

EXECUTIVE SUMMARY

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FOR

**PROPOSED EXPANSION OF SUGAR UNIT FROM 2500 TCD
TO 4800 TCD, COGENERATION 18 MW AND 150 KLPD
MULTIFEED DISTILLERY PLANT BASED ON
CMOLASSES/B- HEAVY MOLASSES/ SYRUP AND GRAIN
AS RAW MATERIAL AT AMBULGA (BK), TAL; NILANGA,
DIST LATUR MAHARASHTRA**

PROJECT PROPONENT

**M/S. ONKAR SAKHAR KARKHANA PVT LTD.
AMBULGA BK, TAL: NILANGA, DIST LATUR**

1. Introductions

M/s. Onkar Sakhar Karkhana Private Ltd Unit -2 (OSKPL) located at Ambulga Bk, Tal: Nilanga, Dist Latur is registered as a Limited Company Registration No. U74999PN2017PTC168931 February 15, 2007 under State of Maharashtra under the Companies Act, 2013.

M/s. Onkar Sakhar Karkhana Private Ltd has taken plant on lease for 30 years from Ms/ Shivajirao Patil Nilagekar sahakari Sakhar Kakhana Ltd on 14th July 2022.

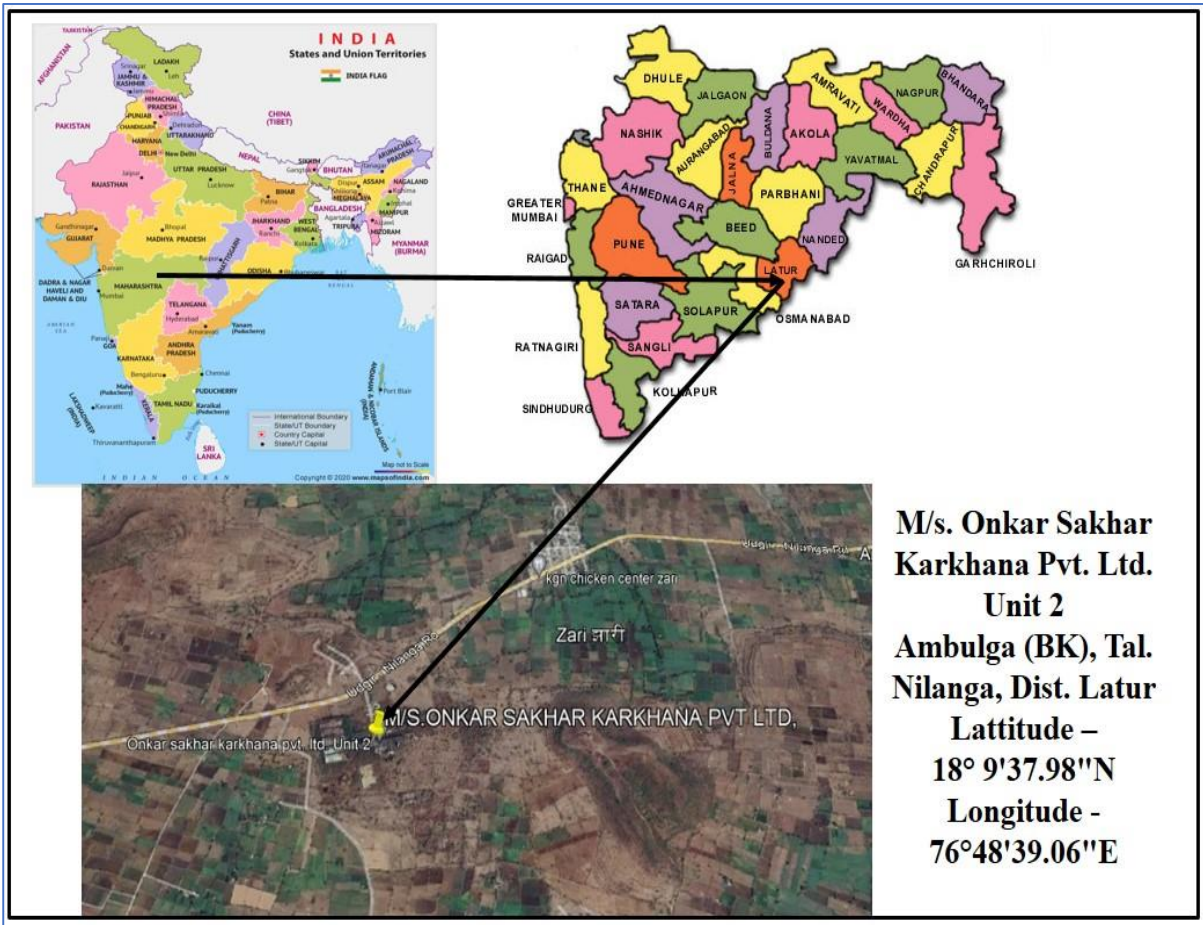
M/s. Onkar Sakhar Karkhana Private Ltd Unit -2 is an operating 2500 TCD Sugar plant at Ambulga Bk, Tal: Nilanga, Dist Latur. Now M/s. Onkar Sakhar Karkhana Private Ltd Unit - 2 has proposed expansion of sugar plant 2500 TCD to 4800 TCD, 18 MW Cogeneration and 150 KLPD Multifeed Distillery Plant at existing premises.

