

**GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(IA DIVISION-INDUSTRY-2 SECTOR)**

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**Dated: 16.10.2023**

**Meeting ID: IA/IND2/13555/04/10/2023  
MINUTES OF MEETING OF THE EXPERT APPRAISAL COMMITTEE  
(INDUSTRY-2 SECTOR PROJECTS)  
HELD ON 04<sup>th</sup> October, 2023**

**Venue: Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003  
through Video Conferencing (VC)**

**(i) Opening Remarks by the Chairman:** The Chairman made hearty welcome to the Committee members and appreciated the efforts of the Committee. After opening remarks, the Chairman opened the EAC meeting for further deliberations.

**(ii) Confirmation of minutes:** The EAC, having taken note that final minutes were issued after incorporating comments received from the EAC members on the minutes of its Meeting (ID: IA/IND2/13551/04/09/2023) held on 04<sup>th</sup> September, 2023 conducted through Video Conferencing (VC), confirmed the same. After welcoming the Committee Members, discussion on each of the agenda items was taken up ad-seriatim.

**(iii)** Details of the proposals considered during the meeting conducted through Video Conferencing (VC), deliberations made and the recommendations of the Committee are explained in the respective agenda items as under: -

**04<sup>th</sup> October, 2023 (Wednesday)**

**Agenda No. 01**

**Installation of New Catalytic Dewaxing Unit and Modification of Once Through Hydrocracker Unit (OHCU) for Production of Group II/III LOBS within the Existing Refinery Complex - Environmental Clearance.**

**[IA/TN/IND2/273889/2021, IA- J-11011/42/2016-IA.II(I)]**

The Project Proponent M/s. Chennai Petroleum Corporation Limited, and the Accredited Consultant M/s. Hubert Enviro Care Systems (p) Limited (NABET certificate no. NABET/EIA/2224/SA0190 and validity 24.07.2024), made a detailed presentation on the salient features of the Project and informed that the proposal is for Environmental Clearance to the project Installation of New Catalytic Dewaxing Unit and Modification of Once Through Hydrocracker Unit (OHCU) for Production of Group II/III LOBS within the Existing Refinery Complex located at Manali Industrial Area, Taluk Ambattur, District Thiruvallur, State Tamilnadu by M/s. Chennai Petroleum Corporation Limited.

All Products are listed at S.No. 4(a) - Petroleum Refining Industries of Schedule of Environmental Impact Assessment (EIA) Notification 2006 and its Amendments under Category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

**The details of products and capacity as under:**

<b>S. No</b>	<b>Name of the Unit</b>	<b>Units</b>	<b>Existing Capacity</b>	<b>Proposed Capacity</b>	<b>Capacity after modernization</b>
1	Catalytic Dewaxing Unit	KTPA	0	270	270
2	Once-through Hydrocracker Unit	MMTPA	2.25	0.10	2.35

<b>S. No</b>	<b>Products</b>	<b>Units</b>	<b>Existing Quantity</b>	<b>Proposed Quantity</b>	<b>Quantity after modernization</b>
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1	H70	KTPA	0	75	75
2	H150	KTPA	0	67	67
3	H500	KTPA	0	100	100
<b>Total Product</b>		<b>KTPA</b>	<b>0</b>	<b>242</b>	<b>242</b>

Ministry has issued Environment Clearance to the existing refining capacity of 10.5 MMTPA vide file no. J-11011/42/2016-IA II(I) dated 02.08.2017. Certified compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, vide File no – EP/12.1/2017-18/20/TN/476 dated 28.04.2022. Action Taken Report has been submitted to IRO, MOEFCC, vide P&D:01:160&96 dated 02.03.2023, for 1 partial compliance and 1 non-compliance. EAC was satisfied with response of PP.

Standard Terms of Reference have been obtained vide F. No J-11011/42/2016-IA II(I) and J-11011/190/2016-IA I, dated 24.08.2021.

Status of Litigation pending against the Project proponent:

1. NGT Case under Environment (Protection) Act, 1986 - Original Application No. 256/2020(SZ)- Case Status-Pending (Judgement reserved)
  - (i) The referred case is a Suo-Moto case taken up by NGT (SZ) on 15.12.2020, based on the original article of Chennai Climate Action Group (CCAG) published in News Desk magazine dated 11.11.2020.
  - (ii) Air Pollution and Industries, "These six Industries in North Chennai are polluting the air for more Than half the year, The North Chennai Thermal Power Station along Ennore Port." - Order dated 15.12.2020.
  - (iii) The Hon'ble NGT appointed a Joint Committee to address the compliance statement. Subsequently the Joint Committee submitted the report.
  - (iv) No final / interim order given. Last heard on 30.01.2023
  - (v) Proceeding along with final order on judgement is reserved.
2. NGT Case under Environment (Protection) Act, 1986 - Original Application No. 1038/2018 dated 19.08.2019 - Case Status-Disposed

- (i) NGT had filed a Suo-Moto case based on the News Item Published in "The Asian Age" titled "CPCB to rank industrial units on pollution levels" on 13.12.2018 (Based on the CEPI Assessment carried out by CPCB).
- (ii) NGT has passed the following orders & directed SPCBs to impose Environmental Compensation Charges (ECC) against the erring Industries in the Critically/ Severely Polluted Areas.
- (iii) TNPCB had issued communication regarding action taken for reducing CEPI value. Further TNPCB has imposed ECC for 6 units & reply was submitted.
- (iv) Representation was given by Chambers of Industrial Association and stay for the same was obtained for 6 weeks and the same was disposed by Supreme Court. Further, individual industries were advised to approach NGT for handling this case separately.
- (v) Stay order with Civil Appeal Nos. 3319-3321/2020 (Civil Appeal Diary No(s). 19271/2020), dated 22.09.2020 was given by Hon'ble Supreme Court.
- (vi) MOEF issued OM dated 05.07.2022 for lifting of abeyance on Ministry's OM in pursuance to the order dated 25.02.2022 of Hon'ble Supreme Court.
- (vii) Subsequently, order was issued by NGT on 15.07.22 indicating that final order will be uploaded on 22.08.22 concluding the hearing.
- (viii) The case was disposed-off by NGT on 29.08.22.

The Proposed Project being located in notified Manali Industrial Area, Public Hearing is exempted under the provisions as per para 7-III-stage (3) (b) of the EIA notification, 2006.

Total plant area after modernization remains 832 Acres (100%) (Existing plant area - 832 Acres; Additional land required - Nil for proposed modernization) which is under possession of the company and converted to industrial use. No additional land will be acquired for the modernization project as the same will be done within existing refinery premises. Refinery has developed greenbelt in an area of 62 Acres (7.45%) inside Refinery and 90 Acres (10.81%) outside Refinery. The unit is planning to develop Green Belt in CPCL owned Fire School land, Sadyankuppam of 53 acres and in CPCL Desalination Plant, Kattupalli of 70 acres. The total green belt after modernization will be 275 Acres (33.1%). The estimated project cost is Rs.

1066 Crore. Capital cost of EMP would be Rs. 112 Lakhs and recurring cost for EMP would be Rs. 82.25 Lakhs per annum. Industry proposes to allocate Rs. 6.66 Crore towards extended EMP (Corporate Environment Responsibility). Total Employment after modernization will be 5576 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors, ESZ, Schedule-1 Species etc. within 10 km distance. Alamadi RF is at a distance of 14.27km in W direction. Water bodies: Buckingham Canal is at a distance of 0.03km in E direction for which NOC has been obtained from Water Resources Department vide letter no. No. DB/T5(3)/F.(CPCL)/2022 dated 23.02.2023 stating that "In this regard it is assessed that there is no possibility of treated or untreated effluent disposing into the Buckingham Canal and there is no pipe line or any access found at site", Korttalaiyar/Kosisttalaiyar R is at a distance of 0.18km in NE, Sattangadu Lake is at a distance 0.24km in W direction, Kodungaiyur Canal at a distance 1.35km in S, Lake near Sekkadu is at a distance 1.83km in W direction, Periyathoppu Lake is at a distance 1.87km in W direction, Captain Cotton Canal is at a direction 1.93km in S, Bay of Bengal is at a direction 2.10km in E, Kadappakkam Lake is at a distance of 3.61km in E, Otteri Nala is at a distance of 4.02km in S, Madavaram Eri/Retteri Lake is at a distance of 5.76km in W, Ennur Creek is at a distance of 6.93km in NE, Cooum/Kuvam R is at a distance of 6.99km in S, Pulal/Red Hills Lake is at a distance of 8.13km in W, Korattur Tank is at a distance of 8.99km in W, Canal near Padiyanallur is at a distance 10.82km in W, Adyar R is at a distance of 13.13km in S, Cholavaram Tank is at a distance of 13.95km in WNW, Ambattur Tank is at a distance of 14.06km in WSW, Krishna River Canal is at a distance of 14.50 km in W direction.

Ambient air quality monitoring was carried out at 8 locations during January 2022 to March 2022 and the baseline data indicates the ranges of concentration as: PM<sub>10</sub> (43.1-75.4 µg/m<sup>3</sup>), PM<sub>2.5</sub> (18.0-45.7µg/m<sup>3</sup>), SO<sub>2</sub> (7.0 – 32.9 µg/m<sup>3</sup>) and NO<sub>2</sub> (12.7 – 40.8µg/m<sup>3</sup>). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.02 µg/m<sup>3</sup>, 0.11 µg/m<sup>3</sup> and 5.38 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub>. The resultant concentrations are well within the National Ambient Air Quality Standards (NAAQS).

Total water requirement after modernization will be 1859.4 m<sup>3</sup>/hr and will be met from the existing facilities. Out of the existing water sources, metro water of 51 m<sup>3</sup>/hr is being supplied by CMWSSB, City sewage of 461 m<sup>3</sup>/hr is being supplied by CMWSSB (Agreement dated 26.09.2007 & valid till 31.12.2023), Sea water of 558 m<sup>3</sup>/hr is being supplied by CPCL Desalination Plant, Treated Water (TTRO) of 217 m<sup>3</sup>/hr is being supplied by CMWSSB (Agreement dated 21.03.2019 & valid till 13.11.2034), Refinery wastewater of 572.4 m<sup>3</sup>/hr is also treated in ETP and reused. Existing Effluent generation is 839 m<sup>3</sup>/hr which is treated through existing Effluent Treatment Plants of total capacity 1065 m<sup>3</sup>/hr (ETP II of capacity 300 m<sup>3</sup>/hr, ETP III of capacity 300 m<sup>3</sup>/hr, ETP IV of capacity 465 m<sup>3</sup>/hr). Proposed additional Effluent generation will be 2.4 m<sup>3</sup>/hr which will be treated in existing Effluent Treatment Plant with adequate capacities. Existing Sewage generation is 15m<sup>3</sup>/hr. Domestic waste water is being treated in existing SRP of capacity 950 m<sup>3</sup>/hr (SRP I of Capacity 475 m<sup>3</sup>/hr, existing SRP II of Capacity 475 m<sup>3</sup>/hr). The plant is based on Zero Liquid discharge system and hence treated effluent water / will not be discharged outside the factory premises.

Total power requirement after modernization will be 142 MW which will be sourced from existing Captive power plant. Existing unit has 6 no of RLNG fired boiler with total capacity of 770 TPH and with a maximum stack height of 100m for controlling the particulate emissions within the statutory limit of 50 mg/Nm<sup>3</sup>. There will be no additional boiler for the proposed project.

### **Details of Process emissions generation and its management:**

#### Emissions Generations

- (i) FG based proposed OHCU stack will be installed with a Height of 60m and Dia. of 1.6m. The expected emissions of stack are estimated to be with PM (0.0077 g/s), SO<sub>2</sub> (0.0297 g/s), NO<sub>x</sub> (1.4001 g/s), CO (0.0044 g/s).
- (ii) FG based proposed CDW stack-a will be installed with a Height of 60m and Dia. Of 1.6m. The expected emissions from stack are estimated to be with PM (0.0062 g/s), SO<sub>2</sub> (0.0239 g/s), NO<sub>x</sub> (1.1259 g/s), CO (0.0036 g/s).
- (iii) FG based Proposed CDW stack-b will be installed with a Height of 60m and Dia. Of 1.6m. The expected emissions from stack are

estimated to be with PM (0.0072 g/s), SO<sub>2</sub> (0.0280 g/s), NO<sub>x</sub> (1.3218 g/s), CO (0.0042 g/s)

- (iv) FG based Proposed CDW stack-c will be installed with a Height of 60m and Dia. Of 1.6m. The expected emissions from stack are estimated to be with PM (0.0317 g/s), SO<sub>2</sub> (0.1225 g/s), NO<sub>x</sub> (5.7766 g/s), CO (0.0183 g/s)

#### Process emission management

- (i) Air pre-heaters and economizers installed to reduce flue gas emissions.
- (ii) Waste heat recovery Boiler, CO Boiler installed for steam generation.
- (iii) Provision of low NO<sub>x</sub> burners in place.
- (iv) Floating roof tanks with secondary seals have been provided for crude and light end products to reduce hydrocarbon and fugitive emissions.
- (v) Flare gas recovery unit is provided to recover hydrocarbon going to the flare system.
- (vi) Sulfur Recovery Units with Tail Gas Treatment Unit (S recovery >99.9%) are installed to recover elemental Sulfur from acid gases.
- (vii) Fuel Gas & RLNG (Low Sulfur fuel) are being used in all process heaters to reduce Sulfur emissions.
- (viii) Stack heights have been increased in phases for effective dispersion of emission.
- (ix) VOC reduced by conversion of open surge ponds to closed tanks.
- (x) VOC adsorption system provided for all oil handling equipment in ETP viz., API, TPI, DAF, surge ponds & slop tanks.
- (xi) Adoption of LDAR & checks of Fugitive Emissions in place.
- (xii) Linkage of all AAQM / CSM (Continuous Stack Monitoring) with TNPCB / CPCB established.
- (xiii) Provision of Oxy enrich process in SRUs available.
- (xiv) Dispatch of products predominantly by pipelines. Minimization of tank truck dispatch to avoid emissions during transportation.
- (xv) Provision of Dome Roof Tanks for Hydrocarbon, with Nitrogen Blanketing, in place.
- (xvi) Survey of Green House Gases emission on regular basis in practice.

## **Details of Solid waste/ Hazardous waste generation and its management:**

### Solid waste generation

- (i) Organic waste
- (ii) The existing organic waste generation is 804.75 Ton/Year and proposed additional organic waste generation is estimated as 2.896 Ton/Year.
- (iii) Hence the total organic waste after modernization will be 807.64 Ton/Year.
- (iv) The organic waste generated is collected through Manual collection scrap yard & Sales to Recyclers.

### Inorganic waste

- (i) The existing inorganic waste generation quantity is 536.50 Ton/Year and proposed additional inorganic waste generation is estimated as 1.93 Ton/Year.
- (ii) Hence the total inorganic waste after modernization will be 538.43 Ton/Year.
- (iii) The inorganic waste generation are collected through Manual collection scrap yard & Sales to Recyclers

### Hazardous waste Approval

Hazardous waste materials are being properly disposed as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2016;

- (i) Hazardous Waste Authorization application was submitted on 25.01.22.
- (ii) Above application was returned on 08.04.22 seeking valid CTO.
- (iii) Application was resubmitted on 31.01.23 after obtaining valid CTO.
- (iv) Application forwarded to TNPCCB, HQ and is under the scrutiny of TNPCCB.

### Hazardous waste generation



- (i) On account of the proposed Project, the only additional hazardous waste generated will be spent catalyst (recyclable), of 6 MTPA.
- (ii) Existing spent catalyst (recyclable) 4.2(a), generation quantity is 235 MTPA & the application for renewal corresponds to a quantity of 500 MTPA. The total post modernization spent catalyst generation will be 500 MTPA (including proposed 6 MTPA) and will be disposed-off to CPCB authorized recyclers.
- (iii) Existing Oil Sludge 4.1(a) generation is 10000 MTPA and the application for renewal corresponds to a quantity of 12000 MTPA, hence the total quantity after modernization will be 12000 MTPA and will be recovered and reused within the premises.
- (iv) Existing Oil Sludge 4.1(b) generation is 10 MTPA and the application for renewal corresponds to a quantity of 10 MTPA, hence the total quantity after modernization will be 10 MTPA and will be recovered and reused within the premises.
- (v) Existing Oil Sludge 4.1 (c) generation is 2000 MTPA and the generated quantity will be taken up in 4.1 (a) due to similar treatment method. Hence after modernization there will be no generation of oil sludge 4.1 (c).
- (vi) Existing Spent catalyst (Disposable) generation is 80 MTPA and the application for renewal corresponds to a quantity of 650 MTPA (400 MTPA -4.2(b) Land fillable and disposable & 250 MTPA-4.2 (c) Disposable and incinerable), hence the total quantity after modernization will be 650 MTPA and will be sent to TSDF.
- (vii) Existing Discarded containers generation is 1600 numbers and the application for renewal corresponds to a quantity of 100 Tons per year, hence the total quantity after modernization will be 100 Tons per year and will be sent to authorized recyclers.
- (viii) Existing spent ion exchange resin containing toxic metals (used sand media) generation is 5 MTPA and the application for renewal corresponds to a quantity of 80 MTPA and will be sent to TSDF.
- (ix) Existing spent ion exchange resin containing toxic metals (spent activated carbon) generation is 20 MTPA and the application for renewal corresponds to a quantity of 80 MTPA and will be sent to TSDF.

