-certification Audits

The certification agency undertakes annual surveillance audits, which are in line with the certification audit, but its coverage need not be as comprehensive as a certification audit. The surveillance audit is also conducted as per the audit agency's procedures/guidelines.

Every three years the hotel need to go for re-certification. At this point of time, the organisation reviews its relationship with the existing certification agency. Based on the review the hotel can renew its contract and proceed for ISO 14001 re-certification with the same agency.

6.0 SUSTAINING ENVIRONMENTAL MANAGEMENT SYSTEM

Sustaining EMS

Most companies invest substantial manpower time and effort in designing an EMS and in the initial implementation of the EMS so as to make the system ready for certification. Once the recommendation for certification is done, it is important to sustain the efforts initiated with the EMS. Here again, manpower time and effort is required. Top and senior management must ensure that there is a core manpower commitment to maintain the EMS on an ongoing basis. This section contains some EMS maintenance tips that are bound to be useful to an organisation in maintaining the EMS.

Environmental Policy

- Use opportunities to disseminate the policy with external stakeholders as this may bring unexpected business benefits
- Include an environmental policy tag along with the final product
- Get the marketing department to use the organisation environmental policy in their product advertising initiatives
- Remember that re-distribution of the policy internally is alone not sufficient for all employees, especially the operators, to understand the organisation's commitment
- Review the policy for its appropriateness whenever major changes in the business or market place has occurred

Environmental Aspects

- Include aspects and impacts of new development, process changes, equipment additions and construction projects
- Update evaluation of aspects and impacts after the completion of objectives and targets
- Lower evaluation cut-off scores with time to address a larger number of environmental issues within the EMS
- Review the appropriateness of the evaluation criteria periodically
- Assess the combined impacts of several non-significant impacts to see whether the combined impacts will be significant

Legal and Other Requirements

- Get your organisation's library or information officer to maintain newspaper clippings on new legislation's announced or proposed
- Incorporate draft legislation's into the Legal Register and start tracking compliance even though it is not yet in force
- Attend training programmes on legislation to keep the organisation information up-to-date
- Develop simple-to-understand notes on environmental legislation for the benefit of all the employees
- Subscribe to magazines or information service companies on environmental legislation

Objectives and Targets

- Update your current objectives and targets periodically to account for any delays in implementation
- Keep abreast of technological developments to propose new objectives and targets
- Make sure at least one objective and target is implemented across all departments in a 3-year period to ensure participation across the organisation
- Maintain a balanced mix of objectives and targets
- Weigh the pros and cons from a financial viewpoint before putting forward a new objective and target

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Environmental Management Programmes

- Update your current EMPs periodically to account for any delays in implementation
- Ensure that the last step in an EMP is checking whether the objective and target is accomplished
- Develop EMPs only from approved objectives and targets
- Keep track of the performance indicator related to the EMP if applicable
- Provide the detailed action plan in the EMP with intermediate times every two months

Structure and Responsibility

- Review the effectiveness of the MR and other key personnel in maintaining the EMS
- Ensure that all the departments continue to play a role in the EMS
- Ensure the roles, responsibilities and authorities are communicated to any new recruits or after promotions
- Assess the resources required for maintaining the EMS not only in terms of money but also in terms of time
- Update the organisational chart in the EMS Manuals whenever there is a change in the organisational structure.

Training, Awareness and Competence

- Ensure that training is done on an ongoing basis and not sporadically
- Arrange for external faculty to conduct an in-organisation EMS-related training only after providing them with substantive information about the organisation's EMS so that the training is internalised
- Make sure that new recruits receive awareness training and relevant competence training
- Send organisation employees for inter-organisation training programmes periodically to bring fresh inputs
- Encourage detailed training feedback and assess them seriously

Communication

- Devise new types of communication to keep the environmental focus alive – audios, videos, compact discs and interactive compact discs
- Make sure complaints are addressed within a reasonable time frame
- Invite known personalities to lecture on environmental management
- Ensure that good suggestions received are suitably publicised and rewarded
- Investigate whether the communications have reached all levels and all departments within the organisation.