As per EIA Notification No. S. O. 1533 on 14th September 2006 and its amendment proposed project activity has covered this type of industries under its schedule 5(g)– A category. Sugar unit expansion will be 2500 TCD to 4800 TCD and cogeneration will be 18 MW. Sugar and cogeneration will not require environmental clearance. As integrated project, M/s Onkar Sakhar Karkhana Private Ltd submitting application for environment clearance for proposed 150 KLPD Multifeed Distillery, Sugar expansion 2500TCD to 4800 TCD & 18 MW Co-gen plant under category A.

Accordingly, the project proponent has submitted prescribed application along with pre-feasibility report to the EAC Industry -II MOEF & CC. standard Terms of Reference has been approved by EAC- Industry II, MOEF &CC dated 9th May 2023 (vide No.IA-J-11011/178/2023-IA-II(I)dated 9th May 2023). Based on the standard TOR, Environmental Impact Assessment studies are carried out. Draft EIA report submitted to MPCB for Public hearing.

2. Project location

The project is located in Ambulga Bk, Tal: Nilanga, Dist Latur, Maharashtra state. Latitude and longitude 18° 9'38.46"N & 76°48'39.51"E. Total land in possession of the OSKPL is 60.34 ha. Now OSKPL has proposed to expansion in the existing premises. No additional land will be required for the proposed expansion.



Project Location

3. Project Description

Sr no	Particulars	Sugar		Cogeneration	Distillery
		Existing	Expansion	Proposed	Proposed
1	Name of the Company	Onkar Sakhar Karkhana Pvt. Ltd., Unit – 2			
2	Name Address for correspondence	Jajnur -Zhari, Ambulga (Bk), Tal. Nilanga, Dist. Latur, Maharashtra – 413 521			
3	Location	Jajnur -Zhari, Ambulga (Bk), Tal. Nilanga, Dist. Latur, Maharashtra – 413 521.			
4	Constitution of the Organization	Private			
5	Capacity of the Project	2500TCD	2300TCD	18 MW	150 KLPD
6	No. of Working Days	160	160	160	330
7	Total land	Total land 60.34 ha			
8	Products	Sugar 42000 MT	Juice/syrup 92000 MT	Power 18 MW	ENA/RS/Ethanol: 150 KLPD + Power: 3.0 MW
9	By Products	Press Mud;17000 MT Molasses; 17000 MT Bagasse 120000 MT	Press Mud: 14720 MT Bagasse: 110400 MT	=	CO ₂ : 150 TPD Potash Rich Powder: 180 MT DDGS; 60 MT
10	Raw material requirement	Sugar Cane: 4000000 MT	Sugar Cane 368000 MT	Bagasse: 207360 MT	C- Molasses B- heavy Molasses Cane Syrup Cane Juice & Grain
11	Fresh water Source	Kedarpur Minor Irrigation Project			
12	Fresh water requirement	300 M3/day	350 M3/day		Using B- heavy Molasses: 664 M3/day Syrup: 420 M3/day .
13	Boilers	Existing 32 x 2 TPH Proposed: 60 TPH			Proposed 30 TPH
14	Power	11.3 MW			3.0 MW
15	Steam	124 TPH			30 TPH
16	Fuel	Bagasse			Bagasse + Biogas
17	Effluent generation	Existing 298 M3/day After expansion: 598 M3/day			B heavy Molasses Mode; 856 m3/day

