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

Dated: 29.03.2023

Meeting ID: IA/IND2/13470/25/03/2023

MINUTES OF MEETING OF THE EXPERT APPRAISAL COMMITTEE

(INDUSTRY-2 SECTOR PROJECTS)

HELD ON 25th March, 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/IND2/13463/16/03/2023) held on 16th March, 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: -

25th March, 2023 (Saturday)

Agenda No. 01

Proposed Grain Based Distillery Capacity of 200 KLPD Fuel Ethanol along with 4.5 MW Co-Gen Power Plant located at Sy. Nos. 230, 231 & 232 of Gandepalli Village, Kanchikacherla Mandal, NTR District, Andhra Pradesh by M/s. Sentini Bio-Spirit Private Limited – Re-consideration of Environmental Clearance.

[IA/AP/IND2/418437/2023, IA-J-11011/126/2022-IA-II(I)]

The proposal was earlier considered by the EAC (Ind-2) in its EAC meeting ID: IA/IND2/13456/09/03/2023 held on 09th -10th March, 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:

<table>
<tr><th>S.No</th><th>ADS by MOEFCC</th><th>Reply of PP</th></tr>
<tr><td>1.</td><td>Please revise the incremental GLC by carrying out air quality modelling after taking various control measures for SO2. Details of revised/reduced incremental GLC for SO2 may be submitted</td><td>PP has submitted revised air quality modelling data for incremental GLC from proposed project.
<table>
<tr><th>Parameter</th><th>Baseline Max</th><th>Incremental Max</th><th>Resultant</th><th>Standards</th></tr>
<tr><td>PM_{10} ($\mu g/m^3$)</td><td>72.6</td><td>0.58</td><td>73.18</td><td>100</td></tr>
<tr><td>SO_2 ($\mu g/m^3$)</td><td>18.3</td><td>3.8</td><td>22.1</td><td>80</td></tr>
<tr><td>NO_X ($\mu g/m^3$)</td><td>29.8</td><td>2.0</td><td>31.8</td><td>80</td></tr>
</table>
Plan Stack emissions:
• APCE Flue Gas Desulphurization (FGD) with a stack height of 63 m will be installed to 45 TPH capacity boiler for controlling the SO_2 emissions.
• To control the SO_2 emission lime treatment will be adopted and emission standard be</td></tr>
</table>

	along with control measures.	maintained less than 100 mg/Nm^3. • Online stack monitoring system will be provided to keep a check on emissions and implement proper measures in case of any failure or violation of prescribed standards. • Regular cleaning, inspection and maintenance of air pollution control equipment will be carried out. The whole distillery unit will be provided with facility of inter locking so that any failure of equipment or APCE will result in instant shut down of the complete process

EAC found the response submitted by PP for ADS satisfactory.

The Project Proponent and the accredited Consultant M/s. AmplEnviron Private Limited(NABET CERTIFICATE No. NABET/EIA/2023/IA0061 valid till 23-10-2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for 200KLPD Grain based Ethanol plant and 4.5MW of cogeneration power plant (Fuel to be used as Coal/Biomass), to be installed in Sy. Nos. 230, 231 & 232 of Gandepalli Village, Kanchikacherla Mandal, NTR District, Andhra Pradesh by M/s. Sentini Bio-Spirit Private Limited.

As per the MoEF&CC Notification S.O. 2339(E), dated 16th June, 2021, a special provision in the EIA Notification,2006-(Schedule 5 g(a), 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:

S. NO.	NAME OF UNIT	NAME OF THE PRODUCT/ BY-PRODUCT	PRODUCTION CAPACITY
1	Distillery (Grains as	Ethanol	200 KLPD

	Raw material) plant		
2	Co-generation power plant	Power	4.5 MW
BY-PRODUCTS			
1	DWGS dryer	DDGS	160 TPD
2	Fermentation unit	Carbon di-oxide	113 TPD

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

Total land area required is 9.12 Ha. (22.56 acres). Greenbelt will be developed in total area of 3.03 Ha. (7.5 Acres) i.e., 33.5% of total project area. The estimated project cost is Rs.155.0 Crores. Capital cost of EMP would be Rs. 23.75 Crores and recurring cost for EMP would be Rs. 2.10 Crores per annum. Industry proposes to allocate Rs.2.0 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 150 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. No forest with 10 Km radius from the project site. Water bodies Muniyeru river – 2.0 Kms. (W Direction), Wyra river – 1.5 Kms. (N Direction) and Nagarjuna sagar left bank canal – 1.3 Kms. (E Direction) are flowing.

AAQ modeling study for point source emissions indicates that the maximum Incremental GLCs after the proposed project would be 0.34 µg/m^3, 0.58 µg/m^3, 3.8 µg/m^3 & 2.0 µg/m^3 with respect to $PM_{2.5}$, PM_{10}, SO_2 and NO_x.The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 800 m^3/day which will be met from Muniyeru River. Water Application has been submitted to Water Resource Department Govt. of Andhra Pradesh dated 02-12-2022. Effluent (Condensate/spent lees/blow down etc.) of 1310 m^3/day quantity will be treated through Condensate Polishing Unit of capacity 1400 KLPD. Raw stillage (1200 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.

The power requirement will be 4.5 MW and will be met from the proposed 1 x 4.5 MW co-generation power plant. 1 x 45 TPH Biomass / Coal fired boiler will be installed. APCE Electro Static Precipitator with a stack height of 65 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3 for the proposed boiler. 1 x 1010 KVA DG set will be used as standby during power failure and stack height (4.5 m from roof top) will be provided as per the CPCB norms to the proposed DG set.

Details of Process emissions generation and its management:

- APCE ESP with a stack height of 65 meters will be installed for controlling the particulate emissions.
- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB/SPCB servers.
- CO_2 generated (113 TPD) during the fermentation process will be collected by utilizing CO2 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) (160 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (140 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises.
- Used oil (0.3 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (0.15 TPD) and STP Sludge (1.0 Kg/day) will be used as manure.

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self-certification in the form of notarized affidavit declaring that the proposed capacity of 1 x 200 KLPD will be used for manufacturing fuel ethanol only.

The total land of 9.12 Ha. (22.56 acres) available for the proposed project. Out of 22.56 acres, 20.84 acres of land was taken on lease from Sentini

Bioproducts Private Limited to Sentini Bio Spirit Private Limited through Registered Lease deed bearing No. 2064/2022 and 3063/2022 for a period of 20 years. 20.84 acres land which was already converted to Non-Agricultural Land. The balance 1.72 acres of land was registered in Sentini Bio Spirit Private Limited and application is submitted to Govt. of Andhra Pradesh for conversion of Land use from Agriculture to non-agriculture. EAC found the information satisfactory.

Capital cost and recurring cost of EMP are given below:

S.NO	DESCRIPTION	CAPITAL COST (RS.INCRORES)	RECURRING COST (RS. IN CRORES/ANNUM)
1.	Air emission control systems (ESP, stack, bag filters, dust suppression, etc.)	3.50	0.30
2.	CEMS	0.25	0.03
3.	Ash handling & management	1.20	0.30
4.	Effluent Treatment Plant	15.00	1.00
5.	Online Effluent Monitoring System	0.50	0.20
6.	Occupational Health Management & Safety	2.00	0.05
7.	Greenbelt development	0.50	0.10
8	Rainwater Harvesting Systems	0.30	0.02
9	Environment Monitoring	--	0.05
10	Brick plant	0.5	0.05
TOTAL		**23.75**	**2.10**

Details of CER with proposed activities and budgetary allocation:

S.NO.	PROPOSED ACTIVITY	PROPOSED BUDGET (Rs. In Crores)
1	Establishment of Solar Power Plant nearby village	2.00
2	Portable water supply to nearby village	
3	Development in schools and colleges in nearby	

	villages (Construction of class rooms in schools, providing library, computers, furniture, sports equipment, etc others as per need base)	

Environmental clearance for 150 KLPD Fuel Ethanol along with 4.5 MW Co-Gen Power Plant in Sy. Nos. 230, 231 & 232 of Gandepalli Village, Kanchikacherla Mandal, NTR District, Andhra Pradesh was obtained from Hon`ble Ministry vide EC Identification Number: EC22A060AP171583 and file No: IA- J-11011/126/2022-IA-II(I) Dated: 22nd July, 2022.

Consent for Establishment for 150 KLPD Fuel Ethanol along with 4.5 MW Co-Gen Power Plant was obtained from A.P. Pollution Control Board vide Order No. 512/APPCB/CFE/RO-VJAHO/2022 22/11/2022.

Now, PP intends to surrender the EC granted for the 150 KLPD Plant vide EC Identification No. - EC22A060AP171583 dated 22/07/2022 and requested for grant of an EC for 200 KLPD Fuel Ethanol along with 4.5 MW Co-Gen Power due to following reasons:

(i). Rising costs of equipment, machinery and inputs

(ii). Need for optimising production and utilisation of steam and capacities of equipment's

(iii). Increasing cost of grain and coal

(iv). Make the project economically and financially feasible with marginal increase in costs.

(v). Ideal to have a 200 KLPD plant without increase in any of the utility capacities.

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed capacity of 200 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.

(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). 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.

(iv). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the surface water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(v). Total fresh water requirement shall not exceed 800 m^3/day, which will be sourced from Muniyeru River. 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.

(vi). Spent Wash/stillage shall be sent to the decanter followed by the Multiple Effect Evaporator and dryer to form DDGS. DDGS to be used as cattle feed. The MEE & Drier condensate, spent lees, WTP Rejects, Boiler & Cooling tower blowdowns, washings etc., is shall be treated in the 'Condensate Polishing Unit' (CPU). 10 KLPD STP shall be installed to treat domestic wastewater. The plant will be based on 'Zero Liquid

Discharge' system and no effluent/treated water will be discharged outside factory premises.

(vii). APCE ESP with a stack height of 65 meters will be installed with the 45 TPH Biomass / Coal fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. SO_2 and NOx emissions shall be less than 100 mg/Nm^3. 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. APCE Flue Gas Desulphurization (FGD) will be provided with the 45 TPH capacity boiler for controlling the SO_2 emissions below100 mg/Nm^3. Regular cleaning, inspection and maintenance of air pollution control equipment will be carried out. The whole distillery unit will be provided with facility of inter locking so that any failure of equipment or APCE will result in instant shut down of the complete process

(viii). Boiler ash (140 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall use Biomass / Coal as fuel for the proposed boiler. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

(ix). CO_2 generated (113 TPD) during the fermentation process will be collected by utilizing CO_2 scrubbers and it shall be sold to authorized vendors/collected in proposed bottling plant.

(x). PP shall allocate at least Rs. 2.0 Crore/annum for Occupational Management & 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.

(xi). 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.

(xii). 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.

(xiii). 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.

(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). The green belt of at least 5-10 m width has already been developed in 3.03 hectares i.e., 33.5 % of total project area shall be maintained with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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.

(xvi). PP proposed to allocate Rs. 2.0 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.

(xvii). 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.

(xviii). 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.

(xix). 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.

(xx). 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.

(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 12th 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 sugar Unit 5000 TCD to 10000 TCD and 120 KLPD to 500 KLPD Distillery Plant (Ethanol) at Village Kapshi, Tehsil Phaltan, Dist. Satara, Maharashtra by M/s. Sharayu Agro Industries Ltd. (SAIL) - Consideration of Environmental Clearance.

[IA/MH/IND2/421445/2023, IA- J-11011/403/2013-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. Technogreen Environmental Solutions, Pune (NABET-Quality Council of India (Certificate No.: NABET/EIA/2124/IA0081 (Rev.01) valid till July 5, 2024), made a detailed presentation on the salient features of the project and informed that the proposal is for Environmental Clearance to the Proposed Expansion of sugar Unit 5000 TCD to 10000 TCD and 120 KLPD to 500 KLPD Distillery Plant (Ethanol) at Village Kapshi, Tehsil Phaltan, Dist. Satara, Maharashtra by M/s. Sharayu Agro Industries Ltd (SAIL).

As per EIA Notification 2006 (Schedule 5 (g) Category A); however, as per in the MoEFCC Notification S.O. 345(E), dated the 17th January, 2019, notification number S.O. 750(E), dated the 17th February, 2020, S.O. 980 (E)dated 02nd March, 2021 & S. No. 2339(E) 16th June, 2021, a special provision in the EIA Notification, 2006 "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:

Sr. No.	Name of unit	Name of the product/ by-product	Existing Production capacity	Additional production capacity	Total production capacity
1	Distillery (Syrup/B-Heavy Molasses/ C-Heavy Molasses)	RS/ENA	120KLPD	-	120 KLPD
		Ethanol	120 KLPD	380 KLPD	500 KLPD
		CO2	92 TPD	290TPD	382TPD

Sr. No.	Name of unit	Name of the product/ by-product	Existing Production capacity	Additional production capacity	Total production capacity
2	Co-gen power plant for distillery/ sugar mill	Electricity	30 MW	6 MW from incineration boiler	36 MW
3	Sugar Mill	Sugar Crushing	5000 TCD	5000TCD	10000 TCD

Ministry has issued Environment Clearance (EC) to the existing industry for capacity 60 KLPD to 120 KLPD Molasses Based Distillery vide EC Letter File No. J-11011/403/2013-IA II (I) dated 9th April 2021.

Environment Clearance was obtained for 5000 TCD, 30 MW Cogeneration and 60 KLPD Distillery EC letter File J-11011/403/2014-IA II (I) vide dated 28th October 2016. Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, Nagpur dated 22nd February 2023. Action Taken Report has been submitted through mail to IRO, MOEFCC, Nagpur on 23rd February 2023 for partial compliances. EAC found the information satisfactory.

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

Total plant area after expansion will be 30.75 ha which is under possession of the company and converted to industrial use. No any additional land will be acquired for the expansion of project as the same will be carried out within existing premises. Out of the total plant area 10.78 Ha. i.e., 33% of the total plant area has already been developed as greenbelt & plantation and the same will be maintained. Industry has planned for plannation of 10280 No. of Plants. The estimated project cost is Rs. 600 Crores. Revised Capital cost of EMP would be Rs. **38.20** Crores and recurring cost for EMP would be Rs. 0.7155 Crores per annum. Industry proposes to allocate Rs 3.0 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 465 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife Corridors etc. present within 10km distance. Protected forest Bibi at distance 1.5 km, Ghadgewadi at distance 1.2 km from project site in South East and North east direction respectively and reserve forest at distance 4.5 km from project site in South direction. River Nira is at a distance 16 Km in North direction. Water body Vir Dam is at distance of 29 km towards North direction, Mulikwadi Lake at distance 3.5 km towards SE direction, Dhangarwadi Lake at distance 3.0 km towards W direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 4.0 $\mu g/m^3$,0.6 $\mu g/m^3$ and 1.7 $\mu g/m^3$ with respect to PM_{10}, SO_2 & NO_X. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total freshwater requirement of distillery complex after expansion will be 1769 m^3/day (during off season) and 1432 m^3/day (during season). which will be met from Nira River. Water permission has been obtained from Executive Engineer, Nira Right Bank canal Division Phaltan, dated 15th June 2019.

Existing effluent generation us 985 m3/day from 120 KLPD distillery using C-Molasses which is treated in Condensing Polishing Unit (1000 CMD Capacity). Proposed effluent generation will be 2722 M3/day and 2494 M3/day from distillery using Syrup and B- heavy molasses as raw Material respectively which will be treated through upgraded Condensing Polishing Unit (3500 CMD capacity). PP informed that the CPU of the existing and proposed project will be provided with Reverse Osmosis and treated effluent will be recycled and reused in the manufacturing process and cooling tower make up.

In Existing 120 KLPD distillery: Spent wash (960 m3/day) is treated though Multi Effect Evaporator (MEE) followed by 25 TPH Incineration Boiler.

Expansion 380 KLPD distillery: Spent wash will be treated through Multi Effect Evaporator (MEE) followed by proposed 75TPH Incineration Boiler. Domestic waste water is will be treated in STP of capacity 45 M3/day. The

plant is will be based on Zero Liquid discharge system and treated effluent will not be discharged outside the factory premises.

