

CHAPTER 7.0

ENVIRONMENTAL MANAGEMENT PLAN

7.1 BASIC CONTENTS

Environmental Management Plan is the key to ensure a safe and clean environment. A plant may have taken proper pollution control measures but without a management plan to assure its proper function, the desired results may not be obtained.

A comprehensive environmental management plan consisting of mitigatory measures for abatement of the undesirable impacts elucidated earlier has been drawn up, which is discussed in the next few sections.

M/s Kohinoor Pulp & Paper Pvt. Ltd. (KPPPL) will develop the following management activities for the Environmental Management Programme which will meet all statutory requirements and help to improve environmental quality.

Various pollutants' generation, their control & disposal have been discussed in Chapter-2. In this chapter, various mitigatory measures taken by to improve the performance of various equipments along with the overall Environmental Management System of the plant are discussed.

7.2 GREEN BELT DEVELOPMENT PLAN

The potential value of vegetation in controlling air pollution has been well recognized. Trees can filter particulates and are effective pollutant sink. Vegetation also reduces noise level and regulates the oxygen balance in the area by consuming released carbon dioxide. In order to improve the aesthetic look of the area and enhance the land use as well as to compensate for any loss in ecology during construction, adequate plantation programmes around the project site have been planned and will be adopted. Development of green belt will include plantation of trees along boundary of the factory, roads, raw material yard and other available spaces. The plant species will be selected on the basis of their growth and morphological characteristics (height, crown and ornamental values) and factors like availability of local species, resistance to pollutants, location of sources, plant layout, meteorological conditions, water availability etc. Around 33% of total area of factory will be covered under green cover (Please refer Figure 2.7 of Chapter 2). The species selected for such green belt development in the plant area is presented in Table - 7.1.

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| <p style="text-align: center;">TABLE: 7.1 LIST OF SELECTED TREES FOR PLANTATION</p> | |
|---|----------------------|
| Tree species | Common Name |
| Pongamia Pinnate | Karanj |
| Boswellia Serrata | Lobaw |
| Butea Monosperma | Palash |
| Cassea Fistula | Amaltas |
| Dalbergia Latifolia | Eastern Rosewood |
| Erythrina Indica | Coral Tree |
| Ficus Bengalensis | Banyan |
| Ficus Religiosa | Peepal |
| Madhuca Latifolia | Mahua |
| Dendrocalamus Strictus | Bamboo |
| Moringa Oleifera | Drumstick |
| Terminalia Arjuna | Arjun |
| Azadirachta India | Neem |
| Tectona Grandis | Teak |
| Mangifera Indica | Mango |
| Albizzia Lebbeck | Siris |
| Artocarpus Heterophyllum | Jackfruit |
| Cocos Nucifera | Coconut |
| Polyalthia Longifolia | Ashok |
| Mimosops Elengi | Bakul |
| Mesua Ferrea | Indian Rose Chestnut |
| Casuarina Equisetifolia | Pine |
| Acacia Auriculiformis | Aakash Mono |
| Nerium Indicum | Indian Oleander |

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7.3 HAZARDOUS WASTE MANAGEMENT

The hazardous waste generation from the factory will be Used / Spent Oil. Used oils removed from machineries, gear boxes, compressors etc. And sludge will be collected in drums and temporarily stored in specifically earmarked areas. They will be disposed through the approved agencies.

7.4 COMMUNITY DEVELOPMENT PROGRAMME

KPPPL has plans to have well established guidelines for community development programmes. The following causes are considered for which company will make donations/contributions:

- ❖ Community and rural development to improve the quality of life of people, including the weaker and deprived sections of society, in line with national priorities like education, health, etc.
- ❖ Promotion of organizational interest with various stake-holders including customers to strengthen business relations.
- ❖ Advancement of science, Technology and Management including energy management.
- ❖ Encourage sports and promote art and culture, including performing arts and national heritage.
- ❖ Protection of environment and preservation / improvement of ecology.
- ❖ Causes which directly or indirectly promote employee growth and welfare like contribution to educational institutions (to benefit employees' children in terms of obtaining admission to school/colleges) and hospitals (for medical treatment of employees and their family members) etc.
- ❖ To assist the State in national causes and during natural calamities.
- ❖ To support causes/institutions which would help generate good will for the organization in the nation/international arena so as to enhance our organization's standing in the eyes of our public.

Community Development Activities under Execution

Following activities are planned as future community development activities:

i. Social Interaction

Company shall encourage environmental awareness among the people residing close to the plant. It shall sponsor programmes on environment among them and also shall disseminate environmental information relating to this plant to the local people. This will make a good public relation and will help in assuring better environment management programme.

