

## EXECUTIVE SUMMARY

Draft

# Environment Impact Assessment Report

Expansion of Sugar Unit from 2500TCD to 6000 TCD

Of

Bhimashankar Sahakari Sakhar Karkhana Ltd.

Prepared For

**Bhimashankar Sahakari Sakhar Karkhana Ltd.,  
Dattatraynagar, A/P Pargon Via Awasari Bk.Tal:  
Ambegaon, Distt. Pune-41240 (Maharashtra)**



Prepared By

**MITCON Consultancy & Engineering Services Ltd., Pune  
Environment Management and Engineering Division**

## EXECUTIVE SUMMARY

### Introduction

Bhimashankar Sahakari Sakhar Karkhana Ltd a manufacturer of Sugar & Power located at Dattatray Nagar, Pargaon Taluka Ambegaon, Dist. Pune of Maharashtra State (India).

Bhimashankar Sahakari Sakhar Karkhana Ltd. has cane crushing capacity of 2500 TCD & 19 MW bagasse based cogeneration power plant. The existing 19 MW bagasse based cogeneration power plant has received environment clearance from SEIAA, Government of Maharashtra.

- The factory registration No. & date is PNA/AGN/PRG(A) S-47/1994 date 31.3.1994
- The factory industrial license, letter of intent & date from Sugar Directorate:-LI-167 (94) dated 22.3.1994

M/s Bhimashankar Sahakari Sakhar Karkhana Ltd is expanding their sugar plant at Dattatray Nagar, Pargaon Taluka Ambegaon, Dist. Pune from existing 2500 TCD to 6000TCD.

Terms of reference (TOR) has been approved for expansion from 2500TCD to 6000TCD sugar Unit in 134<sup>th</sup> State Level Expert Appraisal Committee (SEAC)-1 held on 5<sup>th</sup> , 6<sup>th</sup> & 7<sup>th</sup> October, 2016.

### Scope of the Study

MITCON Consultancy & Engineering Services Ltd., Pune has been entrusted the task of carrying out EIA/EMP studies in order to obtain regulatory clearances. The EIA studies were carried out for various environmental components so as to assess the anticipated adverse impacts due to the proposed facilities and to suggest suitable mitigation measures. As per the EIA notification dated 14<sup>th</sup> September 2006 of the Ministry of Environment & Forests (MoEF), New Delhi EIA report is prepared and additional TOR Suggested by SEAC –I, Mumbai.

### Nature and Size of the Project

- ❖ BSSKL is expanding their sugar plant from existing 2500 TCD capacity to 6000 TCD capacity.

- ❖ BSSKL has secured environmental clearance for the existing 19MW Cogeneration power plant vide letter no. **F. No. J-11011/1272/2007-IA II (I) dated 16/10/2008.**

## Project Location

The proposed project located at Dattatraynagar, A/P Pargon Via Awasan Bk. Tal: Ambegaon, Distt. Pune-41240 (Maharashtra) which is about 20 km from town Manchar and Pune railway station 85 km.

## Salient Features of the Project & Cost

### Salient Features of the Project Site

Sr. No.	Particulars	Details
1	Land	Already acquired and developed for industrial use
2		Flat
3	Plot Area	88 Acre
4	Industrial Activity Area	18 Acre
5	Expansion Cogen Area	-
6	Green Belt Area	9 Acre
7	Water Supply	Ghod river(2.0 KM)
8	Power Supply	MSETCL substation at Kathapur (4.0 Km Away)
9	Railway Station	Pune 85 km
10	Road	NH 50 -16.75 km
11	Nearest Town	Machar- 15 km
12	Availability of Raw Material	Rich Cultivated area for Sugarcane
13	Market	Sugar- Domestic Market, Power will export to MSEDCL
14	Manpower	Easily available from nearby villages

Project Highlights: The project highlights have been given below:

### Project Highlights

Name and Address of sugar factory	:	Bhimashankar Sahakari Sakhar Karkhana Ltd., Dattatray Nagar, Pargaon Taluka Ambegaon, Dist. Pune- 412406 (Maharashtra), INDIA Office no : 02133-284231/32/41/46 E-Mail – <a href="mailto:bssklt@gmail.com">bssklt@gmail.com</a>
Existing capacity – Sugar, TCD	:	2500 TCD
Proposed capacity – Sugar, TCD	:	6000 TCD
Existing capacity – Cogen, MW	:	19 MW
Proposed capacity – Cogen, MW	:	-

### Project Cost: (Rs. In lakh)

Major Heads	Total
Land & Site development	NIL
Building & Civil works	NIL
Plant & Machinery with foundations	7500.00
Miscellaneous fixed assets	NIL
Interest during construction period, Insurance & Bank charges	540.00
Stores & spares	20.00
Provision for contingencies	140.00
<b>Total</b>	<b>8200.00</b>

### Project Description in Brief

No.	Features	Description			
1.	Plot Area	88 Acre			
2.	Industrial Activity Area	18 Acre			
3.	Expansion Sugar	2500-6000			
4.	Green Belt Area	9 Acre			
5.	Project Configuration	Unit Specification		Capacity	
		Sugar Expansion <i>i.e. 2500 to 6000 TCD</i>		Existing : 2500 TCD Proposed : 3500 TCD	
		Existing Cogen Power <i>i.e. 19 MW</i>		Existing : 19 MW Proposed : -	
6.	Operational Days	Season : 160 Days      Off Season: 120 Days			
7.	Power Evacuation Line	MSETCL substation at Kathapur (4.0 Km Away)			
8	Products	White Crystal Sugar Existing: 46000MT/annum Expansion; 69000MT/Annum			
8.	Power Scheme	<b>Period</b>	<b>Generation</b>	<b>Consumption</b>	<b>Export</b>
		Season	19 MW	7 MW	12 MW
		Off-Season	5 MW	-	5 MW
9.	Capital Cost	Expansion Sugar Factory      8200.00 Lakh			

## Basic Requirement of the Project

**Land Requirement:** This is an existing operating sugar plant and adequate land is available within the premises for locating the expansion unit.

**Fuel Requirement:** The main fuel for sugar unit is sugarcane & fuel for the proposed co-gen power project is Bagasse. The details are given below.

**Table No. 2.6 Material Requirement /Material Balance**

Sr. No.	Raw Material	Product	Byproduct / Waste Product	Quantity		
				Existing	Proposed	Total
1	Sugarcane 10.80 Lakh/ MT / season	White Crystal Sugar	Bagasse Molasses Press mud	104000 16000 16000	249600 38400 38400	353600 54400 54400
2	Bagasse	Season : 19 MW Off- Season : 5 MW	Ash : 2 %	Bagasse =1560 MT		1540

## Water Requirement and its Source

### Water Requirement and its Source

Water required for the sugar complex is made available from Ghod River at a distance of 2 kms from the site location, which ensures the excellent water availability throughout the year

The sugar factory presently has the agreement with the irrigation department for 0.288 million m<sup>3</sup>/year. The water requirement of the Power plant can be met by enhancing the existing sanction. Also, the actual needs will decrease, as the existing boilers will not be operated and make-up for the sugar mill spray pond can be given from the treated discharges of the Power plant.

Sr No	Existing M3/day	Expansion M3/day	Total M3/day
Sugar Unit	335	285	620

Co-generation Power	900	-	900
<b>Total</b>	<b>1235</b>	<b>285</b>	<b>1520</b>

## Description of the Environment

The baseline status of environmental quality

**Study Period:** The studies were conducted during October to December 2016

**Study Area:** The study area for monitoring of environmental quality includes 10 km region around the project site. Site area covers the 10 KM radial study area in Survey of India (SOI) Toposheet Nos. (47 F/13, 47 I/4 and 47 J/1).

