

EXECUTIVE SUMMARY

ES-1 Project Brief

M/s. VINP Distilleries and Sugars Pvt. Ltd., proposes to establish Molasses based Dual feed Distillery of capacity 300 KLD with 10 MW Co-Generation plant and 4 MW Power Generation from Incineration Boiler located at Sy. No. 42, 43 and 53 of Konanakere Village, Shiggaon Taluk, Haveri District, Karnataka. The company has the total land of 69 Acres out of which 14 Acre is for proposed project, 23 Acre for Greenbelt Development and remaining 32 Acre of land is reserved for future expansion activity. The ToR documents were submitted for issue of ToR vide proposal No: IA/KA/IND2/200674/2021 on 06/03/2021 and accordingly, the ToR was issued on 11/03/2021 vide letter No: IA-J-11011/69/2021-IA-II (I) by MoEF & CC, GoI. The Environmental Impact Assessment (EIA) report is based on ToR issued and the structure is as per EIA notification, 2006. The salient features of the project are as follows:

Sl. No	Items	Particulars
1.	Objective of the Project	Establishment of Molasses based Dual feed Distillery of capacity 300 KLD with 10 MW Co-Generation plant and 4 MW Power Generation from Incineration Boiler.
2.	Promoters	M/s VINP Distilleries and Sugars Pvt. Ltd
3.	Project Location	Sy. No. 53, 42 and 43 of Konanakere Village, Shiggaon Taluk, Haveri District, Karnataka State.
4.	Total Investment, Rs.	Rs. 350 Crore
5.	Latitude and Longitude	14 ⁰ 58' 15.59''N & 75 ⁰ 9' 20.49'' E
6.	Category	5(g)
7.	Water Demand and Source	Source : Varada River Total water requirement for the proposed 300 KLPD Distillery unit will be 5922 KLD, out of which fresh water requirement will be 1200 KLD
8.	Power Supply and Backup Power details	Power required for the proposed project – 500 kwh during construction phase. Power required during operational phase – 8.5 MW/Hr. Backup power – 2 x 625 KVA DG sets will be installed as backup power.
9.	Technology Implemented	Continuous Fermentation Technology
10.	No. of Working days	330 days
11.	Total Man Power (during operation phase)	300 No's

ES-2 Raw Material Requirement and Product Details

Sl. No	Particulars	Raw Material	Source	Quantity	Method of Transport
A. Raw Materials					
1	Sugar unit	Sugar cane	Nearby villages	3500 TCD	By road
2	Distillery unit	Sugar Syrup	In House	1000 T/Day	Internal pipe line.
		Molasses	Nearby	1100 MT	By road

Sl. No	Particulars	Raw Material	Source	Quantity	Method of Transport
			Industries		
3	Power generation from Co-generation	Bagasse	In House	1050 TPD	By belt conveyors
4	Power generation from Incineration boiler	Conc. Spent wash	In House	15 TPD	Internal pipe line.
B. Chemicals/Nutrients					
5	Sulphuric Acid	Local	By Road through Lorry	60 Kg/day	Closed Chemical Storage Room
6	Urea			300 Kg/day	
7	Turkey Red Oil			600 Kg/day	
8	Hydrated Lime			1833 Kg/day	
9	Commercial Hydrochloric Acid			350 Kg/day	
10	Sodium Hydroxide			283 kg/day	
11	Sodium Hypo chloride			1 Liter	
12	Sodium Hypo chloride (Denatured & Bitterent)			0.006 Kg/Liter	
13	Lab Chemicals			10000 Kg/M	
C. Products					
1	Ethanol	300 KLPD			
2	Power	14 MW			

ES-3 Criteria for Site Selection and Resource Requirement

The proposed site location is ideal because of suitable raw material availability and transportation of raw material is easier since the project site is nearest to SH-1, SH-6 and NH-48. There are no National Parks/Tiger Reserves/Elephant corridors within 10 km radius of the project site.

