

# Annexure-VII

MINUTES OF ENVIRONMENTAL PUBLIC HEARING OF M/S KUNTURKAR SUGAR & AGRO PRIVATE LIMITED IN RESPECT OF PROPOSED PROJECT FOR 30 KLPD MOLASSES BASED DISTILLERY WAS HELD ON 21<sup>TH</sup> DECEMBER 2021 AT 11.30AM AT THE SITE OF M/S KUNTURKAR SUGAR & AGRO PRIVATE LIMITED, SURVEY NO. 331, GUT NO. 742/743, MOHANNAGAR, VILLAGE KUNTUR, TQ. NAIGAON, DIST. NANDED.

The Environmental Public Hearing of M/s. Kunturkar Sugar & Agro Pvt Ltd, for their proposed project of 30 KLPD Molasses Based Distillery was held on 21<sup>th</sup>December, 2021 at 11.30 AM at the factory site Mohannagar, Vill. Kuntur, Tal. Naigaon, Dist. Nanded.

The Notice regarding the Environmental Public Hearing was published in Local Marathi News Paper in Dainik Sakal & in English National Newspaper Times of India on dated 18/11/2021 are hereby attached as **Annexure – I**.

The Environmental Public Hearing was held on 21<sup>th</sup>December, 2021 at 11.30 AM at Factory Site under the Chairmanship of Dr. Vipin Itankar, District Magistrate, Nanded, Dr. Pravin Joshi, Regional Officer, Maharashtra Pollution Control Board, Aurangabad, Member & Shri. Rajendra U. Patil, Sub- Regional Officer, Maharashtra Pollution Control Board, Nanded worked as convener of Public Hearing panel was formed as per MPCB Office Order No. BO/JD(WPC)/PH/B- 211214-FTS-0139 dtd. 14/12/2021 are hereby attached as **Annexure – II**.

The member of public hearing panel environmentalist group, other participant villagers, agriculturist, the representative of project proponent, chairman & convener of said were present at the factory site for the said public hearing. The attendance data sheet for the participants/public present during the said public hearing are attached as **Annexure-III**

## • **Purpose & Procedure:-**

The Member of public Hearing panel, the Environmentalist group & other participant, convener has initiated Public Hearing by welcoming the Chairman, Member, Regional Officer, MPCB, Aurangabad, local Citizen & Environmental group who were present for the said Public Hearing, that the said Public Hearing is conducted as per the MoEF, Gol Notification 14<sup>th</sup> September 2006 & amended 1<sup>st</sup> December 2009 accordingly the said notification. The notice for the Public Hearing was given in two local widely circulated newspaper i.e. in Marathi newspaper Dainik Sakal & in English newspaper The Times of India on dated 18<sup>th</sup> November 2021.

The copies of Environmental Management plan (EMP)/Executive Summary containing silent features of the project both in English, Marathi & other information/ documents were made available to the public by making these documents available in the various Government Offices as well as local Grampanchayat as per Gol Noitification 14<sup>th</sup> September 2006, suggestion, views comments & objection of Public Hearing were called in E- mail & in written

within 30 days from the publication of this notice. This office has received 04 nos. of suggestions by email & 14 nos. of suggestion by written.

The Public Hearing panel was constituted vide MPCB office order No. BO/JD(WPC)/PH/B- 211214-FTS-0139 dtd. 14/12/2021.

Thereafter, convener of the Public Hearing panel was requested to the project proponent to give their presentation about the project & the Environmental issues related with it.

Accordingly, representative of project proponent gave presentation of project & the Environmental issues as follows.

## **Details of Project**

### **Introduction**

M/s. Kunturkar Sugar & Agro Pvt. Ltd, located at Mohan Nagar in Naigaon taluka of Nanded district in Maharashtra, is planning to setup a new molasses-based distillery unit of 30 KLPD. KSAPL is a private sugar mill registered with the Government of Maharashtra, having reg. no. U01400MH 2010PTC204548 -2010-2011.

Earlier, this sugar factory was known as "Jai Ambika Sugar Factory". It was established in the year 1998 and operated till 2008. Later, this was considered as sick factory. In the interest of local sugarcane growers, the present management decided to start it with a new name i.e. Kunturkar Sugar & Agro Private Limited (KSAPL). In the year 2014-15, it was restarted with 2500 TCD crushing capacity. Existing cane crushing capacity of M/s. KSAPL mill is 2500 TCD. Considering the demand for ethanol and to attain financial stability, the management of KSAPL has decided to install a new 30 KLPD distillery plant.

The purpose of this environmental impact assessment (EIA) study is to obtain Environmental Clearance for the proposed project. The notification no. S.O. 1533 promulgated on September 14, 2006 has covered distillery industry under activity 5(g). According to a notification no. S.O. 1960(E), dated June 13, 2019, molasses-based distilleries less than 100 KLPD capacity are placed under category 'B1'.

#### **1.1 The Site and its selection**

KSAPL is located at survey number 331 and gut number 742 of village Kuntur taluka Naigaon, of Nanded district. It has planned to setup the proposed distillery within its existing sugar unit premises. The project proponent is owning the land. The land is open hence no rehabilitation and resettlement issues involved in the project. The present site fulfills the industrial site selection criteria of MoEF&CC/CPCB/MPCB. There is no any protected area such as sanctuary, national park, biosphere reserve within 10 km radius of the proposed site. There are no defense installations, recreation site, etc. within 25 km radius of the site. Proposed site is well connected by state/national highways. It is located approximately 4.7 km away from National highway no. 161 Nanded- Degloor. Reasonably good infrastructure, support facilities and labor etc. are available in the vicinity. Most importantly, nearness to raw material (molasses/juice) considered for site selection. Therefore, no alternative sites were searched for the project.