### Environmental Setting (10 km radius)

Particulars	Details
Latitude	18°58'30.35"N
Longitude	74° 5'30.13"E
Site Address	M/s Bhimashankar Sahakari Sakhar Karkhana Ltd, A/P Pargaon Via Awasari Bk., Tal. Ambegaon, Dist. Pune 412406 Maharashtra
No. of villages in the study area	34
Total Population	90771
Nearest Habitation	Pargaon Shingave (NW):1.09 Km Pargaon Tarf Awasari (W):1.95 Km Kathapur Bk.(S):1.85 Km Kathapur (E):2.70Km
Nearest River /Water Body	Ghod River : 2.0 km
Nearest IMD Observatory	Pune 85 km
Nearest Town	Manchar 5 km
Nearest Railway Line	Pune 85 Km
Nearest Air Port	Pune 85 Km
Approach to site by Road	NH 50 (Pune Nashik)
Religious / Historical Place	None
Archaeological monuments	None

Particulars	Details
Ecological Sensitive Area/	None
Seismic Zone	III

### Monthly Metrological Data during Study Period

Sr. No.	Particulars	Details	
1	Monitoring Period	October 2016 –December 2016	
2	Temperature( <sup>0</sup> C)	Min	October : 12.6
			November : 11.5
			December : 10.2
		Max	October : 33.9
			November : 33.0
			December : 33.8
3	Avg. Wind Speed (m/s)	October : 1.20	
		November : 1.24	
		December : 1.22	
4	Wind Direction	October : NE	
		November : NE	
		December : NE	
5	Relative Humidity (%)	October : 68	
		November : 65	
		December : 58	
6	Rainfall	None	

**Air Environment:** Ambient air quality of the study area has been assessed during winter period of October to December 2016 through a network of eight ambient air quality stations within an area of 10 km region around the project site

The concentrations of PM<sub>10</sub> PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> were found within the National Ambient Air Quality Standards (NAAQ).

**Noise Environment:** The minimum noise level 40 dB (A) and the maximum noise level 64 dB (A) were observed in day time. The relative high values of noise recorded in factory premises and suburban areas were primarily due to vehicular traffic and other activities.



## Water Environment

- ❖ pH of the surface water sample shows 7.5 to 8.27 whereas ground water shows ranges from 7.57 to 8.12
- ❖ Hardness of the ground water is high as compared to the surface water. Hardness of ground water shows these values in between 123 to 581 mg/lit.
- ❖ Total Dissolved Solids ranges from 310 to 1130 mg/lit.
- ❖ Chloride concentration of the sample is between 39.7 to 213.41 mg/lit.

## Soil Environment

- pH of soil samples in range of 7.64 -8.52
- Conductivity of the samples is in between 196 to 298  $\mu\text{mho/cm}$ .
- Heavy metals like Copper, Cadmium, Lead, Boron, Chromium, Manganese, and Molybdenum are not detected in all the samples.
- Overall it is observed that the soils of the region are good for agriculture

**Socio-Economic Environment:** The 10 km of study area includes 34 Villages. According to the 2011 Census of India estimate, the population of the Study area is 90771 living in 19006 Households. The population comprises of 45916 Male (51%) and 44855 Female (48%).

In the study area about, SC contribute 9 % and ST 9 % population respectively.

The literacy rate of study area is 72 % which is lower than literacy rate for Pune district ie.80.45%.

The occupational pattern of area shows that the percentage of main + marginal and non workers is 58 % and 42 % respectively. The main workers comprise majority of cultivators followed by agricultural labour, other workers, and household labours.

## Ecology and Biodiversity:

The study reveals that the vegetation was arid to semiarid and dry deciduous, thorny scrub type. Total 122 tree species recorded & no endangered species of flora is reported

in the study area. The most abundant species are *Azadirachta indica* Linn. *Acacia nilotica* (L) Willd, *Ziziphus mauritiana* Lamk, and *Prosopis juliflora* (SW.) etc.