### Solid and Hazardous waste management

- (i) The existing hazardous waste generated are processed by bioremediation techniques or properly disposed-off to authorized dealers. The biodegradable waste generated can be composted and used as manure. The other waste can be disposed in municipal bins.
- (ii) Main solid waste generation during construction phase will be construction debris like rubble, brick bats, debris, steel scrap, wooden scrap, sand, gravel etc. However, these materials are inert in nature and will not result into leaching of any substance or it's constituent. These materials will be carefully sorted and will be used within premises for filling of low lying areas.
- (iii) Wooden scrap, steel scrap will be given to authorized scrap dealers.
- (iv) During construction, all the wastes will be stored at a designated site within the premises & upon completion of civil works, all debris will be removed from site to prevent scattered discharge on land.
- (v) Hazardous waste materials will be properly disposed as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2016.

### **Capital cost and recurring cost of EMP are given below:**

<b>S. No.</b>	<b>Activity</b>	<b>Capital Cost(Lakhs)</b>	<b>Recurring Cost(Lakhs)</b>
1	Air Pollution		
	i. Stack	112	-
	ii. Stack Monitoring by TNPCB	-	17.70
	Air & Stack monitoring by outside labs	-	3.0
2	Noise monitoring	-	0.25
3.	Water analysis by TNPCB	-	6.0
4.	Effluent monitoring	-	30.0
5.	Soil Quality Monitoring	-	0.30
6.	VOC monitoring	-	5.0
7.	Greenbelt Development	-	10.0

8.	Miscellaneous activities (e.g. solar light, bio remediation, study etc.)	-	10.0
<b>Total</b>		<b>112</b>	<b>82.25</b>

**Details of CER with proposed activities and budgetary allocation:**

(vi)

S No	Proposed activity	%	Year wise cost breakup (INR Lakhs)				
			2023-24	2024-25	2025-26	2026-27	2027-28
<b>A</b>	<b>Education</b>						
<b>1</b>	Merit Scholarship to students of Schools / Colleges						
<b>2</b>	Providing equipment / PC/ Furniture to Schools/ Colleges	<b>10</b>	13.2	13.2	13.2	13.2	13.2
<b>3</b>	Skill Development Programmes						
<b>B</b>	<b>Health and Medical Care</b>						
<b>1</b>	Operation , Renovation and Maintenance of Community health Care Centres at Chennai	<b>15</b>	19.8	19.8	19.8	19.8	19.8
<b>2</b>	Medical Camp for public , students, etc.						
<b>3</b>	Providing Equipment to various Hospitals for the benefit of the Community						
<b>C</b>	<b>Swachh Bharath Activities</b>						
<b>1</b>	Swachh Bharath Activities like Construction of Toilets, maintenance of Toilets, Spreading Awareness about Swachhta						
<b>2</b>	Construction Community Toilets, (Manali)	<b>30</b>	39.6	39.6	39.6	39.6	39.6
<b>3</b>	Contribution to Swachh Bharath Khosh						
<b>4</b>	Contribution to Clean Ganga Fund						
<b>5</b>	Contribution to Chennai Corporation Providing HLL Toilets to Public						
<b>D</b>	<b>Women Empowerment</b>						
<b>1</b>	Creche at Manali, Celebration of Children day, etc.	<b>10</b>	13.2	13.2	13.2	13.2	13.2

<b>2</b>	Contribution to National polio Programme						
<b>E</b>	<b>Others</b>						
<b>1</b>	Tree Plantation						
<b>2</b>	Rainwater Harvesting						
<b>3</b>	Drinking water facilities to nearby village						
<b>4</b>	Contribution to National Sports development Authority / Sports Authority of India	<b>35</b>	46.2	46.2	46.2	46.2	46.2
<b>5</b>	Supporting People during Natural calamities						
<b>6</b>	Provision of solar panels within the premises						
<b>Grand Total</b>		<b>100</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>	<b>132</b>

The proposal was initially considered by the EAC (Ind-2) in its meeting ID IA/IND2/13470/25/03/2023 held on 25<sup>th</sup> March 2023 wherein the proposal was recommended for grant of EC. During processing the case, Ministry referred back the proposal to EAC, for examining the case w.r.t (i) the joint committee report and examination of adequacy of the proposed measures by PP and; (ii) the claim of PP that it is modernization project and not expansion project be also examined.

<b>S.No</b>	<b>ADS by MoEFCC</b>	<b>Reply of PP</b>
1	<b>ADS-1 dated 17.04.2023</b> Pl. submit the copy of order in Original Application No. 256/2020(SZ)	The copy of order in Original Application No. 256/2020(SZ) submitted.
2	<b>ADS-2 dated 04.05.2023</b> PP has not submitted the copy of order of judgement. Please submit the same to	With respect to the above ADS query, the latest hearing on the NGT Case - Original Application No. 256 of 2020 (SZ) was conducted on 30.01.2023, wherein it was mentioned that the Judgement is Reserved.

	<p>enable this office to take further action in this regard.</p>	<p>We hereby commit to comply with the directions to be issued by the NGT on the judgement for the case</p> <p>The expected date of judgement being ambiguous, We humbly request MoEFCC to favorably consider our application and accord Environment Clearance for the Subject Project Proposal, to enable us to proceed further in this matter.</p> <p>For your favorable consideration please.</p>
<p>3</p>	<p><b>ADS-3 dated 08.05.2023</b></p> <p>If order is not passed yet, what are the recommendations of Joint Committee report submitted before NGT? Is there any recommendation related to this particular project or is there any recommendations related to expansion limit of projects in this CPA? Please provide the above information alongwith copy of Joint Committee report on priority to enable this office to take further action in this regard.</p>	<p>Recommendations of the Joint Committee report are given below:</p> <ul style="list-style-type: none"> <li>• Use of cleaner fuel i.e. conversion of usage of liquid fuel (such as HSD, LDO, FO, etc.) into gaseous fuel.</li> <li>• Use of low Sulphur fuel till conversion to gaseous fuel.</li> <li>• Improving the combustion efficiency with controlled air- fuel ratio.</li> <li>• Installation of low NOx burner.</li> <li>• Other large/medium red category industries (Air polluting) in Manali industrial complex shall install CEMS and connect to SPCB and CPCB servers.</li> <li>• The industries shall develop the green belt in and around the Manali area as well as road side plantation in consultation with Greater Chennai Corporation. The Green Belt Model such as Source oriented approach and Receptor oriented approach shall be adopted to reduce the impact of emission and accordingly the suitable species shall be</li> </ul>

		<p>selected based on the Guidelines for Developing Greenbelt.</p> <ul style="list-style-type: none"><li>• Only Orange and Green category industries and Red category industries which are not emitting the SO<sub>2</sub> and NO<sub>2</sub> emissions shall be allowed in the area.</li><li>• Existing industries with no increase in pollution load as well as reducing the SO<sub>2</sub> and NO<sub>2</sub> emission by 30 to 50% only can be allowed for expansion.</li><li>• Each industry in Manali industrial area shall evolve the action plan within a month on the above points individually in addition to the CEPI action plan along with the time schedule to implement the same within a year.</li><li>• Greater Chennai Corporation shall identify the areas to be developed as green belt in and around Manali industrial area and furnish the same to Manali Industry Association for green belt development.</li><li>• The Greater Chennai Corporation /High Ways Dept. shall evolve action plan for continuous maintenance of the roads (with green belt) in Manali Industrial Area, as the same are frequently damaged due to heavy truck movements, so as to achieve the Ambient Air Quality Standards prescribed by the CPCB in respect of the particulate matter emission in that area</li></ul> <p>Copy of the Joint Committee Report is attached.</p>
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		<p>The recommendations given by the Committee are not particular to the Proposed Project. They are being implemented across CPCL Refinery and shall also be taken up for the proposed project. These recommendations are also in line with the Minutes of the EAC Meeting, held on 25.03.2023.</p> <p>Further it may be noted that the Proposed Project is of Modernization category with no increase in refining capacity, only fuel products are partly upgraded to lube base oils.</p> <p>We hereby commit to comply with the directions to be issued by the NGT on the judgement for the case.</p> <p>For your favorable consideration please.</p>
4	<p><b>ADS-4 dated 10.05.2023</b> Annexure-1 is not attached with EDS reply. Please submit complete documents.</p>	<p>Recommendations of the Joint Committee report are given below:</p> <ul style="list-style-type: none"> <li>• Use of cleaner fuel i.e. conversion of usage of liquid fuel (such as HSD, LDO, FO, etc.) into gaseous fuel.</li> <li>• Use of low Sulphur fuel till conversion to gaseous fuel.</li> <li>• Improving the combustion efficiency with controlled air- fuel ratio.</li> <li>• Installation of low NOx burner.</li> <li>• Other large/medium red category industries (Air polluting) in Manali industrial complex shall install CEMS and connect to SPCB and CPCB servers.</li> <li>• The industries shall develop the green belt in</li> </ul>

		<p>and around the Manali area as well as road side plantation in consultation with Greater Chennai Corporation. The Green Belt Model such as Source oriented approach and Receptor oriented approach shall be adopted to reduce the impact of emission and accordingly the suitable species shall be selected based on the Guidelines for Developing Greenbelt.</p> <ul style="list-style-type: none"><li>• Only Orange and Green category industries and Red category industries which are not emitting the SO<sub>2</sub> and NO<sub>2</sub> emissions shall be allowed in the area.</li><li>• Existing industries with no increase in pollution load as well as reducing the SO<sub>2</sub> and NO<sub>2</sub> emission by 30 to 50% only can be allowed for expansion.</li><li>• Each industry in Manali industrial area shall evolve the action plan within a month on the above points individually in addition to the CEPI action plan along with the time schedule to implement the same within a year.</li><li>• Greater Chennai Corporation shall identify the areas to be developed as green belt in and around Manali industrial area and furnish the same to Manali Industry Association for green belt development.</li><li>• The Greater Chennai Corporation /High Ways Dept. shall evolve action plan for continuous maintenance of the roads (with green belt) in Manali Industrial Area, as the same are</li></ul>
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		<p>frequently damaged due to heavy truck movements, so as to achieve the Ambient Air Quality Standards prescribed by the CPCB in respect of the particulate matter emission in that area.</p> <p>Copy of the Joint Committee Report is submitted.</p> <p>The recommendations given by the Committee are not particular to the Proposed Project. They are being implemented across CPCL Refinery and shall also be taken up for the proposed project. These recommendations are also in line with the Minutes of the EAC Meeting, held on 25.03.2023.</p> <p>Further it may be noted that the Proposed Project is of Modernization category with no increase in refining capacity, only fuel products are partly upgraded to lube base oils.</p> <p>We hereby commit to comply with the directions to be issued by the NGT on the judgement for the case.</p> <p>For your favorable consideration please.</p>
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5	<p><b>ADS-5 dated 24.05.2023</b></p> <p>Please submit point wise Action Plan on the recommendations of the Joint Committee report from CPCL on priority to enable this office to take further action.</p>	<p><b>Point wise Action Plan on the recommendations of the Joint Committee report</b></p> <p>Recommendations of the Joint Committee report and compliance status are given below:</p> <table border="1" data-bbox="655 450 1407 1863"> <thead> <tr> <th data-bbox="655 450 762 622"><b>S.No.</b></th> <th data-bbox="762 450 1107 622"><b>Recommendation</b></th> <th data-bbox="1107 450 1407 622"><b>Action Taken / Status of Compliance</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="655 622 762 1079">1</td> <td data-bbox="762 622 1107 1079">Use of cleaner fuel i.e. conversion of usage of liquid fuel (such as HSD, LDO, FO, etc.) into gaseous fuel.</td> <td data-bbox="1107 622 1407 1079"><b>Being Complied.</b> Fuel Gas &amp; RLNG (Low Sulfur fuel) are being used in process heaters to reduce Sulfur emissions.</td> </tr> <tr> <td data-bbox="655 1079 762 1863">2</td> <td data-bbox="762 1079 1107 1863">Use of low Sulphur fuel till conversion to gaseous fuel.</td> <td data-bbox="1107 1079 1407 1863"><b>Being Complied.</b> Conversion to use RLNG in Boilers, Furnaces, Gas Turbines and Hydrogen generation units were carried out in a phased manner as part of Environmental friendly initiative and have been</td> </tr> </tbody> </table>	<b>S.No.</b>	<b>Recommendation</b>	<b>Action Taken / Status of Compliance</b>	1	Use of cleaner fuel i.e. conversion of usage of liquid fuel (such as HSD, LDO, FO, etc.) into gaseous fuel.	<b>Being Complied.</b> Fuel Gas & RLNG (Low Sulfur fuel) are being used in process heaters to reduce Sulfur emissions.	2	Use of low Sulphur fuel till conversion to gaseous fuel.	<b>Being Complied.</b> Conversion to use RLNG in Boilers, Furnaces, Gas Turbines and Hydrogen generation units were carried out in a phased manner as part of Environmental friendly initiative and have been
<b>S.No.</b>	<b>Recommendation</b>	<b>Action Taken / Status of Compliance</b>									
1	Use of cleaner fuel i.e. conversion of usage of liquid fuel (such as HSD, LDO, FO, etc.) into gaseous fuel.	<b>Being Complied.</b> Fuel Gas & RLNG (Low Sulfur fuel) are being used in process heaters to reduce Sulfur emissions.									
2	Use of low Sulphur fuel till conversion to gaseous fuel.	<b>Being Complied.</b> Conversion to use RLNG in Boilers, Furnaces, Gas Turbines and Hydrogen generation units were carried out in a phased manner as part of Environmental friendly initiative and have been									

			completed.
		3	<p>Improving the combustion efficiency with controlled air-fuel ratio.</p> <p>Excess O2 in the flue gas is monitored and maintained at optimum levels to ensure complete combustion.</p>
		4	<p>Installation of low NOx burner.</p> <p>Low NOx burners are installed in furnaces to reduce NOx emission.</p>
		5	<p>Other large/medium red category industries (Air polluting) in Manali industrial complex shall install CEMS and connect to SPCB and CPCB servers.</p> <p>All the stacks are installed with online SOx, NOx, PM &amp; CO analyzer and are connected to both TNPCB &amp; CPCB and real time data transfer is</p>

			continuous.
		6	<p><b>Partially Complied.</b></p> <p>The industries shall develop the green belt in and around the Manali area as well as road side plantation in consultation with Greater Chennai Corporation. The Green Belt Model such as Source oriented approach and Receptor oriented approach shall be adopted to reduce the impact of emission and accordingly the suitable species shall be selected based on the Guidelines for Developing Greenbelt.</p> <p>Due to land constraint in the Site, we are planning for plantation outside the project site. Green Belt Area Details</p> <ul style="list-style-type: none"> <li>• Existing -152 Acres (18.26%)</li> <li>• Existing (Ongoing) - 123Acres (14.78%)</li> <li>• Proposed- Nil</li> <li>• After expansion- 275 Acres (33.05%)</li> </ul> <p>CPCL is committed to meet the above requirement in the following manner:</p> <p>A. 10 to 15% Green Belt</p>

				<p>Coverage within Refinery: Before April 2025</p> <p>By utilizing available space and landscaping zones for enhancing green cover.</p> <p>B. 40% green coverage: Before April 2026</p> <p>By Collaboration with Tamil Nadu Green Mission &amp; across National Highways in Tamil Nadu in collaboration with NHAI.</p> <p>Affidavit towards CPCL's commitment for Green Belt Development was submitted towards clarifications sought in this</p>
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			regard during the EAC Meeting
		7	<p>Only Orange and Green category industries and Red category industries which are not emitting the SO2 and NO2 emissions shall be allowed in the area.</p> <p>The proposed project is a modernization type. No expansion of the Refinery Capacity is envisaged.</p>
		8	<p>Existing industries with no increase in pollution load as well as reducing the SO2 and NO2 emission by 30 to 50% only can be allowed for expansion.</p> <p>Only product pattern is altered, i.e., Naphtha and Diesel are upgraded to Lube Base Oils.</p>
		9	<p>Each industry in Manali industrial area shall evolve the action plan within a month on the above points individually in addition to the CEPI action plan along with the time</p> <p><b>Complied.</b> Short term and long term action plans were submitted to TNPCB as part of CEPI Compliance report. Compliance of</p>

			<p>schedule to implement the same within a year.</p>	<p>these action items are also monitored regularly and being submitted to TNPCB. CEPI Compliance statement was also submitted to the clarifications sought during the EAC meeting.</p>
<p>We hereby commit to comply with the directions to be issued by the NGT on the judgement for the case and request you to consider our application and accord Environment Clearance for the subject proposed project.</p>				

The proposal was initially considered by the EAC (Ind-2) in its meeting ID IA/IND2/13523/26/06/2023 held on 26<sup>th</sup> June, 2023 wherein the proposal was deferred for want of additional information. Information sought by EAC and response of PP is mentioned below:

<b>S. No.</b>	<b>ADS by MoEF&amp;CC</b>	<b>Reply by PP</b>
1	Please provide point wise compliance report to the judgement on Hnble NGT.	Point wise compliance report to the judgement on Hnble NGT (O.A 256 / 2020 (SZ)) is provided in <b>Enclosure 1</b>

