

# SHENZHEN ENVIRONMENTAL PRINTED CIRCUIT BOARD COMPANY

# Environmental Management System Manual

**Revision No. : 1**

**Date : 01-01-2006**

**Prepared by :** Jiang Ho  
\_\_\_\_\_  
(EMR)

**Approved by :** Ma Hung  
\_\_\_\_\_  
(Executive Director)

## Revision History

[illegible]

## Table of Content

<b>0.0</b>	<b>Terms and Definitions .....</b>	<b>2</b>
<b>1.0</b>	<b>General .....</b>	<b>4</b>
1.1	Company Profile .....	4
1.2	Purpose of this Manual .....	4
1.3	Scope of EMS .....	4
<b>2.0</b>	<b>Policy.....</b>	<b>5</b>
<b>3.0</b>	<b>Organisation .....</b>	<b>6</b>
3.1	Organisation Chart .....	6
3.1.1	Company Organisation Chart.....	6
3.1.2	EMS Organisation Chart .....	6
3.2	Responsibility .....	7
3.2.1	Executive Director .....	7
3.2.2	Environmental Management Representative (EMR) .....	7
3.2.3	Deputy Environmental Management Representatives (DEMR) .....	7
3.2.4	Environmental Management System Committee (EMS Committee).....	7
3.2.5	Management Review Committee .....	8
3.2.6	Function / Departmental Manager.....	8
3.2.7	All Employees.....	8
<b>4.0</b>	<b>Environmental Management System Requirements.....</b>	<b>8</b>
4.1	Environmental Management System Documents.....	8
4.2	Environmental Policy.....	9
4.3	Planning .....	10
4.3.1	Environmental Aspects.....	10
4.3.2	Legal and Other Requirements .....	10
4.3.3	Objectives, Targets and Programme(s) .....	10
4.4	Implementation and Operation .....	11
4.4.1	Resources, Roles, Responsibility and Authority .....	11
4.4.2	Competence, Training and Awareness .....	11
4.4.3	Communication .....	12
4.4.4	Documentation .....	12
4.4.5	Control of Documents.....	13
4.4.6	Operational Control .....	14
4.4.7	Emergency Preparedness and Response .....	14
4.5	Checking .....	14
4.5.1	Monitoring and Measurement .....	14
4.5.2	Evaluation of Compliance .....	14
4.5.3	Nonconformity, Corrective Action and Preventive Action .....	15
4.5.4	Control of Records .....	15
4.5.5	Internal Audit .....	15
4.6	Management Review .....	16

**Appendix A** Cross Reference of ISO 14001 Requirements and Sections in the EMS Manual and Environmental Procedures.

**Appendix B** Controlled Document List

**0.0 Terms and Definitions**

<b>Auditor</b>	Person with the competence to conduct an audit
<b>Continual improvement</b>	Recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organisation's environmental policy.
<b>Corrective action</b>	Action to eliminate the cause of a detected nonconformity.
<b>Document</b>	Information and its supporting media
<b>Environment</b>	Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.
<b>Environmental aspect (EA)</b>	Elements of an organisation's activities or products or services that can interact with the environment.
<b>Environmental impact</b>	Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects.
<b>Environmental management system (EMS)</b>	Part of an organisation's management system used to develop and implement its environmental policy and manage its environmental aspects.
<b>Environmental objective</b>	Overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve.
<b>Environmental performance</b>	Measurable results of an organisation's management of its environmental aspects.
<b>Environmental policy</b>	Overall intentions and directions of an organisation related to its environmental performance as formally expressed by top management.
<b>Environmental target</b>	Detailed performance requirement 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.
<b>Interested party</b>	Person or group concerned with or affected by the environmental performance of an organisation.
<b>Internal audit</b>	Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the environmental management system audit criteria set by the organization are fulfilled.
<b>Nonconformity</b>	Non-fulfilment of a requirement.
<b>Organisation</b>	<b>Shenzhen Environmental Printed Circuit Board Company</b>
<b>Preventive action</b>	Action to eliminate the cause of a potential nonconformity.
<b>Prevention of pollution</b>	Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutants or waste, in order to reduce adverse environmental impacts.

**Procedure**

Specified way to carry out an activity or a process

**Record**Document stating results achieved or providing evidence of activities performed.

---

**1.0 General****1.1 Company Profile**

Shenzhen Environmental Printed Circuit Board Company (SZEPCB) has been a manufacturer of printed circuit boards since 1993. We manufacture high quality double sided and multilayer printed circuit boards (PCB). Our Head Office is located in Kwai Chung, Hong Kong, and our China office and manufacturing plant are located in Shekou - Shenzhen, PRC.