**Table 1: Highlights of the Project**

Working days	year around (330 days)	
Land (Owned by the project proponent)	Total land provided for the distillery unit: 3.7 Ha (37,000 Sq. m)	
Main Raw Material	<b>Molasses</b>	
	C –type	111 TPD
	OR B heavy type	94 TPD
Technology for Product Manufacturing	fermentation: Continuous./Fed-batch distillation: Multi-pressure Molecular Sieve Dehydration (MSDH) system will be adopted to produce fuel ethanol	
Steam	Total 236 TPD	
Fuel	Bagasse: 96TPD (without biogas) and 18.72 TPD spent wash powder OR Bagasse of 82.39 TPD + biogas of 6480 m3 OR Only Bagasse: 107.27 TPD	
Boiler	New boiler of 12 TPH with a pressure of 45 kg/cm2	
Power	0.900 MW/hr. source: captive from 1 MW steam turbine turbine	
Water Req. and source	250 cu.m/day (considering recycle and reuse) Source: Devarjan dam	
Manpower	Total Employees= 98 (57 skilled and 41 unskilled)	
<b>Project Cost</b>	Rs. 6273.06 lakhs	
<b>CER provision</b>	Rs. 63 Lakh (1 % of the capital budget)	
<b>Total Project cost including CER</b>	Rs. 6336.06 lakhs	

## 2.0 Resources Requirement/Availability

**2.1 Molasses:** Molasses, a byproduct of the sugar industry, will be a main raw material for the proposed unit. Sugar cane juice or sugar syrup will also be used as a feed stock to produce alcohol. While using molasses as a feed stock the unit will have an option to use either final molasses which is called C-molasses or B-heavy molasses.

It is estimated that, approx. 111 TPD of C – type molasses will get available in-house OR 94 TPD of B-heavy molasses. If c-type molasses planned to be used, its production of about 15,000 to 20,000 tons per annum is estimated. However, requirement of this type of molasses is about 33,300 tons per annum. Therefore, in this case about 13,000 to 15,000 MT of C molasses need to be procured from nearby sugar mills/market. If the management plans to use

B-heavy type molasses, its estimated production will be 21,000-28,000 tons per annum. Estimated quantity of B-heavy molasses for 330 days of operation (per annum) is 31020. Remaining quantity i.e. approx. 3,000 to 10,000 tons of B-heavy molasses will be procured from the market. Considering the estimates given in table 2.7, it is feasible to operate the unit for 223 up to 298 days on own molasses. Hence, more than 70% self-sufficiency is feasible using B-heavy molasses.

**2.2 Water Requirement:** Estimated daily requirement of fresh water for the proposed project is 250 m<sup>3</sup>. It will be sourced from Balegaon dam. Summary of water balance is as follows.

Fresh water requirement (m <sup>3</sup> /day)	Water input (819) – water recycle (585) = 250 m <sup>3</sup> /day
Net fresh requirement	= 250 m <sup>3</sup> /day
Water requirement per lit of alcohol	= 8.33 lit
Net fresh water required over the year	= 250X 330 = 82,500 m <sup>3</sup> per annum

In addition, the Management is also exploring the possibility of use of excess condensate of the sugar unit for distillery operations.

**2.3 Fuel:** Bagasse will be used as a main fuel. Bagasse of 96 TPD and 18.72 TPD Spent wash will be used (Bagasse of 82.39 TPD + biogas of 6480 m<sup>3</sup> OR Only Bagasse: 107.27 TPD). The source for the fuel (bagasse, spent wash powder and biogas) will be own sugar unit.

**2.4 Steam:** Estimated maximum steam requirement is 236 TPD. It will be sourced from proposed 12 TPH boiler.

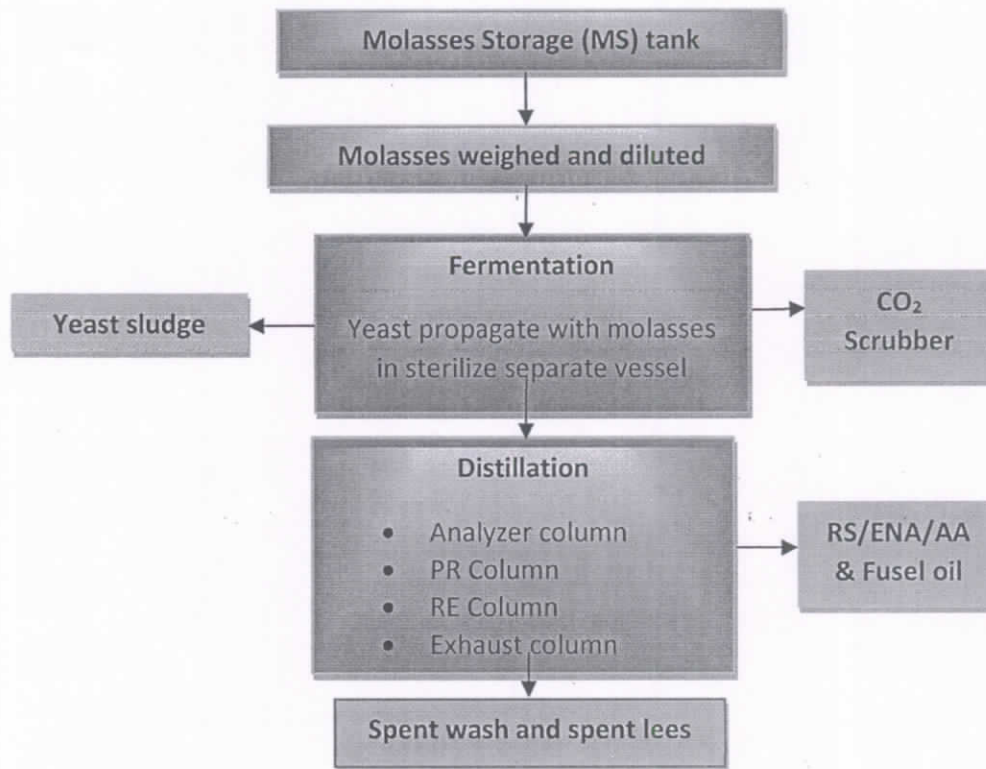
**2.5 Power:** Estimated power requirement of 0.999 MW/hr. will be fulfilled from captive steam turbine of 1 MW.