Total power requirement of Sugar and distillery after expansion will be 28 MW which will be sourced from existing 30 MW and proposed 6 MW co-generation power plant in distillery. Existing co-gen plant has one bagasse fired boilers of capacity 160 TPH and 25 TPH incineration boiler for distillery. Under expansion of distillery industry has planned to install 75 TPH Incineration boiler and for sugar 100 TPH bagasse fired boiler. PP has dropped the installation of 100 TPH bagasse fired boiler for sugar unit. APCE as ESP with a stack height of 85 m is installed to the existing 160 TPH bagasse fired Boiler for controlling the particulate emissions within the statutory limit of 150 mg/Nm^3. The Committee suggested that ESP of the existing 160 TPH and 25TPH incinerator boiler shall be upgraded by 31st December, 2024 to achieve the particulate matter emissions of 50 mg/$Nm^3$and 30 mg/Nm^3respectivly. APCE as ESP with a stack height of 65 m is installed to the existing 25 TPH incineration Boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm3. APCE ESP with a stack of height of 75 m will be installed for proposed 100 TPH bagasse fired boiler to control the particulate emissions within the statutory limit of 50 mg/Nm3 for the proposed boiler. PP informed that they will not install proposed 100 TPH bagasse fired boiler. The 75TPH spent wash /coal fired boiler will be equipped with ESP and 90.0m stack to control the particulate matter emissions to less than 30mg/Nm^3 . Industry has existing 500 KVA x 3 DG set which is used as standby during power failure and stack height (6 m) is provided as per CPCB norms.

Details of Process emissions generation and its management:

- APCE as ESP with a stack height of 85 m is installed to the existing 160 TPH bagasse fired Boiler for controlling the particulate emissions within the statutory limit of 150 mg/Nm3 . The existing ESP will be upgraded to achieve particulate emissions of 50 mg/Nm^3 by 31st December, 2024.
- APCE as ESP with a stack height of 65 m is installed to the existing 25 TPH incineration Boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm3. Nm^3. The existing ESP will be

upgraded to achieve particulate emissions of 30mg/Nm^3 by 31st December, 2024.

- APCE as ESP with a stack height of 85 m will be provided to the proposed 75 TPH incineration Boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm3.
- Online Continuous Emission Monitoring System is being be installed with the stack and data is transmitted to CPCB/SPCB servers. Same practices will be followed after expansion also.
- Existing CO_2 (92TPD) bottling plant and 290 TPD CO_2 generated during the fermentation process will be bottled in CO2 bottling plant and sold to beverage industries.

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

- Concentrated spent wash (192 m3/day) from existing 120 KLPD is burned in 25 TPH incineration Boiler .
- Concentrated spent wash (228m3/day) generated from expansion of distillery by 380 KLPD will be burn in proposed 75 TPH incineration Boiler.
- Total Boiler ash (7623 TPM) after expansion of distillery will be given to brick manufacturing/ cement manufacturing industries.
- CPU sludge (67 TPM) will be used as manure.
- Yeast Sludge (1350 TPM) and will be used as manure.

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self- certification in the form of notarized affidavit declaring that the proposed expansion capacity of distillery 380 KLPD will be used for manufacturing fuel ethanol only.

Capital cost and recurring cost of EMP are given below:

Sr. No	Attribute	Budget in (Rs lakh)	
		Capital	Recurring
1	**Air Pollution Emission control**		

	Stack & ESP for 75 TPH and 100 TPH Boiler	1200.00	20.00
	CO_2 Plant capacity upgradation	500.00	7.5
2	**Water & Wastewater management**		
	MEE plant upgradation	750.00	10.00
	CPU upgradation	550.00	12.00
3	Solid Waste Management	50.00	5.0
4	Green Belt Development	35.00	2.5
5	Online Monitoring System & Environment Monitoring (stack, Ambient Air, Water and Soil and Noise)	20.00	7.55
6	Rain Water Harvesting	25.00	2.0
7	Health & Safety	50.00	5.0
	Total	**3180.00**	**71.55**

Details of CER with proposed activities and budgetary allocation:

Activities	**Amount in Lakh**
Solar street lamp in Government schools, Road solar street Lights at village Motewadi,Kapshi, Mulikwadi, Kaneri, Ghadagewadi, Andori, Alijapur	50.00
Infrastructure to Primary Health Centre	70.00
Drinking water facility in ZP schools of Motewadi,Kapshi, Mulikwadi, Kaneri, Ghadagewadi, Andori, Alijapur	30.00
Development of Public infrastructure in ZP schools Motewadi,Kapshi, Mulikwadi, Kaneri, Ghadagewadi, Andori, Alijapur	150.00
Total	**300.00**

During deliberations, EAC discussed following issues:

- PP undertakes that no boiler and TG will be installed for sugar expansion. Power requirement of sugar expansion will be fulfilled from existing 30 MW cogeneration power plant. For distillery expansion 75TPH Incineration boiler will be installed to achieve Zero Liquid Discharge. Incidental 6.0 MW Power will be generated from proposed

75 TPH boiler. Generated 6 MW power will be utilized for distillery operation only

- CER of Rs 4.7 Cr (Old CER 1.7 Cr + Proposed 3.0 Cr) will be implemented before commissioning of the proposedproject. CER activities with implementation plan. Proposed CER Activity implementation Plan of Rs 3.0 Cr. Industry will spend Rs. 3.0 Cr for Corporate Environment Responsibility (CER) activities to be carried out in surrounding villages based on need assessment

Activities	**Amount in Lakh**
Solar street lamp on internal road of village Motewadi,Kapshi, Mulikwadi, Kaneri, Ghadagewadi, Andori, Alijapur	50.00
Infrastructure to Primary Health Centre, Bibi- (Medical equipment's, Ambulance and water treatment plant)	70.00
Development of Infrastructure in ZP schools Motewadi,Kapshi, Mulikwadi, Kaneri, Ghadagewadi, Andori, Alijapur. (Develop digital class rooms, provide school bus, toilet facility)	75.00
Water Conservation; construction of Bandara on Odha of Kaneri, Andori, Alijapur	105.00
Total	**300.00**

- ESP of the existing 100 TPH bagasse fired boiler and 25TPH incinerator boiler will be upgraded to achieve particulate matter emission norms of 50 mg/Nm^3 and 30 mg/Nm^3 respectively .
- Bagasse yard shed will be completed within 2 Months.
- Air cooled condenser will be installed. Revised fresh water consumption details is as given below:

Fresh Water Requirement for Existing & Expansion of Sugar and Cogeneration

Sr No	**Description**	**Water Consumption M3/day**			
		Existing 5000 TCD sugar & 30 MW	**Expansion 5000 TCD and 10MW Cogenerati**	**After Expansion 10000TCD +40 MW**	**Remark**

			on	Cogeneration	
1	Domestic	#56	0	#56	
2	Industrial			0	
A	Process	*1454	*1454	*2908	
B	Cooling Makeup	*885	0	*885	**Air cooled Condenser will be installed for expansion**
C	Boiler Makeup	#380	#250	#630	
D	DM Backwash	#50	#50	#100	
E	Lab & washing	*5	*5	*10	
F	Ash Quenching	*4	*3	*7	
Total Industrial Use		**2778 (#430 +*2348)**	**1732 (#300 +*1432)**	**4540 (#730+*3810)**	

*** Sugar condensate &**
 # Fresh water from Nira Right Bank canal.

Details of water consumption Existing and Proposed expansion of distillery (m^3/day)

Sr No	Description	Existing 120 KLPD Distillery	Expansion 380 KLPD Distillery		After Expansion 500 KLPD	
		C-Molasses	B-heavy	Syrup	B-heavy	Syrup
1	**Domestic**	7	8	8	15	15
2	**Industrial**					
A	Process	*951	*2121	*1992	#2788	#2618
B	Cooling makeup	210 (*12+#198)	*665	*665	*875	*875
C	Boiler makeup	#60	#180	#180	#240	#240
D	Lab & washing	#5	#10	#10	#15	#15
E	DM back washing	#10	#20	#20	#14	#14
F	Ash Quenching	#4	#10	#10	#30	#30
	Total	**1240**	**3006**	**2877**	**3962**	**3792**

	Industrial	**(#277+*963)**	**(#220+*2786)**	**(#220+2657)**	**(#299+*3663)**	**(#299+*3493)**

Fresh water requirement:

- Existing sugar and Cogeneration: 430M^3/day
- Existing distillery: 277M^3/day
- Expansion of sugar: 300M^3/day
- Expansion of distillery: 220M^3/day B- heavy and 220M^3/day syrup based

Fresh water requirement

- in season: 1227M^3/day for 160 day= 196320M^3
- Off season:220M^3/day = 37400M^3
- Total fresh water: 233720M^3

Air cooled condenser will be installed in sugar and distillery.

- In season, water requirement will be reduced from 1445M^3/at to 1227M^3/day
- In offseason, water requirement will be reduced from 762M^3/at to 220/day.

Hence annual fresh water requirement will be reduced by 122020M^3 /Annum.

Action Plan for Green Belt Development

Total plot Area	:	10.78
Number of Plants requirement @2500 per ha.	:	26950
Existing number plants		16670

Existing 10.78 ha area for Green Belt with 16670 no of plants. We will plant plants @ 2500 per hector i.e., 26950 trees on 10.78 ha land. Balance10280 plants will be planted within next seasons timeline.

List of Existing plants

Sr.	**Family Name**	***Scientific Name***	**Local**	**Number**

No.			Name	
1	Meliaceae	*Khaya senegalensis*	Khaya	109
2	Fabaceae	*Cassia fistula*	Bahava	661
3	Fabaceae	*Delonix regia*	Gulmohar	458
4	Anacardiaceae	*Mangifera indica*	Amba	1259
5	Sapotaceae	*Manilkara zapota*	Chiku	1037
6	Myrtaceae	*Psidium guajava*	Peru	190
7	Apocynaceae	*Plumeria alba*	Chafa	875
8	Magnoliaceae	*Magnolia champaca*	Son Chafa	433
9	Sapotaceae	*Mimusopselengi*	Bakul	559
10	Arecaceae	*Cocos nucifera*	Naral	1861
11	Meliaceae	*Azadirachta indica*	Neem	1491
12	Moraceae	*Ficus benghalensis*	Vad	685
13	Fabaceae	*Tamarindus indica*	Chinch	598
14	Myrtaceae	*Syzygiumcumini*	Jambhul	817
15	Combretaceae	*Terminalia catappa*	Badam	180
16	Moraceae	*Ficus religiosa*	Peepal	477
17	Moraceae	*Ficus elastica*	Rubber	81
18	Fabaceae	*Samanea saman*	Rain Tree	1006
19	Fabaceae	*Bauhinia variegata*	Kanchan	581
20	Bignoniaceae	*Tabebuia cassinoides*	Tabebuia	56
23	Proteaceae	*Grevillea robusta*	Silver Oak	231
24	Myrtaceae	*Melaleuca citrina*	Bottle Brush	366
25	Araucariaceae	*Araucaria columnaris*	Crishmash tree	122
26	Moraceae	*Ficus benjamina*	Nandruk	480
27	Moraceae	*Ficus virens*	Pilkan	155
28	Combretaceae	*Terminalia arjuna*	Arjun	258
29	Lythraceae	*Lagerstroemia speciosa*	Tamhan	344
30	Rutaceae	*Citrus limon*	Lemon Tree	559
32	Bignoniaceae	*Tabebuia rosea*	Tabebuia	21
33	Bignoniaceae	*Millingtonia hortensis*	Buch tree	66
35	Rosaceae	*Prunus avium*	Cherry	32
37	Fabaceae	*Saracaasoca*	Sita Ashok	7
38	Verbenaceae	*Citharexylunmquadrangulare*	Sitaranjan	7

39	Fabaceae	*Bauhinia racemosa*	Apta	41
40	Fabaceae	*Prosopis cineraria*	Sindhi	80
41	Anacardiaceae	*Anacardium occidentale*	Kaju	22
42	Apocynaceae	*Capparis carandas*	Karwand	260
43	Annonaceae	*Annona reticulata*	Sitafal	40
44	Moraceae	*Ficus amplissima*	Piparani	45
45	Fabaceae	*Albizia lebbeck*	Shirish	50
46	Moraceae	*Ficus racemosa*	Umber	40
47	Rutaceae	*Aegle marmelos*	Bel	30
			Total	**16670**

Proposed Green Belt development:

Plantation Program: The factory will develop balance green belt development within one year.

- 5-10 m wide green belt will be developed around the periphery of factory and 1-2 lines of trees shall be planted along the both sides of internal roads.
- Plants will be planted around distillery plant, Bagasse, ash storage etc. Trees growing to a height of 5m or more will be planted.
- Plantation of trees will be undertaken in around the area in alternating rows to prevent horizontal pollution dispersion.

List of proposed Plants

Sr no	Local name	Botanical Name	Family
1	Bahava	*Cassia fistula*	Fabaceae
2	Dhavada	*Anogeissus latifolia*	Combretaceae
3	Neem	*Azadirachta indica*	Meliaceae
4	Jambhul	*Syzigiumcumini*	Myrtaceae
5	Kagdilimbu	*Citrus aurantifolia*	Rutaceae
6	Pimple	*Ficus religiosa*	Moraceae
7	Mango	*Mangifera indica*	Anacardiaceae
8	Wad	*Ficus benghalensis*	Moraceae

9	Umbar	*Ficus racemosa*	Moraceae
10	Avala	*Phyllanthus embelica*	Phyllanthaceae
11	Nana	*Lagerstroemia indica*	Lythraceae
12	Apta	*Bauhinia recemosa*	Fabaceae
13	Nandruk	*Ficus benjamina*	Moraceae
14	Karanj	*Pongamia pinnata*	Fabaceae
15	Sitaphal	*Annona squamosa*	Annonaceae

Yearly Budgetary Plan for Green Belt Development

Industry has allocated about Rs. 50,00,000 towards development of greenbelt in upcoming one year. Proposed green belt will be developed within next two season.

Action plan of Green Belt development

Sr No	Estimate	unit	Total cost
1	Plant cost @ 350 per plant of 4-5 years	10500 Number	3675000/-
2	Planation Cost	@ Rs 100 per plant	1050000/-
3	Misc. fertilizer and drip		275000/-
		Total	5000000/-

Month & Year	Pricing	No. of trees planted
June 2023	Rs. 1800000/-	4000.00 Nos.
July 2023	Rs. 1800000/-	4000.00 Nos.
August 2023	Rs. 912000/-	2280.00 Nos.
Total	Rs 3675000/-	10500 Nos
Planation Cost	Rs 1050000/-	
Misc. fertilizer and drip	Rs 275000/-	
Total	**Rs 5000000/-**	**10500 Nos**

REVISED ENVIRONMENT MANAGEMENT PLAN

Sr. No	Attribute	Budget in (Rs lakh)	
		Capital	Recurring
1	**Air Pollution Emissioncontrol**		
a	Stack & ESP for 75 TPH Boiler	1200	20
b	Upgradation of existing ESP of 160 TPH and 25 TPH Boiler	300	10
c	CO_2Plant capacity upgradation	500	7.5
2	**Water & Wastewater management**		
a	MEE plant upgradation	750	10
b	CPU upgradation	550	12
c	ETP upgradation with RO system	250	5
3	SolidWasteManagement	50	5
4	GreenBeltDevelopment	50	10
5	Online Monitoring System & Environment Monitoring (stack,AmbientAir,WaterandSoilandNoise)	20	10
6	RainWaterHarvesting	50	2
7	Occupational, Health&Safety	100	20
	Total	**3820**	**111.5**

- PP has submitted the copy of risk assessment report for the proposed project.
- PP committed to provide internal metal road.

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed capacity of 380 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.

(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). 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.

(iv). As proposed, no boiler and TG shall be installed for sugar expansion. Power requirement of sugar expansion will be fulfilled from existing 30 MW cogeneration power plant. For distillery expansion 75TPH Incineration boiler will be installed to achieve Zero Liquid Discharge.

(v). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from Nira River for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(vi). Total fresh water requirement shall not exceed 1227 m^3/day, which will be sourced from Nira River. 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.

(vii). The spent wash shall be concentrated in MEE and concentrated spent wash shall be incinerated in the incineration boiler. Other lean effluents

Spent lees, MEE Condensates and utility effluents shall be treated in the condensate polishing unit (CPU) comprising of three stage RO. The treated permeate will be reused in cooling tower water makeup and for molasses dilution. The RO rejects will be taken back to MEE. Treated effluent will be recycled/reused for make up water of cooling towers/process etc. 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. STP shall be installed to treat sewage generated from factory premises. PP shall ensure to implement Zero Liquid Discharge (ZLD) in the existing and expansion of sugar factory and cogeneration plant including proposed Distillery.

