

ENVIRONMENTAL  
CLEARANCE

PARIVESH

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Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Karnataka)

To,

The Chief General Manager (HSE)  
MANGALORE REFINERY AND PETROCHEMICALS LTD  
KUTHETHOOR P.O, VIA KATIPALLA, -575030

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/KA/IND2/44027/2017 dated 01 Oct 2019. The particulars of the environmental clearance granted to the project are as below.

- |                                            |                                                                                                                                                                     |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. EC Identification No.                   | EC23B022KA178546                                                                                                                                                    |
| 2. File No.                                | SEIAA 38 IND 2019                                                                                                                                                   |
| 3. Project Type                            | New                                                                                                                                                                 |
| 4. Category                                | B1                                                                                                                                                                  |
| 5. Project/Activity including Schedule No. | 5(g) Distilleries                                                                                                                                                   |
| 6. Name of Project                         | 60 KLPD Second Generation (2G) Ethanol Project by Mangalore Refinery and Petrochemicals Limited at Hanagawadi Village, Harihar Taluk, Davangere District, Karnataka |
| 7. Name of Company/Organization            | MANGALORE REFINERY AND PETROCHEMICALS LTD                                                                                                                           |
| 8. Location of Project                     | Karnataka                                                                                                                                                           |
| 9. TOR Date                                | 24 Aug 2017                                                                                                                                                         |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 21/01/2023

(e-signed)  
Sri Vijay Mohan Raj V.,IFS  
Member Secretary  
SEIAA - (Karnataka)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*





# State Level Environment Impact Assessment Authority-Karnataka

(Constituted by MoEF, Government of India, under section 3(3) of E(P) Act, 1986)

No. SEIAA 38 IND 2019

To,

M/s Mangalore Refinery and Petrochemicals Ltd.  
Kuthethoor P. O. Via Katipalla  
Managaluru – 575 030

Sir,

**Sub:** Proposed 60 KLPD Ligno based cellulosic Second Generation (2G) Ethanol plant at Sy. No. 82/1,82/2, 83/P, 84/1A, 84/1B, 84/2, 85/1 & 85/2, Hanagawadi Village, 2<sup>nd</sup> stage, KIADB land at Harihar Taluk, Davangere District Karnataka by M/s Mangalore Refinery and Petrochemicals Ltd., - issue of Environmental Clearance Reg.

\* \* \* \* \*

This has reference to your online application dated 6<sup>th</sup> July 2017 bearing proposal No. IA/KA/IND2/65932/2017 addressed to MoEF&CC and proposal No. SIA/KA/IND2/44027/2017 dated 1<sup>st</sup> October 2019 addressed to SEIAA, Karnataka on the subject mentioned above along with Form-1, Prefeasibility Report, EIA Report as per the EIA Notification, 2006.

2. It is a proposal seeking Environmental clearance for Proposed 60 KLPD Ligno based cellulosic Second Generation (2G) Ethanol plant at Sy. No. 82/1,82/2, 83/P, 84/1A, 84/1B, 84/2, 85/1 & 85/2, Hanagawadi Village, 2<sup>nd</sup> stage, KIADB land at Harihar Taluk, Davangere District Karnataka by M/s Mangalore Refinery and Petrochemicals Ltd. This is a project covered under Sl. No. 5(g) of the Schedule Under of EIA Notification 2006 and amendments made there on.

3. It is inter-alia, noted that M/s Mangalore Refinery and Petrochemicals Ltd, have Proposed for 60 KLPD Ligno based cellulosic Second Generation (2G) Ethanol plant project on a land area of 47.65 Acres (19.28 Ha). Industry shall develop greenbelt in an area of 15.72 Acres. i.e. 33 % out of total area of the project site. The total cost of the project is Rs. 1371.6 Crores. The details of proposed products to be manufactured with capacities are given in ANNEXURE: -1.

The total water requirement for the proposed project is 2446 KLD and it will be met from the Thungabhadra river. The total effluent generation is 824 KLD. Effluent generated will be treated in Treatment plant with multi effect evaporators, process condensate treatment plant consists of combination of anaerobic and aerobic treatment followed by RO plant. Details of untreated effluent characteristics are given in ANNEXURE – 2.