**2.6 Boiler:** An independent conventional boiler of 12 TPII steam generation capacity at 45 kg/cm<sup>2</sup>(g) pressure and 3900C steam temperature will be installed. It will be multi-fuel type.

**2.7 Manpower:** The project will be generating 98 direct employment opportunities, out of which 57 will be skilled and 41 will be unskilled

### 3.0 Process Description

For the proposed project, the Management has planned to adopt the latest technology for process as well as for effluent disposal. Overall objective of this is to achieve high efficiency of operations, save energy and water and achieve Zero Liquid Discharge (ZLD). The characteristic of manufacturing process is given below and a schematic is shown in Fig. 1



**Figure 1: Schematic of Manufacturing Process**

### 3.1 Manufacturing Process

The production process mainly involves fermentation and distillation process.

#### 3.1.1 Fermentation

Continuous fermentation process will be adopted in the proposed unit. The yield of alcohol is ~270 liters/ ton of C type molasses and 310 to 330 liters for B-heavy type. One ton of sugar cane (juice) produces approx. 70 L of alcohol.

#### 3.1.2 Distillation

After fermentation, the next stage in the manufacturing process is to separate alcohol from fermented wash and to concentrate it to 95%. This is called Rectified Spirit (RS). For this purpose, method of multi- pressure distillation will be adopted. After separation of alcohol, the remaining part is the effluent of the process i.e. spent wash and spent lees.

##### 3.1.2.1 Multi-pressure Distillation: Advantages

- Maximum heat integration is possible.
- Low steam consumption with reboiler (2.2 Kg/lit. of Rectified Spirit)
- Spent wash generation is less.

##### 3.1.2.2 Re-Distillation to Manufacture Extra Neutral Alcohol (ENA)

ENA is prepared by re-distillation of the rectified spirit (RS) for the removal of impurities like higher alcohols, aldehydes and methyl alcohol. This is done by, remixing rectified spirit with soft water and distilling it in the ENA column.



### 3.1.2.3 Anhydrous Alcohol (AA)

Rectified spirit, is 94.68% alcohol. It is not possible to remove remaining water from rectified spirit by straight distillation as ethyl alcohol forms a constant boiling mixture with water at this concentration and is known as azeotrope. Therefore, a special process of molecular sieve dehydration will be used for removal of water for manufacture of fuel ethanol i.e. anhydrous alcohol. Details of molasses and product storage tanks are given in Table 2.

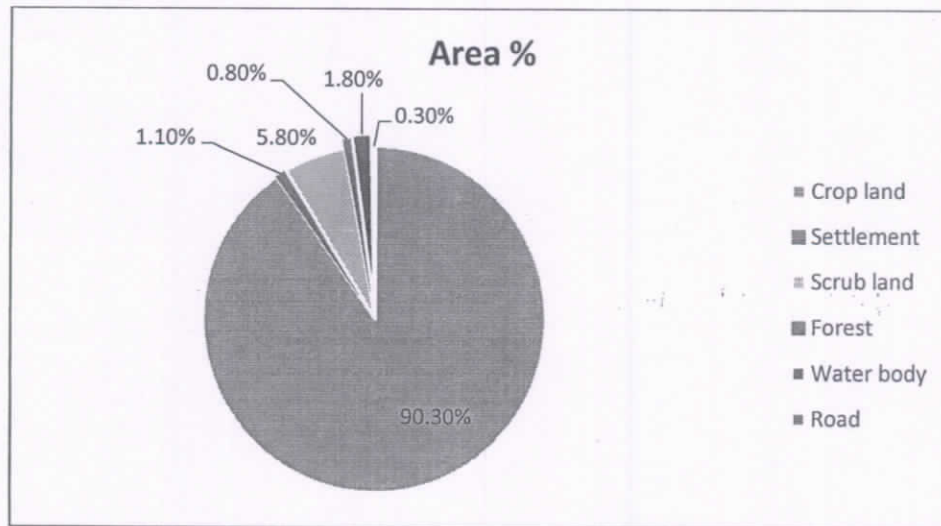
**Table 2: Details of Storage Tanks**

Specifications for Receivers & Storage Tanks			
THICKNESS AS PER IS-803-1976			
#	Particulars	Quantity	Capacity (in m3)
1.	Rectified spirit receivers	03	40
2.	Impure spirit receivers	02	10
3.	* Rectified spirit storage tanks	02	600
4.	* Impure spirit storage tank	01	200
5.	Fusel oil storage tank	01	10
6.	Molasses storage at distillery (Tons) –		
	1. Existing	02	4000 MT
	2. Proposed	01	4500 MT

## 4.0 Baseline Environmental Status

Primary data for the study was collected by sampling/monitoring air, water, soil and noise. Environmental monitoring work was carried out mainly during Jan to Mar 2021. Site is more or less flat having average elevation of 378 m above mean sea level. River Godavari and Balegaon is approx. 4.5 km away from proposed site towards east. Due to availability of water from dam and river, land in the surrounding areas of the site mainly N, SE and E is utilized for agriculture. There are no hills within 3 km radius of the project site. The site and surrounding area is covered in Survey of India (SOI) Toposheet no. E43L9 and latitudes and longitudes of corners of the site are as follows:

1. 18°56'13.11"N & 77°32'53.16"E
2. 18°56'11.05"N & 77°32'59.81"E
3. 18°56'06.26"N & 77°32'58.09"E
4. 18°56'07.38"N & 77°32'52.26"E



**Figure 2: Landuse/ Landcover break-up for the 10 square km area**

**Table 3: Summary of Environmental features of study area**

#	Facet	In brief
1	General characteristics	Hot and dry
2	Rainfall	An average annual rainfall is 1150 mm Rains are received mainly during June-October months
3	Temperature	The maximum temperature in summer is around 42°C and minimum temperature in winter is around 18°C
4	Humidity	The maximum humidity in the study area ranges between 60 to 80 percent in the month of August and minimum humidity ranges from 30-40 percent in the month of March and April.
5	Wind	Predominant wind direction was NW and the wind speed was between 0.50 to 2.10 km/ hr. (>48 %) during the study period
6	Land use	Crop land area 90.3 %, scrub land 5.80 %, forest 0.8%, settlement area 1.10%, waterbody 1.80%
7	Air Quality	Complies NAAQ standards of Nov. 2009 at all monitored locations
8	Noise	Complies the standard
9	Groundwater	Sample collected from said locations is fulfilling the criteria of specified limits of IS 10500:2012. Presence of fluoride observed, However within the limits as per said notification
10	Soil	The soils are within the acceptable limit and not of much consequence for growing a range of crops.  The pH of the soils ranged from 7.40 – 8.12 (slightly alkaline – moderately alkaline)
11	Nearest sanctuary	Kinwat Wildlife Sanctuary (Approx. 83 kms. )