During deliberations, EAC discussed the following issues:

- (i) PP presented the pointwise compliance report to the judgement on Hon'ble NGT, which is as given below:

**NGT ORDER DIRECTIONS – 20.07.2023 (O.A 256 / 2020 (SZ)) :**

<b>S.No.</b>	<b>DIRECTION</b>	<b>CPCL REPLY</b>
01	<p>The Tamil Nadu Pollution Control Board should constitute a dedicated team to monitor the OCEMS data. The industries should also create an internal mechanism to closely monitor the functioning of OCEMS as well as critically analyse the data for immediate corrections and shall submit a monthly analysis report to the Tamil Nadu Pollution Control Board. Senior Officers of TNPCB shall conduct a monthly review with designated officers of major industries in different industrial parks</p>	<p>CPCL is having a dedicated team for monitoring the health of the Analysers (220 nos) &amp; OCEMS data.</p> <p>Annual Maintenance Contract (AMC) is available for calibration of analysers, which is carried out once in a month. <b>(June to August '23 Calibration report is provided in Annexure-1)</b></p> <p>Analysis report on OCEMS data is submitted to TNPCB on daily basis <b>(Annexure-2).</b></p> <p>CPCL will closely coordinate with the expert team constituted by TNPCB. CPCL commits to comply the recommendations of the team.</p>
02	<p>The CPCB should constitute a committee which may also include experts in the field of air pollution as well as water pollution to examine the existing CPCB Protocols for OCEMS and submit revised Protocols to the</p>	<p>CPCL will co-ordinate with the committee for revising the protocol.</p> <p>CPCL will comply with the revised protocols.</p>



S.No.	DIRECTION	CPCL REPLY
	Tribunal within a period of 3 (Three) months.	
03	<p>The Committee may also suggest the periodicity at which the said sensor / equipment need to be calibrated. Once the periodicity is fixed, a mechanism may be put in place to check whether the calibration of sensors /equipment is being undertaken by the industries as per the timeline fixed, failing which, necessary action may be taken including the imposition of environmental compensation</p>	<p>Presently, CPCL is carrying out calibration of analysers once in a month (June to August '23 Calibration report is submitted.</p> <p>CPCL commits to comply with the revised timelines stipulated by the committee for calibration of the analysers.</p> <p>Real-time sampling values (analyser reading in sample mode) are also entered in the calibration chart.</p> <p>Zero check is done on Daily basis and Span drift are being carried out Fortnightly basis.</p>
04	<p>The CPCB may constitute a new committee or revive the earlier committee constituted based on directions issued in Original Application No.195 of 2016 (SZ) [Tandur Citizens Welfare Society Vs. Government of Telangana and Ors.] dated 24.08.2021 to once again examine the issue of interlocking/ alerting / alarm systems, considering the advancements in Machine learning and Artificial</p>	<p>CPCL has already provided remote calibration facility in order to ascertain / ensure authenticity of the analyser readings on a real time basis.</p> <p>CPCL will provide all necessary support &amp; inputs to CPCB Committee.</p> <p>CPCL commits to comply with the recommendations of the committee in order to ensure fool proof operations of OCMMS system.</p> <p>Alarm at high (80%) and high-high (90%) value of the CPCB norms are configured in the Distributed Control</p>

<b>S.No.</b>	<b>DIRECTION</b>	<b>CPCL REPLY</b>
	Intelligence, that will ensure fool proof operations of the OCEMS system.	System (DCS) for real-time monitoring in the Control room and to take suitable action.  Apart from the above, internal SMS generation system is provided to alert the concerned officials of CPCL for taking immediate action.
05	The TNPCB is directed to verify the list of industries which are yet to install the OCEMS system. In case, some of the units have not yet been mandated to install the OCEMS system, the TNPCB is directed to issue instructions to all the units to install the OCEMS system within the shortest possible time, failing which, appropriate action should be taken. The TNPCB is directed to report the reasons for not directing or exempting certain industries from establishing the OCEMS. Failure by TNPCB also would attract fine plus compensation	OCEMS system was initiated from 2011. CPCL has completed installation of OCEMS in all the furnaces and Effluent Treatment Plants. Further, all new projects are also commissioned along with OCEMS.  All the parameters from OCEMS are connected to TNPCB / CPCB online.
06	Industries should switchover completely to cleaner fuels including conversion of usage of liquid fuel into gaseous fuels within a stipulated	CPCL has installed provision for cleaner fuel (RLNG) from 2019 and has completed for all Process Heaters, Boilers and Gas Turbines.  CPCL has 3 Crude Units. Two Crude

S.No.	DIRECTION	CPCL REPLY									
	<p>period of time. During the interregnum, the industries may be directed to use low sulphur fuels till the conversion to gaseous fuels is completed</p>	<p>Units are already provided with facility to utilize clean gaseous (RLNG and Fuel Gas with less than 50 ppm Sulphur) as fuel to heaters.</p> <p>Heaters in the old Crude Units (CDU-1), commissioned in 1969, are provided with dual firing systems (Fuel Gas with &lt; 50 ppm Sulphur and Low Sulfur Fuel Oil).</p> <p>For improving the efficiency of heaters, further reduction of SO<sub>x</sub> and NO<sub>x</sub> emissions and also as an Energy Conservation measure, CPCL is conducting detailed study for either replacement of burners or for provision of new heaters. This process of upgradation will be completed in about 3 years considering the turnaround schedule of the units and also the procurement / tendering cycle.</p> <p>Roadmap for reduction of Fuel Oil Consumption:</p> <table border="1" data-bbox="746 1361 1361 1839"> <thead> <tr> <th data-bbox="746 1361 823 1579">S. No.</th> <th data-bbox="823 1361 1082 1579">Method</th> <th data-bbox="1082 1361 1361 1579">Target Timeline (based on Turnaround schedule)</th> </tr> </thead> <tbody> <tr> <td data-bbox="746 1579 823 1756">1</td> <td data-bbox="823 1579 1082 1756">Changing Burners for 100% gas firing</td> <td data-bbox="1082 1579 1361 1756">Dec' 2025</td> </tr> <tr> <td data-bbox="746 1756 823 1839">2</td> <td data-bbox="823 1756 1082 1839">Replacement of Heater(s)</td> <td data-bbox="1082 1756 1361 1839">Dec' 2026</td> </tr> </tbody> </table>	S. No.	Method	Target Timeline (based on Turnaround schedule)	1	Changing Burners for 100% gas firing	Dec' 2025	2	Replacement of Heater(s)	Dec' 2026
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0 7	<p>Industries shall install Flue Gas Desulfurization (FGD) systems wherever it is applicable without fail before the time line fixed by MoEF&amp;CC without seeking extension of time.</p> <p>All the units having ETPs should upgrade to the latest generation of ETP available today within a reasonable period of time. For the up-gradation, CPCB may provide necessary guidelines.</p>	<p>Flue Gas Desulphurisation system is required for reducing sulphur emission from equipment using high sulphur fuel.</p> <p>CPCL is using maximum cleaner fuels such as RLNG, Naphtha &amp; Fuel Gas with &lt; 50 ppm Sulfur. Internal Refinery Fuel Oil with low sulphur is being currently used only in CDU-I heaters for meeting the additional requirement. Plan for upgrading CDU-I heaters has already been elaborated. PM values for the year 2022-23 is provided as Annexure-3.</p> <p>CPCL is having three ETPs, all of which are commissioned with API separator, tilted plate interceptors and Dissolved Air Flootation unit for effective separation of both free oil and emulsified oil.</p> <p>The recent commissioned ETP is provided with RO and ION Exchange process.</p> <table border="1" data-bbox="719 1182 1422 1469"> <thead> <tr> <th>Descripti on</th> <th>Unit</th> <th>Desig n</th> <th>Actua l</th> <th>Propo sed</th> </tr> </thead> <tbody> <tr> <td>ETP II</td> <td>m<sup>3</sup>/hr</td> <td>300</td> <td rowspan="3" style="text-align: center;">839</td> <td style="text-align: center;">0</td> </tr> <tr> <td>ETP III</td> <td>m<sup>3</sup>/hr</td> <td>300</td> <td style="text-align: center;">0</td> </tr> <tr> <td>ETP IV</td> <td>m<sup>3</sup>/hr</td> <td>465</td> <td style="text-align: center;">2.4</td> </tr> <tr> <td>Total</td> <td>m<sup>3</sup>/hr</td> <td>1065</td> <td style="text-align: center;">839</td> <td style="text-align: center;">2.4</td> </tr> </tbody> </table> <p>Details of ETP flow diagram is submitted.</p> <p>No Treated effluent is discharged to land or any water bodies (Zero Discharge).</p> <p>CPCL will comply with future upgradation, based on CPCB Committee recommendations.</p>	Descripti on	Unit	Desig n	Actua l	Propo sed	ETP II	m <sup>3</sup> /hr	300	839	0	ETP III	m <sup>3</sup> /hr	300	0	ETP IV	m <sup>3</sup> /hr	465	2.4	Total	m <sup>3</sup> /hr	1065	839	2.4
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0 8	<p>Industries shall install latest pollution control measures for reduction of NOx emissions, such as Selective Catalytic Reduction system / Selective Non-Catalytic Reduction system / low NOx burners with Over Fire Air (OFA) system to achieve the NOx emission standards.</p>	<p>CPCL NOx values are closely monitored and maintained within the norms. CPCL has installed Low NOx burners in major heaters instead of OFA.</p> <p>NOx values for the year 2022-23 is submitted.</p> <p>Selective Non Catalytic Reduction system is installed in major process units of the Refinery such as Crude Distillation unit, Hydrocracker, Catalytic Reforming unit etc. besides Boiler and all 5 Gas Turbines.</p> <p>Ultra Low NOx burners are planned to be installed in major heaters such as Crude Unit-2, Crude Unit-3 and Catalytic Reforming Unit and expected to reduce NOx emissions.</p> <p>Reduction of NOx by installation of Ultra Low NOx burners is as follows:</p> <table border="1" data-bbox="715 1182 1407 1758"> <thead> <tr> <th data-bbox="715 1182 786 1406"><b>S N</b></th> <th data-bbox="786 1182 954 1406"><b>Heater</b></th> <th data-bbox="954 1182 1129 1406"><b>NOx Reducti on</b></th> <th data-bbox="1129 1182 1407 1406"><b>Target Timeline (based on Turnaround schedule)</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="715 1406 786 1496">1</td> <td data-bbox="786 1406 954 1496">Crude-2 Unit</td> <td data-bbox="954 1406 1129 1496">12.83 kg/hr</td> <td data-bbox="1129 1406 1407 1496">Dec `2024</td> </tr> <tr> <td data-bbox="715 1496 786 1585">2</td> <td data-bbox="786 1496 954 1585">Crude-3 Unit</td> <td data-bbox="954 1496 1129 1585">16.05 kg/hr</td> <td data-bbox="1129 1496 1407 1585">Dec `2025</td> </tr> <tr> <td data-bbox="715 1585 786 1713">3</td> <td data-bbox="786 1585 954 1713">Catalytic Reformi ng Unit</td> <td data-bbox="954 1585 1129 1713">10.56 kg/hr</td> <td data-bbox="1129 1585 1407 1713">Dec `2025</td> </tr> <tr> <td colspan="2" data-bbox="715 1713 954 1758"><b>Total</b></td> <td colspan="2" data-bbox="954 1713 1407 1758"><b>39.44 kg/hr</b></td> </tr> </tbody> </table> <p>NOx values before &amp; after the project is tabulated as below:</p>	<b>S N</b>	<b>Heater</b>	<b>NOx Reducti on</b>	<b>Target Timeline (based on Turnaround schedule)</b>	1	Crude-2 Unit	12.83 kg/hr	Dec `2024	2	Crude-3 Unit	16.05 kg/hr	Dec `2025	3	Catalytic Reformi ng Unit	10.56 kg/hr	Dec `2025	<b>Total</b>		<b>39.44 kg/hr</b>	
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0 9	<p data-bbox="252 1375 687 1733">All the industries discharging effluents may be directed by TNPCB to switch over to the ZLD system by granting a reasonable time frame. Only if ZLD systems are not technically feasible, ETPs/CETPs can continue</p>	<p data-bbox="719 1375 1390 1442">No Treated effluent is discharged to land or any water bodies (Zero Discharge).</p> <p data-bbox="719 1509 1390 1644">Treated effluent is 100% reused for Fire Water, Boiler feed water, Cooling Water make up, hot work, Gardening and floor washing.</p> <p data-bbox="719 1666 1390 1711">TNPCB Consent to Operate is submitted.</p> <p data-bbox="719 1756 1390 1868">Total water consumption of existing Refinery is 1840 m<sup>3</sup>/hr and is met from the following major sources:</p>												

		<ul style="list-style-type: none"> <li>• Reuse of treated Effluent water (570 m<sup>3</sup>/hr)</li> <li>• Water reclamation from City sewage (461 m<sup>3</sup>/hr)</li> <li>• Treated sewage water from Chennai Metro (217 m<sup>3</sup>/hr)</li> <li>• Desalination Plant (541 m<sup>3</sup>/hr)</li> </ul> <p>Incremental fresh water requirement post Project is 19m<sup>3</sup>/hr and will be met from the existing CPCL Desalination plant.</p>
10	<p>A committee of experts in CPCB may meet periodically (preferably once in a quarter) to evaluate the advancements in pollution control equipment, especially those relating to the capture of Particulate Matter (PM), SO<sub>2</sub>, NO<sub>2</sub> and other toxic air pollutants. In respect of existing industries, reasonable time may be granted to the industries, taking into account the cost involved and also the compliance status of the industries.</p>	<p>CPCL will support the committee and commits to comply with the committee's recommendations</p> <p>CPCL has put in place several Air Pollution Control measures for PM, SO<sub>2</sub>, NO<sub>x</sub> &amp; CO.</p> <p>The major steps undertaken at CPCL are briefly listed below:</p> <ul style="list-style-type: none"> <li>• Switch to Cleaner fuels such as RLNG and Naphtha in Process heaters, Boilers and Gas Turbines.</li> <li>• Installed Low NO<sub>x</sub> burners in major heaters,</li> <li>• Usage of low sulphur fuel oil for internal fuel usage</li> <li>• Maintaining excess Oxygen (3-4%) in furnaces for reducing CO emission. Excess air is maintained thro' Digital Control System (DCS system) in Auto mode on a real time basis.</li> <li>• LDAR programme is in place for monitoring fugitive emission.</li> <li>• Installed VOC adsorption in all the 3 ETPs.</li> <li>• Converted open surge pond to closed</li> </ul>

		tanks
11	The committee should also examine the technological advancements which are in place in other countries like installing air purifiers centrally in industrial areas as well as in urban pockets with heavy vehicular populations to reduce the pollution load	<p>CPCL will cooperate and provide support to CPCB / TNPCB and its Committee.</p> <p>CPCL commits to adhere to the recommendations of committee and strives to reduce the pollution load to the maximum possible extent.</p>
12	The Expert Committee of CPCB to come out with stricter pollution norms for the industries to be established in areas earmarked for Industries as against the general norms for the establishment of industries in areas without or with only one or two industries in an area about the size of industrial parks. In respect of new Parks to be established the CPCB may also prescribe a buffer zone around the Industrial Area/Park. The CPCB and the SPCBs should work out special norms in industrial areas factoring in vehicular pollution, fugitive emissions, flare gas emissions and also a need for having higher stack height even for non-thermal power plants.	<p>CPCL will provide all the support to expert committee of CPCB.</p> <p>CPCL has already taken various initiatives to reduce vehicular pollution.</p> <p>Few major actions taken by CPCL in this connection are listed below:</p> <ul style="list-style-type: none"> <li>• CPCL products are transferred thro' pipelines connecting Chennai to Trichy, Madurai, Bangalore and Chennai airport. More than 80% of the products such as MS, Diesel, ATF are transported directly through pipelines, thereby considerably reducing the vehicular pollution load through road.</li> <li>• Recently, CPCL has commissioned railway wagons loading for Pet Coke transportation</li> <li>• CPCL has Flare Gas Recovery System in place in the refinery</li> </ul>