Six species of Mammals 9 species of Amphibian & Reptiles & 36 species of birds were recorded in and around the periphery of the project during the study period. Animals, which are found within the project area and categorized under schedule I to Schedule IV of Wild Life Protection Act 1972 & subsequent amendment along with IUCN status respectively and are strictly protected.

The majority of bird species found would be least impacted because their habitat requirements are too general and will be met easily from the adjoining areas

### Land Use Land Cover:

**Table No. 10.9 Land Use Land Cover Statistics of the Study Area**

Classes	Area in Sq. Km	Area in %
Builtup Area	86.0	27.4
Vegetation	35.5	11.3
Agriculture	62.4	19.9
Waste land	0.5	0.16
Waterbody	3.3	1.0
Open Scrub Land	127.0	40.4
Total Area	314.7	100

### Anticipated Environmental Impacts & Mitigation Measure

Prediction of impacts depends on the nature and size of activity being undertaken and also on the type of pollution control measures that are envisaged as part of the project proposal. However, the good management practices would be followed to ensure that the environmental pollutants concentrations remain within the limits. The proposed plant may cause impact on the surrounding environment in two phases.

- ❖ During construction phase
- ❖ During Operation phase

Mitigations of these likely impacts are described in the following sub-sections.

### **Impact on Air Quality and Management**

Increase in PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, levels due to construction activities and movement of vehicles. The dust generated will be fugitive in nature, which can be controlled by sprinkling of water. The impacts will be localized in nature and the areas outside the project boundary are not likely to have any major adverse impact with respect to ambient air quality.

### **Impact on Noise Levels and Management**

The impact of noise due to construction activities are insignificant, reversible and localized in nature and mainly confined to the day hours.

All rotating items shall be well lubricated and provided with enclosures as far as possible to reduce noise transmission. In general, noise generating items such as generators, fans, blowers, compressors, pumps, motors etc. are so specified as to limit their speeds and reduce noise levels. Operators will be provided with necessary safety and protection equipment such as ear plugs, ear muffs etc.

### **Impact on Water Quality & Management**

During construction, water will be required for construction activities, sprinkling on pavements for dust suppression and domestic & non domestic usages. The impact on water environment during construction phase is likely to be short term and insignificant.

The acid and alkali effluents generated during the regeneration process of the ion-exchangers would be drained into an epoxy lined underground neutralizing pit. The wastewater generated would be 536 m<sup>3</sup>/day.

### **Solid Waste**

During construction phase solid waste envisaged chemical wastes, used oil, waste lubricants, paints, maintenance-related wastes, used air and liquid filtration media, and empty or nearly empty chemical containers, most of these materials will be disposed off by authorized vendor/ incineration. While others will be sold in the market through a

contractor, keeping record of them and informing the contractor of their hazards and rational use. Generation of solid waste during this phase shall be controlled by mitigation measures and impact will be insignificant.

During operation phase ash will be generated, the same will be Sell to brick and cement manufacturing unit

ETP Sludge Used for land filling & fertilizer for gardening in own factory premises

### **Biological Environment**

Most of the impact of the proposed project on biodiversity is secondary effects from environmental pollution, such as discharge of effluent into water body. Proposed expansion project generate effluent that can cause pollution when discharge. Soil can be negatively affected by poorly managed application of wastes (by- products) from sugar processing. However, waste can be used a beneficial soil amendments, if properly applied. The air emissions from chimney & vehicular pollution will affect the vegetation.