(viii). 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.

(ix). As proposed, existing ESP attached with the existing 160 TPH bagasse fired Boiler and 25 TPH incineration boiler shall be upgraded for controlling the particulate emissions within the statutory limit of 50 mg/Nm^3 and 30 mg/Nm^3respectivlyby 31st December, 2024. ESP with a stack height of 90 m will be provided to the proposed 75 TPH incineration Boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3 and SO_2 and NO_X level less than 100 mg/Nm^3. Coal shall not be used as fuel in the 160 TPH 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.

(x). Boiler ash (7623 TPM) after expansion of distillery will be given to brick manufacturing/ cement manufacturing industries. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises. PP shall discontinue existing bio-composting plant within 2 years from data of issue of EC letter. Capacity of Spent wash lagoon shall not exceed 5 days retention period.

(xi). Existing CO_2 (92TPD) bottling plant and 290 TPD CO_2 generated during the fermentation process will be bottled in CO2 bottling plant and sold to beverage industries.

(xii). PP shall allocate at least Rs. 1.0 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.

(xiii). 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.

(xiv). 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.

(xv). 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.

(xvi). 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.

(xvii). The green belt of at least 5-10 m width has already been developed in 10.78 hectares i.e., 33.0 % of total project area which shall be thickened with tree density @ 2500 trees per hectares, mainly along the plant periphery which shall be maintained. 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. As proposed, 10500 Nos trees shall be planted by August, 2023.

(xviii). PP proposed to allocate Rs. 3.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan. Further, all the proposed activities under CER shall be completed in consultation with District Administration.

(xix). 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. PP shall ensure no direct entry or exit of the vehicles from Main Road/Highway and it shall be through slip road only

(xx). 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.

(xxi). 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.

(xxii). The sludge drying beds provided with the ETP in sugar unit shall be replaced by Filter Press before start of next crushing season.

(xxiii). 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.

(xxiv). 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 12th 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. 03

Proposed 100 KLD Grain based Distillery with ZLD along with 4.0 MW Co-Generation Power Plant located at Village Patvi, Tehsil Shehzadpur (Narayangarh), District Ambala, Haryana by M/s. Fylfot Geoworks private Limited – Re-consideration of Environmental Clearance.

[IA/HR/IND2/415811/2023, IA-J-11011/276/2022-IA-II (I)]

The proposal was earlier considered by the EAC (Ind-2) in its EAC meeting ID: IA/IND2/13456/09/03/2023 held on 09th -10th March, 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
1.	Total fresh water requirement shall not exceed 400 m^3/day @ 4kL/kL of alcohol produced	Daily fresh water demand has been restricted to 400 KLD. Revised water demand calculation has been submitted.
2.	EAC noted that there is inconsistency in the data w.r.t to BOD, COD, DO and Coliform in surface water monitoring report and suggested to re-check the data.	PP informed that the surface water monitoring results have been re-evaluated and it was found that the inconsistency in microorganism and BOD, COD, DO values is because of typing oversight. Corrected surface water monitoring reports have been submitted.
3.	Commitment that Industry shall install air cooled condensers for the proposed 35 TPH boiler for reducing net fresh water requirement.	Air cooled condensers will be installed in the project. An undertaking stating the same has been submitted.
4.	Commitment that Fly ash brick manufacturing unit shall be installed in the plant.	Fylfot Geo-works will install a fly ash brick manufacturing unit for gainful utilization of fly ash generated from Boiler operations. An undertaking stating the same has been submitted.
5.	Incremental GLCs of NOx is reported as 8.59038 µg/m^3 which is on the higher side. Measures shall be taken to reduce the incremental GLCs of NOx.	• Measures proposed for reducing NOx emission within prescribed limit are as below: • 5 field Electro-static precipitator with Boiler • Stack height of 52 meter above ground with Boiler • The reported incremental GLCs of NOx with above mentioned air pollution control devices will be 1.74 µg/m^3.

EAC found the response submitted by PP for ADS satisfactory.

The Project Proponent and the accredited Consultant M/s. Gaurang Environmental Solutions Private Limited (NABET certificate No. NABET/EIA/2023/RA 0192 and validity 12th July, 2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 100 KLD Grain based Distillery with ZLD along with 4.0 MW Co-Generation Power Plant located at Village Patvi, Tehsil Shehzadpur (Narayangarh), District Ambala, Haryana by M/s. Fylfot Geoworks private Limited.

All grain based distilleries ≤200 KLPD are listed at S.N. 5 (g) of Schedule of Environment Impact Assessment (EIA) Notification under category 'B' nut due to presence of Haryana-Punjab interstate boundary within 5 km the proposal is appraised at Central Level by Expert Appraisal Committee (EAC).

The details of products and capacity as under:

S. No.	Name of unit	Name of the product/by-product	Production capacity
1	Distillery (Grain based)	ENA/Ethanol	100 KLPD
		DDGS	40 TPD
		CO_2	40 TPD
2	Co-generation power plant	Power	4 MW

Standard TOR issued by MoEF&CC, New Delhi vide letter no. No. IA-J-11011/276/2022-IA-II(I) dated 30.07.2022. It was informed that there is no litigation is pending against the project.

Public Hearing for the proposed project had been conducted by the Haryana Pollution Control Board on 30.11.2023 at project site chaired by Sh. Sachin Gupta (IAS), Additional Deputy Commissioner, Ambala. The main issues raised during the public hearing and their action plan:

Issues in brief	Action plan in brief	Budget allocated and timeline
Pollution control	• The project is ZLD based. • APCD as per EMP recommendations will be implemented. • MEE, CPU, RO System & STP will be installed • OCEMS will be installed • Periodical monitoring will be carried out.	Capital cost of EMP: 55.805 Crore Recurring 1.25 Crore/ annum
Employment	The project will generate direct employment opportunities for 183 persons during operation phase. Preference will be given to locals for employment based on eligibility & qualification. Employment opportunities will be provided to local unskilled workers under the Labour Laws of Haryana State Government.	--
Village Development &/or Community Infrastructure Development Related Issues	Infrastructure development in school, Jatwar Village	Capital cost: 175 Lakh
	Annual Health check-up camps in village Patwi & Jatwar for 3 years	
	Scholarship to meritorious students recommended by Govt. school for ITI training Village Patvi & Jatwar	
	Plantation in along road side outside plant premises & village Patvi, Jatwar & Dabkora	
	RWH & Ground water recharge structures in Village Panchayat	

	Road strengthening of Dhanana-Jatwar road connecting to main road will be undertaken by the company in coordination with district administration)	

Total land area required is 11.15 hectares. Greenbelt will be developed in total area of 3.7 hectares i.e., 33.2 % of total project area. The estimated project cost is Rs. 153.05 Crores. Capital cost of EMP would be Rs. 55.805 Crores and recurring cost for EMP would be Rs. 1.25 Crores per annum. Industry proposes to allocate Rs. 1.75 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 183 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. Conservation plan for schedule I species has been submitted to Chief wildlife warden Panchkula, Haryana dated 15.02.2023 and a budget of 0.05 Crores has been earmarked for the same. Water bodies: Dangri nadi is at 2.2 km in NW direction, Dhanana River is at 2.9 km towards ESE, Amri Nadi is at 4.8 km in SE direction, Choa Nala is at 6.6 km in NW direction, Baliali Nala is at 6.8 km in NE direction, Begua Nadi is at 10.8 km in ENE direction, Chorti Choa nalla is at 11.6 km in SE direction. Baliali Nadi (as seen on toposheet) is at a distance of 0.04 km towards east direction, for which NOC has been obtained from the office of executive engineer, water services division, Ambala, Haryana vide letter no. 443/6-W (NOC) dated 06.02.2023 stating that the river has changes its course towards upstream side and has negligible amount of water and is reduced to a small nallah. There is no River/nallah within project premises as per site visit & revenue records. NOC has been issued with the following conditions:

(i) Untreated water should not be discharged in any nearby river/nallah.
(ii) Natural flow of fields should not be obstructed.
(iii) RWH structure shall be provided in the project.
(iv) Permission for ground water extraction shall be taken from concerned regulatory authority.

Ambient air quality monitoring was carried out at 8 locations during March 2022 to May 2023 and the baseline data indicates the ranges of concentrations as: PM_{10} (50.12 to 71.84 µg/m^3), $PM_{2.5}$ (17 to 39.45 µg/m^3), SO_2 (7 to 9.99 µg/m^3) and NO_X (15.23 to 19.91 µg/m^3). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.2515 µg/m^3, 0.1674 µg/m^3, 2.77135µg/m^3 and 1.74 µg/m^3 with respect to PM_{10}, $PM_{2.5}$, SO_2 and NOx. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 400 KLD which will be met from Ground water. Application has been submitted to HWRA dated 13.02.2023. Industrial effluent of 814 KLD quantity will be treated through decanter centrifuge, MEE of capacity 500 KLD, Condensate Polishing Unit/Effluent Treatment Plant of capacity 185 KLPD. STP of capacity 15 KLPD will be installed to treat sewage generated from factory premises to the tune of 13 KLD. 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 3.5 MW and will be met Co-generation power plant. 35 TPH agro-waste (e.g. rice husk) fired boiler will be installed. Coal will be used as fuel in case of scarcity/non-availability of agro-waste. 5-field ESP with a stack of height of 52 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3 for the proposed boiler. 1000 KVA DG set will be used as standby during power failure and stack height (30 m) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- The process emissions likely to be generated from various processes like grain cleaning, milling and flour handling will contribute to PM emissions. Liquefaction and distillation contributes to VOC emissions. Saccrification & fermentation contribute to traces of ethanol and CO_2 emissions.
- Thin slop from plant shall be transferred in closed conduit and concentrated in MEE.
- CO_2 will be scrubbed, liquefied and handed over to end users like manufacturers of carbonated drinks.

- The equipment & process tanks shall be operated under slight vacuum to eliminate leaks
- The vent vapours shall be collected, condensed and washed with a scrubber & condensed water and acids shall be returned to the process.
- All treatment vessels, distillation vessel agitator and process pumps shall be mechanically sealed.
- ESP along with 52 meters stack height will be installed with the proposed boiler to keep the emissions within prescribed limit of 30 mg/Nm^3.
- Sampling port & monitoring point with stack and online monitoring system will be provided.
- Greenbelt & plantation using dust suppressing species will be developed along the plant boundary & within premises.
- DG Set will be operated only as emergency power backup and low sulphur content fuel will be used. Stack height of 30 m as per CPCB guidelines is proposed with DG Set for effective dispersion of the flue gases.

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

- MSW (~75 kg/day) will be collected, segregated using twin bin collection system and handed over to generated waste collection system for final disposal to municipal corporation waste disposal site.
- DDGS (40 TPD) will be sold to Cattle/poultry feed manufacturers.
- Boiler ash will be collected and stored in covered area. It is proposed to establish a brick manufacturing unit for effective & gainful utilization of boiler ash in project premises.
- Fly ash generated from boiler will be stored in fly ash silo & used for brick manufacturing.
- CPU sludge (cake) ~0.08 TPD will be handed over to brick manufacturers.
- Used/Spent oil: ~ <0.1 KL/Annum will be handed over to CPCB authorized recyclers.
- STP sludge (cake) ~ 2 kg/day will be used as manure for landscaping within premises.

Total land of 11.15 Hectares is under possession of the company and the project site falls outside of urban & controlled area as per Memo No. E-Diary-189513/2023/TCP-OFA/173/2023 Dated: 18/01/2023 of the Directorate of Town and Country Planning, Haryana & thus does not require conversion of land use. EAC found the response satisfactory.

Details of capital and recurring cost of EMP are given below:

S. No.	Particulars	Proposed (in Rs. Crore)	
		Capital	Recurring (annual)
1.	Air pollution control	10	0.2
2.	CO_2 plant	5	0.2
3.	Water pollution control	30	0.3
4.	Noise pollution control	0.5	0.005
5.	Waste Management & disposal	0.5	0.1
6.	Rainwater harvesting system	0.5	0.005
7.	Env. Monitoring laboratory, Environmental monitoring (Third party) & OCEMS	5	0.04
8	Occupational health & safety	0.5	0.2
9.	Firefighting equipment & fire hydrant	3.2	0.1
11.	Green Belt & Plantation	0.555	0.1
12.	Wildlife conservation plan	0.05	0
Total		**55.805**	**1.25**

Details of CER with proposed activities and budgetary allocation:

S. No.	Particulars	Activity	Year wise Expenditure in (Rs Lac)					Total
			1st Year	2nd Year	3nd Year	4nd Year	5nd Year	
1	Health	Medical	2.0	2.0	2.0	0	0	6

		camps						
2	Education	Infrastructure development in school	10.00	10.00	10.00	8.50	0	38.5
		Scholarship to meritorious students	10.00	10.00	10.00	10.00	0.50	40.5
3	Community infrastructure	Plantation in nearby areas	10.00	10.00	10.00	10.00	10.00	50
		Road strengthening	40	0	0	0	0	40
Total :			**72**	**32**	**32**	**28.5**	**10.5**	**175**

During deliberations, EAC discussed following issues:

- PP informed that mitigation measures proposed for control of NOx is as given below:

Technology	Remarks
• Low NOx Burners (LNB) • Low Excess Air	• Using fuel rich mixtures to limit the amount of oxygen available; • Using fuel lean mixtures to limit temperature by diluting energy input. • Limiting the net excess air flow to under 2% can limit NOx content of flue gas

The following measures are proposed for abatement of the NOx from the DG set operations:

- DG set will only be used as emergency power backup since the project has proposal of co-generation power plant.
- Possibility of switching to cleaner fuel will be explored once there are provisions of gas pipelines connectivity in the area. Additionally, to reduce the NOx emissions we will deploy 2 DG sets of cumulative capacity 1000 kVA (500 kVA- 2 nos.) which will significantly reduce NOx emissions during such operations.

With regard to the inconsistency data of BOD, COD, DO and coliform values, PP mentioned the reasons for inconsistency data is due to typing oversight. Corrected surface water monitoring reports have been submitted. PP also mentioned the reasons for high BOD, COD results in the surface water monitoring is due to discharge of drain from nearby area. Further, EAC also

recommended that the Ministry should issue show cause notice against the Accredited Consultant for negligence in data compilation w.r.t. surface water quality in the EMP report.

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 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.

(ii). 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.

(iii). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(iv). Total fresh water requirement shall not exceed 400 m^3/day, which will be sourced from Ground water. 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.

(v). Spent Wash/stillage shall be sent to the decanter followed by the Multiple Effect Evaporator and dryer to form DDGS. DDGS to be used as cattle feed. The MEE & Drier condensate, spent lees, WTP Rejects, Boiler & Cooling tower blowdowns, washings etc., is shall be treated in the 'Condensate Polishing Unit' (CPU). 13 KLPD STP shall be installed to treat domestic wastewater. The plant will be based on 'Zero Liquid Discharge' system and no effluent/treated water will be discharged outside factory premises.

(vi). ESP (5 field) with a stack height of 52 meters will be installed with the 35 TPH agro-waste (e.g. rice husk) / Coal fired boiler (Coal will be used as fuel in case of scarcity/non-availability of agro-waste) for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. SO_2 and NOx emissions shall be less than 100 mg/Nm^3. 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.

(vii). Boiler ash (25 TPD from Rice husk and 70 TPD from coal) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall use rice husk / Coal fired as fuel for the proposed boiler. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

(viii). CO_2 generated (40 TPD) during the fermentation process will be collected by utilizing CO_2 scrubbers and it shall be sold to authorized vendors/collected in proposed bottling plant.

(ix). 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.

(x). Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing.

(xi). 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.

(xii). 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.

(xiii). 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.

(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). The green belt of at least 5-10 m width has already been developed in 3.7 hectares i.e., 33.2 % of total project area shall be maintained with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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.

(xvi). PP proposed to allocate Rs. 1.75 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.

(xvii). 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.

(xviii). 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.

(xix). 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.

(xx). 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.