13	<p>The CPCB should re-examine the norms for the stack height for all point sources of emissions whether significant or not to ensure that they are designed according to the Good International Industry Practice (GIIP). The stack height should be established with due consideration to emissions from all other project sources both point and fugitive. Projects which have potentially significant fugitive sources of emissions can be directed to have special measures to reduce the same</p>	<p>Stack Height of Process heaters, Boilers and Gas Turbines of CPCL is meeting the CPCB Norms.</p> <p>Required stack height as per present load, in line with CPCB Norms, are also submitted.</p>									
14	<p>We also notice from the reports of the Joint Committee and Tamil Nadu Pollution Control Board that there are certain gaps in the pollution control measures adopted by the six industries and certain directions were issued by the Tamil Nadu Pollution Control Board to the respective industries along with certain suggestions for improvement. We do not wish to repeat those directions and suggestions, except to state that the Tamil Nadu Pollution</p>	<p>Suggestions given by TNPCB for improvement are as follows:</p> <table border="1" data-bbox="722 1189 1398 1881"> <thead> <tr> <th data-bbox="722 1189 802 1361">No</th> <th data-bbox="802 1189 1129 1361">TNPCB Suggestion</th> <th data-bbox="1129 1189 1398 1361">Reply furnished by CPCL to TNPCB</th> </tr> </thead> <tbody> <tr> <td data-bbox="722 1361 802 1626">1</td> <td data-bbox="802 1361 1129 1626">The unit shall improve oil water separation in the ETP for effective removal of oil</td> <td data-bbox="1129 1361 1398 1626">All the ETPs are commissioned with API, TPI &amp; DAF for oil recovery</td> </tr> <tr> <td data-bbox="722 1626 802 1881">2</td> <td data-bbox="802 1626 1129 1881">Unit shall quantify the amount of water received from each source, utilization of that water in process</td> <td data-bbox="1129 1626 1398 1881">Water balance diagram indicating the source &amp; distribution has been</td> </tr> </tbody> </table>	No	TNPCB Suggestion	Reply furnished by CPCL to TNPCB	1	The unit shall improve oil water separation in the ETP for effective removal of oil	All the ETPs are commissioned with API, TPI & DAF for oil recovery	2	Unit shall quantify the amount of water received from each source, utilization of that water in process	Water balance diagram indicating the source & distribution has been
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Control Board should fix a specific deadline for compliance with the directions and adoption of the suggestions. The Tamil Nadu Pollution Control Board should file a periodical compliance report once in 6 (Six) months before this Tribunal		and treated water utilization and distribution system	furnished.
	3	Unit shall provide EMFM to all inlets and outlets of ETP, STPs and all treated sewage/effluent distribution system	EMFM & Orifice meters with recorded facility have been provided.
	4	Unit shall expedite provision of online analyser at the outlet of ETP-4 and connect the same to the WQQ, TNPCB Guindy	Online analysers was installed at the outlet of ETP-4 & connectivity to TNPCB / CPCB have been provided
	5	Unit shall furnish details on wet slop oil collection and utilization since it is not known whereabouts of wet slop oil from ETP	PFD / P&ID of ETP has been enclosed depicting the removal of oil in ETP & transfer to Slop tanks. Slop recovered from ETP furnished to TNPCB.
	6	Unit shall take necessary action to improve the existing APC measures or provide new control measures	CPCL implemented the following APC measures <ul style="list-style-type: none"> <li>• Low Sulphur FO</li> <li>• Low NO<sub>x</sub></li> </ul>

			<p>to achieve the standards prescribed by the Board as the parameters CO, PM, SO<sub>2</sub>, NO<sub>x</sub> have exceeded many times over a period of 2 years</p>	<p>burners</p> <ul style="list-style-type: none"> <li>• Maintenance of Excess O<sub>2</sub> for suppression of CO</li> <li>• Installation of RLNG provision</li> </ul>
		7	<p>Unit shall conduct studies regarding the emissions level inside and outside the premises and take necessary effective steps to reduce the emission load let out from the premises and maintain records for the same.</p>	<p>Regular NABL accredited survey has been carried out IIT, Madras has been entrusted to study.</p>
15	<p>The environmental compensation imposed following due process should be collected and utilized by the Tamil Nadu Pollution Control Board for the conversion of the existing roads in the Manali Industrial areas into concrete roads to minimize the dust emissions from the vehicular population</p>	<p>Detailed compliance sent to TNPCB is submitted.</p> <p>TNPCB had levied environmental compensation on CPCL due to incidents of Stack Exceedances. CPCL informed TNPCB that these incidents are mostly due to instrument fault. Other exceedances during Plant Start-up, shutdown, upsets, instrument calibration are momentary, that get normalized soon. Since most of the exceedances are mainly due to instrument fault, CPCL requested TNPCB to condone and consider waiver of Environmental compensation charges.</p>		

		<p>In this connection, a meeting is scheduled next week with TNPCB to discuss and resolve the matter.</p> <p>CPCL replies to TNPCB towards the Environmental Compensation charges is submitted.</p> <p>CPCL will again take up with TNPCB to resolve the issue and abide by the directions to be issued by TNPCB in this regard.</p>
16	<p>We are of the view that in areas where multiple industries are established, the CPCB may consider increasing the requirement of greenbelt area and increasing the density of tree population. In case of constraints of land, the Industries may be permitted to create greenbelt in the areas adjacent to the industries including in private lands. However, it should be made mandatory that the periphery of the industries have a thick green cover with the tallest growing native trees</p>	<p>CPCL always strives to contribute towards Green Belt Development, thereby improving the eco-system. Few of the measures taken in this direction are briefly explained below:</p> <ul style="list-style-type: none"> <li>• CPCL has contributed Rs. 30 lakhs towards development of Green belt of 10 acres in Central University (a renowned Central Government institute, Thiruvavur District) and Rs. 15 lakhs to Tamil Nadu Green Mission (a Mission mooted by Tamil Nadu Government) during the year 2022-23.</li> <li>• CPCL has identified certain additional land parcels within Refinery for Green Belt Development. Since HT cables were passing through the land, CPCL has taken action and re-routed these HT lines. Now CPCL is planning to carry out Green Belt Development in 6.2 acres in Refinery premises (Tank Farm area and Tertiary Treatment Plant area). Green Belt Development in these locations will be completed by Mar'24.</li> </ul>

• **Existing GB coverage : 141 acres**

CPCL is having 62 acres of Green Belt within the Refinery which includes thick green cover (5 – 10 m) of native trees in the periphery of the refinery covering 27.7 acres.

Further, 14 acres (10 – 20 m width) of greenbelt is available at the compound wall periphery of the Refinery East side, adjacent to Buckingham canal. This parcel of land is also owned by CPCL.

Land Survey Map is submitted.

Hence, the total existing Green Belt area inside Refinery is 76 acres (62 + 14 acres).

In addition to above 76 acres, CPCL is having 65 Acres GB outside Refinery, in Manali Industrial area.

**Thus, the overall Existing Green Belt of CPCL is 141 Acres (76 + 65 acres).**

• **Initiatives for proposed GBD for 191 acres**

**a) GBD within Refinery by Mar 2024**

CPCL is planning to develop Green Belt in 6.2 acres inside the Refinery premises, located in the vicinity of a) Tertiary Treatment Plant and b) Mandatory Tank Farm.

**b) Manali - Amullavoyal area by Mar 2025**

CPCL is owning free hold vacant land at Amullavoyal, located 1.5 km distance from Refinery and has earmarked 134 acres in the same area, to carry out GBD.

		<p><b>c) Balance GBD by Dec 2026</b></p> <p>CPCL will identify 51 acres of land near Refinery, including periphery, for GBD.</p> <p><b>The cumulative Green Belt area (existing and proposed) totals to 332 acres (40%).</b></p>
17	<p>We also direct that TNPCB/CPCB should also mandate that industrial parks/areas shall have only concrete roads with three to four rows of tree plantations to act as a buffer for trapping air pollutants.</p>	<p>CPCL will provide the necessary support for complying with this recommendation.</p>
18	<p>It is recommended to create a corpus fund which shall consist of deposit of minimum 01% of the annual turnover from all the companies located in the Manali complex for the restoration of any affected area after the orders passed by the Tribunal. The said corpus fund shall be operated jointly by the Chief Secretary, Government of Tamil Nadu and the Additional Chief Secretary, Department of Environment, Forest and Climate Change and shall utilise for restoration of the</p>	<p>CPCL is continually involved in the development of Manali Industrial area and conducts CSR activities regularly at Manali area.</p> <p>CPCL is ready to share the cost towards development of Manali area for paving concrete road.</p> <p>CPCL accepts in principle to the recommendation of NGT for developing Manali Industrial area. However, considering the nature of industry (Refinery) and volume of business, the turnover is normally very high and the unit makes meagre profit vis-à-vis the total annual turnover.</p> <p>CPCL humbly submits that large investments have been made for supply of</p>

	<p>environment and for constructing RCC roads in the entire affected area as per the decision taken by the said Committee. The said fund may be called as "Manali Environmental Relief Fund"</p>	<p>Petrol &amp; Diesel for complying with Bharat Stage VI norms (with very low sulfur content), for reduction of vehicle exhaust emission.</p> <p>CPCL has filed an Appeal (Writ Petition) in High Court, Madras and stay has been granted against the above NGT direction on 30.08.23.</p>
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(ii) Regarding Greenbelt development, PP informed the following:

- Existing Greenbelt coverage : 141 acres

CPCL is having 62 acres of Green Belt within the Refinery which includes thick green cover (5 – 10 m) of native trees in the periphery of the refinery covering 27.7 acres.

Further, 14 acres (10 – 20 m width) of greenbelt is available at the compound wall periphery of the Refinery East side, adjacent to Buckingham canal. This parcel of land is also owned by CPCL.

Hence, the total existing Green Belt area inside Refinery is 76 acres (62 + 14 acres).

In addition to above 76 acres, CPCL is having 65 Acres GB outside Refinery, in Manali Industrial area.

Thus, the overall Existing Green Belt of CPCL is 141 Acres (76 + 65 acres).

- Action plan for development of proposed GBD in additional land of 191 acres

**a) GBD within Refinery by Mar 2024**

CPCL is planning to develop Green Belt in 6.2 acres inside the Refinery premises, located in the vicinity of a) Tertiary Treatment Plant and b) Mandatory Tank Farm.

**b) Manali - Amullavoyal area by Mar 2025**

CPCL is owning free hold vacant land at Amullavoyal, located 1.5 km distance from Refinery and has earmarked 134 acres in the same area, to carry out GBD.

### c) Balance GBD by Dec 2026

CPCL will identify 51 acres of land near Refinery, including periphery, for GBD.

The cumulative Green Belt area (existing and proposed) totals to 332 acres (40%).

(iii) Activity wise reduction of SO<sub>x</sub> parameters to be provided:

S.N.	Sox reduction measures	SO <sub>x</sub> emission reduction	Target time
<u>1</u>	Usage of gaseous fuel in old crude units	5 kg/hr	Dec. 2023
<u>2</u>	Reduction of sulphur content in Naptha	16 Kg/hr	
	Total	21 kg/hr	

SO<sub>x</sub> value before and after the project:

SO <sub>x</sub> emissions	SO <sub>x</sub> in Kg/hr
Existing Refinery	719
Post Project	720
SO <sub>x</sub> emissions post APC measures	699

Activity wise reduction of NO<sub>x</sub> parameters to be provided:

S.N.	Heater	NO <sub>x</sub> emission reduction	Target time
<u>1</u>	Crude -2 Unit	12.83 kg/hr	Dec. 2023
<u>2</u>	Crude -3 Unit	16.05 kg/hr	Dec. 2024
3	Catalytic Reforming Unit	10.56 kg/hr	Dec. 2025



<b>Total</b>	<b>39.44 kg/hr</b>
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NO<sub>x</sub> value before and after the project:

<b>NO<sub>x</sub> emissions</b>	<b>NO<sub>x</sub> in Kg/hr</b>
Existing NO <sub>x</sub> Load	432.52
Project NO <sub>x</sub> load	34.56
Overall NO <sub>x</sub> Load	467.17
Air Pollution Control (APC) measures as above	39.44
<b>NO<sub>x</sub> load after the project</b>	<b>427.73</b>

(iv) Action plan for reducing usage of Refinery Fuel Oil:

a) The Off-gas generated in the Refinery units are treated in Sulphur Recovery Units to reduce the Sulphur content to less than 50 ppm. This low Sulphur treated fuel gas is used as firing fuel in the Refinery heaters.

b) In addition, some of the old heaters of CDU-I, installed in 1969, are designed for dual firing (Fuel gas with < 50 ppm Sulfur and Internal Fuel oil).

For improving the efficiency of heaters, further reduction of SO<sub>x</sub> and NO<sub>x</sub> and also as an Energy Conservation measure, CPCL is conducting detailed study for either replacement of burners or for provision of new heaters. This process of upgradation will be completed in about 3 years considering the turnaround schedule of the units and also the procurement / tendering cycle.

Road map for reduction of fuel oil consumption:

<b>S.N.</b>	<b>Method</b>	<b>Target Timeline</b>
1	Charging the Burner for 100% gas firing	Dec 2025
2	Replacement of Heaters	Mar 2027

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in

writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the EIA/EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of Environmental Clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance, subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- (i). The project proponent shall abide by all orders and judicial pronouncements made from time to time in the case filed in NGT.
- (ii). The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (iii). The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18<sup>th</sup> March, 2008 and G.S.R.595(E) dated 21<sup>st</sup> August, 2009 as amended from time to time, shall be followed.
- (iv). Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NO<sub>x</sub> burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.
- (v). Total fresh water requirement for the proposed project shall not exceed 1859.4 m<sup>3</sup>/hr to be met from Treated sewage, CPCL Desalination Plant and recycled water of the refinery. Necessary permission in this regard shall be obtained from the concerned regulatory authority.
- (vi). Effluent generation shall not exceed 841.4 m<sup>3</sup>/hr, which shall be treated in the ETP. Treated effluent shall be recycled/reused within the plant premises. No effluent/treated water shall be discharged outside the plant premises.
- (vii). Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

- (viii). PP shall develop green belt of 5-10 m width in 15% of plot area, mainly along the plant periphery, in downward wind direction, and along road sides etc before December 2024. As proposed, 40% green belt i.e. 332 acres shall be developed by December 2025 by Collaborating with Tamil Nadu Green Mission and across National Highways in Tamil Nadu in collaboration with NHAI. PP shall submit quarterly progress report to the Respective Regional Office, MoEF&CC.
- (ix). As proposed, SO<sub>x</sub> emission post project shall not exceed 699 kg/hr and NO<sub>x</sub> emission post project shall not exceed 427 kg/hr respectively.
- (x). With the FG based proposed OHCU 60 m high stack with Dia. of 1.6 m shall be installed.
- (xi). PP shall ensure that flare gas recovery unit is provided to recover hydrocarbon going to the flaring system. Sulfur Recovery Units with Tail Gas Treatment Unit (S recovery >99.9%) are installed to recover elemental Sulfur from acid gases. Fuel Gas & RLNG (Low Sulfur fuel) are being used in all process heaters to reduce Sulfur emissions.
- (xii). Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- (xiii). 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.
- (xiv). 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.
- (xv). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and

as per the action plan proposed by the project proponent to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centers/ support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar street lights, battery, solar panel etc., in the nearby villages. The action plan shall to be completed within time as proposed.

- (xvi). For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- (xvii). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- (xviii). Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. 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.
- (xix). Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xx). Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken/implemented accordingly.
- (xxi). PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12<sup>th</sup> August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

## **Agenda No. 02**

**Proposed Expansion Of Sugarcane Crushing Capacity From 4800 TCD To 12500 TCD And Distillery Capacity from 60 KLPD To 500 KLPD (Ethanol) Based On Sugarcane Juice /Syrup/"B" Heavy Molasses/"C" Molasses/Denature Spirit As Raw Material" at Gat No. 381, 384/1, 386/2/C, 386/3, 387, 389/2/2, 96, 385/1, 385/2/B, 386, 386/2/1, Kacharewadi, Taluka: Mangalvedha, District: Solapur-413 305, Maharashtra. By M/S. Utopian Sugars Limited - Consideration of Environmental Clearance.**

**[IA/MH/IND2/409558/2022, IA-J-11011/223/2015-IA-II(I)]**

The Project Proponent and the accredited Consultant M/s. Mantras Green Resources Ltd. (NABET certificate No. NABET/EIA/2326/RA0286 and validity 6<sup>th</sup> January 2026) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for Expansion Of Sugarcane Crushing Capacity From 4800 TCD To 12500 TCD And Distillery Capacity from 60 KLPD To 500 KLPD (Ethanol) Based On Sugarcane Juice /Syrup/"B" Heavy Molasses/"C" Molasses/Denature Spirit As Raw Material" At Kacharewadi, Taluka: Mangalvedha, District: Solapur-413 305, Maharashtra. by M/s. Utopian Sugars Limited.

The Committee noted that PP has obtained Environment Clearance from MoEF&CC for expansion of sugarcane crushing capacity from 4800 TCD to 7500 TCD and distillery capacity from 45 KLPD to 200 KLPD Ethanol based on sugarcane juice/ syrup /" B: Heavy molasses/C molasses vide file no. IA-J-11011/223/2015-IA II(I) dated 26<sup>th</sup> August 2021. Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, Nagpur vide F No.EC-1364/RON/2021-NGP/11588 dated 22<sup>nd</sup> May 2023. As per certified compliance report, PP has not implemented existing Ec dated 26<sup>th</sup> August, 2021. However, PP has expanded the capacity from distillery 45 KLPD to 60 KLPD by improving the process. Accordingly, PP has also obtained CTO for 60 KLPD. Since PP now proposed to expand the EC from 60 KLPD to 500 KLPD, the Committee suggested to surrender the existing EC dated 26<sup>th</sup> August, 2021 and then apply for expansion of 60 KLPD to 500 KLPD.

During discussion, it was observed that PP has mentioned project cost in lower side for the expansion of distillery and sugar unit. Further, the committee suggested them to revise the project cost as well as all the other parameters related to the same i.e. capital & recurring cost for EMP, CER, project configuration as well as associated environmental activities.