EMS Documentation

- Strive to minimise EMS documentation all the time
- Do not unnecessarily write procedures which are not required by ISO 14001 and do not serve any purpose
- Move towards electronic documentation wherever possible
- Strengthen linkages between EMS documentation and other management systems within the organisation
- Review the relevance of the EMS documentation structure with the changing organisational structures

Document control

- Be systematic and structured about document control
- Make no exceptions while administering document control as it may create problems at a later date
- Understand the role of the document controller. Create and revise documents in line with the document controller's requirements
- Ensure that the appropriate stamps "Obsolete" or "Master" or "Controlled" are placed in appropriate documents. Make sure that there is only one set of such stamps
- Use an easy filing mechanism - avoid stapling - to enable easy document revisions

Operational Control

- Improve the content of operational control procedure with more implementation experience and whenever new / fresh information is forthcoming
- Ensure that the respective operators know their operational control and do not have to refer to the EMS manual
- Introduce new operational control procedures if they are going to be useful although it may not be related to a significant environmental aspect
- Undertake checks with the suppliers and contractors on their perception and implementation of the organisation guidelines
- Update the guidelines sent to the supplier and contractors on an annual basis

Emergency Preparedness and Response

- Ensure that the emergency services equipment are properly maintained
- Test procedures based on their relative importance
- Record and analyse the performance during these tests
- Make sure that emergency procedures are suitably amended based on the findings of tests or reports of emergency incidents
- Keep the response plan up-to-date by checking for changes in telephone numbers and other contact details.

Monitoring and Measurement

- Do not solely measure; always evaluate the measurements as well
- Make the monitoring about progress of objectives and targets to be less paperwork oriented
- Do not overemphasise on calibration as it is required only for environmental data measuring equipment
- Assess the organisation-wide key environmental data and present it in the top management reviews
- Undertake monitoring campaigns to reduce resource (water and energy) use

Non-conformance and Corrective and Preventive Action

- Ensure that the person responsible for a non-conformance writes both the corrective and preventive action in the report
- Make sure that the corrective and preventive action is commensurate with the nature of the conformance at the time of closing non-conformances
- Use positive language while raising non-conformances
- Highlight repeated non-conformances and bring them for discussion at the management review meetings
- Change procedures, if required, prior to closing non-conformances

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Records

- Strive to reduce the number of records (as these tend to grow continuously) by combining records and by questioning its utility
- Maintain shop floor records with suitable protection as the chance for damage is high
- Reflect on the need for the designed retention time based on the implementation experience
- Discard sheets which are dated beyond the retention time
- Avoid all duplication / photocopying for the sake of records; provide cross-references
- Bring about a healthy auditor-auditee atmosphere during all audits
- Do not orient the EMS audits towards documentation
- Do not make EMS audits as a frivolous exercise; maintain the seriousness, move away from being fault-finding and strive for value addition
- Send different employees on external auditor training for new inputs / ideas
- Engage an external environmental-cum-audit expert outside of your certification agency to audit the EMS to provide some fresh insights

Management Review

- Conduct management review when all the key, decision-making members are available
- Use the management review as a forum for decision-making
- Use time wisely in the management review as it is always in short-supply
- Prepare the minutes to reflect the important points
- Do not use the management review meetings as an audit review.

ANNEX -I

ONGOING EMS MAINTENANCE

1. What is EMS maintenance?

Most companies invest substantial manpower time and effort in designing an EMS and in the initial implementation of the EMS so as to make the system ready for certification. Once the recommendation for certification is done, it is important to sustain the efforts initiated with the EMS. Here again, manpower time and effort is required. Top and senior management must ensure that there is a core manpower commitment to maintain the EMS on an ongoing basis. This section contains some EMS maintenance tips that are bound to be useful to an organisation in maintaining the EMS.

