Proposed Terms of Reference for EIA studies

1. Introduction

M/s. Pannageshwar Sugar Mills Ltd. (PSML), At: Pangaon, Tal.: Renapur, Dist.: Latur, Maharashtra have planned to go for an establishment of 60 KLPD molasses based distillery in existing premises of 2000 TCD sugar factory.

2. Description of Project Site

Site selection for setting up a project is governed by some criteria which includes certain conditions. Same are proximity to sources, proximity to end users, and availability of infrastructure like land free of encumbrance, railway, road, power, water and manpower. Proposed site is well be connected by roads. Nearest town is Renapur which is at 9.85 Km from project site. Pangaon railway station is 2.53 Km.

Total plot area of PSML is about 103 Acres. The land has been marked in such manner that there will be no resettlement and forest diversion issues. Existing built-up area of PSML is 50.3 acre while proposed built-up area will be 7 acres. Existing green belt at PSML is 29.65 Acres (29% of total plot area). Proposed green belt will be 4.12 acre (4% of total plot area). Water for the project would be taken from water supply scheme of Rena River.

3. Proposed Terms of Reference

Purpose of Environmental Impact Assessment (EIA) is to determine as precisely as possible, within the present limits of knowledge and expertise, the likely environmental impacts of the proposed project. Objective would be to establish a clean unit whose waste, if any, can be recycled / reused to the maximum extent feasible. Feasibility of reuse and disposal of liquid and solid wastes generated from the project would be explored. As per the provision of "EIA Notification No. S. O. 1533 (E)" dated 14.09.2006; amended on 25.06.2014; the proposed project comes under Category – A.

Terms of Reference proposed for this EIA is as follows:

A. Project Description

- Summary of the project, project cost, project site location along with site map and details w.r.t various Industries in area.
- Details w.r.t promoters involved in the proposed project, their experience and expertise.
- Project would be coming up in grampanchayat on plots allocated through proper administrative procedure.
- Purpose and need of the project.
- List of products and raw material required.
- Details of manufacturing process.
- Plot layout plan along with detailed area break-up.
- End use of the products to be manufactured.

B. Description of the Environmental and Baseline Data Collection

- An area of 10 km radius around the proposed project site at centre would be chosen as study area.
- Baseline environmental quality within 10 km radius of the project site would be assessed based on secondary data collected from various sources supplemented by data generated at site. Baseline data would be generated by considering the following environmental components:

i. Land Environment:

Information on ecologically sensitive locations within the study area would be collected through field visits (Archaeological Monuments, Monuments of Cultural and Historical importance, Drinking Water sources, Water bodies, Places of Scenic Beauty, Biosphere reserves, National Park, Wildlife Sanctuaries, Migratory Corridors, Defense Installation and other Ecologically Sensitive Areas). Land use pattern of the area / block to be collected from revenue records. Various physiographic landforms as per Survey of India (SOI) map and satellite images would be provided.

ii. Meteorology:

Meteorological data for Wind Speed, Wind Direction, Relative Humidity and Ambient Temperature would be generated close to the site. Readings would be noted on hourly basis for one season. Historical met data from IMD would be obtained to assess the climatic trend.

iii. Ambient Air:

AAQ data of the study area would be generated by following the guidelines for ambient air quality monitoring by CPCB. The monitoring locations would be selected based on historical wind speed and direction data obtained from IMD and screen modeling. In accordance with various sources of Air Pollution, the Ambient Air Quality with respect to the study zone of 10 Km radius surrounding proposed site would be monitored. The ambient air quality would be monitored for eight Stations (Proposed Site, Upwind- two Location & Downwind –Two Locations, Cross – Wind - two Location and nearest habitat) in the study area for Parameters viz. PM_{10}, $PM_{2.5}$, SO_2, NO_x, & CO.

iv. Ambient Noise:

A preliminary reconnaissance survey would be undertaken to identify the major noise generating sources in the area. Noise generating sources would be identified with respect to the activities, viz. Industrial noise and Ambient Noise due to industries and traffic, which have impact on sensitive areas. For noise level monitoring, 8 locations in the study area would be selected. The study area of 10 Km radius with reference to proposed plant site would be covered for noise environment. The four zones viz. Residential, Commercial, Industrial, and Silence Zones would be considered for noise monitoring. Some of the major arterial roads would be covered to assess the noise due to traffic. Noise monitoring would be undertaken for 24 hours at each location.

