

## **EXECUTIVE SUMMARY**

### **Draft Environment Impact Assessment Report**

**Expansion of Sugar Mill from 4900 TCD to 7500 TCD, Proposed of 30 MW  
Cogeneration and 60 KLPD Molasses based Distillery Unit at Jategaon (Bk),  
Taluka-Shirur, District Pune, Maharashtra**



**Project Proponent**



**Venkateshkrupa Sugar Mills Limited, Jategaon (Bk),**

**Taluka-Shirur, District Pune,**

**Maharashtra**

## EXECUTIVE SUMMARY

### 1.0 Introduction

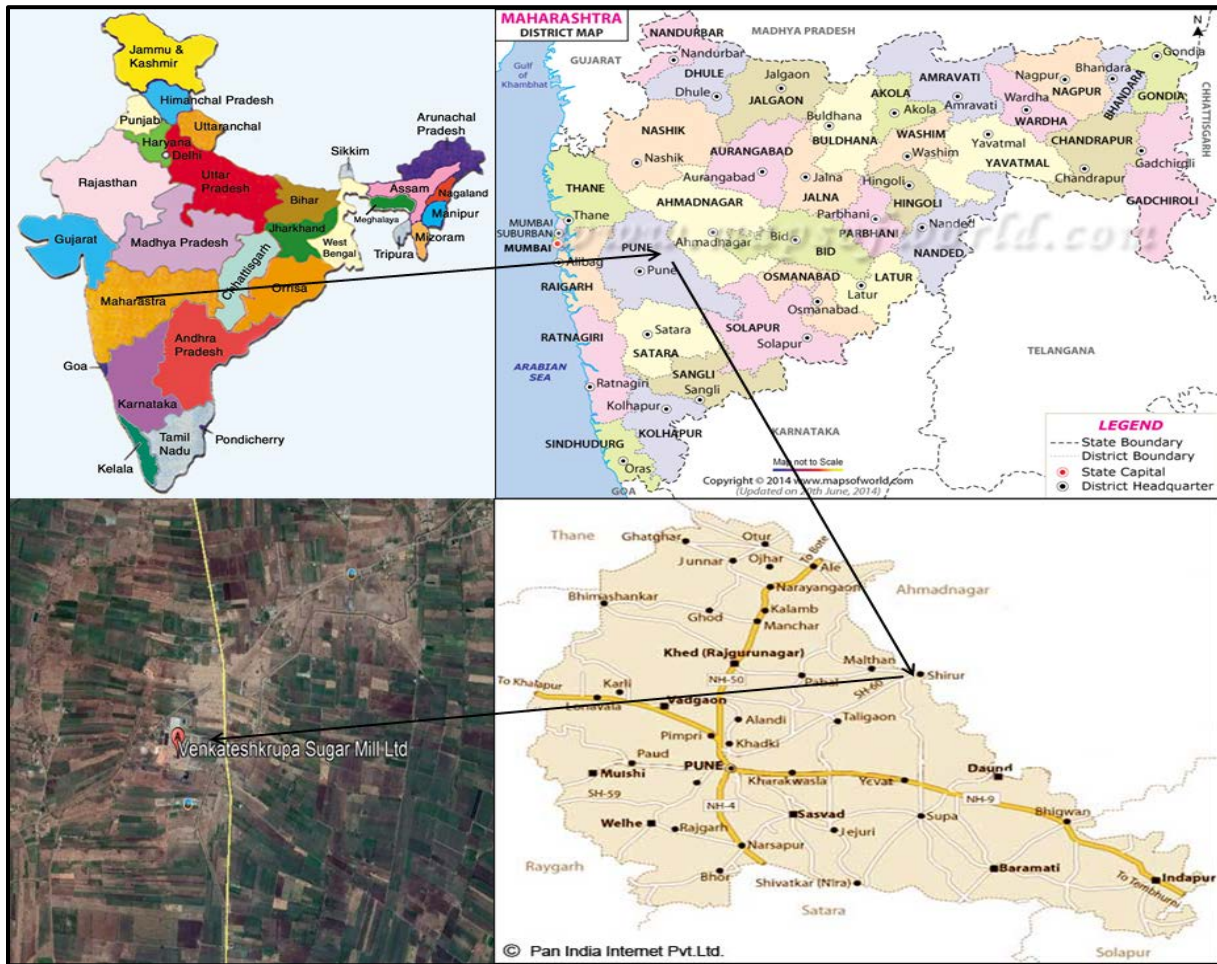
Venkateshkrupa Sugar Mills Ltd. (VSML) is registered in the State of Maharashtra under the Companies Act, 1956 on 20<sup>th</sup> September, 2001 vide registration No U15421PN2001PLC016453. VSML is an existing private sugar factory located at Gat No. 204, 205, 206, 229,220, 226, Village Jategaon (Bk), Tal - Shirur, Dist. - Pune, Maharashtra accompanying area of 48 Acres. The Geographical Location of this Industry is at Latitude 18<sup>0</sup>44'11.82" N & Longitude 74<sup>0</sup>08'10.26" E with an elevation of 606 M (1984 ft) above mean sea level (MSL).