## 5.0 Anticipated Impact, Preventive, Control and Mitigation Measures and Impact Assessment

**5.1 Construction phase:** During construction phase of the project, major activities involved are as follows.

- Excavation work (as required) for the erection of various buildings and structures
- Transportation of the material and workers to & from the proposed project location
- Loading/unloading of construction material
- Processing of construction material e.g. making RCC
- Installations and commissioning of various machineries/units
- Disposal of the liquid and solid waste generated by the temporary work force employed for construction

### Preventive, Control and Mitigation Measures

In case of construction on open area/s, upper fertile layer of soil will be kept separate. It will be reused for greenbelt.

- Fugitive dust emission due to transportation activities as well as loading/unloading of material such as soil, sand, etc. will be controlled by sprinkling water on dust generating surfaces/materials
- The upper soil layer is productive part of the landscape; hence, it needs to be carefully removed and preserved for future use. If these soil piles are dry, they will be covered with tarpaulin or similar material. This soil will be reused for the development of greenbelt within the premises.
- The excess of excavated soil will be used for development of greenbelt by adding adequate amount of manure, organic fertilizers to it. The material like stones, etc. is to be used within the project site, mainly for minor leveling activities/develop internal roads, etc.
- The runoff from the construction site will be controlled by ditches and not allowing it to percolate in the land or enter into any water body outside the premises
- The activities generating noise will be restricted to daytime only and prohibit all such activities for night time
- Run-off of loose soil will be prevented by means of compacting the soil
- The contractor will be instructed to employ local labour to maximum extent so that the local people get employment opportunity. This will also help in reducing the problems associated with housing of labour and help in reducing linked issues such as demand for water, sanitation and hygiene at the labour colony, etc. Basic sanitation facility (temporary toilets/bathrooms) at the work site, will be made available to all labour, transporters and visitors.
- Transport contractors will be instructed to use vehicles which are maintained properly and in good physical conditions. It will help in reducing noise and prevent oil leakages from vehicles. PUC will be mandatory for all vehicles, so as to minimize the exhaust emissions.
- Solid waste material will be segregated properly and its further treatment/disposal to be carried out according to the nature of waste, under the supervision and guidance of factory personnel available in the proposed unit
- Safe cabins or room/s to be provided to security guards/watchman



- Greenbelt developmental activities to commence in the surrounding zone of the construction site.

## **5.2 Operation Phase**

### **5.2.1 Air Environment**

Impact on ambient air quality during the operation phase of the project are likely due to vehicular and process emissions. Process related emissions can further be divided into two categories i) from burning of fuel to generate steam and ii) from fermentation process.

**5.2.1.1 Transportation:** Transportation of molasses anticipated to increase approx. 10 tankers per day and more or less same number of tankers will be required for transportation of ethanol. In additional approx. 16 two wheelers and 5 passenger cars expected to get added in the existing vehicle load.

#### **Preventive, control and mitigation measures**

- Mechanized system for fuel (bagasse) and ash handling
- Wind breaks for ash storage area
- Development of greenbelt for air pollution and odour control

#### **5.2.1.2 Manufacturing process: fermentation**

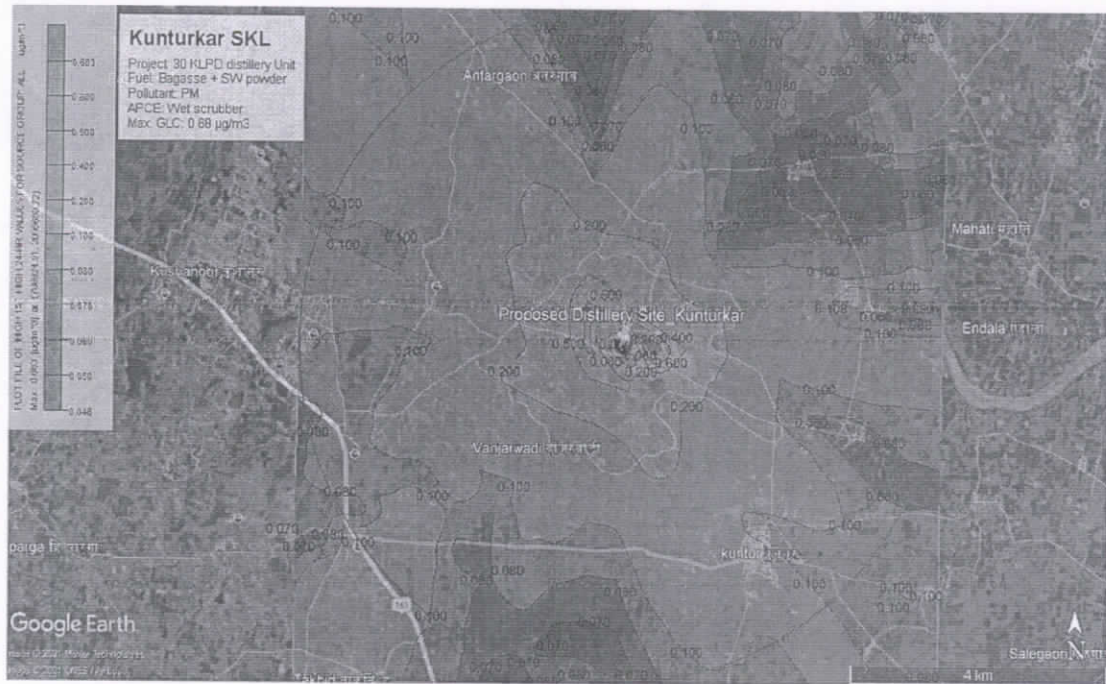
The fermenter will be covered and CO<sub>2</sub> scrubber will be installed. Separated CO<sub>2</sub> will be either bottled or used for manufacturing chemicals (Carbonates/bicarbonates, etc). This unit will be installed thro' BOOT basis.