Being an experienced PCB manufacturer in South China region, we specialize in manufacturing PCB for mobile phone products.

SZEPCB is committed to providing integrated circuit (IC) solutions for its worldwide customers. It has sales offices in Hong Kong and China; and sales/distribution sites throughout Asia, Europe, and America. The company stands out for being capable of serving customer's needs with leading-edge technology and global marketing networks.

**1.2 Purpose of this Manual**

This Manual defines the Environmental Management System (EMS) of SZEPCB's activities and contains:

- a) The Environmental Policy;
- b) Statements of responsibility and authority;
- c) An overview of the company's environmental procedures and controls;
- d) The identification of the resources and training allocated to management, performance of work and verification activities including internal audit;
- e) The appointment of the Environmental Management Representative (EMR); and
- f) The arrangement for periodic management reviews.

The purpose of this Manual is to demonstrate that this EMS meets all ISO 14001 ;2004 requirements and provide guidance and direction for the implementation and operation of the EMS to all personnel including all relevant documents.

**1.3 Scope of EMS**

The scope of the EMS applies to all activities which affect the ability of the company to meet environmental management requirements. The EMS applies to the operation activities related to multilayer PCB manufacturing that located in our Shenzhen plant and office activities at our Head Office in Hong Kong and Regional Office in Shenzhen, PRC.

**2.0 Policy****SHENZHEN ENVIRONMENTAL PRINTED CIRCUIT BOARD COMPANY****Environmental Policy**

Shenzhen Environmental Printed Circuit Board Company is an experienced factory specialising in printed circuit board manufacturing. Since establishment we have embraced the concept of quality service and protecting the environment to meet the diverse needs of our customers.

Our commitment is to:

- 1) Establish a comprehensive environmental management system and examine environmental issues to prevent pollution and continually improve our system of management.
- 2) Conform to all applicable legal requirements and other requirements to which the Company subscribes which relate to its environmental aspects.
- 3) Improve the environmental awareness of all our employees through environmental education and awareness-raising activities.
- 4) Reduce adverse environmental impacts due to company's operation activities.
- 5) Use resources effectively, and encourage closing the loop in product life cycle through recycling and reusing to minimise waste.
- 6) Disclose information to promote better public understanding of the SZEPCB's environmental management, and to create good communication with customers and communities at the local and international levels.

We make relentless effort into making outsiders and related groups realise our keen attempt on environmental protection.

