Chapter 7 ENVIRONMENTAL MONITORING PLAN (EMP)

This section describes the EMP for the Project, which provides details of the monitoring and audit requirements, the specific environmental performance limits and how the requirements of the EMP will be managed.

The EMP is submitted in conformity with the provision of Clause 7.1 Content of an EIA. Moreover, an Environmental Action Plan is provided in conformity with the identification of requirements as described in Chapter 5.

7.1 Objectives of the EMP

The main objectives of the Environmental Monitoring Plan include:

- To provide a database from which the environmental impacts of the project can be assessed.
- To provide an early indication should any of the environmental control measures or practices fail to achieve the acceptable standards.
- To monitor the performance of the project and effectiveness of the mitigation measures.
- To determine project compliance with regulatory requirements, standards and government policies.
- To take remedial actions if unexpected problems or unacceptable impacts arise.

7.2 Scope of the EMP

The scope of the EMP shall include:

- To identify and resolve environmental issues and other functions that may arise during the implementation and operational issues.
- To implement water quality, air quality and noise impact monitoring programme during the operational phase.
• To check and quantify the different processes overall environmental performance, implement action plans and recommend and implement remedial actions.

• To manage and liaise with neighbours of surrounding areas, other stakeholders, local authorities concerning any environmental issues during implementation phase.

### 7.3 Environmental monitoring and auditing requirements

Environmental monitoring for this project will include quantitative assessment of air quality, noise and water quality impacts at representative sensitive receivers in the vicinity of the project site.

Limit levels for air and noise emissions and effluent discharge have been defined in this EIA Report and are set out in the following sections. These limit levels determine when a prior response or corrective action is required. The levels are based on statutory and performance limits of the dye house. If the limit levels are exceeded, works shall not proceed without appropriate remedial action, including a critical review of plant and working methods.

#### 7.3.1 Air quality

*Construction phase*

Regular site inspections will be undertaken at least at weekly intervals during the construction period to ensure that good construction site practices are being implemented. For example, the inspections will check for stockpiles, loading and unloading processes that are managed in a way that prevents dust and that any working area for excavation is sprayed with water before works begin.

*Operational phase*

Stack emissions from boiler operations will be monitored using a flue gas analyzer and smoke analyzer. All measurement results will be recorded and processed in an appropriate way in order to enable verification of compliance with the permitted operating conditions and emission limit values as set out in Table 7.1.
### Table 7.1: Stack emissions limits for optimized boiler operations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Oxygen (O₂)</td>
<td>2 – 5 %</td>
</tr>
<tr>
<td>2. Carbon monoxide (CO)</td>
<td>0 – 5 ppm</td>
</tr>
<tr>
<td>3. Combustion efficiency</td>
<td>&gt; 85 %</td>
</tr>
<tr>
<td>4. Carbon dioxide (CO₂)</td>
<td>12 – 14 %</td>
</tr>
<tr>
<td>5. Stack temperature</td>
<td>160 – 300 °C</td>
</tr>
<tr>
<td>6. Ambient air temperature</td>
<td>-</td>
</tr>
<tr>
<td>7. Excess air</td>
<td>20 – 30 %</td>
</tr>
</tbody>
</table>

RT Knits Ltd is committed to monitor results measured using the flue gas analyzer and if the results approach the limit levels, the cause of the increase in emissions will be identified within 24 hours.

#### 7.3.2 Noise

**Construction phase**

To ensure that the noise impact associated with the construction of the proposed dye house complies with noise criterion of 70 dBA at the nearest residential area, noise monitoring (Lₐₑqₐₗ, 1 hour) will be conducted once every two weeks during the construction period at the receiver point, located to the north of the Project site. Additional monitoring may also be undertaken at the site boundary if limits are exceeded.