As per EIA Notification 2006 and its amendment of the Ministry of Environment Forests and Climate Change, Govt. of India (MoEF&CC) proposes project is expansion and installation of Sugar, Co-Gen and Distillery unit. Accordingly, the project proponent has submitted prescribed application along with pre-feasibility report to the EAC, Industry –II, MOEF & CC on dated 28<sup>th</sup> Sep 2018. Standard Terms of Reference was granted by EAC, Industry –II on 3<sup>rd</sup> November 2018 vide letter No.IA-J-11011/282/2018-IA-II (I) dated 3<sup>rd</sup> November 2018). Details of existing capacity and proposed expansion is given table below

**Table 1: Existing and proposed expansion cum modernization of VSML**

Projects Units	Category	Units	Existing Capacity	Proposed Capacity	Total
Distillery	5 (g)	KLPD	-	60	60
Co-Gen Power	1 (d)	MW	-	30	30
Sugar Unit	5 (j)	TCD	4,900	2600	7,500

**2 Location of the Project:** M/s Venkateshkrupa sugar Mills Ltd. located at Gat No. 204, 205, 206, 229,220, 226, Village Jategaon (Bk), Tal - Shirur, Dist. - Pune, Maharashtra. The area is 48.41 Acres. The Geographical Location of this Industry is at 18<sup>0</sup>44'11.82" N Latitude & Longitude 74<sup>0</sup>08'10.26" E Longitude with an elevation of 606 M (1984 ft) above Mean Sea level (MSL)



**Figure 1: Project Location**

### 3 Manufacturing processes

#### Sugar manufacturing process:

- Crushing of Sugarcane
- Juice Clarification
- Crystallization
- Centrifugation
- Drying Grading
- Packing

**Cogeneration unit:**

Combustion of Baggase in boilers for steam and electricity generation is carried out in Cogeneration plant. The overall efficiency of energy use in cogeneration mode can be up to 85 %.

**Distillery Plant:**

Molasses is the chief raw material used for production of alcohol. Molasses contains about 50% total sugars, of which 30 to 33% are cane sugar and the rest are reducing sugar. During the fermentation, yeast strains to the species *Saccharomyces Cerevisiae*, a living microorganism belonging to class fungi converts sugar present in the molasses such as sucrose or glucose in to alcohol.

**4 Basic Requirements for the project****4.1 Raw materials****Availability of Sugarcane:**

The area of operation of Venkateshkrupa Sugar Mills Ltd. comprises of 86 villages from Shirur Tehsil, Haveli Tehsil and Rajgurunagar Tehsil of Pune district.

Sugar cane is raw material for the sugar unit. Existing capacity of sugar unit is 4900TCD.

Raw material requirement: Existing: 735000 MT & Expansion: 390000 MT

Total raw material requirement will be 1125000 MT

**Bagasse requirement:**

The bagasse available as fuel for co gen plant from 7500 TCD will be 2,97,450 MT per annum. The bagasse required during crushing season of 150 days for sugar and co gen plant will be 1,74,240 MT. For incineration boiler of distillery, bagasse required will be 28800 MT /annum. The balance bagasse of 94410 MT will be available for co gen unit in off season.

**Distillery plant:****Table 3: Raw materials requirement for Molasses based Distillery (60 KLPD)**

Raw Material	Unit	Quantity
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Molasses (FS – 42%)	TPD	238
	TPA	71400
Molasses required for 240 days (80% capacity for 1 <sup>st</sup> year)	Tons	57120
Own Molasses	Tons	40320
Molasses from outside	Tons	16800
Nutrient	Kg/day	120
Biocide	PPM	20
TRO	Kg/day	160
Sulphur	Kg/day	120

#### 4.2 Land Requirement

Total land 48.41 acre is in possession of Venkateshkrupa Sugar Mills Ltd. No additional will be required for expansion of sugar, proposed cogeneration & distillery unit.