Sl.No.	Particulars	Details
1.	Land (Acre)	M/s VINP Distilleries and Sugars Pvt Ltd. has total land of 69 Acres out of which 14 Acre is for proposed project, 23 Acre for Greenbelt Development and remaining 32 Acre of land is reserved for future expansion activity. Government of Karnataka has in-principally approved the project and the land is in the name of industry
2.	Power	Power required during operational phase – 8.5 MW/Hr. Backup power – 2 x 625 KVA DG sets will be installed as backup power.
3.	Boiler	2 No's Boiler 65 TPH and Incineration Boiler 40 TPH.
4.	Electrostatic Precipitator	2 Nos. Height of chimney 45 m and 60 m
5.	DG Set as backup power	2 Nos of DG sets of capacity 625 KVA with stack as per KSPCB norms.

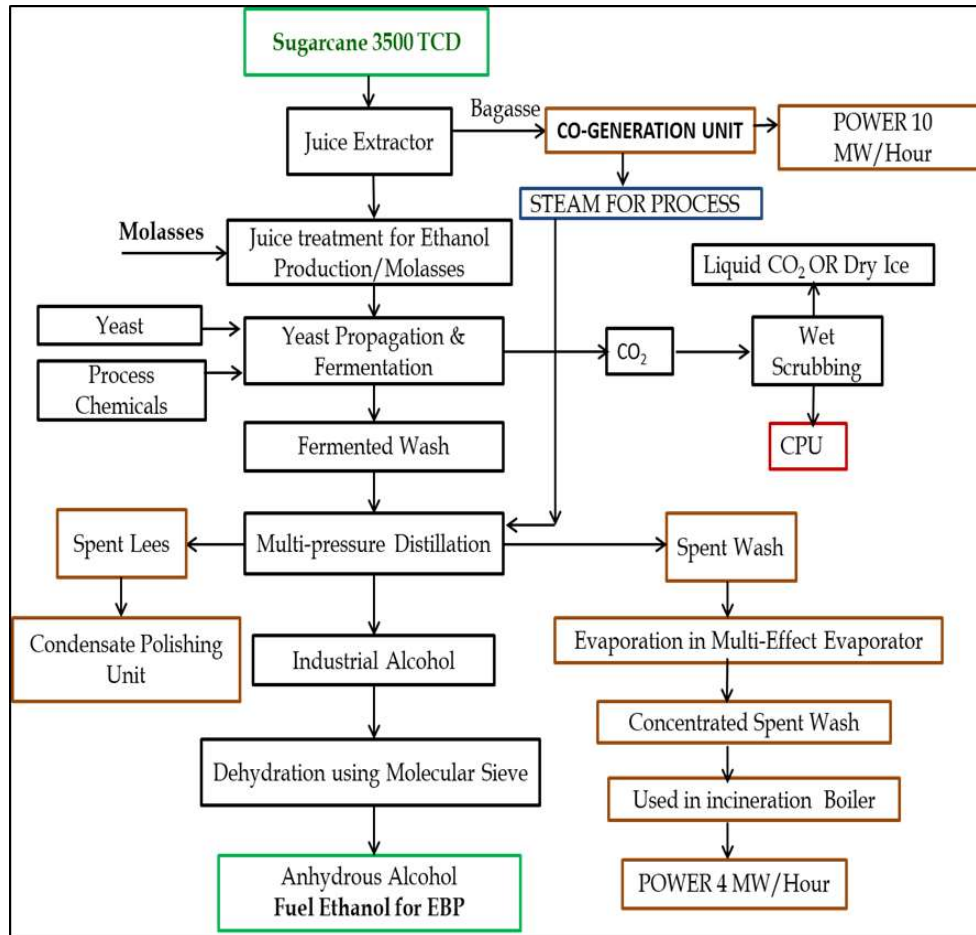
ES-4 Process Description

The process of converting syrup/molasses to Alcohol can be divided into following sub sections:

- Feed Preparation and weighing

- Yeast Propagation and Fermentation
- Multi-Pressure Distillation

The detailed manufacturing process is explained in process flow chart for Ethanol Production and Power Generation is given below :



ES-5 Present Status of Environment

In order to access the baseline environment of the project site, monitoring of various environmental attributes were conducted by EHSCPL during March 2021 to May 2021. In addition to the baseline monitoring, field inspection of study area within 10 K radius, collection of secondary data and discussion with neighbourhood public, officials were done by the study team.

Land Use: In the study area of 10 Km radius majority of the project buffer (Outside the proposed industrial premises) is fallow land occupying about 12170 ha representing about 38.78% followed by forest land of 7086 ha accounting 22.58%. The forest land is confined to the vertically half of western portion of the 10 km radius of land. Next in the order is Built-up area (3887 Ha and 12.39%), agricultural land (3804 Ha and 12.12%) and plantation (3763 ha and 11.99%) followed by waterbodies (6.71 Ha and 2.14%).