(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 12th 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

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 - Consideration of 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:

S. No	Name of the Unit	Units	Existing Capacity	Proposed Capacity	Capacity after modernization
1	Catalytic Dewaxing Unit	KTPA	0	270	270

2	Once-through Hydrocracker Unit	MMTPA	2.25	0.10	2.35

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

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 seen submitted to IRO, MOEFCC, vide P&D: 01:160&96, dated 02.03.2023, for 1 partial compliance and 1 non-compliance. EAC found the information satisfactory.

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)**

- 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.
- 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.
- The Hon'ble NGT appointed a Joint Committee to address the compliance statement. Subsequently the Joint Committee submitted the report.
- No final / interim order given. Last heard on 30.01.2023
- 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**

- 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).
- NGT has passed the following orders & directed SPCBs to impose Environmental Compensation Charges (ECC) against the erring Industries in the Critically/ Severely Polluted Areas.
- TNPCB had issued communication regarding action taken for reducing CEPI value. Further TNPCB has imposed ECC for 6 units & reply was submitted.
- 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.
- 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.
- 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.
- Subsequently, order was issued by NGT on 15.07.22 indicating that final order will be uploaded on 22.08.22 concluding the hearing.
- 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 14.50km 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: PM10 (43.1-75.4 µg/m³), PM2.5 (18.0-45.7µg/m³), SO_2 (7.0 – 32.9 µg/m³) and NO_2 (12.7 – 40.8µg/m³). AAQ modelling study for

point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.02 µg/m^3, 0.11 µg/m^3 and 5.38 µg/m^3 with respect to PM10, SO_2, and NOx. The resultant concentrations are well within the National Ambient Air Quality Standards (NAAQS).

Total water requirement after modernization will be 1859.4 m^3/hr and will be met from the existing facilities. Out of the existing water sources, metro water of 51 m^3/hr is being supplied by CMWSSB, City sewage of 461 m^3/hr is being supplied by CMWSSB (Agreement dated 26.09.2007 & valid till 31.12.2023), Sea water of 558 m^3/hr is being supplied by CPCL Desalination Plant, Treated Water (TTRO) of 217 m^3/hr is being supplied by CMWSSB (Agreement dated 21.03.2019 & valid till 13.11.2034), Refinery wastewater of 572.4 m^3/hr is also treated in ETP and reused.

Existing Effluent generation is 839 m^3/hr which is treated through existing Effluent Treatment Plants of total capacity 1065 m^3/hr (ETP II of capacity 300 m^3/hr, ETP III of capacity 300 m^3/hr, ETP IV of capacity 465 m^3/hr). Proposed additional Effluent generation will be 2.4 m^3/hr which will be treated in existing Effluent Treatment Plant with adequate capacities. Existing Sewage generation is 15m^3/hr. Domestic waste water is being treated in existing SRP of capacity 950 m^3/hr (SRP I of Capacity 475 m^3/hr, existing SRP II of Capacity 475 m^3/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 100 m for controlling the particulate emissions within the statutory limit of 50 mg/Nm^3. There will be no additional boiler for the proposed project.

Details of Process emissions generation and its management:

Emissions Generations:

- 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_2 (0.0297 g/s), NOx (1.4001 g/s), CO (0.0044 g/s).

- 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_2 (0.0239 g/s), NOx (1.1259 g/s), CO (0.0036 g/s).
- 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_2 (0.0280 g/s), NOx (1.3218 g/s), CO (0.0042 g/s)
- 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_2 (0.1225 g/s), NOx (5.7766 g/s), CO (0.0183 g/s)

<u>Process emission management:</u>

- Air pre-heaters and economizers installed to reduce flue gas emissions.
- Waste heat recovery Boiler, CO Boiler installed for steam generation.
- Provision of low NOx burners in place.
- Floating roof tanks with secondary seals have been provided for crude and light end products to reduce hydrocarbon and fugitive emissions.
- Flare gas recovery unit is provided to recover hydrocarbon going to the flare 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.
- Stack heights have been increased in phases for effective dispersion of emission.
- VOC reduced by conversion of open surge ponds to closed tanks.
- VOC adsorption system provided for all oil handling equipment in ETP viz., API, TPI, DAF, surge ponds & slop tanks.
- Adoption of LDAR & checks of Fugitive Emissions in place.
- Linkage of all AAQM / CSM (Continuous Stack Monitoring) with TNPCB / CPCB established.

- Provision of Oxy enrich process in SRUs available.
- Dispatch of products predominantly by pipelines. Minimization of tank truck dispatch to avoid emissions during transportation.
- Provision of Dome Roof Tanks for Hydrocarbon, with Nitrogen Blanketing, in place.
- Survey of Green House Gases emission on regular basis in practice.

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

Solid waste generation:

Organic waste

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

Inorganic waste

- The existing inorganic waste generation quantity is 536.50 Ton/Year and proposed additional inorganic waste generation is estimated as 1.93 Ton/Year.
- Hence the total inorganic waste after modernization will be 538.43 Ton/Year.
- 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;

1. Hazardous Waste Authorization application was submitted on 25.01.22.
2. Above application was returned on 08.04.22 seeking valid CTO.

3. Application was resubmitted on 31.01.23 after obtaining valid CTO.
4. Application forwarded to TNPCB, HQ and is under the scrutiny of TNPCB.

Hazardous waste generation:

- On account of the proposed Project, the only additional hazardous waste generated will be spent catalyst (recyclable), of 6 MTPA.
  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.
- 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.
- 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.
- 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).
- 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.
- 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.
- 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.
- 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:

- 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.
- 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.
- Wooden scrap, steel scrap will be given to authorized scrap dealers.
- 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.
- 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:

S. No.	Activity	Capital Cost(Lakhs)	Recurring Cost(Lakhs)
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
Total		**112**	**82.25**

Details of CER with proposed activities and budgetary allocation:

S No	Proposed activity	%	Year wise cost breakup (INR Lakhs)				
			2023-24	2024-25	2025-26	2026-27	2027-28
A	**Education**	**10**	13.2	13.2	13.2	13.2	13.2
1	Merit Scholarship to students of Schools / Colleges						
2	Providing equipment / PC/ Furniture to Schools/ Colleges						
3	Skill Development Programmes						
B	**Health and Medical Care**	**15**	19.8	19.8	19.8	19.8	19.8
1	Operation , Renovation and Maintenance of Community health Care Centres at Chennai						
2	Medical Camp for public , students, etc.						
3	Providing Equipment to various Hospitals for the benefit of the Community						
C	**Swachh Bharath Activities**	**30**	39.6	39.6	39.6	39.6	39.6
1	Swachh Bharath Activities like Construction of Toilets, maintenance of Toilets, Spreading Awareness about Swachhta						
2	Construction Community Toilets, (Manali)						
3	Contribution to Swachh Bharath Khosh						
4	Contribution to Clean Ganga Fund						
5	Contribution to Chennai Corporation Providing HLL Toilets to Public						
D	**Women Empowerment**	**10**	13.2	13.2	13.2	13.2	13.2
1	Creche at Manali, Celebration of Children day, etc.						
2	Contribution to National polio Programme						
E	**Others**	**35**	46.2	46.2	46.2	46.2	46.2
1	Tree Plantation						

2	Rainwater Harvesting						
3	Drinking water facilities to nearby village						
4	Contribution to National Sports development Authority / Sports Authority of India						
5	Supporting People during Natural calamities						
6	Provision of solar panels within the premises						
Grand Total		**100**	**132**	**132**	**132**	**132**	**132**

During deliberations, EAC discussed following issues:

- PP discussed the compliance statement for Office Memorandum- F. No. 22-23/2018-IA.III (Pt) Dated: 31.10.2019. PP informed the following :

Compliance statement for – "Consideration of proposals for grant of Environmental clearance for new and expansion activities listed in 'Red' and 'Orange' Categories located in Critically Polluted Areas and Severely Polluted areas".

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td>Air</td><td>i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.</td><td>Complied.

1. The proposed stack will be operated with FG/RLNG for the proposed expansion while the existing is IFO, FG and RLNG.
Total Maximum GLCs of the stack emissions
<table>
<tr><th>Pollutant</th><th>Max. Baseline Conc. (µg/m^3)</th><th>Estimated Incremental Conc. (µg/m^3)</th><th>Total Conc. (µg/m^3)</th><th>NAAQ standard (µg/m^3)</th><th>% increase</th></tr>
<tr><td>PM</td><td>75.4</td><td>0.02</td><td>75.42</td><td>100</td><td>0.03</td></tr>
<tr><td>Sox</td><td>32.9</td><td>0.11</td><td>33.01</td><td>80</td><td>0.33</td></tr>
<tr><td>Nox</td><td>40.8</td><td>5.38</td><td>46.18</td><td>80</td><td>13.19</td></tr>
<tr><td>CO</td><td>960</td><td>0.06</td><td>960.0</td><td>4000</td><td>0.01</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td></td><td>6</td><td></td><td></td></tr>
</table>

2. Monitoring is carried out through TNPCB Labs and the emission levels are well within the limits. Stack emission (PM, SO_2, NO_x, CO) are monitored through online monitoring which is connected to TNPCB/CPCB and are within the limits. TNPCB report - Stack monitoring data For Dec 2022-Feb 2023 is enclosed.
3. Ambient air quality report has been attached
Photographs of Online monitoring of Stack is given</td></tr>
<tr><td></td><td>ii. CEMS may be installed in all large/medium red category industries (air polluting) and connected to SPCB and CPCB server</td><td>Complied.

Online monitoring system is provided for the Stackemission (PM, SO_2, NO_X, CO) within the premise. Continuous Emission Monitoring Report from For Dec 2022-Feb 2023 is enclosed.

The same will be followed after expansion for the additional 4nos. of process stacks.
Photographs of Online monitoring of Ambient Air is given.</td></tr>
<tr><td></td><td>iii. Effective fugitive emission control measures should be imposed in the process, transportation, packing etc</td><td>Complied.

Details of control Measures for fugitive emission:
<table>
<tr><th>Sl. No</th><th>Name of the control Measure</th><th>Remarks</th></tr>
<tr><td>1</td><td>Leak Detection & Repair Programme (LDAR)</td><td>Carried out for all the components viz valves, flanges, compressors etc and the leak identified is tagged & attended covering entire Refinery & offsite facilities.</td></tr>
<tr><td>2</td><td>VOC adsorption system</td><td>VOC adsorption system is provided in ETPs to adsorb the VOC emanating from oil handling facilities.</td></tr>
<tr><td>3</td><td>Work Environment Monitoring</td><td>TVOC monitoring is carried on a monthly basis by OHS and action is initiated for any abnormalities if any.
Further, TNPCB is also carrying out TVOC monitoring.</td></tr>
</table>
</td></tr>
</table>

Environment	Stipulation of condition such as	Status of compliance
		<table><tr><td>4</td><td>Gas Monitoring systems</td><td>Hydrocarbon detectors are installed in Refinery & offsite area with alarm system to monitor & control VOC emissions.</td></tr></table> The same will be followed after proposed expansion. Photographs of Online monitoring of VOC are given. The Plant is operated through DCS and the same is monitored continuously. The total VOC emissions from ETP-3 is estimated to be 92.54 Tons per year i.e. 11.56 kg / day
	iv. Transportation of materials by rail/ conveyor belt, wherever feasible.	**Complied.** No transportation of material is done by rail/ conveyor belt. The transportation of material is through Pipeline and Trucks.
	v. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided).	**Complied.** Existing Furnace oil has Sulphur of 0.8 wt% (Max limit is 1.0 wt%)is being used for existing boiler while Fuel gas/ RLNG will be utilized for the proposed 4nos. of process stack. There are no proposed boilers for this project.
	vi. Best Available Technology may be used. For example; usage of EAF/SAF/ IF in place of Cupola furnace. Usage of Supercritical technology in place of sub-critical technology.	**Complied.** • The plant is operated through Distributed Digital Control System. • The plant is fully automated. • The safety interlock is operated using Programmable Logic Controller(PLC).
	vii. Increase of	**Partially Complied.**

Environment	Stipulation of condition such as	Status of compliance
	green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.	Due to land constraint in the Site, we are planning for plantation outside the project site. Green Belt Area Details • Existing -152 Acres (18.26%) • Existing (Ongoing) - 123Acres (14.78%) • Proposed- Nil • After expansion- 275 Acres (33.05%) CPCL is committed to meet the above requirement in the following manner: A. 10 to 15% Green Belt Coverage within Refinery: Before April 2025 • Utilize available space and landscaping zones for enhancing green cover B. 40% green coverage: Before April 2026 • Collaboration with Tamil Nadu Green Mission • Across National Highways in Tamil Nadu in collaboration with NHAI The affidavit for the above is attached. As per the request from Greater Chennai Corporation, more greenbelt will be developed and maintained. CPCL is in the process of developing Green belt in Desal Plant of 70 acres & 53 acres in Fire School Land Sadayankuppam.
	viii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	**Partially Complied.** Due to land constraint in the Site, we are planning for plantation outside the project site. Green Belt Area Details • Existing -152 Acres (18.26%) • Existing (Ongoing) - 123Acres (14.78%) • Proposed- Nil • After expansion- 275 Acres (33.05%) CPCL is committed to meet the above requirement in the following manner: B. 10 to 15% Green Belt Coverage within Refinery:

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td></td><td>Before April 2025
• Utilize available space and landscaping zones for enhancing green cover

C. 40% green coverage: Before April 2026

• Collaboration with Tamil Nadu Green Mission
• Across National Highways in Tamil Nadu in collaboration with NHAI
The affidavit for the above is attached.

As per the request from Greater Chennai Corporation, more greenbelt will be developed and maintained. CPCL is in the process of developing Green belt in Desal Plant of 70 acres & 53 acres in Fire School Land Sadayankuppam.</td></tr>
<tr><td></td><td>ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened, shall be prescribed as a condition</td><td>Complied.

Sufficient road space available within the site for existing and proposed expansion. The Width of Existing road is 3.5-6.0 m this is adequate for transportation of loads.</td></tr>
<tr><td>Water</td><td>i. Reuse /recycle of treated wastewater, wherever feasible.</td><td>Complied

The intake water used for entire plant is secondary treated sewage and tertiary treated RO water sourced from CMWSSB.

<table>
<tr><th rowspan="2">S. No.</th><th rowspan="2">Description</th><th colspan="3">Quantity(m3/hr)</th><th rowspan="2">Source of Collection</th></tr>
<tr><th>Existing</th><th>Proposed</th><th>After Expansion</th></tr>
<tr><td>1</td><td>Fresh water</td><td>51</td><td>0</td><td>51</td><td>CMWSSB</td></tr>
<tr><td>2</td><td>City sewage</td><td>461</td><td>0</td><td>461</td><td>CMWSSB</td></tr>
<tr><td>3</td><td>Sea water</td><td>541</td><td>17</td><td>558</td><td>CPCL</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td></td><td></td><td></td><td>Desalination Plant</td></tr>
<tr><td>4</td><td>Treated Water (TTRO)</td><td>217</td><td>0</td><td>217</td><td>CMWSSB</td></tr>
<tr><td>5</td><td>Refinery waste water</td><td>570</td><td>2.4</td><td>572.4</td><td>Refinery waste water, ETP Treated effluent.The remaining effluent is being reused in coke yard, guard pond, backwash and ZDP.</td></tr>
<tr><td colspan="2">Total</td><td>1840</td><td>19.4</td><td>1859.4</td><td></td></tr>
</table>
<table>
<tr><th>Unit</th><th>Existing (m^3/hr)</th><th>Proposed (m^3/hr)</th><th>After expansion (m^3/hr)</th></tr>
<tr><td>Effluent generation</td><td>839</td><td>2.4</td><td>841.4</td></tr>
<tr><td>ETP capacity</td><td>1065*</td><td>0</td><td>1065*</td></tr>
<tr><td>Method of disposal</td><td>100% reused within the facility</td><td>-</td><td>100% reused within the facility</td></tr>
</table>
Note:*ETP II- 300m3/hr, ETPIII- 300 m3/hr,ETP IV- 465 m3/hr
</td></tr>
<tr><td></td><td>ii. Continuous monitoring of</td><td>Complied</td></tr>
</table>

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td>effluent quality/quantity in large and medium Red Category Industries (water polluting).</td><td>Online continuous monitoring system is provided for pH, Temperature, BOD, COD and TSS for treated effluent at disposal point and connected to TNPCB and CPCB

The same will be followed after proposed expansion.</td></tr>
<tr><td></td><td>iii. A detailed water harvesting plan may be submitted by the project proponent</td><td>Complied

Roof top rainwater harvesting is used in existing as well as proposed project.