Endorsed by



—

—

Ma Hung

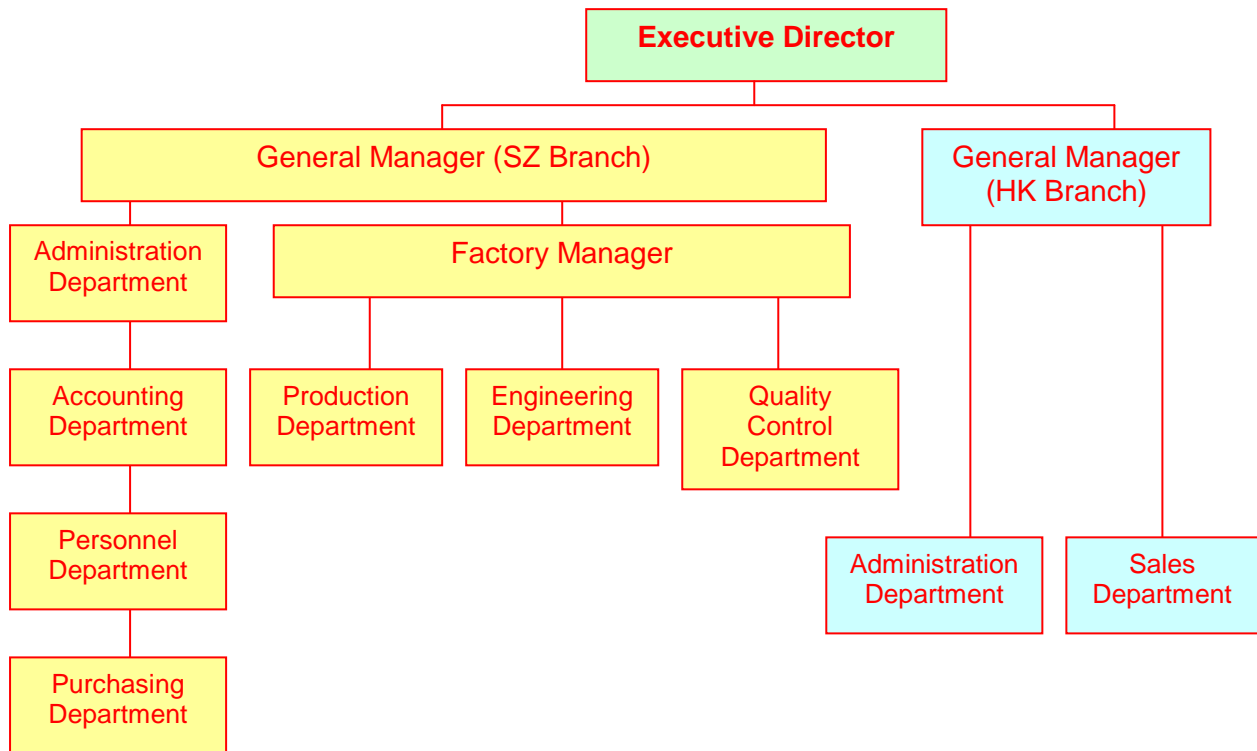
Executive Director

Date : 01-01-2006

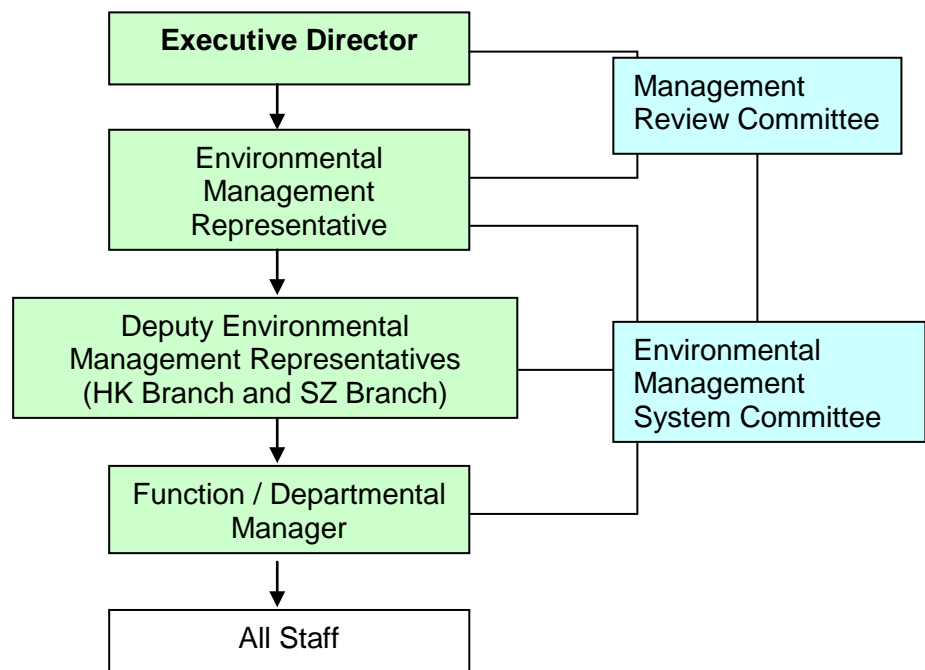
### 3.0 Organisation

#### 3.1 Organisation Chart

##### 3.1.1 Company Organisation Chart



##### 3.1.2 EMS Organisation Chart



**3.2 Responsibility****3.2.1 Executive Director**

**Executive Director (ED)** is responsible for:

- a) endorsing the environmental policy;
- b) ensuring appropriate resource allocation to enable the effective operation and continual improvement of the EMS.

**3.2.2 Environmental Management Representative (EMR)**

The **General Manager (SZ Branch)** is the appointed EMR and has the responsibility and authority for:

- a) ensuring that EMS requirements are established, implemented and maintained in accordance with the ISO 14001 standard;
- b) ensuring that sufficient resources are allocated for the proper implementation of the environmental policy and the EMS;
- c) regularly reviewing the policy and the effectiveness of the EMS, and ensuring that the necessary changes are made.

EMR is also the Chairman of the EMS Committee and has the responsibility and authority for :

- a) leading the EMS Committee to establish and implement the EMS according to ISO 14001 standard, and monitoring the performance of the EMS;
- b) coordinating internal EMS audits to ensure the EMS has been properly implemented and maintained;
- c) handling and investigating nonconformity and ensuring corrective and preventive action has been taken to mitigate any impacts caused;
- d) reporting on the performance of the EMS to the top management for review and as a basis for improvement of the EMS.

The EMR, the DEMR, the EMS Committee and **ED** shall undertake the EMS management review **at least annually** to ensure top management commitment and integration of the EMS with business strategies for its implementation and continual improvement.