Meteorology: Meteorological monitoring was carried out at project site during March 2021 to May 2021. The average temperature during the year ranges from 18°C - 38°C. The normal annual rainfall ranges from 5.3 mm to 226 mm per month.

Air Environment: Ambient air quality monitoring was carried out at 8 locations including one downwind and one upwind direction. The AAQM results for PM₁₀ (59.59 µg/m³ to 76.96 µg/m³), PM_{2.5} (15.61 µg/m³ to 24.20 µg/m³), SO₂ (6.71 µg/m³ to 9.80 µg/m³), NO₂ (17.29 µg/m³ to 24.68 µg/m³) and CO (0.64 mg/m³ to 0.94 mg/m³) were well within the standards

stipulated by NAAQ standards, 2009. Lead & Nickel are found in trace quantities in the study area. The rest of the parameter as per NAAQ, 2009 and Hg were found to be below detectable limit. AQI of the study area was calculated and found to be good for all the parameters.

Noise Levels: The ambient noise level monitoring was conducted at 8 locations in and around the project site. The noise levels were in the range of 46.6 to 58.93 dB(A) during day time and 35.64 to 52.86 dB(A) during night time. The results of noise levels during day and night were found to be within CPCB standards.

Surface Water Quality: Surface Water sampling & analysis is carried out at 5 locations in the study area. Analysis reports reveals that, the surface water quality in the study area are of poor quality (SW-3 & SW-5) and very Poor quality (SW-1, SW-2 & SW-4). However, it was noted that, the total water requirement for the project is 5922 KLD out of which fresh water demand is only around 1200 KLD. Also, the waste water generated such as, domestic sewage will be treated in septic tank followed by soak pit and the condensate generated will be treated in CPU of capacity 4400 KLD and the treated water is recycled back into the process. Hence, the quality of surface water will not be affected due to project activities.

Ground Water Quality: Ground water (Bore well) samples were collected at 8 locations and analysed to know the baseline water environment. The Potassium values ranges from 1.6 mg/L (GW-2) to 16 mg/L (GW-3) with mean value of 5.611 mg/L (table 5), Calcium values ranges from 24 mg/L (GW-2) to 100 mg/L (GW-5) with mean value of 65.3 mg/L, (Table 5). Magnesium values ranges from 14.58 mg/L (GW-2) to 46.17 mg/L (GW-4) with mean value of 32.25mg/L (Table 5) and Sodium values ranges from 20 mg/L (GW-2) to 81 mg/L (GW-6) with mean value of 54.77mg/L (table 5). As per the IS 10500:2012 Standards (Second revision), all the values are well within the standards.

Geology: The Study area and its environs comprise Chitradurga Group of rocks consisting Graywacke-argillite, Ferruginous Shale; banded ferruginous Quartzite of Dharwar Super Group belonging to Palaeo Proterozoic to Archaean Age. Quartzite and Graywacke is the major litho unit.

Hydrogeology: The general flow direction of ground water in the district is towards the south east. The depth to water level varied between 15.0 to 30.0 m over the core and buffer zone. The annual water level fluctuation is reported to be varying between 2.0 to 8.0 m in the study area.

Biological Environment:

The project area is predominantly surrounded by agricultural lands in all direction throughout the 10 km radius. Therefore, to understand the ecological status of the study area, the entire study area is divided into four quartiles i.e., NW, NE, SE and SW.

A total Number of 2 trees species belonging to 2 families were found in Project site, the tree species recorded were *Tectona grandis* L. (n=74) and *Acacia auriculiformis* Benth.(n=2). The recorded species are common to region and no RET species were recorded. The project site is Teak Monoculture Plantation. The teak is used for timber and wood purpose. As per the IUCN conservation status 2021, *Acacia auriculiformis* Benth is Least concerned and *Tectona grandis* L.f. is not assessed. Recorded species are common to region and no RET species were recorded

The proposed project M/s VINP Distilleries and sugars Pvt., Ltd., falls under Northern Transition Zone. The project is surrounded by Reserve forest and Agricultural land. The project site consists of consist of Teak Plantation and during construction phase all the species will be removed. The *Tectona grandis* is the common tree species recorded in the project site and study area. There is no protected area and wildlife corridor near the project

site. A wide variant birds and butterfly species are recorded in the project site. Indian peafowl was recorded in the project site. Black Kite, Black-shouldered kite, Brahminy kite and Indian peafowl recorded in study area falls under schedule I as per the Wildlife (Protection) Act, 1972. As per the Conservation status 2021 Black-headed Ibis and Painted Stork is Near Threatened species recorded in study Area.