Roof top area details:
1. Existing-90444 m^2
2. Proposed- 0 m^2
3. After Expansion-90444 m^2
The heaviest 24hr rainfall- 361.6mm</td></tr>
<tr><td></td><td>iv. Zero liquid discharge wherever technical economically feasible.</td><td>Complied

The effluent generated is being 100% reused within the facility and the same will be followed after expansion.</td></tr>
<tr><td></td><td>v. In case, domestic waste water generation is more than 10 KLD, the industry may install STP.</td><td>Complied

Existing domestic sewage of 15m3/hr is being treated in Existing SRP.
<table>
<tr><th>Unit</th><th>Existing (m^3/hr)</th><th>Proposed (m^3/hr)</th><th>After expansion (m^3/hr)</th></tr>
<tr><td>Sewage</td><td>15</td><td>0</td><td>15</td></tr>
<tr><td>Sewage Reclamation Plant</td><td>950*</td><td>0</td><td>950*</td></tr>
</table>
Note:*SRP I- 475m3/hr, SRP II- 475 m3/hr

After Expansion, the total quantity of 15m3/hrof sewage will be treated intheexisting Sewage Reclamation Plantof design capacity 950 m3/hr. The treated water will be reused for Coke Yard .</td></tr>
</table>

Environment	Stipulation of condition such as	Status of compliance
Land	i.Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever, feasible for new projects.	**Partially complied** Due to land constraint in the Site, we are planning for plantation outside the project site. Green Belt Area Details • Existing -152 Acres (18.26%) • Existing (Ongoing) - 123Acres (14.78%) • Proposed- Nil • After expansion- 275 Acres (33.05%) CPCL is committed to meet the above requirement in the following manner: C. 10 to 15% Green Belt Coverage within Refinery: Before April 2025 • Utilize available space and landscaping zones for enhancing green cover D. 40% green coverage: Before April 2026 • Collaboration with Tamil Nadu Green Mission • Across National Highways in Tamil Nadu in collaboration with NHAI The affidavit for the above is attached. As per the request from Greater Chennai Corporation, more greenbelt will be developed and maintained. CPCL is in the process of developing Green belt in Desal Plant of 70 acres & 53 acres in Fire School Land Sadayankuppam.
	ii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	**Partially complied** Due to land constraint in the Site, we are planning for plantation outside the project site. Green Belt Area Details • Existing -152 Acres (18.26%) • Existing (Ongoing) - 123Acres (14.78%) • Proposed- Nil • After expansion- 275 Acres (33.05%) CPCL is committed to meet the above requirement in the following manner:

Environment	Stipulation of condition such as	Status of compliance
		D. 10 to 15% Green Belt Coverage within Refinery: Before April 2025 • Utilize available space and landscaping zones for enhancing green cover E. 40% green coverage: Before April 2026 • Collaboration with Tamil Nadu Green Mission • Across National Highways in Tamil Nadu in collaboration with NHAI The affidavit for the above is attached. As per the request from Greater Chennai Corporation, more greenbelt will be developed and maintained. CPCL is in the process of developing Green belt in Desal Plant of 70 acres & 53 acres in Fire School Land Sadayankuppam.
	iii. Dumping of waste (fly ash, slag, red mud, etc.) may be permitted only at designated locations approved by SPCBs/ PCCs.	**Complied** Not applicable. Fly ash, slag, red mud, etc., are not generated by the Industry.
	iv. More stringent norms for management of hazardous waste. The waste generated should be preferably utilized in co-processing	**Complied** The hazardous waste generated from the new unit is Spent Catalyst and is about 6 Tons per Annum. Hazardous waste materials will be properly disposed as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2016; 1. Hazardous Waste Authorization application was submitted on 25.01.22 2. Above application was returned on 08.04.22 with the reason to upload valid CTOs 3. Application was resubmitted on 31.01.23 after obtaining valid CTOs. 4. Application forwarded to TNPCB, Head Quarters and & is under the scrutiny of TNPCB.

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td></td><td>
The Hazardous waste application submitted has been attached CPCL has taken membership in Industrial Waste Management Association (IWMA) for the disposal of spent catalyst falling under Schedule I & II of Hazardous Waste Management and Handling Rules 2016 to M/s Tamilnadu Waste Management Limited, Gummudipoondi (the only authorized site by M/s TNPCB). The membership document is attached
<table>
<tr><th rowspan="2">S.No</th><th rowspan="2">Description</th><th rowspan="2">Waste category</th><th colspan="4"></th><th rowspan="2">Source of Waste generation</th><th rowspan="2">Mode of Disposal/Facility</th></tr>
<tr><th>Existing</th><th>Application of renewal</th><th>Proposed</th><th>After expansion</th></tr>
<tr><td>1</td><td>Oil Sludge</td><td>4.1(a)</td><td>10000</td><td>12000</td><td>0</td><td>12000</td><td>Tank Bottom Sludge</td><td rowspan="2">Recovery and reuse within the premises</td></tr>
<tr><td>2</td><td>Oil Sludge</td><td>4.1(b)</td><td>10</td><td>10</td><td>0</td><td>10</td><td>Waste insulation material (oil contaminated)</td></tr>
<tr><td>3</td><td>Oil Sludge</td><td>4.1(c)</td><td>2000</td><td>0 (Quantity taken up in 4.1 (a) due to similar treatement method)</td><td>0</td><td>0</td><td>From ETP</td><td>Recovery and reuse within the premises (Included in 4.1a. Treatment philosophy is the same)</td></tr>
<tr><td>4</td><td>Spent catalyst (Recyclable</td><td>4.2(a)</td><td>235</td><td>500</td><td>6</td><td>500 (includes proposed 6</td><td>Spent catalyst (Recyclable)</td><td>To CPCB authorized recycle</td></tr>
</table>
</td></tr>
</table>

Environment	Stipulation of condition such as	Status of compliance							
		)					MTPA)		rs
		5	Spent Catalyst (Disposable)	4.2(b) Land filable and disposable	80	400	0	400	Spent catalyst (Disposable)	TSDF
				4.2 (c) Disposable and incinerable		250	0	250	Spent catalyst (Disposable and incinerable)	TSDF
		6	Discarded Containers	33.3	1600 Nos.	100 Tons per year	0	100 Tons per year	Disposal of barrels/ Containers used for handling of hazardous waste/ chemicals	To authorized recyclers
		7	Spent ion exchange resin containing toxic metals (Used sand Media)	35.2(a)	5	80	0	0	Purification & treatment of exhaust air, water, wastewater…	TSDF

<table>
<tr><th>Environment</th><th>Stipulation of condition such as</th><th>Status of compliance</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>8</td><td>Spent ion exchange resin containing toxic metals (Spent Activated Carbon)</td><td>35.2(b)</td><td>20</td><td>80</td><td>0</td><td>0</td><td>Purification & treatment of exhaust air, water, wastewater.</td><td>TSDF</td></tr>
<tr><td>9</td><td>ETP chemical Sludge</td><td>34.3</td><td>50</td><td>0 (Quantity taken up in 4.1 (a) due to similar treatement method)</td><td>0</td><td>0</td><td>From ETP</td><td>TSDF (Included in 4.1a)</td></tr>
</table>

Photographs of Hazardous waste temporary storage area are given in Enclosure F.
</td></tr>
<tr><td>Other Condition (Additional)</td><td>i. Monitoring of compliance of EC conditions may be submitted with third party audit every year.</td><td>Partially complied

Certified EC Compliance report is attached.</td></tr>
</table>

(b) PP informed that the following action plan to control SO_x and NO_x emissions:

(i) Low NO_x burners will be installed in the proposed project facilities, which will target to reduce NOX emissions by 50 % i.e. from the existing 35 kg/hr to 17.5 kg/hr.
(ii) Control of primary and secondary air furnace to control NOx emissions.
(iii) Provision given to blend RLNG alonwith other fuels in boilers and Gas turbines to reduce SOx emissions.

(c) VOC is monitored on daily basis using hand held PID monitors and readings are submitted to TNPCB. VOC online monitoring provision at Effluent Treatment Plnat will be provided by April 2024.

(d) Presently CPCL is monitoring ozone manually, twice a week, as per NAAQM guidelines. Online Ozone monitoring provision will be provided by April, 2024.

(e) following additional safeguards are suggested for projects/activities proposed in the critically polluted areas (CPAs), in addition to implementation of Action Plans and any other measure:

STIPULATION OF CONDITION 1: PROJECT PROPONENT SHOULD PROVIDE THE BEST AVAILABLE POLLUTION CONTROL TECHNOLOGY SO AS TO ENSURE THAT THERE IS NO ADVERSE EFFECT ON ENVIRONMENT.

Reply:

A. Air Environment:

i. Existing Stack emission:

S.No	Stack details	Source of Stack	Stack Details				Emission per stack (g/s)			
			Fuel ratio FO/FG	Height (m)	Temp (°C)	Dia. (m)	PM	SO_2	NOx	CO
1	1F1A East	ADU	80/20	63.4	206	2.60	1.04	4.03	2.30	0.60
2	1F1A West	ADU	80/20	63.4	206	2.60	1.04	4.03	2.30	0.60
3	1F1B	ADU	80/20	60	206	1.46	0.80	3.08	1.76	0.46

S.No	Stack details	Source of Stack	Stack Details				Emission per stack (g/s)			
			Fuel ratio FO/FG	Height (m)	Temp (°C)	Dia. (m)	PM	SO_2	NOx	CO
4	1F2&3	VDU	80/20	55.58	206	1.20	0.74	2.85	1.63	0.43
5	4F1	Kero ATF	80/20	37.8	200	1.26	0.26	1.02	0.58	0.15
6	9F201	DWO mix	50/50	47.93	240	1.48	0.23	0.90	1.44	0.13
7	9F301	Slack wax mix	50/50	36.4	250	1.02	0.07	0.25	0.40	0.04
8	10F101	Lube Hydro-finishing	50/50	42.7	220	1.19	0.10	0.39	0.62	0.06
9	13F1	Vac Distillate HDS	80/20	30	200	0.74	0.35	1.37	0.78	0.20
10	14F1	Foots oil mix	70/30	32.38	200	1.24	0.07	0.28	0.23	0.04
11	14 F 101	Wax Hydro finishing	80/20	42.7	200	1.19	0.03	0.12	0.07	0.02
12	15F1A	ADU	80/20	63.41	185	2.60	2.70	10.43	5.94	1.56
13	15F1B	ADU	80/20	60	185	1.70	-	10.43	-	-
14	15F2 A	VDU	80/20	32	185	1.45	0.80	3.11	1.77	0.46
15	15F2 B	VDU	80/20	32	185	1.45	-	3.11	-	-
16	16F1	FCCU	80/20	58.2	200	1.80	0.57	2.21	1.26	0.33
17	16F3	FCC CO boiler	75/25	60	280	1.78	-	-	-	-
18	71 F1	PDA Feed	80/20	45.82	240	1.16	0.60	2.32	1.32	0.35
19	73F101	NMP 1	80/20	53.38	260	1.62	0.38	1.47	0.84	0.22
20	73 F102	NMP 2	80/20	48.85	200	1.66	0.14	0.55	0.31	0.08
21	76F11	Naptha reformer	Naphtha	49.25	160	1.50	0.09	0.33	-	0.05
22	77 F1	DHDS	80/20	49.25	140	1.50	0.47	1.82	1.03	0.27
23	78F1	DHDS-SRU Furnace	0/100	60	200	0.50	-	-	-	-
24	201F1/F2	Ref-III ADU/VDU	80/20	70	180	3.45	3.37	13.05	7.43	1.95
25	204F1	VBU	80/20	60	194	3.45	-	-	-	-
26	205 F1	HGU	0/100	60	185	1.78	0.00	0.02	0.89	0.00
27	205 F2	HGU	Naphtha	60	160	1.78	0.29	1.11	-	0.17
28	206 F1-F2	CRU Feed	0/100	60	185	1.80	0.02	0.09	4.15	0.01
29	206 F3-F6	CRU	0/100	60	185	1.80	0.03	0.10	4.89	0.02
30	207F1	OHCU Fractionator	80/20	70	185	1.72	0.01	0.05	2.16	0.01

S.No	Stack details	Source of Stack	Stack Details				Emission per stack (g/s)			
			Fuel ratio FO/FG	Height (m)	Temp (°C)	Dia. (m)	PM	SO_2	NOx	CO
31	207 F102	OHCU Fractionator	0/100	30	185	1.72	0.93	3.59	2.05	0.54
32	207F201	OHCU Fractionator	0/100	35	185	1.8	0.00	0.01	0.61	0.00
33	210 F1	SRU	0/100	70	230	1.96	10.24	39.61	-	5.92
34	Gas Turbine 1	HRSG 1	Naphtha	100	140	1.80	0.50	1.94	0.04	0.29
35	Gas Turbine 2	HRSG 2	Naphtha	100	140	1.80	0.50	1.94	0.04	0.29
36	Boiler-1	Cogeneration plant	100/0	100	180	1.80	5.68	21.98	4.81	3.28
37	Boiler-2	Cogeneration plant	100/0	100	180	1.80	5.68	21.98	4.81	3.28
38	Boiler-3	Cogeneration plant	100/0	100	180	1.80	5.68	21.98	4.81	3.28
39	Boiler-4	Cogeneration plant	100/0	100	180	1.80	-	-	-	-
40	Boiler-5	Old Power House	100/0	85	180	2.40	4.07	15.74	8.96	2.35
41	Gas Turbine 3	HRSG 3	Naphtha	100	145	1.80	-	-	-	-
42	Gas Turbine 4	HRSG 4	Naphtha	100	145	1.80	0.50	1.94	0.04	0.29
43	211 F-1	DHDT feed	80/20	60	190	1.8	0.75	2.91	1.66	0.44
44	212 F01	ISOM feed	0/100	60	200	1.8	0.00	0.02	0.86	0.00
45	214 F01	Naptha heater	Naphtha	70	171	1.8	0.14	0.56	-	0.08
46	86F01	DCU Heater	0/100	70	150	3.0	0.08	0.30	14.18	0.04
47	Gas Turbine	HRSG 5	Naphtha	40	108	3	0.50	1.94	0.04	0.29
48	90F1	DCU-SRU	0/100	81.9	149	3.4	1.09	4.22	-	0.63
49	Boiler 6	Old Power House	0/100	85	200	2.2	0.18	0.69	32.37	0.10
Emission before BS VI							50.74	196.35	119.38	29.34
51	211 F-	DHDT	80/20	60	200	1.8	0.20	0.78	0.46	0.12

S.No	Stack details	Source of Stack	Stack Details				Emission per stack (g/s)			
			Fuel ratio FO/FG	Height (m)	Temp (°C)	Dia. (m)	PM	SO_2	NOx	CO
	1	Revamp								
52	31F1/F2	GDS	0/100	28.2	200	0.9	0.01	0.03	1.23	0.00
53	92F1	BS6 SRU	0/100	70	200	2	1.09	4.22	-	0.63
Emission after BS VI							**51.63**	**199.82**	**120.14**	**29.86**
Total (g/s)							**51.63**	**199.82**	**120.14**	**29.86**
Total (Kg/hr)							**185.868**	**719.352**	**432.504**	**107.49**

ii. Proposed Stack Emission:

S. No	Stack details	Source of Stack	Stack Details						Emission per stack (g/s)			
			Type of fuel	Height (m)	Temp (°C)	Dia. (m)	Exit Velocity (m/s)	Flue gas Flow Rate (Nm^3/hr)	PM	SO_2	NOx	CO
1	207	Hydrocracker	FG	60	200.0	1.6	8.7	109,081.1	0.0077	0.0297	1.40 01	0.0044
2	New CDW	CDW	FG	60	216.0	1.6	8.5	110,177.5	0.0062	0.0239	1.1259	0.0036
3	New CDW	CDW	FG	60	219.0	1.6	9.1	118,677.7	0.0072	0.0280	1.3218	0.0042
4	New CDW	CDW	FG	60	220.0	1.6	9.8	128,066.9	0.0317	0.1225	5.7766	0.0183
Total (g/s)									**0.0528**	**0.2041**	**9.6244**	**0.0305**
Total (Kg/hr)									**0.19008**	**0.734**	**34.647**	**0.1098**

Note: *Stack and Emission details provided by project proponent*

iii. Total Maximum GLCs from the Stack Emissions (Point Source)

Pollutant	Max. Base line Conc. ($\mu g/m^3$)	Estimated Incremental Conc. ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	NAAQ standard ($\mu g/m^3$)	% increase
PM_{10}	75.4	0.02	75.42	100	0.03
SO_2	32.9	0.11	33.01	80	0.33
NO_x	40.8	5.38	46.18	80	13.19

CO	960	0.06	960.06	4000	0.01

iv. Total Maximum GLCs from the Stack Emissions (Point Source)

The incremental concentrations of PM, SO_2, NO_x and CO are observed to be 0.03%, 0.33%, 13.19% and 0.01% respectively. The total pollutant concentrations of PM, SO_2, NO_x and CO are 75.42 µg/m^3, 33.01µg/m^3, 46.18 µg/m^3 and 960.06 µg/m^3 and are well within the standards.

v. Emissions-Line Source

There is no increase in traffic load either inside the CPCL premise or the general traffic movement, due to the proposed project. Hence , there is no additional incremental emission in transportation and the line source emission is nil.

vi. Control measures:

- No process vents are normally discharged to the atmosphere. Vent gases are routed to downstream units for recovery as fuel whenever possible.
- To control potentially noxious emissions, the vessels listed below are maintained under nitrogen gas pressure and vented to the relief system.
- Combustion gases will be discharged from the furnace stacks. Furnace emissions are limited by the following measures:
  - NOx Emission: NOx will be controlled by using low NOx burners.
  - SOx Emission: Only sweetened fuel gas will be fired in heaters, amount of SO_2 emission will be minimum (as FG contains < 150 ppmv H_2S)
  - CO Emission: Carbon Monoxide will be controlled by monitoring the amount of O_2 in the flue gas
  - PM Emission: Only Low H_2S Fuel Gas / RLNG will be used for firing the heaters. No Fuel oil firing envisaged

vii. Air Pollution Management

- Conversion to use RLNG in Boilers, Furnaces, Gas Turbines and Hydrogen generation units were carried out at the cost of Rs 312.6 Cr since March 2019 in a phased manner as part of Environmental friendly initiative and was completed.