#### **Mitigation Measures**

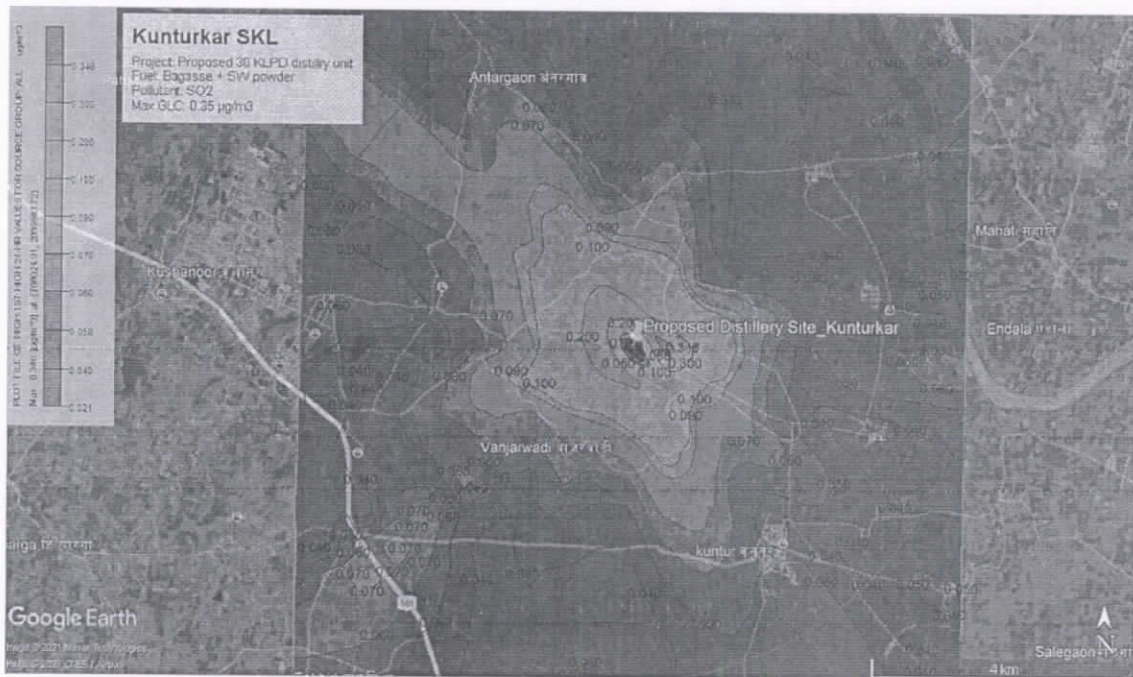
In the proposed project use of a CO<sub>2</sub> scrubber is planned for removal of the gas from alcohol stream. The greenbelt developed by the industry will help to absorb some of the generated CO<sub>2</sub> and the project proponent is exploring ways to mitigate this in an environmentally and economically feasible way. The proponent is planning to run the bottling or Carbonates/bicarbonates manufacturing unit on BOOT basis.

#### **Air Dispersion Modelling**

Prediction of impacts on air environment has been carried out employing - 'AIRMOD' view dispersion model 9.5' software developed by 'Lakes Environment Software', Canada.



**Fig 3: Isopleth showing GLC location and distance for PM (Short term 24 hourly)**



**Fig 4: Isopleth showing GLC location and distance for SO<sub>2</sub> (Short term 24 hourly)**



**Table 4: Maximum incremental Concentration of SO<sub>2</sub> and PM (Post project scenario) given in following table**

Locations	Project Site	Rui Bk.	Rui Kh.	Sategaon	Ikalmal	Sawarkheda	Vanjarwadi	Kuntur
<b>Direction</b>	-	(NW)	(NE)	(E)	(SE)	(W)	(SW)	(SE)
<b>PM- Avg. Baseline value (µg/m<sup>3</sup>)</b>	68.6	61.7	65.3	60	57.7	61.3	60.8	71.4
Maximum GLC (0.683 µg/m <sup>3</sup> ) at 18°56'9.35"N & 77°33'12.46"E								
Incremental Conc. (µg/m <sup>3</sup> )	0.07	0.2	0.1	0.1	0.08	0.1	0.2	0.1
Post Project Scenario (µg/m <sup>3</sup> )	68.67	61.5	65.2	59.9	57.62	61.29	60.6	71.3
<b>SO<sub>2</sub>- Avg. Baseline value (µg/m<sup>3</sup>)</b>	17.7	16.4	16.7	17.4	18.3	13.9	14.4	17.8
Maximum GLC (0.346 µg/m <sup>3</sup> ) at 18°56'9.35"N & 77°33'12.46"E								
Incremental Conc. (µg/m <sup>3</sup> )	0.02	0.09	0.06	0.05	0.04	0.06	0.09	0.06
Post Project Scenario (µg/m <sup>3</sup> )	17.68	16.49	16.76	17.45	18.34	13.36	14.49	17.86

\*The distance is measured from stack to the receptor of maximum GLC

**Preventive, control and mitigation measures**

- Wet scrubber to control ash emission, flue gasses will be released through stack with height 58 m of existing sugar unit
- Use of bagasse/Spent wash powder as a fuel having comparatively low sulphur
- Provision of CO<sub>2</sub> scrubber and unit to process CO<sub>2</sub> under consideration on BOOT basis
- Air pollution control (APC) system wet scrubber to control particulate matter from flue gasses
- Greenbelt development around the plant boundary
- Greenbelt will be helpful in controlling odour to some extent
- Installation of online continuous emission monitoring system as per CPCB guidelines

### 5.2.1.3 Non-Point and Fugitive Sources

Fuel bagasse/Spent wash powder as well as ash handling is anticipated as a major source of non-point dust source.