Socio Economic Studies: Socio-economic survey was conducted at was made through field survey of 35 households randomly across 4 sample villages have respondent from the 25 villages within 10 km radius consists of 20% of study area and the perceptions of the respondents in surrounding areas are summarized as follows:

- Industrial growth in the region has significantly supported the sustainable livelihoods in the area especially for skilled and semi-skilled persons.
- Development of the secondary sector in the area has positively contributed to induced development leading to creation of multiplier self and wage employment opportunities.
- It would help further strengthen infrastructure development in the area.
- It may aggravate air pollution through release of obnoxious gases and odors.
- Also suggested the protocols of the Covid-19 to be adhered during the stages of the project cycle. Discussion also raised about the vaccination to population in the study region.

ES.6 Anticipated Environmental Impacts and Mitigation Measures

ES.6.1 Land Environment

- **During Construction Phase**

The impacts on soil during construction phase shall be mainly due to loss of top soil in the construction areas and contamination of the soils due to construction materials such as cement, sand, used oil etc. Removal of vegetation for construction purpose makes the soil vulnerable to erosion. Improper handling of excavated earth will block the natural drainage pattern. Improper handling of solid waste from labour camps will lead to create soil and ground water contamination. Excavated top soil will be stored and reused for greenbelt development around the industry.

The loss vegetation during construction phase is temporary and 33% of industrial area will be brought under greenbelt development. There are no natural streams running within the industrial premises. Embankments and side drains will be provided to reduce water stagnation within the project site. Solid waste generated from the labour camps will be collected in bins and handed over to local municipal authorities.

- **During Operation Phase**

Discharge of untreated condensate from the industry on the land will leads to formation of organic acids during decomposition and thereby causing immobilization of plant nutrients, death of many soil organisms in the soil can lead to change in soil structure. Deposition of fly ash from the exhaust stacks on the surrounding agricultural lands will leads to reduction of transpiration and guttation in the plants, decreases in crop yield and deposition of toxic substances present in fly ash on plants. Improper handling of hazardous and non-hazardous wastes generated will creates soil contamination and accidental spillage of chemicals during storage, handling, leakage of pumps and in pipelines within the industrial site will contaminate soil and ground water regime.

Condensate Polishing Unit of 4400 KLD has been proposed to treat the condensate generated from the project activities. Fly ash is generated as a result of combustion will be captured by an electrostatic precipitator (ESP) before the flue gases reach the stack. These ESPs generally have multiple pyramidal hoppers at the bottom, in which the ash is collected by gravity and then is transferred to a storage silo. The yeast sludge and ETP sludge will be reused as manure and Boiler ash will be sold to brick manufacturers the industrial premises will be made impervious

ES.6.2 Solid and Hazardous Waste Generation

- During Construction Phase

The major solid waste generated during construction phase will be construction/concrete debris. Some metal waste, oil and grease from construction machines will be generated. The improper handling of domestic solid waste will lead to soil and ground water contamination. The improper disposal of hazardous waste such as paints, solvents has led to soil and ground water pollution. The generated top soil will be stored in designated place and reused for green belt development.

The Domestic waste will be collected and segregated into organic and inorganic solid waste, and then it will be handed over to local municipality for further process.

- During Operation Phase

Solid waste will be generated mainly in the form of fly ash, press mud, yeast sludge. Improper handling of solid waste generated will lead to pollution of soil environment and in turn ground water pollution. Improper handling of used oil from DG sets will also affect the soil and ground water.

Domestic solid waste will be handed over to local municipality, Yeast sludge and ETP sludge will be used as manure. Used Oil and used cotton waste will be handed over to KSPCB authorized recyclers.