### **Social Aspects**

The requirement of direct manpower for Power & additional manpower for sugar has been estimated based on the equipment / facilities to be operated in each section of the project. Total manpower requirement has been estimated at 80. Apart from this, all associated projects for efficiency improvement, fuel collection, storage, substitution, etc. will give potential for employment in the rural masses, adjoining the sugar factory location and improve their economic status

### **Environmental Monitoring Programme**

The environment, safety and health-monitoring programme in the factory shall be implemented as follows:

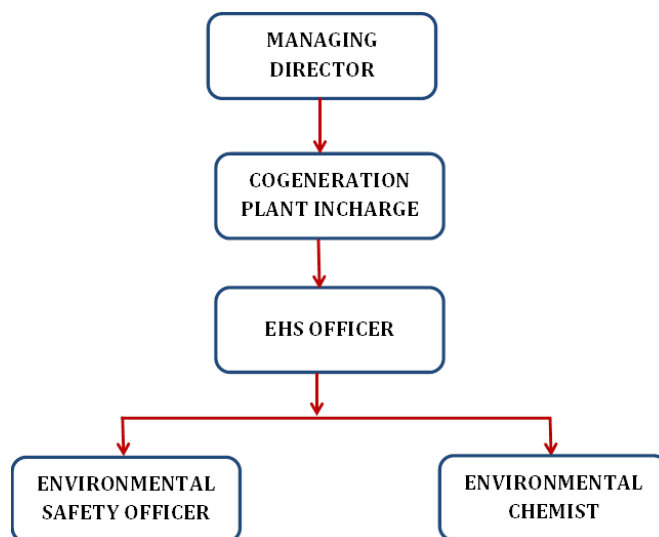
- ❖ Regular monitoring of stack emissions
- ❖ Daily monitoring of water and wastewater
- ❖ Quality monitoring of ambient air, noise and work place air
- ❖ Monitoring of occupational safety

The project management, being aware and conscious of its responsibilities to environment, is committed that the project operations will be made keeping in line with the internationally accepted sustainable measures/practices and methods thus leaving negligible adverse impacts on any segment of environment due to proposed activity.

### **Environmental Management Plan / Environment Management Costs**

Environmental Management Plan includes the protection, mitigation and environmental enhancement measures to be implemented to nullify the adverse impact on the environment. While implementing the project BSSKL will follow guidelines specified by CPCB under the Corporate Responsibility for Environmental Protection (CREP) for co-gen power plant. The EMP operation/implementation will be the responsibility of the “EHS Officer”, who will be coordinating, arranging the collection and reporting of the results of all emissions, ambient air quality, noise and water quality monitoring.

Environmental Management Cell will be established, which will be supervised and controlled by an independent Plant Manager supported by a team of technically qualified personnel apart from other operating staff



### **Environmental Management during Construction Phase**

The construction activities of the proposed unit will increase in dust concentrations and fugitive emission due to vehicles movement. Frequent water sprinkling in the vicinity of

the construction sites will be undertaken. The following control measures are recommended to mitigate the probable adverse impacts:

- During construction phase M/s BSSL will be taken care to provide all necessary facilities to construction workers such as water supply, sanitary facilities, temporary housing, sewage treatment facilities, drainage facilities and domestic fuels
- Vehicles transporting loose construction material (clay, sand etc.) to be covered with tarpaulins.
- During construction periods with abnormal wind speeds, in particular during dry weather conditions, workers on the construction site should be provided with adequate inhalation and eyes protection gears. In case particulates in air hamper a clear view over the site completely, so that safety is impaired, the construction should be interrupted until weather conditions improve.
- Necessary care will be taken as per the safety norms for the storage of the petroleum products (Diesel, Petrol, Kerosene etc).
- It will be ensured that both gasoline and diesel powered vehicles are properly maintained to comply to the exhaust emission standards.
- Contractor will supervise the safe working of their employees.
- Barricades and fences are provided around the construction area personnel protective equipment's e.g. safety helmet, goggles, gumshoes, etc. will be provided to the workers.
- Accidental spill of oils from construction equipment and storage sites will be prevented.
- Though the effect of noise on the nearby inhabitants due to construction activity will be negligible, noise prone activities will be restricted to the day time.
- As soon as construction is over, surplus of excavated material will be utilized to fill up low lying areas and all surfaces will be reinstated.
- Routing and scheduling construction trucks to reduce delays to traffic during peak travel times would reduce secondary air quality impacts caused by a reduction in traffic speeds while waiting for construction trucks
- M/s BSSKL will give preference to local eligible people through both direct and indirect employment.