**3.2.3 Deputy Environmental Management Representatives (DEMR)**

The **General Manager (HK Branch)** and **the Factory Manager (SZ Branch)** are the appointed Deputy Environmental Management Representatives (DEMR) and has the responsibility and authority for:

- a) assisting the EMR to ensure the EMS is effectively implemented and maintained in accordance with ISO 14001 standard;
- b) assuming the responsibility and action of the EMR when the EMR is unavailable.

**3.2.4 Environmental Management System Committee (EMS Committee)**

This committee is responsible for:

- a) the establishment and implementation of the EMS;
- b) the establishment and review of objectives, targets, and programmes;
- c) ensuring the effective implementation of environmentally-related operational controls and programmes;



- d) the internal communication of environmental matters between management and employees; and promoting environmental awareness among company staff;
- e) the review of complaint records, nonconformity, corrective action and preventive action reports and the adoption of preventive actions as necessary;
- f) providing leadership in the pursuit of environmental issues;
- g) any other EMS activities that are assigned by the EMR;
- h) holding regular meeting (at approximately **three-month** intervals).

### **3.2.5 Management Review Committee**

The Committee systematically examines the EMS to ensure the suitability, adequacy and effectiveness of the EMS. The Committee comprises of the **ED**, EMR and DEMR and the EMS Committee.

### **3.2.6 Function / Departmental Manager**

The Function / Departmental Managers are responsible for :

- a) establishing controls for the identified significant environmental aspects for his/her function team / department according to procedures and instructions;
- b) ensuring that the EMS is properly implemented and that environmental matters are properly handled at all stages;

### **3.2.7 All Employees**

All employees are responsible for:

- a) working in accordance with the documented environmental procedures and instructions, specific responsibilities defined in individual procedures and instructions; and
- b) reporting problems or deviations associated with environmental issues and the EMS to the EMS Committee.

## **4.0 Environmental Management System Requirements**

The EMS of **SZEPCB** is developed to manage significant environmental aspects so as to limit their impacts on the environment. The EMS is established in accordance with **ISO 14001:2004**, and is described in this section. Procedures for each component is given in the relevant Environmental Procedures (EPs) listed in Appendix A.

### **4.1 Environmental Management System Documents**

The purposes of these EMS documents are as follows:

<b>Environmental Policy</b>	Describes the intention and principles to be adopted in relation to environmental performance, including but not limited to legal compliance, continual improvements and pollution prevention.
<b>Environmental Management System Manual (EMS Manual)</b>	Describes the environmental management system and outlines how the requirements of the International Standard (ISO 14001) are achieved. A cross-reference of the ISO 14001 clauses to the sections of this Manual is in Appendix A.

<b>Objective(s) *</b>	The overall environmental goals that <b>SZEPCB</b> set to achieve.
<b>Target(s) *</b>	The set of measurable performance requirements that <b>SZEPCB</b> establishes to achieve the objectives.
<b>Programme(s) *</b>	The programme and schedule which <b>SZEPCB</b> implements to achieve the objectives and targets.
<b>Environmental Procedures (EPs)</b>	Define the roles, responsibilities, and actions to be taken to ensure that activities are performed and the EMS implemented in accordance with the environmental policy and the requirements of ISO 14001. A cross-reference of the ISO 14001 clauses to the EPs is in Appendix A.
<b>Register of Environmental Aspects</b>	Compiles the environmental aspects that are derived from the activities and services of <b>SZEPCB</b> . The register also denotes the significance of the environmental aspects and the respective operational controls for significant environmental aspects.
<b>Register of Legal and Other Requirements</b>	Compiles the legal and other requirements, which include legislation, codes of practice, regulatory and non-regulatory guidelines that are applicable to <b>SZEPCB</b> .
<b>Environmental Instructions (EIs)</b>	Describe which and how activities should be performed to manage significant environmental aspects and to achieve the EMS ISO 14001 requirements.
<b>Environmental Forms/Records</b>	Record information for the audit trail and the assessment of environmental conditions and performance.

\* Objectives and Targets, and associated Programmes are provided as a single document.

## **4.2 Environmental Policy**

(ISO 14001 Standard Clause 4.2)

The environmental policy of **SZEPCB** is included in Section 2 of this document. It outlines the environmental commitments of **SZEPCB** with respect to its operations, activities, and overall environmental performance. During the development of this policy, the appropriateness to the nature, scale and environmental impacts of **SZEPCB** activities, products and services has been considered. The policy is endorsed by the **Executive Director** and the policy shall be reviewed during the management review meeting.

The policy shall stipulate the commitments of **SZEPCB** to continually improve its environmental management and prevention of pollution. **SZEPCB** is also committed to comply with applicable legal requirements and other requirements to which **SZEPCB** subscribes which relate to its environmental aspects.

The environmental policy shall provide a framework for setting and reviewing environmental objectives and targets, and must be maintained, implemented and communicated to all employees of **SZEPCB** and its contractors.