ES.6.3 Air Environment

- During Construction Phase

The sources of air pollution will be fugitive emissions from transportation activity. Particulate matter would be the predominant pollutant affecting their quality during the construction phase. Dust will be generated mainly during excavation, back filling and hauling operations along with transportation activities and impacts is short term.

The vehicles used for transportation of construction material will be certified valid PUC. Temporary sheds will be developed in order to store the construction material inside the project premises. The machinery used for construction purpose will be properly maintained and serviced.

- During Operational Phase

The sources of air pollution are from 65 TPD and 40 TPH incineration boilers and 2 x 625 KVA DG Set. The fugitive emissions will exhaust from loading / unloading of bagasse, transportation of raw materials and from fly ash storage area. Regular water sprinkling on all exposed surfaces to suppress dust, erecting the high walls to act as wind shield during storage of raw materials. Cleaning the return belts in the conveyor belt systems to remove loose dust. The speed limit of 30 km/hr will be maintained for Vehicles within the premise. Implementation of correct loading and unloading practices. Materials shall be transported in securely covered trucks to reduce dust emission. The stack height of 45m and 60 m AGL will be provided for 65 TPD and 40 TPH incineration boilers and adequate stack height will be provided for DG set as per KSPCB Norms. The stacks will be connected to ESP to mitigate the pollution with the efficiency of 96%.

ES.6.4 Noise Environment

- **During Construction Phase**

The source of noise during construction period will be due to movement of construction vehicles, noise from construction equipment like dozer, scrapers, concrete mixers, cranes, Pumps, compressors, and use of DG sets. Operation of these machineries will generate the noise level in the range of 78 -85 dB (A) near the source. Chronic exposure to high noise will lead to varying degree of damage to human hearing system, Sleep deprivation, annoyance, stress, poor concentration, mental fatigue and headache. The noise control measures during construction phase includes selection of low noise generating equipment's, provisions of caps for the equipment and regular maintenance of the equipment's.

The workers exposed to the high noise area will be provided with PPEs like ear muff/ plugs to the workers. The high noise zones at site will be demarcated and provided with enclosures & barriers also, those activities will be restricted only for day. Where ever possible, equipment will be provided with silencers and mufflers. Overall, the impact of increase in noise on the environment would be insignificant, as it will be localized and mainly confined to the day hours.

- **During Operational Phase**

Primarily noise will be generated from equipment's such as Boiler's, Stream turbine, DG sets and process operations. Exposure to high noise causes varying degree of damage to human hearing system which is initially reversible. Sleep deprivation, annoyance, stress, poor concentration, mental fatigue and headache are few of the other effects which are caused due to prolonged exposure to high level noise.

The levels of outdoor Noise, whether they are intrusive or the normal background environment, vary extensively at distances greater than about a hundred meters from the source. This variation is caused by changes in weather conditions and by topographical features such as ground cover, hills and other obstacles between the source and the receiver.

ES.6.5 Hydrology & Geology

The formation of pits, excavation of top soil and weathered portion for formation of pits for foundation. Collapse of top soil and weathered portion and fly rock due to blasting anticipated. To harness the storm water, harvesting structures are suggested within the Project area to augment the declining water levels. The water source for the project is Varada River hence no ground water drawl.

The collapse can be avoided by formation of benches of 1.5 m to 3.0 m height for working conveniently and making access to sub surface levels for pit formation. Controlled blasting by deploying time delay detonators, placing of moist clay bags will be adopted. Provision of earplugs and goggles to workmen is suggested. Recharge pits shall be constructed with dimensions 6 m X 5 m X 3m depth to recharge the aquifer.

ES. 6.6 Water environment

- **During Construction Phase**

Impact on water quality during construction phase will be mainly due to sewage generated from the labour camps for construction workers. Oil spillages from vehicle and machines like DG sets used during construction phase contaminate the surface water. Stagnated water in construction premises attracts mosquitoes/flyes and its anticipated impacts on workers health.

Labour camps and the surrounding area will be maintained clean & by providing proper drainage system, the generated sewage will be treated in mobile STP from labour camps. Used oil from DG sets & oil soaked cotton waste will be stored in a leak proof barrel & handed over to KSPCB authorized vendors. Solid waste which is nothing but domestic

garbage, it will be segregated in to organic & in-organic solid waste and handed over to local municipality.