- Tree plantation will be undertaken during the construction phase for strengthen the existing green belt so that air pollution will be nullify in operation phase of the project.
- Educational needs of the region will be improved by encouraging the workers to allow their children to attend school.

## **Environmental Management during Construction Phase**

### **Air Environment**

The major pollutants from existing & proposed activity are PM<sub>10</sub> & PM<sub>2.5</sub> Sulphur Dioxide and Oxides of Nitrogen.

#### **Stack Emissions:**

- No new boiler or additional capacity TG set shall be proposed by utilizing the 1 No. 37 TPH capacity boiler working pressure 45 Kg/cm<sup>2</sup> g and 1 no. 87 TPH Boiler working pressure 87 Kg//cm<sup>2</sup> g.
- ❖ Arresting air emission from existing 80TPH boiler ESP with 99.89 % efficiency and 72 mtrs stack height is provided to attenuation of air pollution and for 37TPH boiler Wet Scrubber working with 80 % Efficiency and Boiler Stack – height -60 mtrs is provided. On line Continuous Monitoring system is installed and connect to Pollution control board as per CPCB guidelines

### **Noise Environment**

- ❖ All rotating items will be well lubricated and provided with enclosures as far as possible to reduce noise transmission. Vibration isolators will be provided to reduce vibration and noise wherever possible
- ❖ Manufacturers and suppliers of machine/equipment like compressors, STG turbines and generators will be manufactured as per OHSAS/MoEF guidelines.
- ❖ The personnel safety such as ear muffs, ear plugs and industrial helmets will also act as a noise reducers

## Water Environment

- ❖ Raw water will be drawn from Ghod River through required sized pipeline.
- ❖ The raw water received will be stored in RCC / stone masonry reservoir
- ❖ Water from the reservoir will be used for sugar plant and cogen power plant, colony, sanitary block, firefighting purposes. Besides there will be number of bore wells dug in the factory area to augment water for other miscellaneous requirements.
- ❖ Raw water will pass through pretreatment plant, consisting of clarifier (with clarifloculator) having alum, polyelectrolyte and chlorine dosing system, sludge settling tank. The treated water is stored in clarified water storage tank (underground RCC tank).
- ❖ Part of this treated water is directly pumped to sugar plant reservoir for the plant use, and balance one part is treated further in Multi grade filters. This filtered water is treated further in DM Plant consisting of ultrafiltration, Reverse osmosis and mixed bed ionization process to produce De mineralized Boiler steam grade water to be used in High Pressure Boiler as feed water make up.
- ❖ Another part from Multi-grade filter is treated in softener for using the water in cooling tower as make up water.
- ❖ DM water is stored in Mild steel Rubber Lined storage tanks and soft water is stored in epoxy coated mild steel tanks.
- ❖ Exhaust condensate will be received from sugar plant directly into the feed water tank after testing for the quality. Online conductivity and pH meter directly activating the motorized dump valve is installed on the sugar plant condensate line
- ❖ The feed water tank will receive both DM water and exhaust condensate and the level is constantly maintained.
- ❖ Backwash water and Regeneration water from the water treatment plant will be neutralized in neutralizing pit and discharged to effluent treatment plant.



- ❖ The clarified sludge from the sludge tank is pumped to sludge drying bed.
- ❖ Blow down water from Boiler will be sent to ETP after cooling to ambient temperature. Flash from CBD tank will be fed to deaerator.
- ❖ ETP plant will be provided with surface aeration, and other facilities to treat both sugar plant and cogen plant effluent to the standards prescribed by the Maharashtra State Pollution Control Board.
- ❖ The treated effluent will be used for irrigation in own farms.
- ❖ Overflow from Ash Handling System is stored in a settling tank, which is treated with alum and lime and the overflow of this water is used for ash handling systems or gardening within the factory area.