The project shall have DG set of 3MW as alternative source of power supply. It is proposed to install 2 boilers (20 TPH each). The details of hazardous waste and process emission details are given in ANNEXURE -3 and ANNEXURE - 4 respectively

4. It is inter-alia noted that ToR was issued by MoEF & CC to this project vide letter No. IA-J-11011/364/2017-IA-II(I) dated 24 July 2017 for 60 KLPD Ligno based cellulosic Second Generation (2G) Ethanol plant.

5. It is inter-alia, noted that M/s Mangalore Refinery and Petrochemicals Ltd, ot the EIA study conducted by ABC Techno Labs India Private Limited. Chennai, who has been accredited from NABET/QCI vide letter No. NABET/EIA/1922/RA 0155, dated 02.03.2020. The Public Hearing was conducted on 09.07.2019. The Final EIA report Submitted on 21.10.2019 to the SEIAA Karnataka, in terms of amendment to EIA Notification 2006, issued by MoEF & CC vide Notification No. S.O. 1960 (E) dated 13<sup>th</sup> June 2019.

6. Based on the information submitted by you, presentation made by you and your consultant, the State Level Expert Appraisal Committee (SEAC) appraised the proposal in the meeting held on 12<sup>th</sup> June 2020 and has recommended for issue of Environmental Clearance.

7. The SEIAA Karnataka has considered the project in its meeting held on 20<sup>th</sup> July 2020, after due consideration of the relevant documents submitted by you and additional clarifications furnished in response to its observations and the appraisal and recommendation of the SEAC, decided to accord Environmental Clearance in accordance with the provisions of Environmental Impact Assessment Notification-2006 and its subsequent amendments, subject to strict compliance of the following terms and conditions:

**I. Statutory compliance**

- i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (Incase of the presence of schedule-1 species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- v. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

- vi. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989

## **II Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous)
- iii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- v. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.
- vi. Sulphur content should not exceed 0.5% in the fuel used in oil fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- vii. The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.
- viii. Storage of raw materials shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.



### **III. Water quality monitoring and preservation**

- i. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD) and connected to SPCB and CPCB online servers.
- ii. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD)
- iii. Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.
- iv. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- v. Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.
- vi. Industrial/trade effluent shall be treated in Effluent Treatment plant multi effect evaporators, process condensate treatment plant consists of combination of anaerobic and aerobic treatment followed by RO plant
- vii. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.

### **IV. Noise monitoring and prevention**

- i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- ii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.
- iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time

### **V. Energy Conservation measures**

- i. The energy sources for lighting purposes shall preferably be LED based.

### **VI. Waste management**

- i. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame

- arresters shall be provided on tank farm and the solvent transfer through pumps.
- ii. Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
  - iii. The company shall undertake waste minimization measures as below:-
    - a. Metering and control of quantities of active ingredients to minimize waste.
    - b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
    - c. Use of automated filling to minimize spillage.
    - d. Use of Close Feed system into batch reactors.
    - e. Venting equipment through vapour recovery system.
    - f. Use of high pressure hoses for equipment clearing to reduce wastewater generation

#### **VII. Green Belt**

- i. The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

#### **VIII. Safety, Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented
- ii. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- iii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
- iv. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- v. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places



## **IX. Corporate Environment Responsibility**

- i. The Project Proponent shall comply with provision contained in OM vide F.No. 22-65/2017-IA.III dated 1-5-2018 and OM vide F.No. 22-65/2017-IA.III dated 20-10-2020, of the Ministry of Environment, Forest and Climate Change as applicable, regarding Corporate Environment Responsibility and shall execute the action plan of Infrastructure creation for drinking water supply and sanitation, education, Skill Development, roads, cross drains, electrification including solar power, Solid waste management facilities, scientific support and awareness to local farmers to increase yield of crop and fodder, rain water harvesting, soil moisture conservation works, Avenue plantation, plantation in community areas, as submitted vide letter received on 28.09.2022.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

## **X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the


relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. "The HYCRs with its contents of a covering letter, compliance reports, and environmental monitoring data has to be in PDF format merged into a single document. The email should clearly mention the name of project, EC No & date, period of submission and to be sent to the Regional Office of MOEF&CC by email only at email ID [rosz.bng-mefcc@gov.in](mailto:rosz.bng-mefcc@gov.in) Hard copy of HYCRs shall not be acceptable".
- vii. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- viii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- xi. No further expansion or modifications in the plant shall be carried out without prior approval of this Authority or the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xiii. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiv. The SEIAA reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.