This policy shall be available to the public.

#### **4.3 Planning**

**SZEPCB** shall follow a “plan-do-check-act” process to facilitate continual environmental performance improvements. The planning process includes the identification and updating of **SZEPCB**'s Register of Environmental Aspects, and the Register of Legal and Other Requirements. Together with **SZEPCB**'s environmental policy, **SZEPCB**'s objectives and targets are established, and appropriate programmes formulated to achieve the objectives and targets.

##### **4.3.1 Environmental Aspects**

(ISO 14001 Standard Clause 4.3.1)

The planning process commences with the identification and updating of environmental aspects. In order to evaluate the impacts of its activities to the environment, **SZEPCB** shall establish, implement and maintain a procedure to identify the environmental aspects of its activities, products or services that it can control and those that it can influence taking into account planned or new developments, or new or modified activities, products and services. These aspects, inclusive of those arising from works carried out by contractors, are registered in the "Register of Environmental Aspects".

**SZEPCB** shall ensure that all environmental aspects that may pose significant impacts to the environment are under control and prioritised for improvements.

**SZEPCB** shall keep this information up-to-date.

Relevant procedure : EP-01 Identification of Environmental Aspects and Significance Evaluation.

##### **4.3.2 Legal and Other Requirements**

(ISO 14001 Standard Clause 4.3.2)

**SZEPCB** shall establish, implement and maintain a procedure to identify and maintain access to legal requirements that are relevant to the company, as well as other environmental requirements that the company subscribes to which relates to the company's environmental aspects.

**SZEPCB** shall identify all relevant regulations, codes of practice and guidelines that are applicable to the environmental aspects of its activities, products and services, and records this information in the Register of Legal and Other Requirements.

**SZEPCB** shall keep this information up-to-date.

Relevant procedure : EP-02 Review of Legal and Other Requirements

##### **4.3.3 Objectives, Targets and Programme(s)**

(ISO 14001 Standard Clause 4.3.3)

Based on the environmental policy and significant environmental aspects, environmental objectives and targets shall be established, implemented and maintained at each function and level within **SZEPCB**. Programmes are established, implemented and maintained for achieving its objectives and targets.

When establishing and reviewing its objectives, **SZEPCB** shall take into consideration the legal and other requirements, significant environmental aspects, technological options, financial/operational/business requirements, and views of interested parties, and ensure that the objectives and targets are consistent with the environmental

policy, including commitment to pollution prevention, to compliance with applicable legal requirements and other requirements, and to continual improvement.

The programmes designate the responsibility for achieving objectives and targets at each function and level of the company, together with the means and time frame by which they are to be achieved.

The **Executive Director** shall approve the objectives, targets and programmes proposed by the EMS Committee before implementation. The EMR shall ensure that the objectives and targets are measurable if possible, and that the progress towards achieving the objectives and targets is continually monitored and reviewed.

The achievement of objectives, targets and programmes shall be reviewed by the EMS Committee **every 3 months**. The EMR shall lead the EMS Committee in revising objectives, targets and programmes as necessary.

**SZEPCB** shall ensure that the programmes are amended as appropriate for new projects and new or modified activities, products or services in order to ensure that environmental management applies to such projects and activities.

In the event that objectives and targets in the programmes are not met, the EMR shall revise the programme as necessary and maintain documented evidence / records for the actions taken to mitigate the problems.

The EMR shall also maintain obsolete objectives, targets and programmes as an EMS record for **three years**.

#### **4.4 Implementation and Operation**

The implementation of the EMS requires **SZEPCB** to clearly define roles, responsibilities and authorities of key personnel, commit to staff training, maintain effective communication channels, adopt effective document and operational controls, and maintain sufficient awareness on emergency preparedness among the staff.

##### **4.4.1 Resources, Roles, Responsibility and Authority**

(ISO 14001 Standard Clause 4.4.1)

Top management of **SZEPCB** shall commit to provide resources (include human resources and specialized skills, organizational infrastructure, technological and financial resources) essential to the implementation and control of the EMS. The roles, responsibilities and authorities of key personnel shall be defined, documented, and communicated in order to facilitate effective environmental management.

**SZEPCB** has appointed the **General Manager** as the Environmental Management Representative (EMR), and the **Administration Manager (HK Branch) and the Factory Manager (SZ Branch)** as the Deputy Environmental Management Representatives (DEMR) respectively for the implementation and maintenance of the EMS. Their EMS responsibilities are described in section 3 of this manual.