			Syrup mode: 1090 M3/day. Grain based: 760 m3/day		
18	Effluent Treatment	Existing 300 M3/day will be upgraded to 650 M3/day	Molasses Based: Spent wash will be treated through Biomethanation followed MEE and Spray Dryer. Grain based: Decantation Followed by MEE, DDWGS and Condensate from MEE and other effluent will be treated will be treated CPU.		
19	APC system	Existing 32 x 2 TPH Boilers Provided: 60 m stack height and Wet Scrubber. Proposed 60 TPH boiler: 65 m stack height and ESP	45 m stack height and ESP will be provided		
21	Project cost	40.36 Cr	90 Crores	40 Crores	120 Crores

4. Basic Raw Material

Land requirement

Total Plot area is OSKPL is 60.34 ha. Now OSKPL has proposed to expansion in the existing premises. The unit is located at Jajnur -Zhari, Ambulga (Bk), Tal. Nilanga, Dist. Latur, Maharashtra – 413521.

Raw Material: Details of the raw materials required for process, their source of procurement and mode of transportation is given in Table

Sr. No	Raw Materials	Existing Quantities	Expansion Quantities	Source	Transportation
1	Sugar cane	400000 MT	368000 MT	Command area	Road
2	Bagasse	112000 MT	103040 MT	Own sugar Unit	Conveyers
3	Molasses C Heavy	-	555 MT/day	Own sugar plant	Through Pipe line
	Molasses B Heavy	-	500 MT /day	Own sugar plant	Through Pipe line
	Cane Juice syrup	-	515 MT/day	Own sugar plant	Through Pipe line
4	Grain MT/day	-	365 MT/day	Local market / FCI	Through road

Water Requirement

- **Sugar & Cogeneration:** Existing sugar unit water requirement is 300 m³/day. After expansion sugar and cogeneration water requirement will be 650 m³/day and Domestic: 50 m³/day.
- **Distillery -** Total fresh water demand for distillery operation is 685 KLD of Ethanol which will be sourced from Kedarpur Minor Irrigation Project. For Grain based unit fresh water demand for grain-based distillery unit is 596 including domestic use and drinking water.

Steam Requirement: For after expansion of sugar and Cogeneration unit steam requirement will be 124TPH which will be generated by exiting 32TPHx 2 Boiler and proposed 60TPH Boiler. 30TPH steam is required for proposed 150KLPD distillery which will be generated by proposed 30TPH Boiler.

Power Requirement

Sr. No	Details	Sugar and Cogeneration	Distillery
1	Power Generation	18 MW	3.0
2	Consumption	6.7 MW	3.0
3	Export	11.3 MW	0

Manpower requirement:

- **Construction Phase:** 100 people will be required for the construction phase
- **Operation Phase:** 70 Persons, Manpower will be hired from local.

Cost and implementation schedule:

Capital cost of the proposed sugar expansion, Cogeneration and Distillery project will be Rs. 25000.00 lakh approximately.