Sr No	Particulars	Land in m <sup>2</sup>
1	Sugar Unit	30000
2	Cogeneration unit	10120
3	Distillery Unit	51008
4	Roads	14354
5	Parking	16972.60
6	Storages ( Molasses, Bagasse, sugar godowns, etc)	8816
7	Green Belt	64656
<b>Total Plot area</b>		<b>195926.60</b>

#### 4.3 Water requirement

The total water required for the proposed sugar, Cogeneration & Distillery will be 1590.70 CMD

Source of Water– from Chaskaman canal

#### **4.4 Power requirement:**

Power consumption for the existing sugar factory (4900 TCD) & existing Boiler units is 4.67 MW. Power consumption for 7500 TCD after expansion and TG set (30MW) during season is 11.25 MW

Power consumption for proposed distillery unit- Power consumption for 60 KLPD Distillery unit(835Kwh) & 19 TPH, 45 bar(g) and 400 C incineration boiler (300 Kwh) as 1135 Kwh.

Power requirement will be fulfilled from own power generation plant. Moreover, electricity will be available from State Electricity Board in emergency

#### **4.5 Man power requirement**

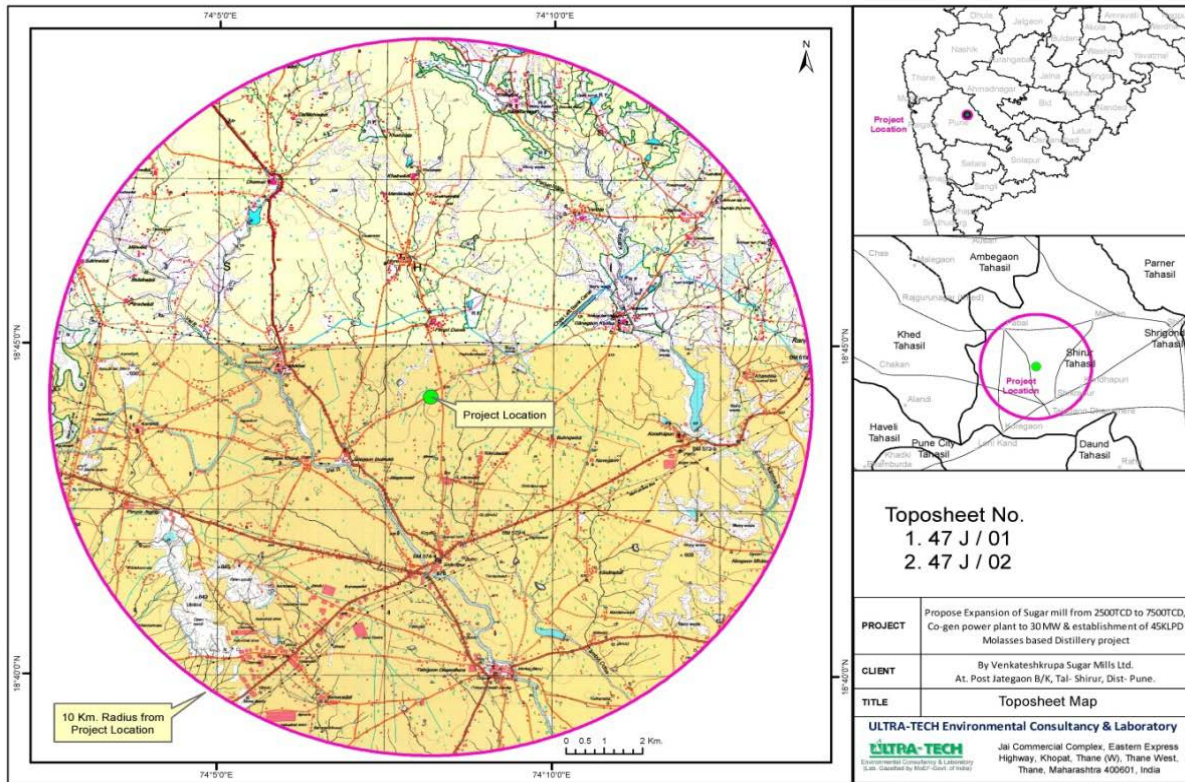
- Total Manpower = 315 Nos.
- For Existing Unit – 236 Nos.
- For Cogen Unit- 15
- For Proposed distillery Unit - 64 Nos. Out of which 39 shall be skilled staff and rest shall be unskilled staff.