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- ii. Health Care and Medical Facilities
 - ❖ Arranging periodic health check-up camps in nearby villages and organizing maternity and child care camps.
 - ❖ Organising pulse polio immunization programme, etc.
- iii. Educational Facilities
 - ❖ Scholarships to meritorious students of neighboring villages.
 - ❖ Distribution of school bags, stationery to the poor students in the schools of nearby villages.
 - ❖ Financial assistance for libraries at schools.
- iv. Empowerment of Women
 - ❖ Providing training for self employment in the areas like tailoring, carpet making, basket making and candle making etc. to women.
 - ❖ Meritorious awards to girl students.
- v. Environment Protection
 - ❖ Tree plantation on land/roads
 - ❖ Providing financial assistance for tree plantation and tree guards.
 - ❖ Development and beautification of parks.
 - ❖ Arranging flower show involving local community.
- vi. Training and Development of Sports
 - ❖ Providing opportunities for self-employment through work oriented short-term training programmes
 - ❖ Sponsoring sports meet for youth
 - ❖ Sponsoring state or national level sports tournament
 - ❖ Sponsoring various cultural programmes
 - ❖ Organizing rural sports meet

The company proposes to invest 29.25 crores on the CSR activities, which is 5% of the total project cost (585 crores). The company has identified certain areas, to be considered for imparting the CSR activities in the context of the local scenario of the area.

7.5 ENVIRONMENTAL MANAGEMENT CELL

Establishment of an environmental management cell will be a positive step towards protection of environment. For effective pollution control and environmental protection measures, following functions of environmental management cell shall be recommended:

7.5.1 Functions of Environmental Management Cell

- a) Responsible operation related to collection, treatment and disposal facilities for air emissions, waste water and solid wastes.

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- b) Routine monitoring of relevant parameters to determine pollution levels.
- c) Ecological monitoring and green belt maintenance.
- d) Implementation of environmental management plan.
- e) Data handling, reporting, liaison with statutory bodies and future planning regarding environment management.

7.6 MITIGATORY MEASURES DURING CONSTRUCTION

The impacts of the proposed construction phase on the environment would be basically of transient nature and are expected to wear out gradually on completion of the construction programme. However, once the construction of the units will be completed and its operations started, these operation stage impacts would overlap the impacts due to the construction activities.

The impacts in different aspects of environment due to the construction programmes have been elucidated in Chapter-4. In order to mitigate such impacts and restrict them within tolerable levels, the Authorities would adopt the following measures:

- i) Designation and demarcation of sites for construction camps and ensuring due provision of necessary infrastructural services as water supply, sewerage and drainage facilities and electrification.
- ii) Implementation of necessary drainage facilities, inclusive of catch pits or sedimentation basins for the drainage of construction wastewater, prior to discharge.
- iii) Regular sprinkling of water around vulnerable areas of the construction sites from trucks or through installation of water sprinklers or any other suitable methods, to control fugitive dust as and when required.

7.7 FIRE AND SAFETY MANAGEMENT

Full-fledged fire fighting facilities will be provided in the plant to tackle any fire contingency. Regular safety audits will be carried out for improving safety performance. Onsite and offsite Disaster Management Plans shall be developed and mock drills will be conducted at regular intervals to keep the disaster management team in a state of full preparedness.

7.8 ENVIRONMENTAL AWARENESS CAMPAIGN

In addition to training of employees in various aspects of pollution control activities of the plant, programmes like celebration of World Environment Day, World Safety Day, screening of films on environment, tree plantation etc. will be regularly carried out in order to create greater awareness towards environment protection amongst employees and the people in the neighbouring areas.

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7.9 LEGAL AND STATUTORY COMPLIANCE

All the environmental standards/stipulations will be fully maintained by.

The plant will obtain yearly clearance from the State Pollution Control Board for liquid, gases & solid wastes disposal. Specific information in prescribed forms will be submitted as per Water (Prevention & Control of Pollution) Act, Air (Prevention & Control of Pollution) Act etc. It will be supervised that all requirements under these Acts and Rules shall meet.

The engineer-in-charge for the Environmental Cell will prepare these reports with the help of the production engineers.

7.10 DOCUMENTATION

All the monitoring data, environmental and health related should be stored in systematic manner so that the specific records will be easily available as required.

7.11 INFORMATION DISSEMINATION AND PUBLIC RELATIONS

Everybody now a day is concerned about environmental pollution. A steel plant is therefore susceptible to people as a source of local pollution. It is, therefore, needed that people should be provided with environmental data related to the plant so that wrong apprehensions can be removed. This requires a well-planned public relation and information dissemination process so that unnecessary public intervention is avoided. In this connection, will organize different programmes with participation from local bodies, encouraging local community in environmental projects (like tree plantation) etc.