##### **4.4.2 Competence, Training and Awareness**

(ISO 14001 Standard Clause 4.4.2)

**SZEPCB** shall ensure all persons performing tasks for it or on its behalf, whose work may have a significant impact on the environment, are competent on the basis of appropriate education, training and/or experience, and shall retain associated records.

**SZEPCB** will need to ensure that all people performing tasks for or on behalf of the

organization, which includes contractors, sub-contractors, temporary staff and remote workers, have had an appropriate assessment for their potential to cause a significant environmental impact and the associated competence required.

**SZEPCB** shall establish, implement and maintain procedures to identify the training needs associated with its environmental aspects and its EMS, and develop programmes to ensure awareness and competence, at each relevant function and level, addressing:

- the roles and responsibilities in achieving conformity with the environmental management system;
- the importance of conformity with the environmental policy, the procedures and the requirements of the structured EMS;
- the significant environmental aspects and related actual or potential impacts associated from their work activities and the environmental benefits of improved personal performance;
- the potential consequences of departure from specified operating procedures.

Relevant procedure : EP-03 Training

#### **4.4.3 Communication**

(ISO 14001 Standard Clause 4.4.3)

For internal communication, the EMR shall ensure information regarding the EMS (such as the policy, objectives, targets and programmes) and environmental performance is readily available to employees on notice board, or is published on the intranet or newsletters.

Employees with enquiries / complaints regarding to the EMS and/or environmental issues of **SZEPCB** shall inform their Function / Departmental Manager. The designated member of EMS Committee representing each division shall maintain a log for the relevant enquiries / complaints. Depending on the nature and scope of the enquiry / complaint, the EMR shall determine the corresponding action and maintain relevant records to demonstrate the response / corrective actions taken.

For external communication, the environmental policy is available at the office and **company web page**. All internal and external enquiries / complaints / communications shall be discussed and reviewed during the EMS Committee meeting and the decision shall be recorded on minutes.

The EMS Committee may discuss and decide whether to communicate externally about its significant environmental aspects, the decision shall be documented in the meeting minutes. If the decision is to communicate, the EMS Committee shall establish and implement a method(s) for this external communication, e.g. publish environmental report.

Relevant procedure : EP-07 Enquiry / Complaint / Nonconformity Handling

#### **4.4.4 Documentation**

(ISO 14001 Standard Clause 4.4.4)

The Environmental Management System documentation encompasses four levels as described below :

The first level is the *Environmental Management System Manual* (this document)

which includes SZEPCB's environmental policy (specifying the principal objectives and environmental commitments of SZEPCB), and a broad description of how SZEPCB addresses the ISO 14001 requirements. The EMS Manual serves as an interface to interpret the relationship between SZEPCB's EMS and the ISO 14001 Standard. An individual document of *Objectives, Targets and Programmes* is developed based on the company's environmental policy and demonstrates the company's environmental commitment on continual improvement in environmental performance.

The second level is the *Environmental Procedures (EPs)*, which include all procedures that SZEPCB shall follow as specified in the ISO 14001 Standard. These procedures provide a detailed description of the EMS elements and defines who should do what, how and when. Appendix A shows the relationship between various environmental procedures and the ISO 14001 Standard clauses. Register of Environmental Aspects, and Register of Legal and Other Requirements are derived from the procedures and act as the foundation of the EMS which the company subscribed to.

The third level is the *Environmental Instructions (EIs)*, which are operational control procedures or instructions, with defined responsibilities, to control the identified significant environmental aspects associated with SZEPCB's operations and activities.

The fourth level is *Environmental Records* which arise from the implementation of the Environmental Management System Manual, Environmental Procedures and Environmental Instructions. Environmental Records include various checklists, reports and meeting records, etc, as defined in each Environmental Procedure and Environmental Instruction.

#### **4.4.5 Control of Documents**

(ISO 14001 Standard Clause 4.4.5)

The essences of EMS documentation controls are:

- they shall be reviewed, revised as necessary and approved for adequacy by authorized personnel;
- that current version of relevant documents shall be available at all locations where operations essential to the effective functioning of the environmental management system are performed;
- that documents of external origin determined by the organization to be necessary for the planning and operation of the EMS are identified and their distribution controlled;
- obsolete documents shall be promptly removed from all points of issue and use, or are otherwise assured against unintended use; and
- any obsolete documents retained for legal and / or knowledge preservation purposes shall be suitably identified.

SZEPCB shall ensure that documentation is legible, dated (with dates of revision) and readily identifiable, maintained in an orderly manner, and retained for a specified period. SZEPCB shall establish, implement and maintain a procedure for the creation and modification of the various types of documents and the respective responsibilities for such creation and modifications.