#### **5.0 Baseline Environment studies**

To understand the present status of the environment near project site, Baseline Monitoring was schedule during period October 2018 to December 2018. Environmental parameters such as Ambient Air, Ambient Noise, Soil quality, Water Quality, Ecological study, Socio Economic survey were examined priory for the Impact Mitigation study. As per 2011 census data, about 122072 populations is recorded in the project site. It is necessary to evaluate the impacts of the project activities, so that the surrounding area and communities are as far as feasible, insulated from the negative impacts. The primary study area is considered to be within 10 km radius of the project site for baseline environment monitoring.

Topographical sheet (SOI) scale 1:50000 No. 47 J / 01 and 47 J / 02 were studied for spatial features, ground control points, latitude, longitude and geo-registration of the satellite imageries





**Figure 3: Toposheet covering 10km study area**

### 5.1 Meteorological data:

Meteorological data was collected from IMD Pune station for the month of October, November and December 2018. From the above data record we can say that average minimum temperature recorded is 17°C while maximum temperature was recorded to be 33°C.

Average Relative Humidity was found to be in range between 54 % to 48 % for three months.

Baseline monitoring was carried during the October 2018 to December 2018. Following Environmental parameters were monitored to understand baseline status

### 5.2 Ambient Air Quality:

Ambient Air Quality monitoring was carried out at nine locations within 10 km radius. From the analysis results it can be depicted that concentration of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub> and SO<sub>2</sub> are within the permissible limit prescribed by CPCB.

### 5.3 Ambient Noise quality

Noise monitoring was carried out with respect to Noise zone classification. From the monitoring results it can be depicted that noise levels are within prescribed limits.

## **5.4 Water Environment**

### **Ground water quality**

To understand the Groundwater quality status, sampling was done at 8 different locations within 10 km radius. From the obtained results it can be depicted concentration of TDS, pH and Total Hardness that at location (GW-2) Near Hotel Shambhavi at Kondhapuri village, (GW-3) Near Shree Kalbhairavnath Madhyamik Vidhyalay at Shikrapur and (GW-5) Near Kashi Ai Mandir at Mukai Village are within the prescribed limits and hence the water quality is applicable for drinking purpose.

### **Surface Water quality**

Surface water sampling was done at 4 different locations Canal Water, Kondhapuri Lake, Vel river up stream and down stream. To understand the water quality status obtained results were compared with CPCB surface water standards. It can be depicted that (SW-1) Canal water near Pimple Khalsa can be classified into class-A which means water quality is applicable for drinking purpose without conventional treatment but after disinfection while at other three i.e. Vel river upstream and downstream, Kondhapuri lake water quality can be classified in to class C which means drinking water after conventional treatment and disinfection.

## **5.5 Ecological status of the study area**

Ten km radius area from the project site does not contain any forest area, while most of the area is dry, open, grassland & agricultural field. Based on field survey primary data were generated by preparing a general checklist of the plants encountered in this area. The study shows overall 70 plant species comprising of 40 trees, 3 Palms, 12 shrubs, 8 herbs, 5 grasses and 3 climbers from 64 genera and 45 families (Table 3.8) (floristic survey reveals that the study area is having dominance of trees viz. *Acacia nilotica*, *Cassia auriculata*, *Azadirachta indica*, *Ziziphus mauritiana*, *Cocos nucifera* etc. certain shrubs viz., *Calatropis sp.*, *Hibiscus sp.*, *Lantana camara* & *Psidium guajava* and herbs like *Alternanthera sessilis*, *Argemone Mexicana*, *Ageratum conyzoides* & *Cassia tora*. (Table 3.8), were most common within study area.

## **5.6 Socio Economic status**



Socio economic survey was carried out during December 2018. The study area is witnessing a rapid growth in its population beginning from last decade due to rapid urbanization and industrialization.

While dealing study area (10 Km radius from project site) as per secondary data (Population Census 2011) the total population is 122072 in 26677 households. Male population is 64190 and female population is 57882. Highest population in study area is in Shikrapur village (19374).