Impact assessment: PM anticipated to be one of the major issue for work place air environment. Negative impact of bagasse/Spent wash powder and ash handling on outside (premises) environment anticipated to be minor – maximum up to 0.5 to 1 km extent.

#### Preventive, control and mitigation measures

- Mechanized handling of bagasse/Spent wash powder and ash – use of closed conveyor system
- System for suppression of dust from handling of ash
- Green belt development on 12,210 sq.m. for the proposed unit
- Wind breaks will be developed to control PM generation from ash storage yard
- PPE will be provided to workers, working in dust prone areas
- Job rotation for workers, working in dust prone areas
- Use of economical techniques for suppression of dust from handling and storage area
- Ash will be transported in closed/covered vehicles to the brick manufacturing unit

**5.2.1.4 Odour pollution:** spent wash and molasses are considered as a source of odour in the project.

### 5.2.2 Water Environment

In case of water environment, the management plan is two-fold 1) Treatment and safe disposal of effluent/polluted water and 2) conservation of fresh water.

**5.2.2.1 Anticipated impact:** Daily fresh water requirement for the project is 250 m<sup>3</sup> i.e. 8.33 lit/lit of alcohol produced. The water requirement has been minimized by planning maximum recycling and reuse. However, negative impact is anticipated for availability of water to other users particularly in drought situation or water scarcity at local level.

From the general characteristics of spent wash, its high potential of water and soil pollution is evident. If it is released untreated/partially treated in any water body, its acidic nature, dark brown colour, high organic content and COD/BOD severely pollutes the receiving water body. Land application may lead to soil pollution and the run-off from land where spent wash is disposed indiscriminately, causes pollution of neighbouring ground and surface water bodies. Spent lees, MEE condensate and other wastewater if released untreated it likely to cause pollution of nearby dug wells, lake/ponds or river. Whereas if the water is treated properly, it gives an opportunity to recycle the treated water and save fresh water resource.

**5.2.2.2 Preventive, control and mitigation measures:** The spent wash of distillery poses a very serious threat to the environment. Therefore, in the proposed project two stage treatment of spent wash and its disposal is planned through following method. Initially, the raw spent wash of ~15 % solids will be sent to biomethanation unit (bio-digester). Biomethanated spent



wash (BMSW) having usually ~6 % solids will be sent to standalone multi effect spent wash evaporation unit. Here, it will be concentrated up to 45% solids. Finally, the concentrated spent wash will be dried further to convert it into powder form. Spent wash powder will be disposed through mixing it with fuel (bagasse) and burning it in the furnace. 'Zero Spent Wash Discharge' norms will get complied by the proposed treatment technology.

Apart from spent wash, distillery produces another form of waste water called spent lees. This is sober in polluting nature, compared to spent wash. Spent lees of 60 m<sup>3</sup>/day along with evaporation condensate (from MEE ~205 m<sup>3</sup>/day) will be treated in Condensate Polishing Unit (CPU). Other mild wastewater streams such as blow down water, washing water, etc. will also be treated in the CPU. Treated water will be reused for distillery cooling tower or for fermentation process (molasses dilution or cooling tower makeup water) and remaining for greenbelt. In this way, Zero Liquid Discharge (ZLD) will be achieved as per CREP norms prescribed by CPCB.

**Reuse of water (after proper treatment):** Treated water of from CPU will be used for dilution of molasses, cooling tower make up, irrigation (on own plots), watering greenbelt, or cleaning activities, etc.

**Recycle of water:** Exhaust steam will be condensed and recycled. Blow down water from boiler and cooling tower will be cooled in ponds and recycled.

**Conservation of water:** Rain water harvesting to collect the fresh water and partly fulfill the requirement during start-up.

**Monitoring mechanism:** Installation of online effluent quality monitoring system at the outlet of the identified units for the measurement of the parameters. Installation of piezometer in the downstream of spent wash storage tanks.

### 5.2.2.3 Impact assessment

**Water/aquatic environment:** Considering the option/s planned for ZLD in the proposed project, no negative impact envisaged on water environment as well as aquatic ecosystems of the surrounding area. Negative impact envisaged in case of accidental leakages and/or spillage of spent wash (raw/concentrated). Foul smell of the waterbody may increase the severity of the impact.

**Soil Environment:** Due to impervious tanks for storage of spent wash, as well as provision of HDPE pipes for its transportation, probability of soil pollution/contamination due to percolation of spent wash assumed low. Hence, no change in the qualitative characteristics of soil (from the project area and surrounding) anticipated and thereby no negative impact. Sludge from spent wash storage tanks will be sent to sludge drying beds.

**Ecology and biodiversity:** In normal operational conditions, no change in the aquatic or terrestrial flora/fauna anticipated due to the wastewater (includes spent wash, spent lees and other waste water) from the proposed project. Hence, no negative impact envisaged on ecology and biodiversity of the surrounding area (in normal situation). As described above, negative impact on ecosystem and biodiversity anticipated in case of discharge of wastewater outside the premises.

Odour of spent wash likely to attract insects and fungus, particularly in sludge drying beds. It usually attracts avi fauna due to availability of food. Thus, food chain likely to be stronger in the surrounding area (particular for birds).

### 5.2.3 Soil Environment

**Table 6: Solid Waste and Management**

#	Waste	Quantity (TPA)	Disposal	Remark
1	Yeast sludge	25	Used as a soil enriching material	Organic
2	Ash	1498.2	Used as a soil enriching material/Sold to brick manufacturing units	Bagasse ash – rich in potash
3	CPU and spent wash tank sludge	40	Used as a soil enriching material	Organic/inorganic

#### 5.2.3.1 Preventive, control and mitigation measures

**Boiler Ash:** It will be transported in covered vehicles (trucks or tractors) to the disposal site. Bagasse as well as spent wash both are degradable and doesn't contain any hazardous element. Bagasse ash is rich in potash. Similarly, spent wash powder also contain good amount of potash. Therefore, it is planned dispose it by mixing into the soils.