- xv. The Regional Office of MoEF&CC shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010

Yours faithfully,

  
(Vijay Mohan Raj V)  
Member Secretary,  
SEIAA, Karnataka.

21/1/23

**Copy to:**

- 1) The Secretary, Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi- 110 003.
- 2) The Member Secretary, Karnataka State Pollution Control Board, Bangalore.
- 3) The APCCF, Regional Office, Ministry of Environment & Forests (SZ), Kendriya Sadan, IV Floor, E & F wings, 17<sup>th</sup> Main Road, Koramangala II Block, Bangalore – 560 034.
- 4) Guard File.

**ANNEXURE – 1**

**THE LIST OF PROPOSED PRODUCTS WITH CAPACITIES**

Sl.No.	Name of the Products	Production Capacity
1	Ethanol	60 KLPD
2	Carbon Di Oxide	45.83 TPD
3	Fusel Oil	0.18 TPD
4	Technical Alcohol (TA)	1.27 TPD
5	Lignin	79 TPD
6	Concentrated Syrup	58.41 TPD
7	Biogas from ETP	1800 m <sup>3</sup> /Day

**ANNEXURE – 2**

**UNTREATED EFFLUENT CHARACTERISTICS**

Sl. No.	Parameter	Expected range
1	pH	3-4
2	TDS	100 mg/L
3	COD	12000 mg/L
4	BOD	7000 mg/L



### ANNEXURE – 3

#### SOLID, HAZARDOUS WASTE & BIO-MEDICAL WASTE DETAILS

##### Details of Solid Waste from Bio Ethanol Plant

S.No.	Type of Solid Waste	Amount	Mode of disposal
1	Lignin	6.5 Ton/Hr	It will be used as a fuel in the boiler
2	Packing material of molecular seive	12.5 Ton/Year	It will be send to cement plants for coprocessing
3	Ash	110 Ton/Day	Will be used in cement industry, green concrete, refractory, speciality paint etc.
4	Paper/ Card Board etc.	1-2 Ton/ Year	Will be sold to recyclers
5	Food waste/ Biodegradable waste	0.5-1 Ton/Year	Food/other biodegradable waste will Biocomposted and compost will be used for green belt development

##### Details of Hazardous Waste from Bio Ethanol Plant

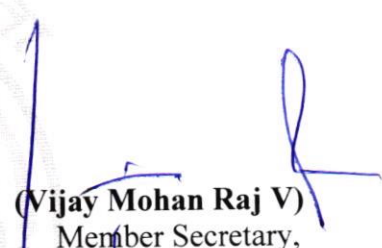
S.No.	Type of Hazardous Waste	Category	Amount	Mode of disposal
1	Used/ spent oil	5.1	7 KL/ Annum	Used oil will be collected in metal drums kept in secured dyked area and will be disposed to CPCB/ KSPCB registered used oil reprocessor or will be reprocessed in MRPL Refinery
2	Lead Acid batteries	17 (Schedule IV)	2-3 Batteries/ Annum	Will be recycled through the vendors supplying acid – lead batteries as required under the Batteries (Management & Handling) Rules, 2001 and amended thereof.

ANNEXURE – 4

PROCESS EMISSION FROM THE PROPOSED UNIT

Boiler Stack emission details

S.N	Particulars	Unit	Emissions
1	Flue gas flow rate	NM3/hr	72383
2	Flue gas temperature	°C	383
3	Emission rate of pollutants		
	PM	gm/sec	0.60
	SO2	gm/sec	1.16
	NOx	gm/sec	1.60

  
(Vijay Mohan Raj V)  
Member Secretary,  
SEIAA, Karnataka.