Relevant procedure : EP-04 Control of Documents



**4.4.6 Operational Control**

(ISO 14001 Standard Clause 4.4.6)

**SZEPCB** shall establish, implement and maintain operation control procedures to manage its significant environmental aspects.

**SZEPCB** shall ensure that all operations and activities, carried out by **SZEPCB**'s employees or contractors, that are associated with the significant aspects are properly controlled, and that appropriate operational control procedures, in terms of Environmental Procedures (EPs) and Environmental Instructions (EIs), are communicated to personnel whose tasks may result in significant environmental aspects. **SZEPCB** shall influence its staff and contractors by communicating its environmental policy and other relevant EPs and/or EIs to them.

Relevant instruction : EI-01 to 09

**4.4.7 Emergency Preparedness and Response**

(ISO 14001 Standard Clause 4.4.7)

**SZEPCB** shall establish, implement and maintain a procedure to identify potential emergency situations and responses to such situations in order to prevent and/or mitigate environmental impacts that may associate with them.

**SZEPCB** shall review and revise its emergency preparedness and response procedures, in particular after the occurrence of accidents or emergency situations.

**SZEPCB** shall also periodically test the procedure and the preparedness where practicable.

Relevant procedure : EP-05 Environmental Emergency Preparedness and Response

**4.5 Checking**

While implementing the EMS, **SZEPCB** shall monitor and measure the key characteristics of its operations and activities on a regular basis. These results shall be recorded together with nonconformity and the corrective action and preventive action. As part of the checking process, a periodic audit on the EMS shall provide a basis for management review.

**4.5.1 Monitoring and Measurement**

(ISO 14001 Standard Clause 4.5.1)

**SZEPCB** shall establish, implement and maintain procedures to monitor and measure, on a regular basis, the key characteristics of its operations and activities that have significant impacts on the environment. This shall include procedures for tracking of performance, applicable operational controls and conformity with the company's objectives and targets, as well as the calibration and maintenance of monitoring equipment. The information of environmental monitoring shall be documenting.

Relevant procedure : EP-06 Environmental Monitoring and Evaluation of Compliance

**4.5.2 Evaluation of Compliance**

(ISO 14001 Standard Clause 4.5.2)

To meet the company's commitment to compliance, **SZEPCB** shall regularly monitor

and evaluate the compliance status of the applicable environmental legal requirements (Section 4.5.2.1) and other requirements (Section 4.5.2.2) that the company subscribes to. The records of the results of the periodic evaluations shall be retained.

Relevant procedure : EP-06 Environmental Monitoring and Evaluation of Compliance

#### **4.5.3 Nonconformity, Corrective Action and Preventive Action**

(ISO 14001 Standard Clause 4.5.3)

Continual improvement of the EMS can be achieved by identifying nonconformity, correcting nonconformity and preventing nonconformity from occurring again. Regarding non-conformity and its subsequent corrective / preventive action, **SZEPCB** shall establish, implement and maintain a procedure which defines the responsibilities and authorities to:

- handle and investigate nonconformity;
- take action to mitigate the impacts caused;
- initiate and complete corrective and preventive actions;
- ensure that the corrective or preventive actions taken to eliminate the causes of actual and potential nonconformity are appropriate to the magnitude of problems and commensurate with the environmental impacts encountered;
- record the results of corrective and prevention actions taken;
- review the effectiveness of corrective action and preventive actions taken; and
- implement and record any changes in the documented procedures resulting from corrective and preventive action.

**SZEPCB** shall ensure that any necessary changes are made to environmental management documentation.

Relevant procedure : EP-07 Enquiry / Complaint / Nonconformity Handling

#### **4.5.4 Control of Records**

(ISO 14001 Standard Clause 4.5.4)

Records shall be maintained to keep track of **SZEPCB**'s environmental performance, to demonstrate conformity to the requirements of the EMS, legal compliance and to maintain audit trails in accordance with the requirements of ISO 14001 Standard, and the results achieved.

**SZEPCB** shall establish, implement and maintain a procedure to denote the identification, storage, protection, retrieval, retention and disposition of environmental records, to ensure that such records are legible, identifiable, and traceable to the activity, product or service involved, and that they are stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration or loss..

The retention period of each type of environmental records shall be specified.

Relevant procedure : EP-08 Control of Records

#### **4.5.5 Internal Audit**

(ISO 14001 Standard Clause 4.5.5)



**SZEPCB** shall plan, establish, implement and maintain a programme and procedures to carry out periodic environmental management system audits to:

- a) determine whether or not the environmental management system:
  - conforms to planned arrangements for environmental management including the requirements of ISO 14001; and
  - has been properly implemented and maintained;
- b) provide audit results and information for management review for environmental improvement.