**Sludge from CPU, spent wash storage tanks and Yeast sludge:** This sludge is usually biodegradable, organic and nearly neutral in nature. It doesn't contain any toxic or hazardous elements. Therefore, it will be dried in sludge drying beds and safely disposed by mixing into soil. About 1 to 1.5 Tons of sludge will be applied in 1 ha of soil.

**Hazardous Waste:** The only hazardous waste likely from the project is the scrap oil mainly from DG set and machines. However, the DG set will be used only in case of total power failure i.e. captive as well as failure of power supply from electricity board. Thus, the quantity of used or scrap oil is assumed very minor. This waste oil can be disposed-off safely by giving it to authorized hazardous waste oil dealer.

#### 5.2.4 Impact on Ecology and Biodiversity

**Anticipated Impacts:** Generally, for any industrial project, negative impact on ecology and biodiversity is observed due to habitat degradation and/or disturbance and/or habitat loss Pollution from the project (including noise) and allied activities Disturbance to wildlife/fauna due to project and allied activities

**Probability of negative impact anticipated low, due to following.**

- No major tree cutting involved for the construction of the project
- There is no any sanctuary or national park or biosphere reserve in 10 km radius of the site
- Threatened and/or protected species are not observed in the study area and there is no any direct impact causing factors observed from the project on the surrounding wildlife
- In normal operating conditions, no major impact anticipated on ecology and biodiversity
- Transportation activity, increase in cane cultivation area and odour are the probable impact causing factors



Minor impact anticipated on Ecology and biodiversity due to these factors. Greenbelt development anticipated to provide food and shelter to many faunal elements. It will also help in improving the aesthetics. This is another positive impact anticipated due to the project.

### 5.2.5 Impact on Socio-economic environment

The project is agro-based, that utilizes molasses which is a by-product of sugar mill. Therefore, positive impact of the project anticipated wrt following

- Local sugar cane cultivators, labours, harvesters and transporters are expected to get directly benefitted from to the project.
- The project involves transportation of molasses, bagasse as well as finished products. Thus, it is going to generate additional indirect employment for drivers and transportation related service providers
- The project will provide permanent employment to approx. 98 persons and in addition approx 25-30 seasonal employment anticipated
- Long term employment provided by the project will help to improve livelihood of the locals.
- The proposed project will employ local labour for various works during construction as well as operational phase. It is expected that about 30-35 labour will be get employment during construction phase

#### Measures

- Prefer local candidates for employment as well as contractual work
- Skill development for local youths to be undertaken based on the requirement and situation
- Implementation of CER plan based on the needs and requirements of locals (SE survey based data)

**Table 7: Proposed Environmental Monitoring plan**

#	Particulars	Parameter	Frequency#
1	Stack Emissions	Particulate matter, SO <sub>2</sub> , NO <sub>x</sub>	Continuous monitoring
2	Ambient Air Quality	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub>	Monthly
3	Inlet and outlet of CPU	pH, BOD, COD, SS, TDS, Oil & Grease etc.	Continuous monitoring
4	Bore well /ground water sample from Piezometer nearer to spent wash storage tanks	pH, COD, BOD, Total solids, Chlorides, Sulphate, Phosphates, and Calcium	Quarterly/Monthly
5	Noise monitoring	At high noise generating places as well as sensitive receptors in the vicinity	Monthly

#	Particulars	Parameter	Frequency#
6	Occupational health	Health and fitness check-up of employees get exposed to various hazards	six monthly
		All other staff (except above) including contract and casual labour	Once a year

## 6.0 Fire and Safety

**6.1 Fire protection system:** Fire protection system shall be provided in accordance to PESO, OISD-117 and LPA regulations.

**6.2 Safety Aspects:** All design will be as per ISI standard specification and drawings are to be approved by factory/electrical inspectorate /safety inspectorate weights & measurement inspectorate etc.

**6.2.1 Plant Lighting:** Plant building lighting will be as per norms & as per Electrical inspectorate / factory inspectorate norms. Flameproof light fittings conforming to IS 2148 shall be provided for hazardous areas, particularly in distillation & storage section, while non-flame proof fittings in other areas.

**6.3 Energy and Water Saving Measures:** High alcohol % in fermented wash can result in substantial reduction in steam consumption (integrated evaporation system). It is possible to recycle of low strength waste generated i.e. process condensate, spent lees and other streams in distillery after treating through condensate polishing unit. It will help to reduce the consumption of fresh water for process and non-process applications.

## 7.0 Environment Management Plan

Environment management plan related to Air, water, Soil, Ecology biodiversity and Socio-economic environment is covered in earlier points explained above. Other than that, remaining point are covered below.

### 7.1 Noise

Impact causing factors: Increase in noise level due to operation of machines, motors, vehicular movement, DG set etc.

#### Environment management plan:

- Regular maintenance of machines and factory vehicles
- provisions of separate parking for goods and other vehicles
- Internal roads will be either asphalted or RCC, levelled, illuminated and will be maintained
- Safety sign boards will be placed at strategic locations within premise
- Provision of adequate personal protective equipment for workers
- Job rotation for high noise level work places, if required
- Regular health check-up for workers



- Acoustic enclosure will be provided to DG set

## **7.2 Risk and disaster management**

Impact causing factors: Fire, accidents, earthquake, etc.

### **Environment management plan:**

- The entire premises will be declared as 'no smoking zone'
- Lightning arresting system will be installed
- Earthquake resistant construction
- Training to the staff for using fire extinguishers
- Ethanol vapor condensing system will be installed at ethanol storage area
- Ethanol storage will be as per PESO guidelines
- Firefighting system as per OISD and local authority guidelines

## **8.0 Conclusion and Justification for Project Implementation**

Kunturkar Sugar & Agro Pvt. Ltd., located at Mohan nagar, Dist. Nanded, Maharashtra has proposed a new molasses based distillery unit of 30 KLPD.

The project is proposed in economically and industrially backward region of the Maharashtra. It is an agro based project. Hence, it will be beneficial to local cane growers.