**Operational phase**

During the operation of the dye house, noise monitoring (Lₐₑqₐₗ, 30 min) will be conducted during the day-time and night-time period at the nearest receiver once every seven days during the first
operating month (after the dye house has been fully commissioned) in order to confirm the compliance with the noise exposure limit at the nearest residential house and to determine if further noise control measures are required.

7.3.3 Solid wastes

Construction phase

Regular site inspection will be conducted to ensure that good construction practices are being employed. The environmental management team will inspect, for example, segregation of MSW, reuse of MSW on site and whether disposal of wastes are managed properly.

Operational phase

Regular waste audits will be undertaken to ensure that good operational practices are being employed with respect to solid waste management (e.g. good housekeeping, appropriate storage of MSW, etc). Recyclable wastes will also be monitored to make sure if recycling procedures are implemented.

7.3.4 Wastewater

Operational phase

Prior to any off-site discharge from the wastewater retention tank from the dye house, the effluent quality will be monitored for various key pollutants of concern in accordance with the effluent discharge permit requirements. Subject to permit from the Wastewater Management Authority, this will include monitoring of the parameters listed in Table 3.2 and compared with the required effluent discharge limits.

7.4 Environmental Reporting
The environmental engineer shall work closely with contractors and ascertain that all mitigation measures are identified in the EIA report and forming part of the works contract is observed. The engineer will report directly to the Project Manager and will also liaise with the Authorities and all concerned parties.

During the operational phase of the proposed project, the environment engineer shall be a member of the technical team and will be responsible for all environmental matters pertaining to the day-to-day operation of the dye house. The main responsibilities and duties of the engineer include:

- To assess the compliance of the operation of the dye house with standards and norms
- To monitor and evaluate the effectiveness of mitigation or control measures in achieving environmental protection
- To constitute and manage an environmental database for the plant
- To carry out and monitor environmental awareness within the plant personnel
- To establish and promote good relations with local communities (industrial, residential, etc) on matter pertaining to environmental protection
- To prepare and submit reports regularly to Top Management

7.5 Environmental Management Plan

In order to implement the requirements set out in this EMP, RT Knits Ltd has prepared a detailed Environmental Management Plan both for construction and operational phases of the Project as detailed in the Chapter 6 (Proposed Mitigation Measures). These will provide specific details on various aspects including management policies, roles and responsibilities, regulatory requirements, environmental control and mitigation measures, procedures, checklists for site monitoring and inspections, staff training, enquiry and complaint handling, emergency procedures, recordkeeping and performance reporting.
7.6 Environment enhancement

The proposed dye house is expected to enhance the existing site and its surroundings as it will undergo landscaping to provide a beautiful and attractive environment. Some measures to be implemented include:

7.6.1 Planting of trees

In order to enhance the aesthetics of the site, RT Knits Ltd undertake to plant ornamental trees and flowers within the premises and around the dye house to make it attractive. The construction of the building will take in consideration the aspect of the preservation of the natural beauty of the site, e.g. no trees will be felled as far as possible.

7.6.2 Infrastructure

The proponents of the project will provide all necessary infrastructural requirements for the construction and implementation of the dye house. Internal walkway network, parking areas, sewage network, rain water drainage system, internal domestic water supply, electricity supply, telecom systems, solid wastes collection and disposal and other needs will be provided. These developments will help to enhance the look and aesthetic of the proposed dye house and can be considered as a positive impact on the site.

7.6.3 Green spaces

The existing site has already ample green spaces and the promoters undertake to enhance the proposed surroundings of the dye house by growing grass that will be regularly mowed and cleaned.
7.6.4 Access and security

The proposed dye house will be located in the existing premises of RT Knits Ltd where security measures are already in place. The dye house will be easily accessed through a driveway wide enough that has been constructed according to required specifications to bear the traffic load to be generated by heavy vehicles. Speed warning and other hazard prevention signs will be placed to ensure security of drivers. Moreover, the road would be properly maintained at all times, thereby eliminating the problem of eyesores due to untidiness.