- Using low Sulphur Fuel for internal process heaters, Boilers & furnaces
- Installed low NOx burners in all the furnaces to reduce NOx emission
- Maintaining excess O_2 in the flue gas to ensure complete combustion & to ensure the prevention of CO emission.
- All the stacks are installed with online SOx, NOx, PM & CO analyser and are connected to both TNPCB & CPCB and real time data transfer is continuous.
- Leak Detection And Repair (LDAR) programme is being carried out periodically in line with Environment regulations. Leaky components were identified during LDAR monitoring and the same is communicated to the respective plant in-charge to arrest the leak.
- VOC adsorption system has been commissioned in ETPs to prevent the fugitive emission from oil handling facilities
- Primary & Secondary (Dual) seals were provided in all floating roof tanks for avoiding VOC emission. Further, Rim seal Fire Protection system is also installed in 32 no of tanks to prevent any accidental release of Hydrocarbon from tanks to atmosphere as well as a safety measure.
- Open effluent receiving surge ponds were converted to closed tanks to avoid VOC.
- Approx 1200 Gas detectors are installed in the plant and tank form area to detect Hydro carbon leak.
- CPCL installed dust suppression system in Delayed Coker unit & the Trucks are covered immediately after loading inside CPCL to prevent the Particulate emission.
- 6 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) were installed phased manner and the parameters are connected to both TNPCB & CPCB and real time data transfer is continuous.
- Mobile Continuous Ambient Air Quality Monitoring Van was commissioned in 2010 and is deployed in & around CPCL.

B. Water Environment:

The intake water used for entire plant is secondary treated sewage and tertiary treated RO water sourced from CMWSSB.

S.No.	Description	Quantity(m3/hr)			Source of Collection
		Existing	Proposed	After Expansion	
1	Fresh water	51	0	51	CMWSSB
2	City sewage	461	0	461	CMWSSB
3	Sea water	541	17	558	CPCL Desalination Plant
4	Treated Water (TTRO)	217	0	217	CMWSSB
5	Refinery waste water	570	2.4	572.4	Refinery waste water, ETP Treated effluent.The remaining effluent is being reused in coke yard, guard pond, backwash and ZDP.
Total		**1840**	**19.4**	**1859.4**	

i. Effluent:

Unit	Existing (m^3/hr)	Proposed (m^3/hr)	After expansion (m^3/hr)
Effluent generation	839	2.4	841.4
ETP capacity	1065*	0	1065*
Method of disposal	100% reused within the facility	-	100% reused within the facility

Note:*ETP II- 300m^3/hr, ETPIII- 300 m3/hr,ETP IV- 465 m3/hr*

ii. Sewage

Existing domestic sewage of 15m3/hr is being treated in Existing SRP.

Unit	Existing (m^3/hr)	Proposed (m^3/hr)	After expansion (m^3/hr)
Sewage	15	0	15
Sewage Reclamation Plant	950*	0	950*

Note:*SRP I- 475m^3/hr, SRP II- 475 m3/hr*

After Expansion, the total quantity of 15m^3/hr of sewage will be treated in the existing Sewage Reclamation Plant of design capacity 950 m^3/hr. The treated water will be reused for Coke Yard.

iii. Control Measures:

The sour water will be routed to the existing sour water stripper units of the refinery with adequate spare capacity to absorb H_2S. The effluent water quantity is nominal, and the existing ETPs are having adequate spare capacity to handle the additional load.

iv. Water Pollution Management

- Wastewater generated is treated by appropriate treatment processes so that treated effluent quality meets Minimum National Standards (MINAS). The treated effluent is further processed in ultra-filtration & Reverse Osmosis systems for internal use.
- The Refinery has 3 ETP units under operation (ETP-2/3/4) with a total capacity of 1065 m^3/hr.
- ETP-4 was commissioned with the latest available Technology including Sequencing Batch Reactor (SBR) to treat the Effluents generated from Resid Upgradation Plant as well as to treat the ETP-1 Effluents. ETP-4 design includes the combination of Ultra filtration (UF), Reverse Osmosis (RO) & Demineralization (DM) plant to make the water suitable for Boiler feed.
- Treated effluent is used for internal use (Fire water, gardening, floor washing, hydro testing etc.)
- Consumption of TT-RO supplied by Metro has reduced the consumption of fresh water to the tune of 0.8-1.0 MGD.

C. Land Environment:

i. Solid waste Management during operation phase

S. No	Waste	Quantity (Ton/Year)			Collection method	Treatment / disposal method
		Existing	Proposed	After modernization		
1	Organic waste	804.75	2.896	807.64	Manual collection	Sales to Recyclers

2	Inorganic waste	536.50	1.93	538.43	scrap yard	Sales to Recyclers

As per CPHEEO 0.6 kg/ capita/ day

- CPCL has facilities for handling oily sludge and other hazardous waste and disposal is done as per Hazardous Waste Rules, 2016.
- CPCL is following In-Situ Sludge Treatment of Tank Bottom Sludge thereby reducing substantial quantity of Sludge generation & avoiding handling sludge outside / open area.
- The hazardous solid waste generated from the Refinery is Spent Catalyst and this is being sent to MoEF&CC approved TSDF facility which is located at Gummudipondi in Tamil Nadu for secured landfill.
- The Municipal Solid Waste generated in the existing refinery is collected and transported to recyclers, municipal yards and landfills depending on the type of waste.

ii. Hazardous waste Management

The hazardous waste generated from the new unit is Spent Catalyst and is about 6 Tons per Annum. Hazardous waste materials will be properly disposed as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2016;

1. Hazardous Waste Authorization application was submitted on 25.01.22
2. Above application was returned on 08.04.22 with the reason to upload valid CTOs
3. Application was resubmitted on 31.01.23 after obtaining valid CTOs.
4. Application forwarded to TNPCB, Head Quarters and & is under the scrutiny of TNPCB.

The Hazardous waste application submitted has been attached**.**

CPCL has taken membership in Industrial Waste Management Association (IWMA) for the disposal of spent catalyst falling under Schedule I & II of Hazardous Waste Management and Handling Rules 2016 to M/s Tamilnadu Waste Management Limited, Gummudipoondi (the only authorized site by M/s TNPCB)

S. No	Description	Waste category					Source of Waste generation	Mode of Disposal/Facility
			Existing	Application of renewal	Proposed	After expansion		

1	Oil Sludge	4.1(a)	10000	12000	0	12000	Tank Bottom Sludge	Recovery and reuse within the premises
2	Oil Sludge	4.1(b)	10	10	0	10	Waste insulation material (oil contaminated)	
3	Oil Sludge	4.1(c)	2000	0 (Quantity taken up in 4.1 (a) due to similar treatement method)	0	0	From ETP	Recovery and reuse within the premises (Included in 4.1a. Treatment philosophy is the same)
4	Spent catalyst (Recyclable)	4.2(a)	235	500	6	500 (includes proposed 6 MTPA)	Spent catalyst (Recyclable)	To CPCB authorized recyclers
5	Spent Catalyst (Disposable)	4.2(b) Land filable and disposable	80	400	0	400	Spent catalyst (Disposable)	TSDF
		4.2 (c) Disposable and incinerable		250	0	250	Spent catalyst (Disposable and incinerable)	TSDF
6	Discarded Containers	33.3	1600 Nos.	100 Tons per year	0	100 Tons per year	Disposal of barrels/ Containers used for handling of hazardous waste/ chemicals	To authorized recyclers
7	Spent ion exchange resin containing toxic metals (Used sand Media)	35.2(a)	5	80	0	0	Purification & treatment of exhaust air, water, wastewater…	TSDF
8	Spent ion exchange resin containing toxic metals (Spent Activated Carbon)	35.2(b)	20	80	0	0	Purification & treatment of exhaust air, water, wastewater.	TSDF

9	ETP chemical Sludge	34.3	50	0 (Quantity taken up in 4.1 (a) due to similar treatment method)	0	0	From ETP	TSDF (Included in 4.1a)

Control Measures:
Spent catalysts are disposed by sending to MoEF&CC approved TSDF (Treatment, Storage, and Disposal Facilities) located at Gummudipondi, near Chennai in Tamil Nadu for secured landfill.

STIPULATION OF CONDITION 2: EXPERT APPRAISAL COMMITTEE MAY FURTHER CONSIDER PRESCRIBING THE STRINGENT EMISSION/EFFLUENT NORMS FOR THE PROJECTS PROPOSED IN SUCH AREAS.

Reply:

Emission:
Monitoring is carried out through TNPCB Labs and the emission levels are well within the limits. Stack emission (PM, SO_2, NO_x, CO) are monitored through online monitoring which is connected to TNPCB/CPCB and are within the limits. TNPCB report - Stack monitoring data

Effluent:
Online continuous monitoring system is provided for pH, Temperature, BOD, COD and TSS for treated effluent at disposal point and connected to TNPCB and CPCB.
The effluent generated is being 100% reused within the facility and the same will be followed after expansion.

STIPULATION OF CONDITION 3: THE INDUSTRIES SHOULD BE ADVISED TO USE GREEN/CLEAN FUEL IN PLACE OF CONVENTIONAL FOSSIL FUEL.

Reply: Existing Furnace oil has Sulphur of 0.8 wt% (Max limit is 1.0 wt%) is being used for existing boiler while Fuel gas/ RLNG will be utilized for the proposed 4nos. of process stack.
There are no proposed boilers for this project.

STIPULATION OF CONDITION 4: THE INDUSTRIES SHOULD BE DIRECTED FOR REUSE/RECYCLE OF EFFLUENT BY IMPLEMENTING ADVANCED TECHNOLOGY SUCH AS ZLD.

Reply:

Effluent:

Unit	**Existing (m^3/hr)**	**Proposed (m^3/hr)**	**After expansion (m^3/hr)**
Effluent generation	839	2.4	841.4
ETP capacity	1065*	0	1065*
Method of disposal	100% reused within the facility	-	100% reused within the facility

Note:*ETP II- 300m3/hr, ETPIII- 300 m3/hr,ETP IV- 465 m3/hr*

The effluent generated is being 100% reused within the facility and the same will be followed after expansion.

STIPULATION OF CONDITION 5: THE INDUSTRIES SHOULD BE ADVISED TO UTILISE THE DOMESTIC WASTEWATER EITHER IN THE PROCESS OR FOR DEVELOPMENT OF GREEN BELT.

Reply:

Existing domestic sewage of 15m3/hr is being treated in Existing ETP.

Unit	**Existing (m^3/hr)**	**Proposed (m^3/hr)**	**After expansion (m^3/hr)**
Sewage	15	0	15
Sewage Reclamation Plant	950*	0	950*

Note:*SRP I- 475m3/hr, SRP II- 475 m3/hr*

After Expansion, the total quantity of 15m^3/hr of sewage will be treated in the existing Sewage Reclamation Plant of design capacity 950 m3/hr. The treated water will be reused for Coke Yard.

STIPULATION OF CONDITION 6: THE INDUSTRIES SHOULD BE ENCOURAGED TO USE GREEN/CLEAN TECHNOLOGIES IN THE MANUFACTURING PROCESS TO REDUCE WASTE GENERATION.

Reply:

- The process has been designed with minimal harmful environmental impacts. The design includes measures to eliminate or minimize the amount of waste generated and to control the waste generation that cannot be eliminated
- The plant is operated through Distributed Digital Control System.
- The plant is fully automated.

The safety interlock is operated using Programmable Logic Controller (PLC).

STIPULATION OF CONDITION 7: FUGITIVE EMISSION CONTROL MECHANISM SHOULD BE IMPLEMENTED EFFECTIVELY WITHIN THE INDUSTRY INCLUDING PROVIDING CONCRETE/ ASPHALTIC ROAD TO MINIMISE DUST POLLUTION.

Reply:

Details of control Measures for fugitive emission:

Sl.No	**Name of the control Measure**	**Remarks**
1	Leak Detection & Repair Programme (LDAR)	Carried out for all the components viz valves, flanges, compressors etc and the leak identified is tagged & attended covering entire Refinery & offsite facilities.
2	VOC adsorption system	VOC adsorption system is provided in ETPs to adsorb the VOC emanating from oil handling facilities.
3	Work Environment Monitoring	TVOC monitoring is carried on a monthly basis by OHS and action is initiated for any abnormalities if any. Further, TNPCB is also carrying out TVOC monitoring.
4	Gas Monitoring systems	Hydrocarbon detectors are installed in Refinery & offsite area with alarm system to monitor & control VOC emissions.

The same will be followed after proposed expansion. The Plant is operated through DCS and the same is monitored continuously. The total VOC emissions from ETP-3 is estimated to be 92.54 Tons per year i.e. 11.56 kg / day

STIPULATION OF CONDITION 8: ADEQUATE GREEN BELT DEVELOPMENT SHOULD BE MADE FOR REDUCTION OF AIR POLLUTANTS IN AND AROUND THE CPAs.

Reply:

S. No.	Description	Unit	Existing			Proposed			After Expansion			Total
			Within site	Outside CPCL	Outside site-Ongoing	Within site	Outside CPCL	Outside site-Ongoing	Within site	Outside CPCL	Outside site-Ongoing	
1	Total Site Area	Ac	832	0	0	0	0	0	832	0	0	832
2	Total Area of Green Belt	Acre	62	90	123	-	-	-	62	90	123	275
3	Total Area of Green Belt	Ha	25.09	36.42	49.77	-	-	-	25.09	36.42	49.77	111.28
4	Percentage of total project area	%	7.45	10.808	14.782	-	-	-	7.45	10.808	14.782	33.05
7	No. of plants present	Nos.	15,682	22,763	31,107	-	-	-	15,682	22,763	31,107	69,552
8	Fund utilized	Lakhs	79	114.5	156.5	-	-	-	79	114.5	156.5	350
9	Status of Implementation	-	Completed	Completed	Will be completed within 1year	-	-	-	Completed	Completed	Will be completed within 1year	-

In addition to the above, CPCL is committed to meet the above requirement in the following manner:

10 to 15% Green Belt Coverage within Refinery: **Before April 2025**

- Utilize available space and landscaping zones for enhancing green cover

40% green coverage: **Before April 2026**

- Collaboration with Tamil Nadu Green Mission
- Across National Highways in Tamil Nadu in collaboration with NHAI

Detail of existing greenbelt Species

S.No	Description
1	Ashoka
2	Ayal Vagai, (Pheltophorum)
3	Rain tree, (Samanea saman)
4	Neer Maruthu, (Terminalia arjuna)
5	Pungan, (Pongama pinnata)
6	Sisso, (Dalbergia sissoo)
7	kattu poovarasu, (Hibicus tiliaceous)
8	Magilam. (Mimusops elengi)
9	Madhuca Indica (Illupai)
10	Thepesia Populnea (Poovarasu)
11	Syzygium cumini (Naval)
12	Azardiracta indica (Vembu)
13	Ficus religiosa(Arsa maram)

STIPULATION OF CONDITION 9: VIEWS OF CONCERNED SPCBS/PCCS MAY BE SOUGHT BASED ON THE LOCAL CONDITIONS.