2. Environmental Policy

- ◆ Use opportunities to disseminate the policy with external stakeholders as this may bring unexpected business benefits
- ◆ Include an environmental policy tag along with the final product
- ◆ Get the marketing department to use the company environmental policy in their product advertising initiatives
- ◆ Remember that re-distribution of the policy internally is alone not sufficient for all employees, especially the operators, to understand the company's commitment
- ◆ Review the policy for its appropriateness whenever major changes in the business or market place has occurred

3. Environmental Aspects

- ◆ Include aspects and impacts of new development, process changes, equipment additions and construction projects
- ◆ Update evaluation of aspects and impacts after the completion of objectives and targets
- ◆ Lower evaluation cut-off scores with time to address a larger number of environmental issues within the EMS
- ◆ Review the appropriateness of the evaluation criteria periodically
- ◆ Assess the combined impacts of several non-significant impacts to see whether the combined impacts will be significant

4. Legal and Other Requirements

- ◆ Get your company library or information officer to maintain newspaper clippings on new legislation's announced or proposed
- ◆ Incorporate draft legislation's into the Legal Register and start tracking compliance even though it is not yet in force
- ◆ Attend training programmes on legislation to keep the company information up-to-date
- ◆ Develop simple-to-understand notes on environmental legislation for the benefit of all the employees
- ◆ Subscribe to magazines or information service companies on environmental legislation

5. Objectives and Targets

- ◆ Update your current objectives and targets periodically to account for any delays in implementation
- ◆ Keep abreast of technological developments to propose new objectives and targets
- ◆ Make sure at least one objective and target is implemented across all departments in a 3-year period to ensure participation across the company
- ◆ Maintain a balanced mix of objectives and targets
- ◆ Weigh the pros and cons from a financial viewpoint before putting forward a new objective and target

6. Environmental Management Programmes

- ◆ Update your current EMPs periodically to account for any delays in implementation
- ◆ Ensure that the last step in an EMP is checking whether the objective and target is accomplished
- ◆ Develop EMPs only from approved objectives and targets
- ◆ Keep track of the performance indicator related to the EMP if applicable
- ◆ Provide the detailed action plan in the EMP with intermediate times every two months

7. Structure and Responsibility

- ◆ Review the effectiveness of the MR and other key personnel in maintaining the EMS
- ◆ Ensure that all the departments continue to play a role in the EMS
- ◆ Ensure the roles, responsibilities and authorities are communicated to any new recruits or after promotions
- ◆ Assess the resources required for maintaining the EMS not only in terms of money but also in terms of time
- ◆ Update the organisational chart in the EMS Manuals whenever there is a change in the organisational structure.

8. Training, Awareness and Competence

- ◆ Ensure that training is done on an ongoing basis and not sporadically
- ◆ Arrange for external faculty to conduct an in-company EMS-related training only after providing them with substantive information about the company's EMS so that the training is internalised
- ◆ Make sure that new recruits receive awareness training and relevant competence training
- ◆ Send company employees for inter-company training programmes periodically to bring fresh inputs
- ◆ Encourage detailed training feedback and assess them seriously

9. Communication

- ◆ Devise new types of communication to keep the environmental focus alive – audios, videos, compact discs and interactive compact discs
- ◆ Make sure complaints are addressed within a reasonable time frame
- ◆ Invite known personalities to lecture on environmental management
- ◆ Ensure that good suggestions received are suitably publicised and rewarded
- ◆ Investigate whether the communications have reached all levels and all departments within the company.

10. EMS Documentation

- ◆ Strive to minimise EMS documentation all the time
- ◆ Do not unnecessarily write procedures which are not required by ISO 14001 and do not serve any purpose
- ◆ Move towards electronic documentation wherever possible
- ◆ Strengthen linkages between EMS documentation and other management systems within the company
- ◆ Review the relevance of the EMS documentation structure with the changing organisational structures

11. Document control

- ◆ Be systematic and structured about document control
- ◆ Make no exceptions while administering document control as it may create problems at a later date
- ◆ Understand the role of the document controller. Create and revise documents in line with the document controller's requirements
- ◆ Ensure that the appropriate stamps "Obsolete" or "Master" or "Controlled" are placed in appropriate documents. Make sure that there is only one set of such stamps
- ◆ Use an easy filing mechanism - avoid stapling - to enable easy document revisions