**Accordingly, the proposal was returned in present form.**

### **Agenda No. 03**

**Expansion of Molasses or Sugarcane syrup based distillery from 150 KLPD to 550 KLPD located at Rajaramnagar, Village: Sakharale, Tal. Walwa, Dist. Sangli. State Maharashtra by M/s. Rajarambapu Patil Sahakari Sakhar Karkhana Limited (RBPSSKL) - Consideration of Environmental Clearance.**

**[IA/MH/IND2/426585/2023, IA-J-11011/50/96-IA-II(I)]**

The Project Proponent and the accredited Consultant M/s. Vasantdada Sugar Institute, Pune (NABET certificate no. NABET/EIA/2023/RA 0208 and validity 19 Dec 2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for expansion of existing distillery unit from 150 KLPD to 550 KLPD, located at Rajaramnagar, village: Sakharale, Tal. Walwa, Dist. Sangli. State Maharashtra by M/s. Rajarambapu Patil Sahakari Sakhar Karkhana Limited (RBPSSKL). Dr. Sanjay Patil recused himself from the meeting before the deliberation of the proposal.

As per the MoEF&CC, Notification number S.O. 345(E), dated 17th January, 2019, notification number S.O. 750(E), dated 17th February, 2020, S.O. 980 (E) dated 02nd March, 2021 & S.O. 2339(E), dated 16th June, 2021 a special provision in the EIA Notification, 2006 (Schedule 5 (g)), a special provision in the EIA Notification, 2006-(Schedule 5(g)) "Expansion of sugar manufacturing units or distilleries for production of ethanol, having Prior Environment Clearance (EC) for existing unit, to be used completely for Ethanol Blended Petrol (EBP) Programme only, as per self-certification in form of an affidavit by the Project Proponent, shall be appraised as category 'B2' projects".

**The details of products and capacity as under:**

<b>S. No.</b>	<b>Name of unit</b>	<b>Name of the product/by-product</b>	<b>Existing Production capacity</b>	<b>Additional production capacity</b>	<b>Total production capacity</b>
1.	Distillery (B heavy Molasses or Sugar syrup)	Ethanol	150 KLPD	400 KLPD	550 KLPD (only during crushing season)
	Or Bio-Syrup		150 KLPD	-	150 KLPD
2	Fermentation unit	Carbon di-oxide	111 TPD	314 TPD	425 TPD
3	Incineration boiler	Conc. Spentwash burned in boiler	32 TPH boiler	Existing will be used	32 TPH

Note: Production capacity of distillery shall not exceed 550 KLD at any point of time.

Ministry has issued Environmental Clearance to the existing Industry for a capacity of 150 KLPD vide File No. J- 1101/50/96-IA-II (I) and EC Identification No. EC22A022MH153726 dated 24.03.2022 [PARIVESH portal application No.: IA/MH/IND2/252285/1996. Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, Nagpur vide File no- EC-77/RON/2016-NGP/11943 dated 25.07.2023. Action Taken Report has been submitted to IRO, MOEFCC, Nagpur dated 04.08.2023 for partial compliances and non- compliances.

Standard ToR and Public Hearing is not applicable as the project falls under category B2 as per OM dated 16<sup>th</sup> June, 2021. It was informed that there is no litigation pending against the project

Total plant area after expansion will be 79.43 Ha (existing built-up area 7.69 Hectares and additional land required 2.46 Hectares for proposed capacity) which is under possession of the company and converted to industrial use/ No additional land will be acquired for the expansion project as the same will be done within existing plant premises. Out of the total plant area 20.05 Hectares, i.e. 25% of the total plant area has already been developed as



greenbelt & plantation and the same will be maintained and additional 6.17 Hectares will be developed under greenbelt & plantation in and around plant premises to meet the requirement of 33% greenbelt development. The estimated project cost is Rs. 240.82 Crores (including CER cost). Capital cost of EMP would be Rs. 49.35 Crores and recurring cost for EMP would be Rs. 1.35 Crores per annum. Industry proposes to allocate Rs. 3.00 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 20 persons as direct & indirect.

There are no any national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Reserve forests/protected forests: Near village Shivpuri at a distance of 6.0 km in South-West direction. The Yashwantrao Chavan Sagarshwar wildlife sanctuary is at a distance of 11 Km in North East direction from project site. Water bodies: Nearest water body is River Krishna is at a distance of 3.5 Km towards North-east.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be  $1.29 \mu\text{g}/\text{m}^3$  and  $1.26 \mu\text{g}/\text{m}^3$  with respect to PM and  $\text{SO}_2$ . The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement after expansion will be  $1908 \text{ m}^3/\text{day}$  which will be met from River Krishna. NOC has been obtained by irrigation department vide letter no. Branch/E/E26475/2022 dated 23/12/2022 and letter no. 16095/2014 dated 28/04/2014. Existing effluent generation is  $1200 \text{ m}^3/\text{day}$  from distillery which is treated through Condensate Polishing Unit (capacity in  $1200 \text{ m}^3/\text{day}$ ). Proposed effluent generation will be  $2257 \text{ m}^3/\text{day}$  from distillery which will be treated through new Condensate Polishing Unit (capacity in  $2500 \text{ m}^3/\text{day}$ ). In molasses based operation, spent wash generated from the analyzer column during distillation will be treated in Multi Effect Evaporator and concentrated spent wash will be burnt in incineration boiler. Domestic wastewater is being disposed through STP of capacity  $20 \text{ m}^3$ . The plant will be based on Zero Liquid discharge system and treated effluent will not be discharged outside the factory premises.

Total power requirement will be 7.45 MW out of which 2.75 MW will be generated from existing captive power generation unit and remaining 4.70 MW power will be taken from the TG set of sugar unit. Existing distillery has

32 TPH bagasse based incineration boiler, which will be used as it is after expansion. APCE Electrostatic precipitator with a stack of height of 62 m is installed with the existing boiler for controlling the particulate emissions within the statutory limit of 150 mg/Nm<sup>3</sup> same will be used after expansion. Industry has 1010 KVA two DG set installed in unit which will be used as standby during power failure and stack height (3.5m) will be provided as per CPCB norms to the proposed DG sets same will be used for distillery unit.

**Details of Process emissions generation and its management:**

- APCE Electrostatic precipitator with a stack of height of 62 m is installed with the existing boiler for controlling the particulate emissions within the statutory limit of 150 mg/Nm<sup>3</sup> same will be continued after expansion.
- Online Continuous Emission Monitoring System is installed with the stack and data is transmitted to CPCB/SPCB servers.
- CO<sub>2</sub> (425 TPD) generated during the fermentation process is will be collected by utilizing CO<sub>2</sub> scrubbers and sold to authorized vendors/collected in installed bottling plant.

**Details of solid waste/Hazardous waste generation and its management:**

- Concentrated spent wash (240 m<sup>3</sup>/day) will be burnt in incineration boiler to be used as manure.
- Boiler ash (14535 TPA) is being given to farmers to be used as manure.
- CPU and fermenter sludge (80 TPA) is being used as manure.
- Used oil (5.0 Kiloliters per annum) is being/will be sold to authorized recyclers.

As per Notification S.O 2339(E), dated 16<sup>th</sup> June, 2021, PP has submitted self- certification in the form of notarized affidavit declaring that the proposed expansion capacity of 400 KLPD will be used for manufacturing fuel ethanol only.

**Capital cost and recurring cost of EMP are given below:**

#	Particulars	Capital	Recurring cost
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		<b>cost (Rs. in Lakh)</b>	<b>Maintenance</b>	<b>Monitoring</b>
1	Standalone Multi Effect Evaporator (MEE) plant expansion/ modification as per proposed expansion (TS 5-10% to 52%)	3750.00	20.00	-
2	Spent-wash storage lagoon	200.00	4.00	-
3	Condensate polishing unit (Additional for proposed expansion)	850.00	10.00	-
4	Environmental monitoring and management for distillery unit (Including existing and proposed unit)	45.00	-	15.00
5	Greenbelt development for distillery unit (Including existing and proposed unit)	60.00	3.00	-
6	Rainwater harvesting for distillery unit (Including existing and proposed unit)	30.00	3.00	-
7	Salaries and wages for EMP (Additional in proposed expansion)	-	80.00	-
<b>Total</b>		<b>4935.00</b>	<b>120.00</b>	<b>15.00</b>

**Details of CER with proposed activities and budgetary allocation:**

<b>CER activity</b>	<b>Amount (Rs in Lakhs)</b>
Provision of rooftop solar system in local schools	75
Provision of sanitation facilities in local schools	75
Provision of clean drinking water facility in local schools	50
Skill development and employment related training to local youths	30
Tree plantation in surrounding villages	10
Environmental awareness programmes	10
Watershed development/water conservation activities	50

<b>TOTAL</b>	<b>300.00</b>
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The proposal was earlier considered by the EAC (Ind-2) in its meeting ID IA/IND2/13551/04/09/2023 held during 04<sup>th</sup> September, 2023 wherein EAC deferred the proposal and desired certain requisite information/inputs. Information desired by the EAC and responses submitted by the project proponent is as under:

S. No.	ADS by MOEFCC	Reply of PP																																														
<b>1</b>	PP shall submit revised integrated water balance. Treated water and condensate generated from sugar unit shall be used in distillery unit	<p>PP has submitted revised water balance. This water balance is prepared considering availability of condensate from 7000 TCD sugar unit.</p> <p><b>Distillery water balance:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center;">For 150 KLPD off season</th> <th style="text-align: center;">For 550 KLPD During seasonal operation</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">BH-Molasses</td> <td></td> <td style="text-align: center;">Sugarcane Syrup</td> </tr> </tbody> </table> <p><b>WATER INPUT</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 55%;">Description</th> <th style="width: 20%;"></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>A</b></td> <td>Total Water Input at start-up for Boiler, molasses dilution, CT makeup, and cooling</td> <td style="text-align: center;">3053</td> <td style="text-align: center;">7579</td> </tr> </tbody> </table> <p><b>WATER OUTPUT</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 55%;">Description</th> <th style="width: 20%;"></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>B</b></td> <td>Total Water Output form evaporation unit, cooling tower, WTP</td> <td style="text-align: center;">3053</td> <td style="text-align: center;">7579</td> </tr> </tbody> </table> <p><b>RECYCLE STREAMS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;"></th> <th style="width: 55%;">Description</th> <th style="width: 20%;"></th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>C</b></td> <td>Total water recycle from distillery process after CPU</td> <td style="text-align: center;">2428</td> <td style="text-align: center;">5471</td> </tr> <tr> <td style="text-align: center;"><b>D</b></td> <td>Total fresh water requirement : <b>(B-C)</b></td> <td style="text-align: center;">625</td> <td style="text-align: center;">2108</td> </tr> <tr> <td style="text-align: center;"><b>E</b></td> <td>Condensate available from sugar unit</td> <td style="text-align: center;">169 (Form Rain water harvesting)</td> <td style="text-align: center;">200 (Sugar Condensate)</td> </tr> <tr> <td style="text-align: center;"><b>F</b></td> <td>Net fresh water requirement after use of sugar condensate: <b>(D - E)</b></td> <td style="text-align: center;">456</td> <td style="text-align: center;">1908</td> </tr> <tr> <td style="text-align: center;"><b>G</b></td> <td><b>Fresh water requirement per lit of Alcohol incl.</b></td> <td style="text-align: center;"><b>3.04 lit</b></td> <td style="text-align: center;"><b>3.46 lit</b></td> </tr> </tbody> </table>		For 150 KLPD off season	For 550 KLPD During seasonal operation	BH-Molasses		Sugarcane Syrup		Description			<b>A</b>	Total Water Input at start-up for Boiler, molasses dilution, CT makeup, and cooling	3053	7579		Description			<b>B</b>	Total Water Output form evaporation unit, cooling tower, WTP	3053	7579		Description			<b>C</b>	Total water recycle from distillery process after CPU	2428	5471	<b>D</b>	Total fresh water requirement : <b>(B-C)</b>	625	2108	<b>E</b>	Condensate available from sugar unit	169 (Form Rain water harvesting)	200 (Sugar Condensate)	<b>F</b>	Net fresh water requirement after use of sugar condensate: <b>(D - E)</b>	456	1908	<b>G</b>	<b>Fresh water requirement per lit of Alcohol incl.</b>	<b>3.04 lit</b>	<b>3.46 lit</b>
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		<b>domestic water</b>	
		<b>Water Balance: 7000 TCD sugar unit</b>	
		<b>Fresh water requirement for boiler</b>	
<b>A</b>	Total water requirement for 138 TPH high pressure boiler@ 98.57% efficiency		3312
<b>B</b>	Return condensate from process to the boiler		3070
<b>C</b>	Loss of fresh water during process: <b>(A - B)</b>		240
<b>D</b>	Net fresh water requirement for High Pressure Boiler = Loss		240
		<b>Water Balance for Sugar Process</b>	
<b>A</b>	Hot water generation in process from boiling house		8460
<b>B</b>	Consumption of hot water in sugar process		7136
<b>C</b>	Total condensate available: <b>(A - B)</b>		1324
<b>D</b>	Hot water effluent from process as spray pond overflow as 100 lit/Ton of cane crush		700
<b>E</b>	<b>Net excess condensate generation form process: (C - D)</b>		<b>624</b>
<b>F</b>	<b>Use of excess condensate in sugar unit as cooling water makeup, spray pond makeup and seed plot</b>		<b>400</b>
<b>G</b>	Loss of condensate in CPU process		24
<b>H</b>	<b>Excess condensate available for distillery (E - F - G)</b>		<b>200</b>
<b>2</b>	PP shall submit revised model for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 5.02 µg/m <sup>3</sup> with respect SO <sub>2</sub> which were found to be bit on higher side. PP shall propose pollution control measure and re-submit the revised GLCs	<p>Earlier dispersion modeling study reported the value of 5.02 µg/m<sup>3</sup>. This value was estimated considering the spent wash of final molasses i.e. C- molasses as a worst case scenario as well as existing and proposed fuel quantities. Therefore, the input data of dispersion model was reexamined, based on the fact that during season new 400 KLPD unit and will be operated only on juice/syrup to ethanol route. Normally, the double sulphitation process carried out for making the sugar white. It bleaches the brown colour of raw sugar and makes it white/crystalline. Because of this the spent wash generated from use of C molasses as a feed stock, generally show the sulphate content of 15,000 mg/L to 20,000 mg/L or sometimes even higher. In the proposed scheme the spent wash will be disposed through incineration. Hence, the sulphate content of spent wash contributes to formation of sulfur dioxide.</p> <p>In case of sugar cane juice or syrup to ethanol route, sulphitation</p>	

process is not involved. The juice is taken into fermenter and processed to produce ethanol. Therefore, the spent wash generated in the case of juice to ethanol generally shows, sulphate content of 1100 mg/L to 2000 mg/L. This change in feed stock is very important to reduce the sulfur dioxide formation. This aspect was considered while re-estimating sulfur dioxide generation. Revised value was used as an input data for the AERMOD simulation software. The model was re-run. The results of the same are as follows.