- **During Operational Phase**

Improper Storage of spent wash will contaminate ground water, as the molasses spent wash has the very high levels organic contents which will create high pollution. Effluent from the distillery if not treated and disposed properly, will contaminate both the surface and ground water. The unscientific treatment and disposal of generated sewage from industry workers (300 no's) will lead to sub-surface soil pollution and contaminate ground water due to infiltration.

Distillery effluent such as condensate, spent lees and other waste water from processing will be treated in Condensate polishing unit (CPU capacity 4400 KLD) & reused for process. Effluent generated from Sugar Plant will be treated in Effluent Treatment Plant (ETP of capacity 500 KLD) and reused for greenbelt development. Generated Sewage will be treated in sewage treatment plant of capacity 15 KLD (SBR Technology)

ES. 6.7 Biological Environment

- **During Construction Phase**

In the Project Site about 2,686 trees (above 30cm GBH) are present. All the trees will be cleared for the establishment industry. This would have changes in micro climate conditions of the area the birds, small sized mammals and reptiles will be disturbed in their natural activity and moment due to production of noise, air pollution and water pollution from the proposed construction activities

The trucks carrying construction and raw material will be covered with tarpaulin sheet to prevent the emission of dust during transportation. Barricading of site shall be undertaken to prevent air and noise pollution and also threat to wildlife, if any.

- **During Operational Phase**

Improper disposal of Waste water, Solid & Hazardous waste generated from industry will leadsto affects the surrounding water bodies that results in the death of aquatic animals and birds which are depend on aquatic animals as their food. Noise & vibration generation from industrial activities affects the avifauna. Chances of Forest Fire and loss of habitat due to risks and hazards of the industry since the RF are adjacent to the project site.

The acoustic enclosures will be provided to DG set and smooth vehicular movement will be adopted to reduce noise levels. Proper management of solid and hazardous waste, waste water will treated by installing Zero liquid discharge, hence there is industrial waste disposal on land or to nearby water bodies.

ES. 6.8 Socio Economic Environment

- **During Construction Phase**

There is no impact on natural resources sustainability, land, human settlement, livelihoods, and economic development. During the construction phase, around 150-200 construction labourers will get direct employment (non-technical) opportunities. Local villagers will get an employment for all recruitments of non-technical (Temporary /Permanent).

- **During Operational Phase**

During the operational phase a total of 300 personal will get job opportunities in skilled, semi skilled and unskilled works. Contamination of air due to industrial processes from the project. Sufficient stack height will be provided and regular monitoring will be carried out to know about air emmissions. Conducting Health Camps and vaccination drives to all. And awareness Covid-19 outbreak and its prevention measures.

ES.7 Environment Monitoring Programme

The environmental monitoring programme will be strictly implemented during construction and operational phases which will cost Rs. 23,830/month during construction phase (Rs. 2,85,960/12 Months) and Rs. 40,700/ month during operational phase (Rs.4,88,400/12 Months). Six monthly compliance reports for the EC conditions will be submitted to RO, MoEF & CC, Bengaluru. Further, the monthly Environmental Monitoring reports will be submitted to Regional office, KSPCB, Bagalkot and the Environment Statement will be submitted every year to Regional office, KSPCB, Bagalkot.

ES.8 Project Benefits

- Skilled, semi-skilled & unskilled Employment opportunities (Direct & in-direct) to 300 workers from the nearby villages.
- Green belt development within the plant premises of about 23 acres (33 % of total area 69 acres) will help to create healthy environment and acts as pollution sink. Further avi-fauna population of the area will increase.
- The socio-economic status of the local people will improve, and Infrastructural development such as public amenities viz., Roads, school building rooms, Education programmes, Health camps, Agricultural programmes will improve.
- The land rates in the area will improve in the nearby areas due to the implementation of the project. This will help in overall improvement of healthcare facilities, educational facilities, infrastructure facilities & socio-economic status of the people in the surrounding area

ES.9 Environment Management Plan

The EMP consists summary of impacts, mitigation measures, allocation of recourse, responsibility and time. The EMP for the project is given below, the responsibility of implementation of EMP lies with M/s.VINP.