12. Operational Control

- ◆ Improve the content of operational control procedure with more implementation experience and whenever new / fresh information is forthcoming
- ◆ Ensure that the respective operators know their operational control and do not have to refer to the EMS manual
- ◆ Introduce new operational control procedures if they are going to be useful although it may not be related to a significant environmental aspect
- ◆ Undertake checks with the suppliers and contractors on their perception and implementation of the company guidelines
- ◆ Update the guidelines sent to the supplier and contractors on an annual basis

13. Emergency Preparedness and Response

- ◆ Ensure that the emergency services equipment are properly maintained
- ◆ Test procedures based on their relative importance
- ◆ Record and analyse the performance during these tests
- ◆ Make sure that emergency procedures are suitably amended based on the findings of tests or reports of emergency incidents
- ◆ Keep the response plan up-to-date by checking for changes in telephone numbers and other contact details.

14. Monitoring and Measurement

- ◆ Do not solely measure; always evaluate the measurements as well
- ◆ Make the monitoring about progress of objectives and targets to be less paperwork oriented
- ◆ Do not overemphasise on calibration as it is required only for environmental data measuring equipment
- ◆ Assess the company-wide key environmental data and present it in the top management reviews
- ◆ Undertake monitoring campaigns to reduce resource (water and energy) use

15. Non-conformance and Corrective and Preventive Action

- ◆ Ensure that the person responsible for a non-conformance writes both the corrective and preventive action in the report
- ◆ Make sure that the corrective and preventive action is commensurate with the nature of the conformance at the time of closing non-conformances
- ◆ Use positive language while raising non-conformances
- ◆ Highlight repeated non-conformances and bring them for discussion at the management review meetings
- ◆ Change procedures, if required, prior to closing non-conformances

16. Records

- ◆ Strive to reduce the number of records (as these tend to grow continuously) by combining records and by questioning its utility
- ◆ Maintain shop floor records with suitable protection as the chance for damage is high
- ◆ Reflect on the need for the designed retention time based on the implementation experience
- ◆ Discard sheets which are dated beyond the retention time
- ◆ Avoid all duplication / photocopying for the sake of records; provide cross-references

17. EMS Audits

- ◆ Bring about a healthy auditor-auditee atmosphere during all audits
- ◆ Do not orient the EMS audits towards documentation
- ◆ Do not make EMS audits as a frivolous exercise; maintain the seriousness, move away from being fault-finding and strive for value addition
- ◆ Send different employees on external auditor training for new inputs / ideas
- ◆ Engage an external environmental-cum-audit expert outside of your certification agency to audit the EMS to provide some fresh insights

18. Management Review

- ◆ Conduct management review when all the key, decision-making members are available
- ◆ Use the management review as a forum for decision-making
- ◆ Use time wisely in the management review as it is always in short-supply
- ◆ Prepare the minutes to reflect the important points
- ◆ Do not use the management review meetings as an audit review.

ANNEX -II

GLOSSARY OF TERMS

- ◆ **Audit** – A planned, independent, and documented assessment to determine whether agreed upon requirements are being met.
- ◆ **Certification** – Procedure by which a third part gives written assurance that a product, process, or services conforms to specified requirements.
- ◆ **Certification Body** – Body that conducts certification of conformity.
- ◆ **Certify** – Certification Body provides written assurance that a product, process, or services conforms to specifies requirements.
- ◆ **Certified** – The EMS of a company, location, or plant is certified for conformance with ISO 14001 after it has demonstrated such conformance through the audit process. When used to indicate EMS certification, it means the same things as registration.
- ◆ **Compliance** – An affirmative indication or judgement that the supplier of a product or service has met the requirement of the relevant regulation; also the state of meeting the requirement.
- ◆ **Compliance Audit** – A systematic, documented, periodic and objective review by regulated entities of facility, operations and practices related to meeting environmental requirement.
- ◆ **Conformance** – An affirmative indication of judgement that a product or services has met the requirements of the relevant specifications; also the state of meeting the requirements. Usually refers to meeting requirements of the ISO 14001 management standards.
- ◆ **Continual Improvement** – Process of enhancing the environmental management system to achieve improvement in overall environmental performance, in line with organisation’s environmental policy. Note – The process need not take place in all areas of activity simultaneously. (ISO 14001)
- ◆ **Environmental Performance** – The measurable results of the environmental management system, related to an organisation’s control of its environmental aspects, based on its environmental policy, objective, and targets. (ISO 14001)
- ◆ **Environment** - Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation. Note - Surroundings in this context extend from an organisation to the global system. (ISO 14001)
- ◆ **Environmental Aspect** - Element of an organisation’s activities, products, and services that can interact with the environment. (ISO 1400 1)
- ◆ **Environmental Audit** - Systematic, documented verification process of objectively obtaining and evaluating audit evidence to determine whether specified environmental activities, events, conditions, management systems, or information about these matters conform with audit criteria, and communicate the results of this process to the client. (ISO 14010)
- ◆ **Environmental Impact** - Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s activities, products, or services. (ISO 14001)
- ◆ **Environmental Management System (EMS)** - Organizational structure, responsibilities, practices, procedures, process, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy. (ISO 14001)
- ◆ **EMS Audit** – A systematic and documented verification process to objectively obtain and evaluate evidence to determine whether an organisation’s environmental management system conform to the EMS audit criteria set by the organisation, and to communicate the result of the process to management. (ISO 14001)
- ◆ **EMS Audit Criteria** – Policies, practices, procedures, or requirements, such as covered by ISO 14001, and if applicable, any additional EMS requirements against which the auditor compare collected evidence about the organisation’s EMS. (ISO 14011)