The audit programme, including the schedule, shall be based on the environmental importance of the activities concerned and results from previous audits. The audit procedures cover the audit criteria, scope, frequency and methods, as well as responsibilities and requirements for conducting audits and reporting results and retaining associated records.

**SZEPCB** shall conduct EMS audits on a regular basis. Timely site environmental audits are required to ensure appropriate preventive actions being taken as planned, and corrective actions on a timely basis.

Relevant procedure : EP-09 Internal Audit

#### **4.6 Management Review**

(ISO 14001 Standard Clause 4.6)

The “plan-do-check-act” cycle shall require the top management of **SZEPCB** to act and review the environmental management system periodically to ensure its suitability, adequacy and effectiveness.

Before the Review, the EMR shall schedule for the management review and inform all the participants, and gather all relevant records/requirements (such as change in legal requirements) and prepare a summary report (if necessary) for discussion.

The **ED**, EMR and DEMR together with the EMS Committee shall take part in the **annual** management review. They shall assess the work done in the past year in environmental management and evaluate the existing EMS with respect to changes in legislation, concerns of interested parties, **PCB process activities**, technology and product requirements, and lessons gained from previous experience, etc.

Topics to be discussed in the management review shall include but not be limited to:

- review of the environmental policy, objectives, targets, and programmes;
- review of legal compliance and compliance with other requirements (including contractor compliance on **SZEPCB**'s activities);
- environmental aspects of activities and their disclosure to public;
- findings of the internal audits;
- review of nonconformities and the status of corrective/preventive actions;
- communications from external interested parties, including complaints;
- areas for improvement with respect to environmental performance;
- adequacy of emergency preparedness and response;
- changing circumstances, including developments in legal and other requirements related to its environmental aspects,

- identify the need for modification of the existing EMS in light of the above items, and
- follow-up action from previous management reviews.

The review shall initiate a new “plan-do-check-act” cycle with improvements in **SZEPCB**’s environmental performance and further enhancement of the EMS.

Findings from the management review shall be recorded in a meeting minutes and the EMR shall retain it as an EMS record. Maintenance of the records shall be in accordance with EP-08.

**Appendix A** Cross Reference of ISO 14001 Requirements\* and Sections in the EMS Manual and Environmental Procedures.

ISO Clause	EMS Manual Section No.	EP Ref. No.
4.1 General Requirements	4.1	—
4.2 Environmental Policy	4.2.	—
4.3 Planning	4.3	—
4.3.1 Environmental Aspects	4.3.1	EP-01
4.3.2 Legal and Other Requirements	4.3.2	EP-02
4.3.3 Objectives, Targets and Programmes	4.3.3	—
4.4 Implementation and Operation	4.4	—
4.4.1 Resources, Roles, Responsibility and Authority	4.4.1	—
4.4.2 Competence, Training, and Awareness	4.4.2	EP-03
4.4.3 Communication	4.4.3	—
4.4.4 Documentation	4.4.4	—
4.4.5 Control of Documents	4.4.5	EP-04
4.4.6 Operational Controls	4.4.6	All EIs
4.4.7 Emergency Preparedness and Response	4.4.7	EP-05
4.5 Checking	4.5	—
4.5.1 Monitoring and Measurement	4.5.1	EP-06
4.5.2 Evaluation of Compliance	4.5.2	EP-06
4.5.3 Nonconformity, Corrective Action and Preventive Action	4.5.3	EP-07
4.5.4 Control of Records	4.5.4	EP-08
4.5.5 Internal Audit	4.5.5	EP-09
4.6 Management Review	4.6	—

\*ISO 14001:2004 is referred.

**Appendix B** Controlled Document List

Document No.	Document/Form Name
CP-01	Environmental Policy
O&T-YYYY	Objectives, Targets and Programmes
EAR-01	Register of Environmental Aspects
LR-01	Register of Legal and Other Requirements
EM-01	Environmental Management System Manual
EP-01	Identification of Environmental Aspects and Significance Evaluation
EP-02	Review of Legal and Other Requirements
EP-03	Training
EP-04	Control of Documents
EP-05	Environmental Emergency Preparedness and Response
EP-06	Environmental Monitoring and Evaluation of Compliance
EP-07	Enquiry / Complaint / Nonconformity Handling
EP-08	Control of Records
EP-09	Internal Audit
EI-01	Environmental Office Practices
EI-02	Environmental Procurement Management
EI-03	Evaluations on New Facility, New Material, New Activity, New Installation and New Renovation
EI-04	Waste Management
EI-05	Air Pollution Control
EI-06	Water Pollution Control
EI-07	Noise Pollution Control
EI-08	Land Contamination Control
EI-09	Resource Management
EI-10	Handling and Storage of Chemicals