**Revised dispersion modelling study for SO<sub>2</sub>**

<b>Sulphur Dioxide (SO<sub>2</sub>): (Fuel Conc. Spent wash and bagasse)</b>	
Steam generation from 32 TPH incineration boiler = 25 TPH (Fuel: Conc. Spent wash (from syrup) 214 TPD + 143 TPD bagasse)	= 357 TPD
Sulfur content in combined fuel (conc. SW from syrup @0.1% + bagasse @ 0.02 %)	= 10.11 Kg/Hr.
Sulphur loss in ash as sulphate @ 30%	= 3.033 Kg/Hr.
Remaining sulphur	= 7.07 kg/hr
	= 1.97 g/s
Sulphur dioxide (SO <sub>2</sub> ) emissions	= 3.94 g/sec
Existing stack (Considered for dispersion modeling)	62 m height with 3 m diameter

**Summary of Maximum 24-hour GLC due to proposed project**

<b>Description</b>	<b>Concentration µg/m<sup>3</sup></b>
	<b>SO<sub>2</sub></b>
Maximum rise in GLC	1.26
Direction of Occurrence and distance	West ~0.3 km
Coordinates of maximum GLC	17 <sup>0</sup> 04' 14" N 74 <sup>0</sup> 17' 20" E
Baseline Concentration reported nearby GLC ( <b>Project Site</b> )	25.00
Total Concentration ( <b>Post project scenario</b> )	26.26
NAAQS	80
*The distance is measured from stack to the receptor of maximum GLC	

<p><b>3</b> PP has not submitted species list. The IRO reported that the industry only out of total land, greenbelt occupies 20.05 ha of land 9330 number of trees exist. Remaining 4.93 ha greenbelt will be planted before commissioning of the plant. In this regard, EAC suggested that PP should submit detailed month wise action plan along with budget to achieve the remaining greenbelt target i.e. 4.93 ha by December.</p>	<p>For developing remaining area of greenbelt i.e. 4.93 ha, the plan is as follows. Considering the semi-arid habitat, the tree density proposed is 1500/ha. Hence, roughly 7400 trees need to be planted by the factory.</p>
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Month of year 2023	Plantation
September	1000
October	5000
November	1400

List of native trees identified for greenbelt development

#	Name of species	Size* & canopy	Climatic condition (Rainfall)	Feature/remark
1.	<i>Acacia leucophloea</i> (Babhul)	T spreading	300-1000 mm	Tolerant to air pollution, very common in the region
2.	<i>Aegle marmelos</i> (Bel)	T Round	500-1000 mm	Tolerant to air pollution, common in the region
3.	<i>Albizia lebbeck</i> (Shiris)	M Round	500-1000 mm	Tolerant of CO <sub>2</sub>
4.	<i>Anthocephalus cadamba</i> (Kadamb)	T Oblong	500-1000 mm	Tolerant to air pollution,
5.	<i>Azadirachta indica</i> (Neem)	T Round	500-1000 mm	Fly ash tolerant ,Tolerant of alkaline and Saline soil
6.	<i>Bauhinia purpurea</i> Local name: Kanchan	M Spreading	500-1000 mm	Dust tolerant
7.	<i>Dalbergia sissoo</i> (Shisoo)	T Round	500-1000 mm	Tolerant to air pollution,
8.	<i>Derris indica</i> (Karanj)	T Round	500-1500mm	Tolerant to air pollution,
9.	<i>Eugenia jambolana</i> (Jamun)	T Spreading	500-1000 mm	Tolerant to SO <sub>2</sub>
10.	<i>Ficus benghalensis</i> (Banyan)	T Spreading	250-1000 mm	Dust tolerant, Dust collector
11.	<i>Ficus racemosa</i>	T Spreading	500-1000 mm	Tolerant to dust and CO <sub>2</sub>

		Local name: Umber			
		1) <i>Ficus religiosa</i> (Peepal)	T Round	250-1000 mm	Dust tolerant
		1) <i>Holoptelea integrifolia</i> (Papadi)	M Oblong	500-1000 mm	Dust tolerant
		1) Lagerstroemia speciosa Local name: Jarul	T Conical	500-1000 mm	Dust tolerant
		1) <i>Magifera indica</i> (Mango)	T Spreading	500-1000 mm	Dust tolerant
		1) <i>Polyalthia longifolia</i> (Asopalav – Ashok)	T Conical	600 – 2600mm	- Dust tolerant and ornamental
		1) <i>Putranjiva roxburghii</i> (Local name: Jivanputra)	T Conical	500-1000 mm	Dust tolerant
		1) <i>Tamarindus indica</i> (Chinch)	T Spreading	250-500 mm	Tolerant of acidic soil
		1) <i>Tectona grandis</i> (teak)	T Oblong	500- 1000mm	Dust tolerant
		2) <i>Terminalia arjuna</i> (Arjun)	T Oblong	500- 1000mm	Tolerant of alkaline/Saline soil
		2) <i>Thespesia populnea</i> (Ran bhindi)	T Round	250-1000 mm	Dust tolerant, Dust collector
		<b>*T=Tall, M=Medium</b>			
<b>4</b>	PP shall submit wind rose, no. of storage tanks, PP shall resubmit the proposal with cumulative impact.	PP has submitted wind rose, no. of storage tanks and also resubmitted the proposal with cumulative impact.			
<b>5</b>	CER submitted is does not possess monitorable target. PP shall increase CER to Rs. 3.00 Crore.	PP has submitted revised CER plan with monitorable target. PP has also increase CER budget Rs. 3.0 Crore.			
<b>6</b>	The committee noted that CTO	Application for the renewal of CTO applied on June 23, 2023 vide UAN no. MPCB-CONSENT-0000-14540.			



	was expired on 31 <sup>st</sup> August, 2023. The committee suggested that PP shall submit copy of valid CTO renewal for 150 KLPD Distillery unit.	
<b>7</b>	PP has observed that one of condition of the previous EC to stop bio-composting. However, PP has not submitted compliance report the same condition	<p>Bio-composting was the approved ZLD route for 75 KLPD distillery unit. During the last season the distillery unit was operated at the capacity of 75 KLPD and composting was the disposal route. Now, the composting has been stopped totally. Photographs of the compost yard after its closure are enclosed herewith.</p> <p>Six monthly EC compliance certified by the regional office of MoEF&amp;CC is for expansion of 75 to 150 KLPD unit. When the certifying authority visited the site, erection of 150 KLPD (i.e. new 75 KLPD unit) was in progress. Installation work was in the final stages and not yet started its operation/commissioning. In the 150 KLPD unit, we are proposed ZLD route as MEE followed by Incineration of spentwash which are under erecting stage. Photographs of the Incineration boiler with ESP and stack submitted on parivesh portal. They have also submitted a copy of undertaking with respect to the compliance on the parivesh portal.</p> <p>The Committee suggested them PP shall ensure that no biocomposting shall be carried out for treatment of spent wash.</p>
<b>8</b>	PP should also clarify the existing plot area and additional plot area acquired for expansion project along with status of land acquisition	Factory having total plot area 79.43 Ha. Existing ground floor area (sugar, cogeneration & distillery) is 7.6938 Ha. Proposed distillery expansion will be at gat number 1152, 1170, 1172 village- Sakharale, Taluka- Walwa, District- Sangli, Maharashtra. Proposed built-up area (distillery expansion) will be 2.46 Ha. This project will be developed on land adjacent to existing distillery unit, which is already owned by the factory. Therefore, the proposal does not involve any new land acquisition. Land ownership details of proposed plot is submitted on parivesh portal.

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EMP report is in compliance of the PFR. The Committee deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of environmental clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance, subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- 1.As per the Notification S.O. 2339(E), dated 16<sup>th</sup> June, 2021, project falls in category B2 and the proposed expansion capacity of 400 KLPD shall only be used for fuel ethanol manufacturing as per self-certification in form

of a notarized affidavit by the Project Proponent. Provided that subsequently if it is found that the ethanol, produced based on the EC granted as per this dispensation, is not being used completely for EBP Programme, or if ethanol is not being produced, or if the said distillery is not fulfilling the requirements based on which the project has been appraised as category B2 project, the EC shall stand cancelled.

2.The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.

3.EC granted for a project on the basis of the submitted documents shall become invalid in case the actual land for the project site turns out to be different from the land considered at the time of appraisal of project. Conversion of land use (CLU) certificate shall be obtained before start of construction activities.

4.NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from surface Water. State Pollution Control Board shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission. No ground water shall be used for the plant operations.

5.Total Fresh water requirement after proposed expansion shall not exceed 1908 m<sup>3</sup>/day, which will be met from River Krishna. During crushing season, treated effluent from sugar condensate shall be used for distillery manufacturing process in order to reduce the fresh water requirement. No ground water recharge shall be permitted within the premises. Industry shall construct a rain water storage pond of 60 days capacity and the accumulated water to be used as fresh water thereby reducing fresh water consumption.

6. The spent wash from molasses-based distillery shall be concentrated in MEE followed by drying. Spent wash/stillage from grain based distillery shall be decanted followed by the multiple effect evaporator and dryer to form DDGS. Other lean effluents Spent lees, MEE Condensates and utility

effluents shall be treated in the condensate polishing unit (CPU) comprising of three stage RO. STP shall be installed to treat sewage generated from factory premises. CPU for treatment of sugar effluent shall be provided with RO so that treated effluent can be recycled for distiller process. Sludge drying beds shall be replaced by Filter press. Capacity storage of concentrated spent wash shall not exceed 5 days. The plant will be based on 'Zero Liquid Discharge' system and no effluent/treated water will be discharged outside factory premises. PP shall ensure that no bio composting treatment shall be provided for treatment of spent wash.

7. Adequate numbers of ground water quality monitoring stations by providing piezometers around the project area shall be set up. Sampling and trend analysis monitoring must be conducted on monthly basis and report submitted to SPCB and RO, MOEFCC. The ground water quality monitoring for pH, BOD, COD, Chloride, Sulphate and Total Dissolve Solids shall be monitored and report submitted to the Ministry's Regional Office. No wastewater or treated water from integrated unit of sugar mill and distillery shall be discharged outside the premises and Zero Liquid Discharge shall be maintained for all the units namely sugar, Distillery and Cogen Power Plant

8. As proposed, no new boiler shall be installed for proposed expansion. Existing APCE Electrostatic precipitator with a stack of height of 62 m is installed with the existing 32 TPH bagasse fired boiler for controlling the particulate matter emissions within the statutory limit of 50 mg/Nm<sup>3</sup> which will be used after expansion boiler. At no time, the emission levels shall exceed the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Performance assessment of pollution control devices/ systems will be conducted annually.

9. Boiler ash (14535 TPA) shall be supplied to the brick manufacturers in closed trucks. PP shall use biomass as fuel for the proposed boiler. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

10.CO<sub>2</sub> (425 TPD) generated during the fermentation process will be collected by utilizing CO<sub>2</sub> scrubbers and it shall be sold to authorized vendors/ collected in proposed bottling plant.

11.PP shall allocate at least Rs. 0.5 Crore/annum for Occupational Health Safety. Occupational Health Centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.

13.Training shall be imparted to all employees on safety and health aspects of chemicals handling. Safety and visual reality training shall be provided to employees.

13.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. PESO certificate shall be obtained. Location of ethanol storage tanks shall be placed in such a way that in the event of any fire, accident, explosion or any unforeseen conditions the impact of such event should not go beyond the boundary of the plant i.e. the risk should be tolerable (acceptable) at the boundary.

14.Process organic residue and spent carbon, if any, shall be sent to Cement and other suitable industries for its incinerations. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF.

15.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.

16. Out of the total plant area 20.05 Hectares, i.e. 25% of the total plant area has already been developed as greenbelt & plantation and the same will be maintained and additional 6.17 Hectares will be developed under greenbelt & plantation in and around plant premises to meet the requirement of 33% greenbelt development by November, 2023.

Indigenous species shall only be developed as part of greenbelt and non-indigenous / alien species shall be replaced with native species. No invasive or alien or non-native tree species shall be selected for plantation. PP shall develop at least 20 variety of species as a part of greenbelt. Saplings 4-6 feet high shall be planted. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. Records of tree canopy shall be monitored through remote sensing map. Greenbelt development shall be completed by November, 2023.

17. PP proposed to allocate Rs. 3.00 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.

18. 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. Out of the total project area, 15% shall be allotted solely for parking purposes with facilities like rest rooms etc.

19. Storage of raw materials shall be either in silos or in covered areas to prevent dust pollution and other fugitive emissions. All stockpiles should be constructed over impervious soil and garland drains with catch pits to trap runoff material shall be provided. Biomass shall be stored in covered sheds and wind breaking walls/curtains shall be provided around biomass storage area to prevent its suspension during high wind speed. All Internal roads shall be paved. Industrial vacuum cleaner shall be provided to sweep the internal roads. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.

20. Continuous online (24x7) monitoring system for stack emissions/effluent shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. 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.

21. A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. EMC head shall report directly to Head of Organization/ Director/CEO as per company hierarchy.

22. PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12<sup>th</sup> August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

#### **Agenda No. 04**

**Proposed 50 KLPD Grain Based Distillery for production of Fuel Ethanol along with 1.25 MW Captive Power Plant from Waste / Damaged Grains located at Sy. No. 453/AA, 453/1, 453/3, 453/4; Penpahad (V&M), Suryapet District, Telangana by M/s. Amtaar Chemicals Private Limited - Consideration of Environmental Clearance.**

**[IA/TG/IND2/436974/2023, IA-J-11011/275/2023-IA-II(I)]**

The Project Proponent and the accredited Consultant M/s. Envirotech East Pvt. Ltd. (NABET certificate no. NABET/EIA/2225/RA 0279 and validity upto 12<sup>th</sup> September, 2025) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance of 50 KLPD Grain Based Distillery for production of Fuel Ethanol along with 1.25 MW Captive Power Plant from Waste / Damaged Grains under Ethanol Blending Programme (EBP) located at Sy. No. 453/AA, 453/1, 453/3, 453/4, Penpahad (Village & Mandal), Suryapet (District), Telangana – 508213 by M/s. Amtaar Chemicals Private Limited.

As per the MoEF&CC Notification S.O. 2339(E), dated 16<sup>th</sup> June, 2021, a special provision in the EIA Notification, 2006-(Schedule 5 (ga), Category B2) is made, wherein for all applications made for Grain based distilleries with Zero Liquid Discharge producing ethanol; solely to be used for Ethanol

Blended Petrol Programme of the Government of India shall be considered under B2 Category and appraised at Central Level by Expert Appraisal Committee (EAC) with condition that the project proponent shall file a notarized affidavit that ethanol produced from proposed project shall be used completely for EBP Programme.

**The details of products and capacity as under:**

<b>S.No.</b>	<b>Name of unit</b>	<b>Name of Product / by-product</b>	<b>Production Capacity</b>
1	Distillery (Grain Based)	Ethanol	50 KLPD
2	Co-generation power plant	Power	1.25 MW
3	DWGS dryer	DDGS	22 TPD
4	Fermentation unit	CO <sub>2</sub>	22 TPD

Standard ToR and Public Hearing is not applicable as the project falls under category B2 as per OM dated 16<sup>th</sup> June, 2021. It was informed that there is no litigation pending against the project.

Total land area required is 4.07 hectares. Greenbelt will be developed in total area of 1.74 hectares i.e., 42.7% of total project area. The estimated project cost is Rs. 66.2 Crores. Capital cost of EMP would be Rs. 21.17 Crores and recurring cost for EMP would be Rs. 2.3 Crores per annum. Industry proposes to allocate Rs. 0.63 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 25 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger / Elephant Reserves, Wildlife Corridors etc. within 10 km distance. There are no Reserve forests / protected forests within 10 km distance. Musi River is at a distance of 8.7 km towards West from the project site.

Total fresh water requirement will be 225 KLD which will be met from Irrigation canal. Application has been submitted to Telengana State Industrial Project Approval & Self Certification System (TS-iPASS), Government of Telengana on 28<sup>th</sup> April, 2023. Effluent (Condensate / spent lees / blowdown etc.) of 210 KLD quantity will be treated through Condensate Polishing Unit / Effluent Treatment Plant of capacity 230 KLD. Raw stillage (340 KLPD: quantity of raw spent wash from distillation) will be



sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 10 KLPD will be installed to treat sewage generated from factory premises. The plant will be based on Zero Liquid discharge system and no effluent / treated water will be discharged outside factory premises.

Power requirement will be 1000 KW and will be met from proposed 1.25 MW co-generation power plant and the balance shall be sourced from State grid. 'Technical feasibility' for power requirement from Southern Power Distribution Company of Telangana Limited has been obtained vide letter no. 2154 dated 20/07/2023. 15 TPH rice husk and coal fired boiler will be installed. ESP with a stack height of 30 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm<sup>3</sup> for the proposed boiler. 500 kVA DG set will be used as standby during power failure and stack height (14 m) will be provided as per CPCB norms to the proposed DG sets.

#### **Details of Process emissions generation and its management:**

- ESP with a stack height of 30 meters will be installed for controlling the particulate matter emissions.
- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB / SPCB servers.
- CO<sub>2</sub> (22 TPD) generated during the fermentation process will be collected by utilizing CO<sub>2</sub> scrubbers and it shall be sold to authorized vendors / collected in proposed bottling plant.

#### **Details of solid waste/Hazardous waste generation and its management:**

- DDGS (Distilled Dried Grains Stillage) (7260 TPA) will be sold as cattle feed.
- Boiler ash (4060 TPA) shall be sold to brick manufactures and used in land filling.
- ETP sludge - 300 TPA generated shall be used as manure.
- Municipal Solid Waste - 3.7 TPA shall be disposed off through the local Civic body.

As per Notification S.O 2339(E), dated 16<sup>th</sup> June, 2021, PP has submitted self- certification in the form of notarized affidavit declaring that the

proposed capacity of 50 KLPD will be used for manufacturing fuel ethanol only.

Total land of 4.07 Hectares is under possession of the company and land use conversion has been completed vide letter dated 02.03.2023.