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- ◆ **Environmental Performance Evaluation** - Process to measure, analyse, assess, report, and communicate an organisation's environmental performance against criteria set by management. (ISO 14031 WD4)
- ◆ **Environmental Policy** - Statement by the organisation of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for setting of its environmental objectives and targets. (ISO 14001)
- ◆ **Environmental Target** - Detailed performance requirement, quantified wherever practicable, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives. (ISO 14001)
- ◆ **Fence line** - The area in which an organisation chooses to implement its environmental management system - a department, division, or specific operation.
- ◆ **Gap Analysis** - A comparison of an organisation's existing management structure for environmental aspects against the elements of an environmental management system. Used to identify what EMS elements are missing.
- ◆ **Interested Party** - Individual or group concerned with or affected by the environmental performance of an organisation.
- ◆ **Quality System** – Organisation structure, procedures, processes, and resources needed to implement quality management. (ISO 8402)
- ◆ **Stakeholders** - Those groups and organisations having an interest or stake in a company's EN4S program (e.g., regulators, shareholders, customers, suppliers, special interest groups, residents, competitors, investors, bankers, media, lawyers, insurance companies, trade groups, unions, ecosystems, cultural heritage, and geology).
- ◆ **Standard** - A recognised unit of comparison, which provides a gauge of the "correctness" of those things, we are comparing.
- ◆ **System** - Collection of unit processes that when acting together, perform some defined function; what an organisation will do, who will do it, how will it be done. (ISO 14004)
- ◆ **Third Party** - Person or body recognised as being independent of issue involved, as concerns the issue in question. Note - Parties involved are usually supplier ("first party") and purchaser ("second party") and external auditor ("third party"). (ISO/IEC Guide 2)
- ◆ **Verification** - Process of authenticating evidence. (ISO 14010) The act of reviewing, inspecting, testing, checking, auditing, or otherwise establishing and documenting whether items, processes, services, or documents conform to specified requirements. (ANSI/ASQC A3)

ANNEX III

List of References

1. ISO 14001: 1996 Environmental Management Systems – Specification with guidance for use
2. ISO 14004: 1996 Environmental Management Systems – General Guidelines on Principles, System and Supporting Techniques
3. ISO 14010:1996 Guidelines for Environmental Auditing – General Principles
4. ISO 14011:1996 Guidelines for Environmental Auditing – Audit Procedures – Auditing of Environmental Management Systems
5. ISO 14012: 1996 Guidelines for Environmental Auditing – Qualification Criteria for Environmental Auditors
6. Cleaner Practices for Environmental Management in Indian Hotel industry (2000) Development Alternatives, New Delhi
7. Environmental Management for Hotels, The Industry Guide to Best Practices(1996) International Hotel Environment Initiatives (UK)
8. The ISO 14000 Hand Book(1996) CEEM Information Services