- Assessment of background noise levels.
- Identification and monitoring the major noise sources of the existing activity.
- Impact of noise on the workers as well as on general population.

v. Water Quality:

Surface and Groundwater sampling location within the study area would be identified based on Drainage Pattern, Water Utilization and location of Bore Wells / Dug wells. Also, reconnaissance survey would be undertaken and monitoring locations would be finalized based on,

- Topomaps to identify major water bodies.
- Likely areas which represent baseline conditions.
- Satellite Images

Parameters recommended by CPCB / IS:10500 would be analyzed following the standard methods (APHA Procedure). Sampling would be done once during the study period. Eight locations for surface water monitoring while the eight locations would be considered for ground water monitoring would be selected from study area.

vi. Soil:

Soil samples would be collected from agriculture fields that are likely to be impacted from the project related air emissions, land disposal of wastewater and solid wastes. Soil quality analysis would be done for parameters like texture, moisture, organic matter, conductivity, pH, bulk density, water holding capacity and NPK values. Infiltration rate of soil samples collected from the dump yard site would be estimated. Sampling would be done once during the study period.

For studying soil profile of the region, eight locations would be selected to assess the existing soil conditions in and around the project area representing various land use conditions.

vii. Flora and Fauna:

Listing of flora and fauna would be carried out by referring to the published documents of Forest / Wildlife Department and observations recorded by the Scientists during the field visits.

C. Socio – Economic Data

Baseline information would be gathered and complied from secondary sources. These include Taluka Office, Collectorate, District Statistics Handbook (Census), Population Distribution, Occupational Pattern, Agriculture and Cropping Pattern, Educational Facility, Health Care Facilities, Literacy Rate, Infrastructure Facility, etc. would be collected. Demographic data would be compiled from the District Census Hand Book, 2011 for district Latur. Also, visit to nearby villages and survey would be conducted through questionnaire and personal interaction.

D. Impacts Identification and Mitigation Measures

- Quantification of air pollution load from the proposed project would be done. Potential environmental impacts would be assessed qualitatively and quantitatively. In case the ambient air quality of the surrounding area is predicted to be critical then additional strategies would be suggested as air pollution mitigation measures. As well as for the

water, soil, noise pollution and control of fugitive emissions proper mitigation measures would be suggested.

- Availability of water and impact on other users on account of water drawl for the proposed plant would be assessed using historical flow data of stream. Permission from competent authority to draw the required quantity of water would be obtained. 100% wastewater treatment and reuse option of the treated wastewater would be explored. Strategies would be suggested to ensure that the wastewater does not contaminate the environment.

Environmental Management Plan (EMP)

Environmental Management Plan would be drawn to maintain and enhance the environmental quality in and around the project area. In case the quality of the environment is expected to deteriorate beyond acceptable limits, additional strategies would be suggested. EMP would earmark specific staff, instruments and finances for routine environmental management as well as collection and examination of various environmental data. A post-project monitoring plan would be suggested to monitor the changes in the environmental quality after implementation of the project. All necessary administrative measures would be incorporated in the EMP to achieve the following objectives

Reduction of adverse environmental impacts

- Improvement of environmental quality of the surrounding area
- Waste minimization, reuse and resource recovery
- Waste segregation to make the treatment and disposal cost-effective
- Establish proper monitoring mechanism with adequate infrastructure

E. Risk Assessment

Risk assessment study would be undertaken and disaster management plan would be prepared to tackle any accident that may occur due to the proposed activity. Potential hazards that may arise out of storage / transportation of hazardous chemicals / materials or due to operation of various processes would be systematically identified using standard hazard identification procedures. Maximum credible accident scenarios would be considered for consequence analysis.

F. Occupational Health and Safety Program for the Project

Based on standard procedures prescribed by the National Safety Council and provisions mentioned in the Factories Act, Occupational Health and Safety aspects of the project would be identified.

G. Information on Rain Water Harvesting

Rainwater harvesting strategies within the project premises would be suggested as measure to augment the available groundwater resources of the area / block.

H. Green Belt Development Plan

Green Belt Development Plan would be prepared to enhance the aesthetic quality of the environment. The plan would also concentrate on measures that would be helpful in attenuating air and noise pollution levels from the project. CPCB guidelines would be followed to design the green belt. Indigenous species and those having long-term economic value would be considered for greenbelt development. 33% of the total plot would be reserved to design and develop the greenbelt, landscaping and greenery / gardens / lawns, etc.