7.12 OCCUPATIONAL HEALTH ACTIVITIES

7.12.1 Introduction

The Occupational Health and Safety Management System is a vital part in Industrial Sectors. In this, Management Health and Safety are taken into consideration. The purpose of the Occupational Health and Safety Management System is as follows:

- Minimize risk to employees and others
- Improve business performance
- Assist the organization to establish a responsible image for health and safety.

7.12.2 Approach

The basic approach for the establishment and implementation of the occupational health and safety management system will involve the following steps:

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- ❖ Identify the hazards involvement in the activities of the organization.
- ❖ Evaluate the risks which are involved in the performance of these activities.
- ❖ Control these risks to an acceptable level.

All contractor personnel and temporary staff will also be advised to use safety equipment. Even the visitors will be advised to use helmet and nose mask during plant visit.

7.12.3 Standards for the Occupational Health and Safety Management System

As per the standards OHSAS 18001: 1999 / OHSAS 18002 / 2002, the following specification is applicable to the organization as given below:

- The establishment of an Occupational Health and Safety Management System to eliminate risk to employees and other interested parties.
- Implement, Maintain and continually improve the occupational health and safety management system.
- Assign itself of its conformance with its stated occupational health and safety policy.

7.12.4 Core Elements of the Occupational Health and Safety Management

The basic core elements are:

- ❖ Occupational Health and Safety Policy
- ❖ Planning
- ❖ Implementation and operation
- ❖ Checking and corrective action
- ❖ Management review

7.12.5 Occupational Health and Safety Policy

It sets an overall direction of the system. It lays down the principles involved as responsibilities, performance requirement, commitments, framework for setting objective and targets.

- In the hazards' places shall be identified and the nameplates will also be placed for the safety precaution to the relevant equipment.
- All the operational parts of the various departments will be identified and assessed.
- In the operational area, the broad categories of hazards could be mechanical, electrical, substance fire and explosions, which will be carefully monitored.

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7.12.6 Structure and Responsibilities

In, the following structure and responsibilities will form occupational health and safety management system.

- All HOD of respective department will lay down the safety rules and safety status of their work places and they will have the authority to place the manpower accordingly.
- The communication between the worker and management will be clear about the position of hazards situation.
- The top management of the company provides resources such as human resources, technological resources and financial resources for the implementation and control of the situation.
- There is a quarterly evaluation of the improvement of the safety and occupational health of the employees.
- Safety officer monitors the compliance of safety rules.

7.12.7 Training Awareness

In, the workers, selected by their departmental head, training will be given. During training, the following topics will be discussed:

- ❖ The occupational health and safety consequences of their activities.
- ❖ The emergency preparedness and response
- ❖ Importance of the occupational health and safety management system.
- ❖ Training to be taken into account the responsibility, ability and literacy of the person concerned and the nature and the extent of risk involved.

7.12.8 Audit of Occupational Health and Safety Management

In, there will be a periodic internal audit, the main elements of which are given below:

- ✓ The planned arrangement and implemented system conforms to the specification.
- ✓ The Occupational Health and Safety Management system has been properly implemented and maintained.
- ✓ The audit status is provided to top management.
- ✓ There must be external auditor to evaluate the present status of monitoring.

7.12.9 Management Review

In, there will be continuing suitability adequacy and effectiveness of the established Occupational Health and Safety Management System. The necessary information about the system will be collected and reviewed.

During First-Aid training programme, classes on occupational health & hygiene will be held for the officers & staff. All employees will be exposed to this training.

| TABLE: 7.2 PERSONAL PROTECTIVE EQUIPMENTS | | |
|--|--|--|
| Protection for | Equipment | Protection Against |
| Head | Safety helmet | Fall of objects / hitting against objects during construction, maintenance, etc. |
| | Electrical resistance helmet | Electrical shock. |
| | Welder's leather cap | Splashing of liquid etc. |
| Eye | Panorama goggles with clear plastic vision | Oil and paint splashes, dust and chips. |
| | Spectacle-type goggles with blue lens | High temperature flame during furnace work. |
| Ear | Ear plugs or muffs | High noise level. |
| Nose | Dust, fume mask Oxygen musk & Air musk | Fine dust particles, fumes & gas |
| Face | Welding helmet and shield | Welding fumes, sparks and UV rays. |
| Body | Apron | Falling of hot chips, slag's, etc. |
| | Safety belt | Falling of persons from height. |
| | Hand gloves | Heat radiation. |
| | Electrical resistance gloves | Electric shock. |
| | Canvas gloves | Contact with oil, grease, etc. |
| Leg | Safety Shoe | Striking by objects, fall of objects and stepping on sharp or hot objects. |