### **Ecology and Biodiversity:**

Following activities needs to be paid attention to:

- ❖ Construction activities needs to be restricted to day hours only and the movements of workers and vehicles should be completely banned during early morning and late evening when wildlife activities are at peak.
- ❖ Strict instructions to the workers and contactors need to be given on ban on hunting of any faunal species and cutting of vegetation.
- ❖ Animals, which are found within the project area and categorized under schedule I to Schedule IV of Wild Life Protection Act 1972, are strictly protected and there is a complete ban on their exploitation for any purpose. Care should be taken not to disturb their habitats.
- ❖ In addition, do the awareness program among the school children & local community about the ecology & biodiversity.
- ❖ Proper management of waste material.

**Green Belt Development Plan :** Creation of green belt development using local species along the approach road, inside campus, open space, near ETP Plant etc. will help for the aesthetic development of the area with sound ecological management

### **Occupational Health and safety:**

All precautionary methods will be adopted by the company to reduce the risk of exposure of employees to occupational safety and health hazards.

Pre & post medical check-ups will be done of all the employees. Employees will be regularly examined and the medical records will be maintained for each employee. Pulmonary function test and periodical medical checkup shall be done once in every year. The following tests shall be conducted for each worker.

- ❖ Lung Function Test
- ❖ Radiology – X-ray
- ❖ Pulmonary Function Test
- ❖ Audiometric Test
- ❖ General clinical examination with emphasis on respiratory system
- ❖ Pre-employment examinations

### **Fire Fighting**

The different types of fire protection / detection system envisaged for the entire project are given below.

- ❖ Hydrant System for entire area of power plant.
- ❖ High Velocity Water Spray System (HVWS) for Generator Transformer (GT), Unit Auxiliary transformer (UAT), Station Transformer (ST), and turbine lube oil canal pipe lines in main plant, Boiler burner front, diesel oil tank of DG set, main lube oil tank, clean and dirty lube oil tanks.
- ❖ Medium Velocity Water spray system – Cable gallery / Cable spreader room, bagasse conveyors, Transfer points and F.O. pumping station and F.O. tanks.
- ❖ Foam system for Fuel oil tanks.
- ❖ Portable and mobile fire extinguishers for entire plant.

- ❖ Fire tenders (minimum 2 nos.).
- ❖ Inert Gas System for Central Control Room, Control Equipment Room, Computer Room and UPS Room in the TG building.
- ❖ **Fixed Foam System:** This system is provided for LDO and HFO storage tanks. The water for the foam system will be tapped from the Hydrant system.
- ❖ **Inert gas system:** Inert gas system will automatically detect and suppress fire within a protected area. The system will be a total flooding fire suppression system with automatic detection and/or manual release capability. Complete system design will be in accordance with NFPA. The inert gas system will be generally provided above false and below false ceiling of Central Control room, UPS Room, Control equipment room and Computer room.

### Budgetary Provision for Environmental management plan

- ❖ The Capital Cost of Sugar expansion is Rs. 8200.00 Lakh

Sr. No.	Particulars	Amount in INR, Lakhs
<b>One Time Installation Cost (Capital Cost)</b>		
1	Noise Control System	15
2	Green Belt Development	10
3	Environment Monitoring and Management	20
4	Water Pollution Control System - ETP	50
5	Occupational Health & Safety	10
	<b>Total</b>	<b>105</b>
<b>Recurring Cost</b>		
1	Environmental Monitoring /APH Maintenance	10
2	General Maintenance of ETP	10
3	Greenbelt maintenance	2
4	Noise Pollution Control	2
5	Occupational Health	3
6	Environmental Management	5
	<b>Total</b>	<b>32</b>