**Capital cost and recurring cost of EMP are given below:**

<b>S.No.</b>	<b>Particulars</b>	<b>Capital cost (Rs. in Lakhs)</b>
<b>Capital expenses</b>		
1.	Standalone Multi Effect Evaporator (Civil + Machinery)	550.00
2.	CO2 plant (including civil)	405.50
3.	Dryer (Machinery + civil and structural)	285.00
4.	Treatment units for condensate and other effluent (Civil + Machinery)	220.00
5.	Spent wash storage tanks, condensate storage tank, Shed for spent wash powder	229.00
6.	Wet scrubber	35.00
7.	Electrostatic Precipitator	150.00
8.	Fuel and Ash handling system	50.00
9.	Fugitive dust control	05.00
10.	Firefighting equipment and other	70.00
11.	Environmental monitoring (Continuous monitoring system, etc), Carbon and water footprint monitoring	45.00
12.	Greenbelt development / Tree plantation	10.00
13.	Laboratory shed and its glassware, equipment, etc.	27.50
14.	DG set (As a backup - including pollution control devices)	15.00
15.	Rainwater harvesting scheme	15.00
16.	Miscellaneous (Piezometric well, etc.)	05.00
	<b>TOTAL</b>	<b>2117.00</b>
<b>Recurring Expenses / Annum</b>		
1.	Salaries and wages	47.00
2.	Maintenance of pollution control devices e.g. MEE, Incineration boiler, ESP, CPU etc.	90.00
3.	Fuel & ash (handling activity) Electricity (in case of diesel generator operations)	85.00
4.	Miscellaneous	8.00
	<b>TOTAL</b>	<b>230.00</b>

**Details of CER with proposed activities and budgetary allocation:**

CER activity head	Year			TOTAL
	1st	2nd	3rd	
	Budgetary provision (Rs. in lakhs)			
Improvement in social infrastructure:				
Provision of drinking water and sanitation facilities at nearby villages / schools	04	05	06	15
Education & Training				
Educational aid to schools / colleges or students	01	1.5	02	4.5
Training to local youths; Boosting sports activities	03	04	05	12
Training programmes on crop management for local Farmers	02	03	04	09
Plantation in the nearby villages	02	03	04	09
Health check-up or medical camp for locals	03	03	03	09
Provision of water for animals (domestic / wild)	01	1.5	02	4.5
TOTAL BUDGETARY ALLOCATION FOR NEXT THREE YEARS (Approx. 1% of the capital budget of Rs.6830 Lakhs)				63

During deliberations, EAC discussed following issues:

- PP informed that there is a total of 195 tree exists at the project site. The Committee suggested that PP shall protect all the tree. Accordingly, PP has to revise their plant layout.
- Accordingly, PP has to submit revise EMP.
- PP has to carry out Air quality modelling for proposed project and submit the GLC for major air pollutants as well as resultant value.
- List of Plant Species for Greenbelt Development has been submitted as per the recommendation of EAC Committee. Further, Committee suggested that 5 to 10 m thick greenbelt should be developed along the periphery of the project site.
- PP has to carry out risk assessment for ethanol storage and connected piping and submit risk mitigation plan.
- PP shall provide target date for CER implementation.

**Accordingly, the proposal was deferred for want of above additional information. Above all additional information shall be submitted online to the Parivesh Portal for further consideration by EAC.**

**Agenda No. 05**

**Capacity augmentation of Digboi refinery from 0.65 MMTPA to 1 MMTPA and associated facilities at Digboi, Margherita tehsil, Tinsukia district, Assam of M/s. Indian Oil Corporation Limited – Consideration of Environmental Clearance**

**[IA/AS/IND2/423311/2023, IA-J-11011/482/2007-IA-II(I)]**

The Project Proponent and the accredited Consultant M/s. Engineers India Limited (NABET Certificate no. NABET/EIA/1922/RA0189\_Rev01 and validity 22/11/2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project of Expansion of Digboi Refinery capacity from 0.65 MMTPA to 1 MMTPA and associated facilities located at Digboi, Margherita Tehsil, Tinsukia district, Assam of M/s. Indian Oil Corporation Limited (IOCL).

All project activities are listed at S.N. 4(a) - Petroleum Refining Industry of Schedule of Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC)

**The details of product and capacity as under:**

<b>S. No.</b>	<b>Unit</b>	<b>Existing Capacity (MMTPA)</b>	<b>Proposed Capacity (MMTPA)</b>	<b>Total Capacity after expansion (MMTPA)</b>
1	Crude Distillation Unit (CDU)	0.65	0.35	1.0
2	Catalytic Reforming Unit (CRU)	0.09	0	0.09
3	Delayed Coking Unit (DCU)	0.17	0.05	0.22
4	Wax Hydro-finishing Unit (WHFU)	0.06	0	0.06
5	Solvent De-waxing/De-Oiling Unit (SDU)	0.21	0	0.21

6	Hydrotreating Unit (HDTU)	0.33	0	0.33
7	Hydrogen Generation Unit (HGU)	0.007	0.002	0.009
8	Sour Water Stripping Unit	6 TPH	0	6 TPH
9	Sulphur Recovery Unit (SRU)	3.0 MTPD	0	3.0 MTPD
10	Motor Spirit Upgradation Unit (MSQU)	0.0467	0	0.0467
11	Wax Moulding Unit/ Wax Pelletisation Unit	42/51.7	0	42/51.7
12	Crumb Rubber Modified Bitumen (CRMB)	0.025	0	0.025

### Major Offsite facilities:

- Crude tank at Digboi Refinery (1 x 10,000 KL)
- MS tank at Digboi Refinery (1 x 4,000 KL)
- Foots Oil tank at Digboi Refinery (1 x 4,000 KL)
- Reformate/Alkylate unloading tanks near Digboi Terminal (2 x 4,000 KL)
- MS /Naphtha tank near Digboi Terminal (1 x 4,000 KL)
- Foots Oil / Gas Oil tank near Digboi Terminal (2 x 4,000 KL)
- Fire Water tank near Digboi Terminal (2 x 4,000 KL)
- Above tankages along with associated transfer pumps.

### Product Pattern:

S. No.	Product/ By-product	Existing Quantity (TMTPA)	Proposed Quantity (TMTPA)	Total Quantity (TMTPA)
1	LPG	13	0	13
2	MS BS-VI	209	73	282
3	HSD BS-VI	321	98	419
4	RPC	35	7	42
5	LVFO	107	48	155
6	Paraffin Wax	37	3	40
7	Foots Oil + LVFO to BGR	0	143	143
8	Sulphur	1	0	1

MoEF&CC vide File No. J-J-11011/482/2007-IA II (I) dated 18/03/2008 has issued Environmental Clearance for MS Quality Improvement Project. IRO-Guwahati visited IOCL Digboi refinery on 01/12/2022 and issued Certified Compliance Report vide letter no. RO-NE/E/IA/AS/OR/I/Vol-II/3447-49

dated 30/12/2022. IOCL has submitted the Action Taken Report (ATR) for the non-complied conditions vide letter no. HSE/760/06/2023 dated 22/05/2023. Based on IOCL Digboi Refinery submission, IRO, Guwahati provided verification report for ATR vide letter no. RO-NE/E/IA/AS/OR/01/4065-67 dated 22/06/2023. Based on the submitted ATR, Compliance & Monitoring Division-I.A. Division, MoEFCC has issued Action Closure Letter (ACL) to M/s IOCL vide letter no. F. No. IA-J-11014/52/2023-IA-I dated 04/09/2023. EAC was satisfied with response of PP.

Standard Terms of Reference have been obtained vide F. No. IA-J-11011/231/2022-IA-II(I) dated 2<sup>nd</sup> July, 2022. It was informed that there is no litigation pending against the project.

Public Hearing for the proposed project expansion was held on 04/03/2023 at Paragdhara Chaliha Prekhagriha, Muliabari, Digboi, Tinsukia district, Assam by Pollution Control Board, Assam (PCBA). The hearing was chaired by Additional District Magistrate, Tinsukia District. The main issues raised during the public hearing and their action plan given below. The main issues raised during the public hearing and their action plan:

<b>Sl. No.</b>	<b>Issues/ suggestions/ representations made during Public Hearing</b>	<b>Action Plan/ replies by Project Proponent</b>	<b>Timeline and Budget</b>
1	Expansion will be carried out inside refinery premises or not.	IOCL informed the proposed expansion will be carried out inside the refinery premise. However, additional land of 8.73 acres will be procured for offsite facilities near Digboi Marketing Terminal area.	-

2	<p>Villagers expressed their happiness for the upcoming project and expect that the refinery must expand upto 3 MMTPA in future.</p> <p>IOCL to more actively support Health, Education and Employment of surrounding villagers.</p>	<p>Since inception, IOCL Digboi refinery has been continuously working on focus area of education, health, rural development and skill training of youth under its various CSR initiatives.</p> <p>These projects have brought sufficient improvement in the nearby areas and the same are reflecting by the way of better access to healthcare facilities, upliftment of education standards, upgradation of skills &amp; engagement opportunities for the youth, better prospects for livelihood &amp; water conservation and sports promotion.</p> <p>IOCL will continue to work on the above areas and explore further improvement opportunities in education and healthcare facilities.</p>	<p>M/s IOCL will continue to carry out various CSR &amp; CER activities in future for area development in surrounding villages of proposed project too.</p> <p>All CER activities will be carried out during construction phase of the proposed project and CER budget is allocated for each activity.</p>
3	<p>Pollution level need to be monitored regularly by PCBA. The effluents should not go outside of the refinery premises.</p>	<p>IOCL informed that wastewater from different units will be routed to existing ETP and treated, recycled and reused.</p> <p>Additional one CAAQMS will be installed in</p>	<p>Digboi Refinery is continuously monitoring environmental parameters. Additionally, provision for controlling &amp;</p>

		<p>downwind direction and real time data to be connected with CPCB/SPCB servers. The oily sludge is bio-remediated at HDPE lined pits inside refinery. Also, the oily sludge is disposed to authorized recyclers. Spent catalyst is disposed to authorized recyclers. Solid waste (such as Chemical Drums, Packaging materials etc.) will be disposed to authorized vendors through e-auction.</p> <p>Post project monitoring will be carried out in surrounding areas. Data will be submitted to PCBA/CPCB on regular basis.</p>	<p>monitoring environmental pollution parameters in surrounding areas/villages is also kept under EMP budget.</p>
4	Local people should get preference in getting jobs.	This project will generate various employment opportunities. As per Government guidelines, skilled workers will be recruited as per prevalent norms.	-
5	IOCL to give focus to road widening in Digboi area.	IOCL informed that there is no such proposal for road widening in the proposed project. However, road repairing from highway to villages near Golai Tank Farm, adjacent to Digboi Marketing Terminal and surrounding roads of	Provision for support in Infrastructure/Road repairing / de-silting of drainage network is kept under CER budget.



		the refinery shall be taken up by IOCL. Desilting of Digboi Nullah and development of drainage network shall be taken up by IOCL.	
6	AOD Hospital of Digboi refinery is not functioning properly.	IOCL informed that they are trying their best to provide better facilities in the AOD Hospital. Also, equipment are being supplied to Community Health Centre (CHC), Digboi for improving the health amenities.  Other activities which shall be taken up by IOCL in surrounding hospitals is given below. <ul style="list-style-type: none"> <li>➤ Distribution of specialty medical equipment</li> <li>➤ Distribution of medicines to BPL card holders</li> <li>➤ Holding of medical camps in nearby villages</li> <li>➤ Renovation of Operation Theatres</li> <li>➤ Renovation of blood banks</li> </ul>	M/s IOCL will continue to carry out various CER & CSR activities in future for area development in surrounding villages of proposed project too.  All CER activities will be carried out during construction phase of the proposed project and CER budget is allocated for each activity.
7	IOCL is publishing all contracts on Government portal and we are facing difficulties while providing documents on online portal. Contracts below 1 crore are needed to be given to local contractors.	IOCL informed being a PSU under Petroleum Ministry, IOCL will follow all instructions as per Government norms.	-

The project proponent has allocated the budget as per issues raised during public consultation held on 04.03.2023 & the budgetary cost estimates have been addressed in below Table. All CER activities will be completed within the construction period i.e. 39 months after start of construction work. Various activities will be carried out by IOCL Digboi Refinery in the vicinity of proposed project area based on the outcome of public hearing as per prevailing MoEFCC guidelines on CER with a total budget provision of Rs. 5.0 Crores.

Existing refinery area is 150.33 acres. A total of 8.73 acres of additional non-forest land adjacent to Digboi Marketing Terminal is already acquired by Digboi refinery for installation of corresponding offsite facilities. Digboi refinery was commissioned in 1901 and is the oldest refinery in India. There is no space available for greenbelt development inside the refinery complex. Maximum plantation is already carried out in IOCL Township area. Currently, greenbelt covers 52.8% of the total IOCL area. IOCL has already achieved 33% greenbelt areas as per guidelines prescribed by MoEFCC. The estimated project cost is Rs. 740.2 Crores. Capital cost of EMP would be Rs. 750 Lakhs and recurring cost for EMP would be Rs. 370 Lakhs per annum. Industry proposes to allocate Rs. 5.0 Crore towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 2817 persons as direct (917) & indirect (1950).

Dihing Patkai National Park boundary is ~3.8 km from the Digboi refinery boundary. The proposed project area falls within deemed Eco-sensitive Zone of 10 km from Dihing Patkai National Park which was notified on 15/06/2021. IOCL has applied NBWL Clearance vide Proposal No.: WL/AS/IND/429055/2023 dated 15/05/2023. Waterbodies such as Burhi Dihing River, Tel Nala, Digboi Nala, Hatigira Nala, Sipot Nala, Powai Nala, Nigam Khasi Nala, Janglu Nala, Bor Jan, Bali Jan, Dibru Jan are exist within 10 km from the proposed project site as per Survey of India (SOI) Toposheet no. G46F11. Conservation plan for schedule I species has been submitted to Divisional Forest Officer (DFO), Digboi for further action. DFO, Digboi Division has forwarded the letter to PCCF, Guwahati vide letter no. A/G-8 (a)/Diversion Proposal/2023/1239 dated 10/05/2023.

Ambient air quality monitoring was carried out at 8 locations during January to November 2020 to January 2021 and the

baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (50.78-58.18 µg/m<sup>3</sup>), PM<sub>2.5</sub> (25.35-30.54 µg/m<sup>3</sup>), SO<sub>2</sub> (10.91-13.84 µg/m<sup>3</sup>) and NO<sub>2</sub> (20.93-23.33 µg/m<sup>3</sup>). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would 17.3 µg/m<sup>3</sup> and 29.67 µg/m<sup>3</sup> with respect to SO<sub>2</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement after expansion will be 13032 m<sup>3</sup>/day, out of which 1632 m<sup>3</sup>/day will be used for expansion of refinery with petrochemical complex. Fresh water will be met from the existing pumping station at Nazirating. No Objection Certificate to withdraw 14400 m<sup>3</sup>/day is obtained vide letter no. EE/WRD/DBR/2022-23/D-3/Pt IV/790 dated 15/03/2023 from Dibrugarh Water Resource Division. The effluent generation post expansion of the refinery will be 2352 m<sup>3</sup>/day which will be treated through Effluent Treatment Plant and re-used in various activities inside refinery. There will be a discharge of treated effluent of 15.6 m<sup>3</sup>/day to Digboi nullah from the ETP.

The total installed power capacity is 45.5 MW with 3 nos. of GT @8.5 MW each and one GT @20 MW capacity. The present demand is only upto 18.5 MW under present scenario. Additional 1.3 MW power will be required which to be met from internal CPPs.

### **Details of Process emissions generation and its management:**

The overall SO<sub>x</sub> emission post expansion of the refinery will be 0.398 TPD. However, below mitigation measures will be followed to control the process emissions:

- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB/SPCB servers.
- Low NO<sub>x</sub> burners will be used in all process heaters and furnaces.
- Adequate stacks height will be provided for better dispersion of flue gases.
- Online stack analyzers for monitoring of SO<sub>x</sub>, NO<sub>x</sub>, CO and PM emissions from furnaces/boilers.

- Installation of internal floating roof with double seals in all Class-A tanks for reduction of fugitive emissions.
- Provision of mechanical seals in all the hydrocarbon pumps for reduction of fugitive emissions.
- LDAR surveys will be carried out periodically.

### **Details of solid waste/Hazardous waste generation and its management:**

#### **Drilling**

- Used Lubricating oil will be collected in metal drums kept in secured area and will be recycled/disposed through authorized recyclers.
- Discarded containers/barrels/ liners contaminated with hazardous waste will be disposed as per Hazardous Waste Rules, 2016.
- Spent catalyst will be disposed through authorized recyclers.
- Oily sludge will be bio-remediated.

Total existing refinery area is 150.33 acres. A total of 8.73 acres of additional non-forest land adjacent to Digboi Marketing Terminal is already acquired by Digboi refinery for installation of corresponding offsite facilities.