Sl. No	Environmental Attributes	Impacts	Mitigation Measures
A. Construction Phase (Capital Cost)			
1.	Air Pollution	Increase in Particulate matter due to movement of vehicles and use of DG sets for construction activities.	<ul style="list-style-type: none"> Regular water sprinkling will be carried out to suppress the dust. It will be ensured that diesel powered vehicles and construction machinery are properly maintained to minimize the exhaust emissions. The machinery used for construction purposes will be properly maintained and serviced.
2.	Noise Levels	Increased noise level will have impact on the health of the labourers & tranquility of surrounding.	<ul style="list-style-type: none"> Periodic maintenance will be carried out for all noise generating machinery / equipment. It will also be ensured that all such machineries / equipment are of recent vintage and installed on anti-vibration mountings & with acoustic enclosures. The workers operating on all such machinery will be provided with PPEs like earmuffs/ earplugs.
3.	Water quality	Stagnated water in construction sites & labour camp will result in creation of mosquitoes breeding ground and impact is anticipated on health of the workers affecting their performance due to infections spread by disease vectors and also causes unhygienic environment	Temporary garland drainage arrangements will be made around construction site & in Labour camp to avoid stagnation of water. The channelized water will be collected in catch pit & will be used for suppression within the construction site

Sl. No	Environmental Attributes	Impacts	Mitigation Measures
4.	Soil	Temporary displacement of soil may be envisaged.	Excavated earth shall be stored separately & utilized for green belt development. Garlands shall be constructed to arrest the surface runoff & soil erosion. The drains shall be frequently de-silted to ensure free flow of water.
5.	Ecology and Biodiversity	Slight impact on EB due to construction activity, displacement of habitat, tree cutting or transplantation etc.,	<ul style="list-style-type: none"> Green belt development is scientifically planned to compensate the impact on EB. Native species of trees will be proposed to be planted all along the periphery.
6.	Hydrology & geology	No Impacts	<ul style="list-style-type: none"> Rain water harvesting plan will be implemented scientifically.
7.	Traffic Management	Increase in dust due to fast movement of vehicles, also due to rise in dust chances of low visibility may result in accidents	<ul style="list-style-type: none"> Speed restriction on vehicles <15 KMPH shall be ensured by trained securities, Vehicular movement will be in a staggered manner. Periodic sprinkling will be carried out to reduce the dust. Asphalting of internal roads within the project will further minimize the dust emission.
8.	Solid & Hazardous Waste Management	The solid waste generated during construction will be debris, metal scrap, empty paint cans, etc. The municipal solid waste generated from labour colony creates unhygienic conditions in the vicinity and improper storage will generate leachate and in turn this would affect surface water quality.	<ul style="list-style-type: none"> The solid waste generated during construction shall be debris, metal scrap, empty paint cans, etc. will be segregated – debris will be utilized for levelling of land formation of roads etc. metal scrap will be stored separately & used as raw material, empty cans will be handed over to authorized recyclers. The municipal solid waste will be segregated into organic & inorganic. The organic will be composted in a small earth pit & the inorganic will be handed over to KSPCB authorized recyclers.

Sl. No	Environmental Attributes	Impacts	Mitigation Measures
B. Operation Phase (Capital Cost)			
1.	Air Pollution	<ul style="list-style-type: none"> Gaseous and fugitive emissions from Boilers, Process, storage, transportation of raw materials and finished products, DG sets 	<ul style="list-style-type: none"> The efficiency of ESP is 98 %. Clean air vent out from the chimney of height 45m and 60m (65TPH & 40 TPH incineration boilers). Green belt will be developed all along the perimeter of the industry to mitigate air/Noise pollution. All the internal roads will be asphalted to reduce particulate emissions. Regular maintenance of air pollution control equipment will be carried out to ensure its effective performance.
2.	Noise Levels	Prolonged exposure will lead to hearing difficulty, sleep deprivation, fatigue, stress, poor concentration, performance losses in the workplace.	<ul style="list-style-type: none"> The workers in the plant premises will be provided with proper PPEs which include earplugs. Noise generating equipment will be installed on anti-vibrating mountings & with sound enclosures.
3.	Water quality	Ground water pollution, flooding due to the generation of spent wash, Sewage, Storm water run off	<ul style="list-style-type: none"> The effluent generated from Sugar Plant will be treated in ETP of capacity 500 KLD and the treated effluent will be utilized for greenbelt development. The condensate generated will be treated in ETP of capacity 4400 KLD. The treated water will be reused in the process. Storm water drains will be provided to prevent flooding in the proposed site. Storm water gutters/drains will be constructed in the perimeter on either side of the haul roads. The generated domestic sewage is treated in ETP of capacity 15 KLD. Garland channels will be provided around the site.