6. Baseline Environment

The project is located in Ambulga Bk, Tal: Nilanga, Dist Latur, Maharashtra state. Latitude and longitude 18° 9'38.46"N & 76°48'39.51"E. The study area is considered to be within 10 km radius of the project site for baseline environment monitoring. The studies were conducted for the period of March to May 2023.

6.1 Ambient Air Quality Status:

- **Particulate Matter (PM₁₀):** The maximum 66.1 µg/m³ concentration of PM₁₀ was observed at Kalandi and minimum 53.1 µg/m³ concentration was observed at Katejawalga Village.
- **Particulate Matter (PM_{2.5}):** The maximum 29.4 µg/m³ concentration of PM_{2.5} was observed at Dagadgaon while minimum 16.5 µg/m³ concentration was observed at Jajnur Village.
- **Sulphur Dioxide (SO₂):** The maximum 9.9 µg/m³ concentration of SO₂ was observed at two location i.e. Gurhal and Dagadgaon while minimum 4.4 µg/m³ concentration was recorded at Project Site.
- **Oxide of Nitrogen (NO_x):** The maximum 12.8 µg/m³ concentration of NO_x was observed at Kalandi while minimum 6.6 µg/m³ concentration was recorded at Project site.
- **Carbon Mono-oxide (CO):** The average maximum 8 hourly concentration for CO was found to be 0.9 mg/m³ at two locations i.e. Jajnur and Gurhal while minimum concentration was recorded 0.1 mg/m³ at all 8 locations. All the parameters were found well within the prescribed limits of NAAQ Standard, CPCB.

6.2 Noise Level

Noise monitoring was carried out as per MoEF and CPCB guidelines. To understand the Noise Quality with respect to zone category, nine representative locations were selected. Noise monitoring was carried out from time 06:00 Hrs to 22:00 Hrs and Night Time – 22:00 Hrs to 06:00 Hrs. Obtained results are compared with Noise pollution rules 2000. Higher noise level recorded at project site due to the project activities and vehicular movement. All values during day and night period are under the permissible standards.

6.3 Surface water Environment

- **pH:** pH of the all-surface water sample ranges from 7.64 to 8.32.
- **Total Dissolved Solids:** The dissolved solids consist mainly of bicarbonates, carbonates, sulphates, chlorides, nitrates and possibly phosphates of calcium, magnesium, sodium and potassium. The amount of dissolved solids present in water is a consideration for its suitability for domestic use. Results show the ranges of TDS 116 mg/l to 362 mg/l.
- **Biological Oxygen Demand (BOD):** Out of 8 samples, 7 samples show less than 5 and one samples shows 8 mg/l.

- **Chemical Oxygen Demand:** Out of 8 samples, 7 samples show less than 20.0 and one sample shows 28 mg/l.
- **Chloride:** The concentrations of the chlorides of all samples were between 10 to 36 mg/lit.
- **Sulphate:** The concentration values ranged from 8.6 to 42.2 mg/lit.

6.4 Groundwater Environment

- **pH:** The pH is a measure of the activity of the (solvated) hydrogen ion. The range of pH is neutral to alkaline (7.05 to 8.17)
- **Total Dissolved Solids:** The dissolved solids consist mainly of bicarbonates, carbonates, sulphates, chlorides, nitrates and possibly phosphates of calcium, magnesium, sodium and potassium. The amount of dissolved solids present in water in the range of 272 to 464 mg/l.
- **Total Hardness:** The values of the samples analysed are in the of 100 to 195 mg/l
- **Chloride:** The chloride values are in the range on 12 to 42 mg/l.
- **Sulphate:** The concentrations of sulphates in the in the range on <5.0 to 38.5 mg/l.