PP informed that the project falls under CPA. The pollution levels in the study area vis-a vis pollutant identified under CPA has been prepared and given below:

I. Air Environment

Pollutant	Max. Base line Conc. ($\mu g/m^3$) (Jan – Mar 2022)	Estimated Incremental Conc. Due to proposed project ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	NAAQ standard ($\mu g/m^3$)	*CPA pollutant analysed (18.11.19 – 19.11.19)	* CPA pollutant value – Mean Conc. of Manali area in 2018	*TNPCB CAC – Online Ambient Air Monitoring data in ($\mu g/m^3$)
PM_{10} (Primary Pollutant in CPA)	75.4	0.02	75.42	100 (24 hrs)	113	86.8	Not available
$PM_{2.5}$ (Secondary Pollutant in CPA)	45.7	0	45.7	60 (24 hrs)	25.37	24.45	36.21
Benzene (Secondary Pollutant in CPA)	BLQ (LOQ 1)	0	BLQ (LOQ 1)	5 (Annual)	5.5	3.9	Not available
SO_2	32.9	0.11	33.01	80 (24 hrs)	Not analysed	Not analysed	16.36
NO_x	40.8	5.38	46.18	80 (24 hrs)	Not analysed	Not analysed	12.07
CO	960	0.06	960.06	4000 (1 hr)	Not analysed	Not analysed	Not available

Ref – Evaluation of CEPI Score & Action plan for CEPI area of Manali, Tamil Nadu, submitted on January 2020 by Tamil Nadu Pollution Control Board.

II. Water Environmen

Pollutant	CPCB MINARS/17/ 2001-2002	Base line Conc. in EIA (mg/l)- (Jan – Mar 2022)		*CPA pollutant analysed (1.11.2019)	
		Buckingham Canal u/s	Buckingham Canal d/s c	Buckingham Canal u/s	Buckingham Canal d/s c
PAH (Primary in CPA) - **µg/l**	0.2	Not analysed	Not analysed	BLQ (0.00005)	BLQ (0.00005)
Phenol (Secondary Pollutant in CPA) – mg/l	0.01	Not analysed	Not analysed	1.4	0.005
BOD (Secondary	8	17.5	21.4	15	7

Pollutant in CPA)- mg/l					

Ref – Evaluation of CEPI Score & Action plan for CEPI area of Manali, Tamil Nadu, submitted on January 2020 by Tamil Nadu Pollution Control Board.

III. Land Environment

In CPA during 2018-2019

S. No.	Waste Category	Authorized quantity	Disposal Method			Disposal Quantity
			Recyclable (Authorized recyclers)	Incinerable/ Co processing/ Fuel (Captive)	Land fillable	
1	Oil Sludge	12000	-	-	-	Water & Oil recycled back in the process
2	Spent Catalyst	315	124.8 (Generated)	-	-	124.8
3	Spent ion exchange resin/ Carbon	5	-	5	-	-
4	Empty Barrels	1600nos.	-	-	-	1600nos.

Ref – Evaluation of CEPI Score & Action plan for CEPI area of Manali, Tamil Nadu, submitted on January 2020 by Tamil Nadu Pollution Control Board.

In the Proposed Project-2022

S. No	Description	Waste category	Quantity				Source of Waste generation	Mode of Disposal/ Facility
			Existing	Application of renewal	Proposed	After expansion		
1	Oil Sludge	4.1(a)	10000	12000	0	12000	Tank Bottom Sludge	Recovery and reuse within the premises
2	Oil Sludge	4.1(b)	10	10	0	10	Waste insulation material (oil contaminated)	
3	Oil Sludge	4.1(c)	2000	0 (Quantity taken up in 4.1 (a) due to similar treatement method)	0	0	From ETP	Recovery and reuse within the premises (Included in 4.1a. Treatment philosophy

								is the same)
4	Spent catalyst (Recyclable)	4.2(a)	235	500	6	500 (includes proposed 6 MTPA)	Spent catalyst (Recyclable)	To CPCB authorized recyclers
5	Spent Catalyst (Disposable)	4.2(b) Land filable and disposable	80	400	0	400	Spent catalyst (Disposable)	TSDF
		4.2 (c) Disposable and incinerable		250	0	250	Spent catalyst (Disposable and incinerable)	TSDF
6	Discarded Containers	33.3	1600 Nos.	100 Tons per year	0	100 Tons per year	Disposal of barrels/ Containers used for handling of hazardous waste/ chemicals	To authorized recyclers
7	Spent ion exchange resin containing toxic metals (Used sand Media)	35.2(a)	5	80	0	0	Purification & treatment of exhaust air, water, wastewater…	TSDF
8	Spent ion exchange resin containing toxic metals (Spent Activated Carbon)	35.2(b)	20	80	0	0	Purification & treatment of exhaust air, water, wastewater.	TSDF
9	ETP chemical Sludge	34.3	50	0 (Quantity taken up in 4.1 (a) due to similar treatment method)	0	0	From ETP	TSDF (Included in 4.1a)

Proposed Action Plan for Further Reduction of CEPI Score

SHORT TERM ACTION PLANS:

S. No.	Action Plan	Benefits	Status as on date
1	Implementation of Re Gassified Liquefied Natural Gas (RLNG) in Hydrogen Generation units, process heaters, Boilers & Gas Turbines	To reduce NOx & PM emission	Implemented in all the Boilers, Gas Turbines & Process heaters (including HGU heaters)- From Mar -2019 to Jan-2022 in a phased manner.
2	Installation and commissioning of Automatic foam flooding system for Floating roof tanks (Rim seal system : Tank 624-MS, 625-Naptha & 821 – Slop)	Reduction of VOC emission	Tank 624 & 325 completed in Oct-19 Tank 821 completed in Jan-20.
3	Coke – dust suppression system Water spray system over coke yard area	To reduce PM emission	Completed in Feb-19
4	Development of Green Belt – 40 Acres in Amullavoyal Land of CPCL (10000 Trees)	200 MT/year of CO2-e will be absorbed by the Trees.	Completed in Feb-20
5	Routing of Crude – I Hot well gases thro' Caustic scrubber	Reduction of fugitive emissions	Completed in Oct-19

LONG TERM ACTION PLANS:

S. No.	Action Plan	Benefits	Target
1	Use of RLNG instead of LPG in SRU (Plant 210)	To reduce CO2 emission	Completed in Jan-20
2	Implementation of Energy conservation schemes equivalent to the saving of fuel oil 29400 SRFT.	500 MT/year of CO2 emission reduction	All the Schemes are Completed
3	Implementation of BS VI	Upgradation of	Completed

	project for Diesel & Petrol for meeting sulphur specification of 10 ppm	auto fuel quality	

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 18th March, 2008 and G.S.R.595(E) dated 21st 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 NOX 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^3/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^3/hr, which shall be treated in the ETP. Treated effluent shall be recycled/reused within 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, development of 40% green belt 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). With the FG based proposed OHCU stack shall be installed with a Height of 60m and Dia. of 1.6m.

(x). PP shall ensure that flare gas recovery unit is provided to recover hydrocarbon going to the flare 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.

(xi). 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.

(xii). 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.

(xiii). 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.

(xiv). 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.

(xv). 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.

(xvi). 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.

(xvii). 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.

(xviii). Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

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

(xx). 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 12th 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. 05

Drilling of 4 Infill wells and 22 Development wells in the Mehsana District of Gujarat located at Cambay Basin [North], Gujarat, India Asjol & North Balol Block, Taluk Mehsana, District Mehsana, State Gujarat by M/s. Hindustan Oil Exploration Company Ltd. - Consideration of Environmental Clearance.

[IA/GJ/IND2/402977/2022, IA-J-11011/124/2008-IA–II(I)]

The project proponent and the accredited consultant M/s. Hubert Enviro Care Systems (p) Limited (NABET certificate no. NABET/EIA/2224/SA0190and validity24.07.2024) made a detailed presentation on the salient features of the project and informed that the proposal is to obtain environmental clearance for the project "Drilling of 4 Infill wells and 22 Development wells in the Mehsana District of Gujarat by HOEC" located at Cambay Basin [North], Gujarat, India Asjol & North Balol Block, Taluk Mehsana, District Mehsana, State Gujarat by M/s. Hindustan Oil Exploration Company Ltd

All Products are listed at S.No. 1(b)-Offshore and onshore Oil and Gas Exploration Development and Production of Schedule of Environmental Impact Assessment (EIA) Notification 2006 and its Amendmentsunder Category 'A' and are appraised at central level by Expert Appraisal Committee (EAC).

The details of products and capacity as under:

Description	Existing	Proposed	After expansion	Remarks
Asjol Block (Oil)				
Infill wells	4*	0	4*	J-11011/124/2008-IA II(I)-Not yet commissioned*
Developmental wells	0	6	6	-
North Balol Block (Gas)				
Infill wells	0	0	0	-
Developmental wells	0	16	16	-

Total	4*	22	4*+22	-

*Note: * It is to inform that the project was not commenced and the four infill development wells was not drilled due to sharp decline in oil price thereby project becoming unviable.*

Production Profile - Oil

Year	Asjol - Oil Rate BBl/Day	Cum Oil BBl	Gas Rate Scf/Day	Cum Gas Scf	Water Rate BBl/Day	Pressure Psi
1	0	0	NIL	NIL	NIL	sub-hydrostatic - NIL
2	12	4380	NIL	NIL	NIL	sub-hydrostatic - NIL
3	22	12410	NIL	NIL	NIL	sub-hydrostatic - NIL
4	21	20075	NIL	NIL	NIL	sub-hydrostatic - NIL
5	20	27375	NIL	NIL	NIL	sub-hydrostatic - NIL
6	19	34310	NIL	NIL	NIL	sub-hydrostatic - NIL
7	18	40880	NIL	NIL	NIL	sub-hydrostatic - NIL
8	18	47450	NIL	NIL	NIL	sub-hydrostatic - NIL
9	17	53655	NIL	NIL	NIL	sub-hydrostatic - NIL
10	10	57305	NIL	NIL	NIL	sub-hydrostatic - NIL

Production Profile - Gas

Year	North Balol-Gas Rate MMscf/d	Cum Gas (BCF)	Water Rate BBl/Day	Pressure Psi
1	-	0.00	NIL	0
2	2.00	0.73	NIL	853
3	2.00	1.46	NIL	853
4	2.00	2.19	NIL	853
5	2.01	2.92	NIL	782
6	1.95	3.63	NIL	782
7	1.24	4.09	NIL	711
8	0.72	4.35	NIL	711
9	0.44	4.51	NIL	711
10	0.28	4.61	NIL	640

Note: Typical well profile is projected above. The total number of wells which will produce hydrocarbons will depend upon drilling results.

Coordinates of the Proposed Infill Well of Asjol block

Proposed Infill Well	Well Locations as per PFR		Revised well locations*	
	Latitude	Longitude	Latitude	Longitude
Location-1	23°27'27.33"N	72°13'30.27"E	23°27'27.33"N	72°13'30.27"E
Location-2	23°27'10.57"N	72°13'16.43"E	23°27'10.57"N	72°13'16.43"E
Location-3	23°27'17.74"N	72°13'0.03"E	23°27'16.94"N	72°12'55.48"E
Location-4	23°27'27.36"N	72°12'43.56"E	23°27'27.36"N	72°12'43.56"E

Coordinates of the Proposed Development Wells in Asjol

Proposed Development Wells	Well Locations as per PFR		Revised well locations*	
	Latitude	Longitude	Latitude	Longitude
Location-1	23°29'16.6903"N	72°11'27.7196"E	23°29'11.61"N	72°11'24.20"E
Location-2	23°29'8.7.924"N	72°11'32.9949"E	23°29'6.46"N	72°11'30.58"E
Location-3	23°28'50.3908"N	72°12'1.2480"E	23°28'50.3908"N	72°12'1.2480"E
Location-4	23°28'7.0880"N	72°12'22.3729"E	23°28'7.0880"N	72°12'22.3729"E
Location-5	23°27'22.5217"N	72°12'33.2327"E	23°27'22.5217"N	72°12'33.2327"E
Location-6	23°27'34.9239"N	72°13'23.6361"E	23°27'48.37"N	72°13'37.30"E

Coordinates of locations of the sixteen proposed wells in North Balol Block

Well	Well Locations as per PFR		Revised well locations*	
	Latitude	Longitude	Latitude	Longitude
Location−1	23°34'49.9220"N	72°14'27.2951"E	23°34'49.9220"N	72°14'27.2951"E
Location−2	23°34'37.9374"N	72°14'12.8619"E	23°34'35.92"N	72°14'13.23"E
Location−3	23°33'40.0564"N	72°13'44.7082"E	23°33'40.0564"N	72°13'44.7082"E
Location−4	23°31'53.8425"N	72°14'26.4441"E	23°31'53.8425"N	72°14'26.4441"E
Location−5	23°36'16.3963"N	72°13'23.2977"E	23°36'16.3963"N	72°13'23.2977"E
Location−6	23°35'59.2387"N	72°13'4.9695"E	23°35'59.14"N	72°13'1.95"E
Location−7	23°31'57.7846"N	72°14'55.9096"E	23°31'57.7846"N	72°14'55.9096"E
Location−8	23°35'32.8306"N	72°14'21.4876"E	23°35'32.8306"N	72°14'21.4876"E
Location−9	23°34'1.8035"N	72°13'54.9458"E	23°34'1.8035"N	72°13'54.9458"E
Location−10	23°33'54.3573"N	72°14'18.5502"E	23°33'54.3573"N	72°14'18.5502"E
Location−11	23°31'46.6138"N	72°15'7.8149"E	23°31'46.6138"N	72°15'7.8149"E
Location−12	23°34'12.9770"N	72°14'46.3257"E	23°34'12.41"N	72°14'44.95"E
Location−13	23°34'55.9385"N	72°13'41.0975"E	23°34'55.9385"N	72°13'41.0975"E
Location−14	23°32'38.2281"N	72°14'15.7817"E	23°32'38.2281"N	72°14'15.7817"E
Location−15	23°32'49.5317"N	72°13'56.4281"E	23°32'49.5317"N	72°13'56.4281"E
Location−16	23°32'57.6124"N	72°14'37.0155"E	23°32'55.38"N	72°14'40.48"E

Ministry has issued Environment Clearance to the 4 in-fill development wells vide file no. J-11011/124/2008-IA II(I) dated 19.03.2008. Certified compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, vide File no –J-11/41-2022-IROGNR dated 05.08.2022. It is to inform that the project was not commenced and the four infill development wells was not drilled due to sharp decline in oil price thereby project becoming unviable.

Standard Terms of Reference have been obtained vide F. No. J-11011/124/2008-IA-II(I), dated 02 Jan 2021.

Status of Litigation pending against the Project proponent:

The company does not have any litigation / Arbitration History with any Government department/Public Sector Undertaking/ Private Sector/ or any other agency related to the project mentioned above.