This project will help in increasing rural economy of this region, ultimately this will improve the social and economic conditions of this region. The mill is having its own open land where the project will be developed. Hence, issues of rehabilitation and restoration of people is not involved in this case.

The potential environmental, social and economic impacts of the above project have been assessed during the environmental impact assessment study and described in this EIA report. The proposed distillery unit will have certain levels of negative impacts on the local environment. It has been endeavoured to minimize the negative impacts by addressing them through environmental management plan. Necessary control measures have been suggested to meet with the norms and safeguard the environment. The implementation of this project will definitely improve the physical and social infrastructure of the surrounding area. Adequate financial provision is made by the project proponent for EMP and CSR activities (i.e. for upliftment of the local people). The proposed project will contribute to economic growth and help in generating Government revenue.

The implementation of this project will definitely improve the physical and social infrastructure of the surrounding area. Adequate financial provision is made by management of KSAPL for EMP and CSR activities (i.e. for upliftment of the local people). The proposed project will contribute to economic growth and help in generating Government revenue.

The Sub Regional Officer, Maharashtra Pollution Control Board, Nanded & Convener of Public Hearing panel asked the participant who were present to raise their views and comments on the project to insure that the objective of the Public Hearing are fulfilled.

The proceeding is as below.

**Proceeding: -**

Sr. No.	Issues raised by Public	Response/commitment of project proponent	Suggestion made by Public Hearing Panel
1.	<p><b>Shri. Nilesh Bhausheb Deshmukh , Representative of Sarpanch, Residents of village Rui Budruk, Tal. Naigaon, Dist. Nanded supported and congratulated the project and raised the following issue</b></p> <p>We want the detail information, what benefits will get to our farmers and villagers from the said project?</p>	<p>Shri. Kapadnis, Project representative said that after the commissioning of the said project 30 KLPD distillery, the area of sugarcane cultivation will increase, the Fair and Remunerative Price (FRP) of sugarcane will increase and employment opportunities will be available to the surrounding people of the area, thereby the economic condition of the Farmers &amp; Villagers will be increased.</p>	
2	<p><b>Shri. Marotrao Shankarao Kadam, Representative of Sarpanch, Residents of village Kuntur, Tal. Naigaon, Dist. Nanded raised the following issue</b></p> <p>Whether the pollution generated by the proposed distillery project harmful to the environment? If so, what measures will be taken for it?</p>	<p>Shri. Kapadnis, Project representative said that due to said project there is no any water pollution to nearby surrounding area as the said project will adopt Zero Liquid Discharge (ZLD) technology for treatment of waste water &amp; treated water will be 100% recycle in to process. Also for restriction of air emission, the unit will provide chimney of height 57 meters followed by wet scrubber as air pollution control system so that there will be no any pollutant/ source emission will spread in the surrounding area &amp; as a measure the unit as per the guidelines of Central Pollution Control Board will provide the online monitoring system (OCEMS) for monitor of the sources emission/pollutant.</p>	<p>The Hon'ble chairman of Public Hearing panel suggested that, the project proponent shall in cooperate detail in EIA report about procurement of raw material/ baggages from outside source where it is available in large quantity in case if the rainfall is less &amp; the production of sugarcane is less.</p>



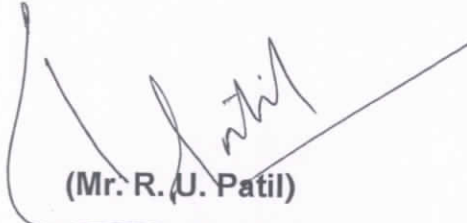
3	<p><b>Shri. Ramrao Raghunath Jadhav, Resident of village Rui (Kh), Tal. Naigaon, Dist. Nanded raised the following issue</b></p> <p>Whether this distillation project will have any effect on agriculture land, crop, drinking water and livestock water, please clarify.</p>	<p>Shri. Kapadnis, Project representative said that the project will adopt Zero Liquid Discharge (ZLD) technology for treatment of waste water. Due to which there is no any seepages or leakages or any kinds of effluent will found outside the factory premises. Thereby no any crops or water quality will be affected.</p>	
4	<p><b>Shri. Parshuram Vithoba Chintakute, Resident of village Rui (Kh), Tal. Naigaon, Dist. Nanded raised the following issue</b></p> <p>If this distillery project does not cause any adverse effects on environment and project proponent taken full responsibility for it, then this project is for the benefit of farmers, sugarcane growers, agricultural labourers and all the labourers. The only condition is that project proponent take care about not to cause any adverse effects to environment then this proposed project is pleasing to all.</p>	--	--
5.	<p><b>Shri. Mohanrao Holkar, Resident of Naigaon, Tal. Naigaon, Dist. Nanded raised the following issue</b></p> <p>This project will create employment opportunities for the residential, hence appeal to the administration to help for setting up the said project as early as possible.</p>	--	<p>The Member of Public Hearing panel suggested &amp; brought to notice to the project proponent the content mentioned in the TOR should be represent as it is during presentation &amp; same shall be incorporate in the EIA report.</p>

*h*

The Chairman the public Hearing Panel in his concluding remark assured that all the points raised in the public Hearing will be in corporate in the minutes and clarified that the processing of public Hearing will be submitting ministry of Environment and climate change Govt. of Maharashtra.

The Member of the Environment Public Hearing Committee thanked all the local people, project officials and environmentalists and declared that the meeting is concluded.

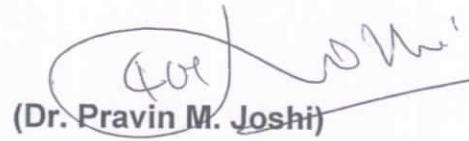
The meeting ended extending thanks to the Chair.



(Mr. R. U. Patil)

Convener,

Environment Public Hearing Committee  
Sub Regional Officer, MPCB, Nanded



(Dr. Pravin M. Joshi)

Member,

Environment Public Hearing Committee  
Regional Officer, MPCB, Aurangabad



(Dr. Vipin Itankar)

Chairperson ,

Environment Public Hearing Committee  
District Magistrate, Nanded