6.8 Soil Environment

- The physical properties of soil determine the aeration of the soil and the ability of water to infiltrate and to be held in the soil, Color, Bulk density, Water Holding Capacity etc.
- The soil being of friable consistency, the bulk density & water holding capacity of the soil is in the range of 0.58 to 0.64 g/cm³ & 45 -56 respectively.
- The pH is in the range of 6.93 to 8.56. The (Electrical Conductivity) of the soil extract in the study area is in the range of 78 -215µS/cm which is less than 2 mS/cm indicating no salinity problem to be expected in the soil. CEC is in between 3.2 to 5.0 meq/100g.
- Analysis shows that the concentration of organic matter is in the range of 0.8 to 4.6% and total organic carbon is in the range of 0.5 to 2.7 mg/Kg. It was observed that Soil samples are Poor to Medium fertile in nature based on organic carbon contents.

7. Ecology

As per guidelines of MoEF for Environmental Impact Assessment, the study area was restricted upto 10 km periphery of the project site. An ecological survey of the study area was conducted, as per following steps, with reference to listing of species, assessment of the existing baseline ecological conditions and predicting impacts with suggestive mitigation measures. The data were generated with reference to topography, land use, vegetation pattern, animals etc.

Based on field survey Primary data were generated by preparing a general checklist of the plants encountered in this area. The study shows overall 95 plant species comprising of 48 trees, 23 shrubs, 10 herbs, 6 palms, 3 climbers and 5 grasses in study area. The floristic survey reveals that the study area shows dominance of trees, viz. *Azadirachta indica*, *Acacia nilotica*, *Aegle marmelos*, *Cassia fistula*, *Ziziphus mauritiana* etc.; shrubs viz. *Lantana camara*, *Calatropis sp.*, *Hibiscus rosa-sinensis*, *Nyctanthes arbor-tristis* etc.; herbs like *Alternanthera sessilis*, *Argemone mexicana*, *Celosia argentea* etc.

Fauna

- **Mammals** - The survey revealed that there were 7 species of mammals in the study area. Availability of fauna in the vicinity of the sites is presented in Table below. None of these animals are endangered (Schedule I) as per Wildlife (Protection) Act 1972.
- **Avifauna** - During the survey, 19 species of birds were noticed. The dominant birds were Indian myna, house crow, blue rock pigeon etc. None of these birds are endangered (Schedule I) as per Wildlife (Protection) Act 1972.
- **Reptiles** - Altogether 5 species of reptiles were found of which *Calotes versicolor* were encountered at various places in study area.
- **Butterflies** - Study area comprised of 13 species of butterflies, dominated by *Eurema hecabe*, *Euploea core*, *Papilio demoleus* and *Danaus chrysippus*. None of these is endangered (Schedule I) as per Wildlife (Protection) Act 1972.

8. Socio Economic survey:

While dealing study area (10 Km radius from project site) as per secondary data the total population is 118048 in 23010 households. Male population is 60967 and female population is 57081. Highest population in study area is Nilanga (MCI) (36172).

There are 23010 households in the study area and the average size of household is 5 members per household in the study area. The dependent population below 6 years is 14982 (12.7% of the total population) in the study area. The sex ratio of the study area is 936 females per 1000 males. The sex ratio of the study area is higher side as compare to district sex ratio in latur district (928).

9. Environment Impact and its Mitigation Measures

9.1 Air Environment

- ❖ For existing 30 TPH x 2 boilers of sugar; 60m stack and Wet Scrubber is provided as APC.
- ❖ For the effective dilution and dispersion of the pollutants stack height has been proposed as per CPCB guidelines. The height of the stack for proposed 60 TPH and 30 TPH Boiler will be 65 m and 45 m with ESP
- ❖ The emissions from the stack are monitored continuously for exit concentration of the suspended particulate matter, SO₂µg/m³ and NO_X µg/m³. Sampling ports are provided in the stacks as per CPCB guidelines.
- ❖ To control of the airborne fugitive emissions from the ash handling area will be achieved through regular water sprinkling in this area.
- ❖ Green belt development and afforestation in the plant and surroundings of ash handling area.