Sl. No	Environmental Attributes	Impacts	Mitigation Measures
			<p>storage yards.</p> <ul style="list-style-type: none"> Harvested rainwater will be reused for development/sprinkling applications and potable uses thereby conservation freshwater requirement. Rainwater harvesting sump will be properly implementation
4.	Ecology and Biodiversity	Positive Impact	<ul style="list-style-type: none"> Green belt development & its maintenance Financial assistance to Schools
5.	Solid waste	<ul style="list-style-type: none"> Yeast Sludge Sludge from CPU Boiler Ash Used Oil & Oil soaked cotton waste Empty Barrels / Containers 	<ul style="list-style-type: none"> Yeast sludge and Sludge from CPU will meet required proportion and reused as manure and handed over to member farmers. Boiler ash will be given to brick manufacturing facility Used oil & Oil soaked cotton waste, spent tur waste oil residue from CPU will be stored in identified place in a leak proof containers & disposed to KSPCB authorized dealers. Municipal Solid waste will be segregated into organic & in-organic, organic waste will be composted in earth pits using wormy composting method. Inorganic waste will be handed over to V. Municipal Corporation
6.	Risk & hazards	Health impacts on employees workers and surrounding villagers	<ul style="list-style-type: none"> Medical examinations periodically as per Factories act 1948 and Karnataka Factories Act 1969 Personnel Protection equipment (safety goggles, respirators/ masks, Aprons etc.) Maintenance of Occupational Health certificate and First aid kits

Sl. No	Environmental Attributes	Impacts	Mitigation Measures
			<ul style="list-style-type: none"> • Training to workers on firefighting, use of fire extinguishers, emergency preparedness and first aid • Visual signage and posters display to create awareness on health and safety topics • Environment monitoring in the workplace including air monitoring, Particulate matter, VOC's etc.
7.	Hydrology & geology	Positive Impact	<ul style="list-style-type: none"> • Rain water harvesting plan will be implemented scientifically. Roof run off & surface runoff will be segregated & collected in separate sum. Surface runoff will be used for non-potable purposes. Surface runoff will be connected to ground recharge pits. • Garland drainage arrangements will be made around Project site to avoid stagnation of water. The channelized water will be collected in pits & will be used for dust suppression within construction site
8.	Socio-economic Environment	<ul style="list-style-type: none"> • Positive impact 	<ul style="list-style-type: none"> • Due to proposed project local people will get permanent jobs. • Socio-economic status of the surrounding area will improve. • Business opportunity for small vendors will improve the socio-economic status • Conducting health camps for the employees and dependents.
9.	Energy Conservation measures	Positive impact due to use of solar energy	<ul style="list-style-type: none"> • Provision of Solar lighting will be made at the site.

ES.10 Conclusion

M/s.VINP Distilleries and Sugars Pvt. Ltd. proposed to establish molasses & Dual feed based Distillery of capacity 300 KLPD with 10 MW Co-Generation unit and 4 MW Power Generation from Incineration Boilers at Konanakere Village, Shiggaon Taluk, Haveri District, Karnataka. The industry proposed to install necessary APCs such as ESP and acoustic enclosure to DG set to control air pollution with sufficient stack height. The generated waste water from the project will be reused with ZLD technology; hence there is no ground water pollution from the proposed project. The domestic solid waste will be handed over to local municipality for further process, and industrial process wastes such as fly ash, bottom ash will be sold out to brick manufactures and press mud will be used as manure. The industry is proposing to utilize best available technologies to minimize emissions.

The baseline environment in and around the industry is found to be good There are no protected areas, wildlife sanctuaries, Eco sensitive zones within 10 Km radius of the industry. It is proposed to develop 33% of the total plot area as green belt to improve biological environment. Risk and Hazards have been identified for the industry, implementation of emergency preparedness plan and establishment of Occupation Health Centre is mandatory to mitigate the health impacts. The industry is helpful for creating direct and indirect jobs in the surrounding area. The industry is also contributing to growing distillery sector of the nation and thus contributing revenue to the country. Overall, this project will have positive impact on the Environment, the recommended EMP and monitoring aspects; measures are fully implemented in high spirit by the project proponents.