### **Revised Capital cost and recurring cost of EMP are given below:**

#### **Budget of Environmental Management Plan (Capital Cost)**

<b>Sl. No.</b>	<b>Activity</b>	<b>Capital Cost (Rupees in Lakh)</b>
1.0	Air Environment	
1.1	Plantation Activities	200.0
1.2	Air quality monitoring	50.0
1.3	Continuous Ambient Air Quality Monitoring System	150.0
1.4	Low NOx burners	100.0
2.0	Noise Environment	
2.1	Additional Plantation Activities	Included in 1.1
2.2	Occupational Health Program	20.0
3.0	Water Environment	
3.1	Rainwater Harvesting Structures	50.0
3.2	ETP Modernization	30.0

<b>Sl. No.</b>	<b>Activity</b>	<b>Capital Cost (Rupees in Lakh)</b>
4.0	Land Environment	
4.1	Additional Plantation Activities	Included in 1.1
4.2	Solid Waste management	50.0
4.3	Municipal Solid waste treatment and recovery facility	100.0
5.0	Biological Environment	
5.1	Additional Plantation Activities	Included in 1.1
	<b>Budget for EMP (Capital Cost)</b>	<b>750.0</b>

**Budget of Environmental Management Plan (Recurring Cost per Annum)**

<b>Sl. No.</b>	<b>Activity</b>	<b>Recurring Cost per Annum (Rupees in Lakh)</b>
1.0	Air Environment	
1.1	Additional Plantation Activities	50.0
1.2	Air quality monitoring (manual survey in IOCL areas, stack monitoring, LDAR survey, maintenance of CAAQMS)	100.0
2.0	Noise Environment	
2.1	Additional Plantation Activities	Included in 1.1
2.2	Occupational Health Program	10.0
3.0	Water Environment	
3.1	Rainwater Harvesting structures	10.0
3.2	Maintenance of existing ETP	50.0
3.3	Ground water & drinking water monitoring, Effluent water quality monitoring	20.0
4.0	Land Environment	
4.1	Additional Plantation Activities	Included in 1.1
4.2	Solid waste management (Bioremediation, sludge & soil quality testing)	100.0
4.3	Maintenance & operation cost for Municipal Solid waste treatment and recovery facility	30.0
5.0	Biological Environment	
5.1	Additional Plantation Activities	Included in 1.1
	<b>Budget for EMP (Recurring Cost per Annum)</b>	<b>370.0</b>

**Details of revised CER with proposed activities and budgetary allocation**

<b>Sl. No.</b>	<b>Activities as per Public Consultation</b>	<b>Allocated Budget (Rs.in lakh)</b>
1.	Education and Skill Development for Local Youths/ Ladies/Girls	50.0
2.	Additional Plantation, Rainwater Harvesting & Pond Rejuvenation etc.	30.0
3.	Improvement of Healthcare Facilities in AOD-Hospital, CHC-Digboi & Margherita hospital such as <ul style="list-style-type: none"> <li>➤ Distribution of specialty medical equipment</li> <li>➤ Distribution of medicines to BPL card holders</li> <li>➤ Holding of medical camps in nearby villages</li> <li>➤ Renovation of Operation Theatres</li> <li>➤ Renovation of blood banks</li> </ul>	150.0
4.	Providing infrastructure facilities in surrounding local schools <ul style="list-style-type: none"> <li>➤ Distribution of desks, benches, bookshelf &amp; playing equipment</li> </ul>	30.0
5.	Support in Infrastructure/Road repairing / desilting of drainage network – <ul style="list-style-type: none"> <li>➤ Road repair near highway to villages near Golai Tank Farm and adjacent to Digboi Marketing Terminal,</li> <li>➤ Road repairing in surrounding refinery roads.</li> <li>➤ Desilting of Digboi Nullah and development of drainage network</li> </ul>	120.0
6.	Solar Electrification and solid waste management in Digboi Town and covering nearby village areas	70.0
7.	Drinking Water facilities for Surrounding villages The villages are – Digboi Town, Balijan, Borbil, Golai 1, Golai 2, Bapapung, Lachit nagar, Etabhatta, Ramnagar	50.0
<b>Total Expense (Rs. in Lakh)</b>		<b>500.0</b>
<b>Total Expense (Rs. in Crore)</b>		<b>5.0</b>

During deliberations, EAC discussed the following issues:

- (i) PP shall provide the project implementation status of MS Quality Improvement Project at Digboi Refinery by Indian Oil

Corporation vide letter J-11011/482/207-IA II (I) dated 18.03.2008. PP has replied that, MS Quality Improvement Project at Digboi Refinery Project has been implemented & the project was capitalized on 28.12.2010.

- (ii) PP shall provide a comprehensive action plan on Public Hearing issues with increase in CER budget. Also, activities details need to be provided in different areas with budget allocation. Accordingly, PP submitted the Public Hearing action plan is modified as suggested by EAC members. The CER budget has been revised from 3.7 crore to 5.0 crore with addition of detailed specific activities. Based on the Issues/ suggestions/ representations made during Public Hearing, action plan/replies were prepared by Project Proponent with timeline and budget.
- (iii) PP shall provide revised Environmental Management Plan (EMP) in terms of capital cost & recurring cost. Accordingly, PP submitted the revised Environmental Management Plan (EMP). The total estimated budget for implementation of EMP is worked out as Rs. 750 Lakh towards capital cost and Rs. 370 Lakh towards recurring cost per annum.
- (iv) PP shall provide the details of SO<sub>x</sub> and NO<sub>x</sub> emission load from the proposed project. Also, Pollution Control Measures to be provided to control the emission. Accordingly, PP submitted the status of SO<sub>2</sub> and NO<sub>x</sub> releases from the proposed refinery expansion project are depicted below. Total emission from proposed project is 2.81 kg/hr of SO<sub>x</sub> and 6.54 kg/hr of NO<sub>x</sub> respectively. The maximum 98<sup>th</sup> percentile baseline ambient air quality measured is 16.35 (µg/m<sup>3</sup>) SO<sub>2</sub> and 27.57 (µg/m<sup>3</sup>) NO<sub>2</sub>.

Air quality prediction modeling has been carried out for predicting maximum Ground Level Concentration (GLC) using AERMOD Software. The summary of resultant GLC's are estimated for SO<sub>2</sub> and given below.

**Table: Predicted values of GLC for SO<sub>x</sub>**

Description	Maximum 24 hr GLC $\mu\text{g}/\text{m}^3$	Maximum GLC Co-ordinates (in m)	Location from the plant Centre (in m)	Maximum 98 <sup>th</sup> Percentile Baseline Value (within 10 km radius) in $\mu\text{g}/\text{m}^3$	Resultant ground level concentrations (GLC) Value in $\mu\text{g}/\text{m}^3$
Release of emissions sources from stacks	0.95	-500,0.00	In W direction at around 500 m from center of the plot	16.35	17.3

From the above table, the resultant SO<sub>x</sub> (maximum 24 hr Ground Level Concentration (GLC)) due to operation of proposed project (Refinery Expansion) are predicted as 17.3  $\mu\text{g}/\text{m}^3$ . Maximum 98<sup>th</sup> Percentile Baseline Value (within 10 km radius) recorded during the baseline data collection study is 16.35  $\mu\text{g}/\text{m}^3$ .

This GLC is occurring in West direction and at around 500 m from center of the plot. By superimposing the same with background SO<sub>x</sub> level, the resultant maximum GLC observed is 17.3  $\mu\text{g}/\text{m}^3$  (24 hourly average) which is well within the standard limits for 24 hourly average for industrial area i.e. 80  $\mu\text{g}/\text{m}^3$ .

### **NO<sub>x</sub> emission**

Considering the emissions given below, air quality modelling has been carried out. The results are tabulated below.

**Table: Predicted values of GLC for NO<sub>x</sub>**



Description	Maximum 24 hr GLC $\mu\text{g}/\text{m}^3$	Maximum GLC Coordinates (in m)	Location from the plant Centre (in m)	Maximum 98 <sup>th</sup> Percentile Baseline Value (within 10 km radius) in $\mu\text{g}/\text{m}^3$	Resultant ground level concentrations (GLC) Value in $\mu\text{g}/\text{m}^3$
Release of emissions sources from stacks	2.10	-500,0	In West direction at around 500 m from center of the plot	27.57	29.67

From the above table, the resultant  $\text{NO}_x$  (maximum 24 hr Ground Level Concentration (GLC) due to operation of proposed project (Refinery Expansion) is predicted as  $2.10 \mu\text{g}/\text{m}^3$ . Maximum 98<sup>th</sup> percentile baseline Value (within 10 km radius) recorded during the baseline data collection study is  $27.57 \mu\text{g}/\text{m}^3$ .

This GLC is occurring in West direction and at around 500 m from center of the plot. By superimposing the same with background  $\text{NO}_x$  level, the resultant maximum GLC observed is  $29.67 \mu\text{g}/\text{m}^3$  (24 hourly average) which is well within the standard limits for 24 hourly average for industrial area i.e.  $80 \mu\text{g}/\text{m}^3$ .

#### **Pollution Control Measures to be taken for proposed project**

- Use of indigenous Assam crude with Sulphur content in the range of 0.20-0.25 wt%.
- No liquid fuel is being used.
- Natural gas is being used as fuel in Furnaces and existing Gas Turbines
- All the upcoming furnaces shall be high efficiency furnaces wherein flue gases heat is recovered back to furnaces/heaters in the most optimum manner using pre-heaters. High operational efficiency helps in reduction of fuel consumption thus reducing pollutants emissions namely  $\text{SO}_x$  and  $\text{NO}_x$  in the environment.
- Low  $\text{NO}_x$  burners shall be installed for all new furnaces resulting considerable reduction in  $\text{NO}_x$  emissions in the environment.

- Floating roof tanks for upcoming crude and light product services shall be used with the provision of primary and secondary seals.
  - Double mechanical seals for the pumps employed in light hydrocarbon services shall be installed.
  - Regular Leak detection and repair program for block valves and flanges to monitor and to control fugitive emission shall be carried out.
  - Ambient Air quality is being monitored by 4 nos. of manual and 1 no. of Continuous Ambient Air Quality Monitoring (CAAQM) stations located at strategic locations in and around the refinery. The data from CAAQMS is connected to PCBA as well as CPCB server. Additionally, one number of CAAQMS shall be installed in downstream for the proposed project.
- (v) PP shall provide the technology details of various expansion of proposed units. Accordingly, PP submitted the various technology for proposed expansion is given below:

New Facilities	Capacity (TMTPA)		Licensor
	Current	Post project	
AVU revamp	650	1000	Process Design & Engineering Cell (PDEC), IOCL
DCU revamp	170	220	Ind-Coker <sup>AT</sup> Technology of IOCL R&D
New HGU	-	2 KTPA	Licensor selection in progress

**Salient feature of selected technology:**

1. All new equipment's like pumps, new furnaces (CDU & DCU) under the project shall be selected with high energy efficiency to reduce energy footprint.
2. After commissioning of new revamped facility of AVU & DCU, Advance Process Control (APC) system shall be implemented for optimized operation.
3. Low NOx burner shall be installed in the furnaces/reformer (CDU, DCU & HGU)
4. 2 KTPA HGU unit shall be skid mounted package for quicker installation & commissioning.
5. In-house state of the art Ind-Coker<sup>AT</sup> technology shall be installed in DCU revamp.

## **Ind-Coker<sup>AT</sup> Technology:**

Delayed Coking Unit processes Vacuum Residue from Vacuum Distillate Unit and produces high valued products like LPG, MS, HSD and FO along-with Petroleum coke through thermal cracking process. To enhance profitability in thermal cracking process, IndianOil R&D has developed Ind-Coker<sup>AT</sup> technology with thermal cracking at two stages, for residue upgradation with lower Coke make & superior distillate yields in comparison to the conventional Delayed Coker technology.

### **Salient Technology Features:**

- Operational flexibility due to Dual mode operation (either Ind-Coker<sup>AT</sup> or Coker mode).
- Refinery oily sludge can be processed for disposal.
- Commercially demonstrated in 3 MMTPA DCU in one of the IndianOil refineries (Coke yield reduction by ~ 5 wt% with corresponding middle distillate yield increase by ~ 4 wt%)

### **Major Benefits**

- Reduction in Coke yield and increase in distillate yield
  - Higher conversion of low-value residues to distillates with minimum capital investment
  - Processing of wide range of feedstocks
- (vi) PP shall provide details of SO<sub>x</sub> emission details for pre and post scenarios. Accordingly, PP submitted the SO<sub>x</sub> emission from refinery is 13.8 kg/hr. Additional 2.81 kg/hr SO<sub>x</sub> emission will be there from proposed expansion project. The total SO<sub>x</sub> emission form post project will be 16.61 kg/hr (i.e. 0.398 TPD).
- (vii) PP shall provide details of water balance for the proposed project. Accordingly, PP submitted the raw water requirement at refinery is met from the existing pumping station at Nazirating and sourced from Dibru River. The additional raw water is estimated at 68 m<sup>3</sup>/hr for Cooling Water make-up (38 m<sup>3</sup>/hr) & DM Plant (30 m<sup>3</sup>/hr) and the same shall be met from the existing facilities. Total water requirement post refinery expansion will be 543 m<sup>3</sup>/hr (311 m<sup>3</sup>/hr for distribution to township, nearby villages + 222 m<sup>3</sup>/hr for refinery + 10 m<sup>3</sup>/hr in evaporation & water loss).

The additional effluent 8 m<sup>3</sup>/hr shall be generated from the refinery (including DM Plant regeneration wastewater, process units, Cooling

towers blowdown) which will be treated in the existing Effluent Treatment Plant (ETP). The existing ETP capacity is 375 m<sup>3</sup>/hr with present load of 90 m<sup>3</sup>/hr from refinery.

- (viii) PP shall provide ambient air quality monitoring results carried out by IOCL in surrounding areas. Accordingly, PP submitted the ambient air quality monitoring at 5 locations ( 4 manual stations & 1 continuous Ambient Monitoring Station) for the parameters such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub>, NH<sub>3</sub>, Pb, Ni, As, Benzene and Benzo(a) pyrene. The results of manual monitoring from the below locations for the month of August 23.
- a) Bazaar Gate
  - b) New Tank Farm area
  - c) ETP area
  - d) Cooling Tower Wax sector
- (ix) PP shall provide an Undertaking from EIA Co-ordinator for the EIA study for Digboi Refinery Expansion Project. Accordingly, PP submitted the undertaking letter of EIA Coordinator for the EIA study of Digboi Refinery Expansion Project.

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the EIA/EMP report prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent. The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of environmental clearance.

The environmental clearance granted to the project/activity is strictly under the provisions of the EIA Notification 2006 and its amendments. It does not tantamount/construe to approvals/consent/ permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

The EAC, after detailed deliberations, **recommended** the project for grant of environmental clearance, subject to compliance of terms and conditions as under, and general terms of conditions at Annexure: -

- 1.The environmental clearance is subject to obtaining prior clearance from the wildlife angle, including clearance from the Standing Committee of the National Board for Wildlife, as applicable, as per the Ministry's OM dated 8<sup>th</sup> August, 2019. Grant of environmental clearance does not necessarily imply that Wildlife Clearance shall be granted to the project and that their proposal for Wildlife Clearance will be considered by the respective authorities on its merit and decision taken. PP shall also strictly follow the conditions mentioned in existing NBWL clearance.

- 2.The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The recommendations shall be

implemented in consultation with the State Forest/Wildlife Department in a time bound manner.

3. The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.

4. The effluent generation post expansion of the refinery shall not exceed 2352 m<sup>3</sup>/day which will be treated through Effluent Treatment Plant which shall be re-used inside refinery.

5. The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18<sup>th</sup> March, 2008 and G.S.R.595(E) dated 21<sup>st</sup> August, 2009 as amended from time to time, shall be followed.

6. Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.997% with effective chillers/modern technology. For emission control and management, use of FG/NG in heater as fuel, adequate stack height, use of Low NOX burners in heater & boiler, continuous stack monitoring, Sulphur recovery plant, etc. shall be installed/ensured.

7. As proposed, the total SO<sub>x</sub> emission from post project shall not exceed 16.61 kg/hr (i.e. 0.398 TPD).

8. All the commitments made to the public during public hearing/public consultation meeting held on 04.03.2023 shall be satisfactorily implemented and adequate budget provision shall be made accordingly.

9. Total fresh water requirement after proposed expansion shall not exceed 13032 KLPD which will be met from the existing pumping station at Nazirating. Necessary permission in this regard shall be obtained from the concerned regulatory authority.

10. The additional effluent generation shall not exceed 8 m<sup>3</sup>/hr from the proposed expansion i.e. the refinery (including DM Plant regeneration wastewater, process units, Cooling towers blowdown), which will be treated in the existing Effluent Treatment Plant (ETP). The existing ETP capacity is 375 m<sup>3</sup>/hr with present load of 90 m<sup>3</sup>/hr from refinery.

11. Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

12. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.

13. 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.

14. 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.

15. The green belt of 5-10 m width shall be developed in the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. The project proponent shall ensure 33% greenbelt area vis-à-vis the project area through afforestation in the degraded area. The Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

16. PP proposed to allocate Rs. 5.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.

17. For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

18. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.

19. Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. 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. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.

20. PP shall allocate at least Rs. 0.5 Crore/annum for Occupational Health Safety. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

21. Process safety and risk assessment studies shall be further carried out using advanced models, and the mitigating measures shall be undertaken/implemented accordingly.

22. The PP should improve the efficiency of ETP Plant and the water discharge should be as per prescribed CPCB Norms. They should also install 24x7 hours monitoring system (of the discharge) and the same should be connected to the server of SCPB/CPCB.

23. PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12<sup>th</sup> August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

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## **ANNEXURE**

### **GENERAL CONDITIONS FOR ENVIRONMENTAL CLEARANCE**

- (i) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (ii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iii) 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. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (iv) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (v) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.

- (vi) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.
- (vii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (viii) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- (ix) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (x) The project authorities 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 and the date of start of the project.
- (xi) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

**List of the Expert Appraisal Committee (Industry-2) members  
participated during Video Conferencing (VC) meeting**

<b>S. No.</b>	<b>Name and Address</b>	<b>Position</b>
1.	Shri S. C. Mann	Chairman
2.	Dr. J. S. Sharma	Member
3.	Prof. Y. V. Rami Reddy	Member
4.	Dr. Onkar Nath Tiwari	Member
5.	Shri. J.S. Kamyotra	Member
6.	Dr. Rahul Ramesh Rao Mungikar	Member
7.	Dr. Sanjay V. Patil	Member
8.	Dr. Siddhartha Singh	Member
9.	Dr. Seshagiri Rao Ambati	Member
10.	Shri A. N. Singh, Scientist 'E'	Member Secretary
<b>MoEFCC</b>		
11.	Dr. Mahendra Phulwaria	Scientist 'C'

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