9.3 Noise Environment

- ❖ The noise levels stipulated by Central Pollution Control Board at any point of time will not exceed the standards. The equipment will have inbuilt noise control devices.
- ❖ Noise level can be reduced by stopping leakages from various steam lines, compressed air lines and other high pressure equipment
- ❖ 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 cane handling equipment's i.e. Belt Conveyor, Compressors, STG, Turbine and generators will be manufactured as per OSHA/ MoEF guidelines.
- ❖ The personnel safety such as ear muffs, ear plugs and industrial helmets will also act as a noise reducers will be provided workers.
- ❖ Acoustic laggings and silencers will be provided in equipment wherever necessary. The compressed air station will be provided with suction side silencers. Ventilation fans will be installed in enclosed premises
- ❖ The silencers and mufflers of the individual machines will be regularly checked

9.4 Water Environment

Waste Water Treatment: Effluent generated from sugar and cogeneration will be treated in effluent treatment Plant and will be used for green belt.

Spent wash is the main effluent in Distillery industry. Other miscellaneous effluents generated from distillery unit are cooling tower bleed, boiler blow down, and condensate water collected from MEE. For treatment of spent wash from distillery, OSKPL has decided to install Biomethnation, MEE and spray dryer for the spent wash treatment. Condensate and other effluent will be treated in CPU. Proposed distillery plant will be Zero liquid Discharge System.

9.5 Solid waste management

Solid wastes generated from the sugar, cogeneration and distillery unit are boiler ash, yeast sludge and fly ash. These wastes are non-hazardous in type.

SI. No.	Details of the solid waste	Existing Quantity in TPD	Expansion Quantity in TPD	Total Quantity in TPD	Treatment	Mode of Disposal
1	ETP sludge	1.0	1.0	2.0		
2	CPU sludge	-	2.0	2.0	Mixed in bio composting	Used as manure
3	Yeast Sludge	-	15	15	Mixed in bio composting	Used as manure
4	Boiler ash	15.35	17.35	32.70	Mixed in bio composting	Sold to brick Manufacturer and Mixed in bio composting

9.5 Green belt development plan: Around 50000 Nos. of trees will be planted over an area of 20 ha at the rate of 2500 trees per Ha

9.6 Socio Economic Environment

- Health and safety related displays will be exhibited at strategic locations in the industry.
- Workers will be educated and trained in occupational health safety.
- Regular health checkup of the workers will be carried out and health records of individual workers will be maintained.

- Utility rooms provided will be provided with facilities and properly maintained.
- First aid facilities will be provided at different locations. Further first aiders will be trained.
- CSR activities will be implemented

10.0 Environment Monitoring

Environment monitoring is prescribed during pre-construction, construction and operation phase. During operation phase of project it is important to understand the baseline environment status which is caused due to proposed project activity. Environmental monitoring will comply Air, Water, Soil, Ecology, and Noise parameters as per monitoring compliance norms and schedule. All parameters will be tested as per standard tools and methods and obtained results should be compared with CPCB norms.

11.0 Corporate Environment Responsibility (CER)

As an additional part of the EMP cost, the proponent proposes to invest 1. 875 Crores (0.75% of the project cost of 250 Cr) before commencement of the project, to be considered for implementing the activities in the context of the local scenario of the area.

12.0 Cost for Environment Management Plan

Cost of Environmental Protection Measures

Sr. No.	Environment Aspect	Capital Cost (in Lacs)	Recurring Cost (in Lacs)
1	Air Pollution Control (Stack & ESP) for proposed 60TPH and 30 TPH Boiler	400.00	15.00
2	CO2 Plant	250.00	5.0
3	Spent wash Treatment: Bio digester, MEE & Dryer	2500.00	10.00
4	Condensate Polishing Unit for distillery	300.00	10.0
7	Effluent Treatment Plant for sugar and cogeneration	200.00	10.0
8	Green Belt Development	75.00	5.0
9	Rain water Harvesting	30.00	2.0
10	Environment Monitoring (Online Monitoring System)	25.00	4.4
11	Solid Waste Management	50.00	10.0
4	Occupational Health	50.00	10.00
Total		3880.00	81.4