## 6 Environment Management Plan

The Environmental Management Plan (EMP) provides an essential link between predicted impacts and mitigation measures during implementation and operational activities. EMP outlines the mitigation, monitoring and institutional measures to be taken during project implementation and operation to avoid or mitigate adverse environmental impacts, and the actions needed to implement measures.

### 6.1 Air Pollution Control Measures

During dry season water sprinkling will be done on dry/ dusty road surface in factory premises which will reduce the particulate matter emissions

- Workers will be provided with noise mask min dust prone area.
- Existing green belt will help in attenuation of fugitive emission.

**Table 4: Air Environment Propose Air pollution control measures**

Sr.No	Source	Fuel	Pollutant	Control Equipment
1	Distillery Boiler 19 TPH	Bagasse	PM, SO2 & Nox	72 m stack height will be provided as per CPCB Norms with ESP to achieve maximum collection of fly ash
2	Proposed 190 TPH Boiler	Bagasse	PM, SO2 & Nox	70 m stack height will be provided as per CPCB Norms with ESP to achieve maximum collection of fly ash

3	D.G. Set (500 KVA)	HSD	PM & SO <sub>2</sub>	Adequate stack height will be provided as per CPCB Norms
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## 6.2 Noise Environment

Equipment's will be maintained appropriately to keep the noise level within 85 dB (A). Wherever possible, equipment will be provided with silencers and mufflers. Greenbelt development will be undertaken from the construction stage itself. Further, workers deployed. In high noise areas will be provided with necessary protective devices such as ear plug, ear-muffs etc. High noise generating sources will be insulated adequately by providing suitable enclosures; The insulation provided for prevention of loss of heat and personnel safety will also act as noise reducers. The rotating equipment shall be provided with silencers wherever required to meet the noise pollution.

## 6.3 Water Quality Environment

Maximum care shall be taken to reduce the groundwater/ surface water contamination during construction as well operational phase of the project. Runoff from the untidy concrete base site shall be avoided during rainy season. Waste water generated from industrial process will be treated in ETP followed with regular water quality testing parameters. Treated effluent will be used in farm fields/ greenbelt development.

## 6.4 Biological Environment

Workers during construction as well as operational phase will be guided on ecological benefits so that there are fewer disturbances due to factory operations. Fire wood burning shall be strictly prohibited in factory premises. Artificial nests will be set up on trees in order to provide shelter for birds.

## 6.5 Solid waste management

**Table 5: Industrial Solid waste management and disposal techniques**

No.	Type of waste	Waste & Quantity		Total	Unit	Treatment	Disposal
		Existing	Proposed				
1	Canteen waste	0.5	--	0.5	TPD	Compost	Own Garden

2	Domestic waste	2.0	--	2.0	TPD	Compost	Factory farm
3	Press Mud	31360	16640	48000	TPA	Compost	Sold to farmer
3	Bagasse Ash	17.42	23.50	17.42	TPD		Will be sold to brick manufacturer
4	Incineration Boiler Ash	--	24.0	24.50	TPD	--	Will be sold to brick manufacturer
5	ETP Sludge	2.0	1.0	3.0	TPD		Used as soil conditioner
6	Conc. Spent wash	-	110	110	TPD		Will be used as a fuel for incineration boiler

## 7 Corporate Environment Responsibility (CER) Plan

Corporate Environment Responsibility (CER) Plan is being prepared & following activities will be implemented under CER Plan. Major facets are given below;

- Education and Boarding for children of Workers
- Seminars and training for farmers
- Health camp, medical facilities
- Tree plantation and providing saplings
- Women empowerment
- Vocational training for youth
- Funds for facilities in village and surrounding area
- Funds to Chief Minister/Prime Minister Relief Fund

The OM illustrates, cost of CER is to be in addition to the cost envisaged for the implementation of EIA/EMP. It includes the for the pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including compensatory afforestation, required.

The total project cost is Rs. 260 crore. 1% of the total cost it becomes Rs. 2.6 crore approx. Company has proposed Rs. 2.6 crore as CER fund. These will be spent within first 5 years.

## **8 Cost and Implementation**

Total estimated cost of the proposed project is 260 Cr. Time required for the implementation of the proposed project is 12 months after getting all the permissions from the stationary authorities.