Public Hearing for the proposed project had been conducted by the Gujarat Control board Pollution Control board on 18.01.2022, 11:00 am at Palaj Leuva Patidar Vadi, Near Palaj Prathmic Shala Taluk, Mehsana District, Gujarat chaired by District Collector & District Magistrate, Mehsana. The main issues raised during the public hearing and their action plan:

S. No.	Name and Address	Points represented	Replies from Project Proponent	Budget and Timeline
1	Patel Amrutbhai Ugerdas; DySarpanch, Palaj	Where is the location of the proposed project?	Project proponent informs that HOEC plant is located within 500 mts. Near Palaj Village.	Not Applicable
		HOEC plant is there since what time?	The gas production from plant was started since year 2005.	Not Applicable

S. No.	Name and Address	Points represented	Replies from Project Proponent	Budget and Timeline
		Village road is not proper, requested to help in this regards.	Regarding road project proponent informed that the same be discussed in consultation with villagers and concerned department of the government for appropriate action.	No budget is required as the road in the project area falls under Public Works Department (PWD) jurisdiction. During the project phase HOEC shall assist the village sarpanch to submit the requisition to PWD for taking up this work in its annual work for rural development under " Pradhan Mantri Sadak Yojana"
2	M.M Patel, VP, Golf Ceramic, Palaj	He welcomed the proposed project and anticipated that land prices may increase, employment may be generated and development will also occur.	Project proponent thanked the good wishes for the proposed project.	Project Proponent continues to provide employment to local skilled population. Once work commences post EC clearance HOEC shall deploy local skilled people as per work requirement. This budget shall be included in the annual plan of operating expenditure. HOEC awaits clearance of EC so that budget provision can be made in subsequent Financial year.
3	ParmarRoitJenabhai, Palaj	In proposed project it is requested to give first priority to local villagers who have optimum qualification.	Project proponent informed that as far as possible company will make best efforts to provide work to local technically qualified	Project Proponent continues to provide employment to local skilled population. Once work commences post EC clearance HOEC shall deploy local skilled people as per work requirement. This budget shall be included in the annual plan of operating expenditure.

S. No.	Name and Address	Points represented	Replies from Project Proponent	Budget and Timeline
			people.	HOEC awaits clearance of EC so that budget provision can be made in subsequent financial year
4	Thakorchaturbhai, Palaj	It was requested that the eligible taxes currently being paid in district may be paid in the village panchayat so that extra income can be generated.	Project proponent replied that the said taxes shall be payable as per government rules and regulations.	The said taxes have been paid to village panchayat by the project proponent.
5	Amrutbhai	Suitable compensation should be paid to land owners for any gas pipeline passing through their land.	Project proponent informed that in the proposed project if any gas pipeline would be laid in any farm land suitable compensation shall be paid as per prevailing rate and rules.	The time-line shall be based once the well produces commercial hydrocarbons and budget for the compensation shall be based on current prevailing rates. The land value will be evaluated according to Government norms and regulations. The land will be acquired with fair compensation and agreement with the owner.
6	Hitesh Patel, Zirconia Ceramics, Palaj	He welcomes the proposed project and said that there is no environment damage due to production and use of natural gas	Project proponent thanked the good wishes for the proposed project.	Not Applicable

S. No.	Name and Address	Points represented	Replies from Project Proponent	Budget and Timeline
		and very beneficial to area and region.		

Total plant area after Expansion will be 49.5 Ha, out of which Asjol field (6 new development wells) comprises of an area of 13.5 ha and North Balol field (16 new development wells) comprises of an area of 36 ha. The space to be retained after drilling campaign shall be very limited and only 200 sq.m/well drilling cell platform shall be located in the drilling site, accordingly no major greenbelt development is envisaged except few trees that shall be planted on the periphery of the drilling site as part of Greenbelt development plan. The estimated project cost is Rs. 345.0 Crores. Capital cost of EMP would be Rs**.** 0.51 Crores/well and recurring cost for EMP would be Rs. 0.0745 Crores/well. Industry proposes to allocate Rs. 6.9 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after Expansion will be 117 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. **Nala** , **Rupen Nadi, Khari Nadi** is **Inside North Balol Block, Narmada Main Canal Lake**, **Zinzuwada Branch Canal** is **Inside Asjol Block, Canal near Kanpura** is at a distance of ~**0.40** km in **W, Pushpavati Nadi** is at a distance of ~**1.63** km in **N, Okaro Kharaghoda Nadi** is at a distance of ~**3.29** km in **SW, Kharaghoda Branch Canal** is at a distance of ~**3.57** km in **SSW, Goriya Branch Canal** is at a distance of ~**6.65** in **S, Khari Nadi is** at a distance of ~**7.46** km in **NW, Canal near Mudhera** is at a distance of ~**8.03** km in **W, Canal near Mesra Panchasar** is at a distance of ~**9.08** km in **W, Canal near Mudhera** is at a distance of ~**9.68** km in **W, Canal near Sobhasan** is at a distance of ~**11.24** km in **SSE, Canal near Bhatwasna** is at a distance of ~**13.67** km in **WNW, Viramgam Branch Canal** is at a distance of ~**13.82** km **in S, Balgamda Lake, Pond near Udheda, Hathiya Talav, Palaj Lake, Katosan Lake** is **Inside Asjol Block**, **Rudathal Lake** is at a

distance of ~4.70 km in **SW, Bhojsar Talav** is at a distance of ~5.50 km in **WNW, Dhinoj Lake** is at a distance of ~5.54km in **NE, Lake near Khokhla** is at a distance of ~10.49 km in **W, Gorpur Talav** is at a distance of ~10.84km in **NW, Asnaru Talav** is at a distance of ~ 13.03km in **SW.** Conservation plan for Schedule I species has been submitted to GPCB dated 18-Jan-2022 and a budget of Rs. 25,000 has been earmarked for the same.

Ambient air quality monitoring was carried out at 8 locations during December 2020 to February 2021 and the baseline data indicates the ranges of concentration as: PM_{10}(43.38-70.33 µg/m³), $PM_{2.5}$(19.96-38.56 µg/m³), SO_2(9.10 – 17.73 µg/m³) and NO_2(20.90 – 36.53 µg/m³). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 72.5 µg/m^3, 19.75 µg/m^3, 46.14 µg/m^3 and 478.86 µg/m^3 with respect to PM10, SO2, NOx and CO the resultant concentrations are well within the National Ambient Air Quality Standards (NAAQS).

Total water requirement after Expansion will be 65KLD which will be met from Onsite bore well (through approved vendors) / Road water tankers. Undertaking Regarding Ground Water has been provided dated 07th May 2021. Effluent generation of 14KLD will be sent to ONGC ETP through tankers for Treatment and disposal. Sewage generation of 6.75KLD will be treated in septic tank& soak pit / STP of capacity 10KLD.

Total power requirement after expansion will be met from existing electrical connection available from UGVCL state power company. During drilling activity APCE 3 x 670 kw D.G. sets (drilling site) with a stack of height of 9 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 and APCE 1 x 134 kw D.G. set (camp site) with a stack of height of 9 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3. Flare stack with a stack of height of 30 m will be installed for natural gas flare stack.

Details of Process emissions generation and its management:

There is no Process Emission generation due to the proposed project.

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

Solid waste generation:

Organic waste

- The organic waste Quantity **31.59 kg/day** per well
- The organic waste generated Will be collected and sent to local Municipal Bins

Inorganic waste

- The organic waste Quantity **21.06 kg/day** per well
- The organic waste generated Will be collected and sent to GPCB authorized recyclers

Hazardous waste generation:

- Spoil, overburden or mine wastes
  - **Drill Cuttings** - Out of a total of ~ 112 MT/ well will be generated after washing, losses and drying. A smaller fraction that may still be entrained in the mud (~35 MT/well), will be sent to TSDF along with the mud.
  - **Oil Sludge** – About 0.15 MT/well of Oil Sludge will be generated which will be sent for incineration to TSDF.
  - **Drilling Mud –** 170 m3/well will be prepared for 4 wells and on drying; the dried material (significantly lower than 170m3/well) will be disposed to TSDF along with any drill cuttings still entrained.

- Substances or materials, which are hazardous – Disposal method of chemicals will be stored in warehouse and proper safety measures will be adopted for storage and handling of these chemicals.

- Spent Oil (Waste oil) - Disposal method of Lubrication oil is used in the Diesel Generator sets deployed at the drill site. The average quantity of lube oil changed per month is 350 litres. The average time for drilling a well is 60 days. Hence, the average total quantity of lube oil changed during the period of drilling of the well is meagre 700 litres i.e. 0.7KL.The lube oil removed from the engines is collected inempty lube oil drums and sent to Authorized GPCB agencies for further disposal.
- Hazardous waste - Will be disposed to TSDF.

Solid and Hazardous waste management:

- The Drilling rig system to be employed for drilling will be equipped for the separation of drilled cuttings and solid materials from the drilling fluid.
- The drill cuttings, cut by the drill bit, will be removed from the fluid by the shale shakers (vibrating screens) and centrifuges and transferred to the cuttings containment area.
- Once the drilling fluid/mud has been cleaned it will be returned to the fluid tank and pumped down the drill string again.

Capital Cost and recurring cost of EMP are given below:

S. No.	Activity	Budget in Lakhs per well	
		Capital Cost(Lakhs)	Operating cost(Lakhs)
1	Construction of waste pit for collection and storage of drill cuttings and drilling Capital cost (Lakhs)Operating cost waste	11.0	2.0
2	Procurement & Installation of HDPE Liner in the waste pit to prevent soil contamination	3.5	0.50
3	Bund construction / garland drain around drill site	3	0.50
4	Dust suppression through water sprinkling in the internal roads atdrill sites (@Rs. 2000 per day x 30 days construction phase, 15 days decommissioning phase per well)	0.9	0.20
5	Emission monitoring and sample analysis of Ambient air quality, Noiseemission, stack monitoring, Effluent wastewater, etc	0.5	0.25
6	Monitoring of ground water quality at drill sites (2 locations in each drill site)	0.30	-
7	Monitoring- surface water quality (3 locations in each drill site)	0.3	-
8	Monitoring- treated runoff at drill sites (1location, once duringdrilling phase –	0.25	-

S. No.	Activity	Budget in Lakhs per well	
		Capital Cost(Lakhs)	Operating cost(Lakhs)
	monsoon periodsites)		
9	Soil quality monitoring - 1 location in each drill site	0.25	-
10	Engagement of Sewage Treatment Plant	15.0	-
11	Disposal of Drill Cuttings & Hazardous waste	8.0	2.0
12	Construction of Chemical Storage shed with Spill Containment Provision	3.0	1.0
13	Green Belt Development during production phase	5.0	1.0
Total		**51**	**7.45**

Details of CER with proposed activities and budgetary allocation:

S.no	Proposed activity	Year wise cost breakup (INR Crores)			
		2022-2023	2023-2024	2024-2025	2025-2026
1	Construction of roads to the nearby Villages	0.4	0.4	0.4	0.3
2	Drinking water facilities tothe nearby villages	0.2	0.2	0.2	0.2
3	Sanitation facilities to the nearby villages	0.3	0.3	0.3	0.3
4	Solar lighting facility for the nearby Government Schools	0.4	0.4	0.4	0.4
5	Providing Health care equipment to nearby Public health centres	0.4	0.4	0.5	0.5
TOTAL		**1.7**	**1.7**	**1.8**	**1.7**
TOTAL		**6.9 Crores**			

During deliberations, EAC discussed following issues:

- PP informed that Ministry of Petroleum and Natural Gas vide letter no O-150199(25)/6/2018 ONG D- V (E-22880) dated 6th March, 2019

has approved the extension of the PSC for the Asjo field, as per extent policy for extension of PSC for Pre-NELP Blocks

- PP informed that Asjol oilfield does not have gas in its production stream only emulsion of oil and associated water in form of emulsion. The emulsion produced is dispatched to ONGC-NK-GGS-III via underground pipeline from EPS. ONGC-NK-GGS-III processes this emulsion and separates oil and water. The oil is dispatched to Mehsana CTF through pipeline and effluent is sent to ONGC's NK-GGS-I-ETP plant of Mehsana Asset for further treatment. The quantity of oil and water is provided by ONGC certificate to HOEC at end of each month. The oil and water will be segregated at NK-GGS-III processing plant located 3 kms from EPS of Asjol. The water water collected from all separation process are being sent to Effluent Treatment Plant (ETP) where the trace oil is being recovered from waste water. The treated water is being sent to Water Injection Plant (WIP) which is being pumped to various wells so as to enhance the oil recovery process. The recovered water from the Desalter plant is being sent to Waster Water Treatment Plant (WWTP).
- *Provision of liquid knockout drum is available in the flare line before the ignition system, to remove any liquid present in the gas:*

    i. Flare Stack with a height of 30Mtr with remote ignition system is available and the fuel used was natural gas.
    ii. HOEC follows zero flaring policy as per DGH (Directorate General of Hydrocarbons) guidelines.
    iii. Weekly once to check the working of ignition system.
    iv. Capital cost has already been incurred for setting up flare as per OISD guidelines. Only recurring cost is involved in maintenance of the system on periodical basis done by in-house site engineers

- The Committee noted that PP has not selected ambient air quality monitoring station as per the guidelines. All the locations were selected near to the buildings. Two equipments were installed very near, which could affect the monitoring results. Accordingly, the Committee suggested to carry out 6 weeks study again.
- The Committee noted that water quality sampling was not done properly. They should use water sampler for carrying out sampling. Accordingly, the Committee suggested carrying out water quality monitoring again.
- It was also noted that noise sampling was not done properly.

Accordingly, the Committee suggested carrying out noise quality monitoring again.

- It was also noted that estimated incremental value of NOx seems to be very high. The Committee suggested to reduce the incremental value by taking emission control measures. The Committee also suggested that the matter may be referred to QCI/NABET for assessing the training requirement on Environmental quality monitoring and prediction by using various models as well as interpretation of output data for the accredited environmental consultant.
- Green belt management plant to be submitted.

In view of above, committee suggested to return the proposal in present form. Accordingly, proposal was returned in present form.

Agenda No. 06

Expansion of sugarcane crushing capacity from 1200 TCD to 4700 TCD, new co-generation power plant capacity of 20 MW, and establishment of new multifeed (C molasses/B-heavy molasses/cane juice/syrup) based 150 KLPD distillery located at Village Chandapuri, Tehsil Malshiras, District Solapur, State Maharashtra by M/s. Onkar Sakhar Karkhana Private Limited - Consideration of Environmental Clearance.

[IA/MH/IND2/421345/2023, IA-J-11011/321/2022-IA-II(I)]

The Project Proponent M/s. Onkar Sakhar Karkhana_Private Limited and the accredited Consultant M/s. SD Engineering Services Pvt. Ltd. (NABET certificate no. NABET/EIA/2023/SA 0166 and validity 12th August 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 sugarcane crushing capacity from 1200 TCD to 4700 TCD, new co-generation power plant capacity of 20 MW, and establishment of new multifeed (C molasses/B-heavy molasses/cane juice/syrup) based 150 KLPD distillery located at Village Chandapuri, Tehsil Malshiras, District Solapur, State Maharashtra by M/s. Onkar Sakhar Karkhana_Private Limited.

All molasses-based distilleries and cane juice/non-molasses-based distillery (>100 KLD) are listed at S.N. 5(g) respectively 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 products and capacity as under:

Sr. No	Unit	Product/byproduct		Existing Quantity	Proposed Quantity	Total Quantity
Product						
1	TCD	Sugar Crushing Capacity		1200	3500	4700
2	MW	Cogeneration power plant		00	20	20
3	KLPD	Distillery (RS/ENA/Fuel Ethanol)		00	150	150
	MW	Cogeneration Power Plant (TG Set Connected to proposed 30 TPH Incineration Boiler)		00	3.0	3.0
By-product						
A	**Sugar and Cogeneration Unit**					
1	MT/D	Molasses	C Molasses **OR**	48	140	188
			B Heavy Molasses	72	210	282
2	MT/D	Pressmud		48	140	188
3	MT/D	Bagasse		360	1050	1410
4	MT/D	Ash (Sold to brick manufacturers)		5.37	12.63	18.00
B	**Distillery Unit**					
1	MT/D	Incineration Boiler Ash		00	61.52	61.52
2	MT/D	CO2		00	114	114
3	Liter/D	Fusel Oil		00	300	300

Environmental Clearance to the existing capacity is not applicable as existing sugar unit is of 1200 TCD which does not come under the purview of EIA notification 2006. Details of Certified compliance report for existing CTO is obtained by SRO, Solapur, vide File No. MPCB/SROSOL/230302-FTS-0076, issued date: 02.03.2023. The Committee was satisfied with the CCR.

Existing industry is operational on the basis of Consent to Operate which does not come under the purview of EIA notification 2006. Thus, Environmental Clearance was not applicable. Latest CTO (air and water) has

been issued on 22.02.2023 and is valid till 31.07.2023. Certified CTO compliance report has been issued dated 02.03.2023 from SRO, Solapur. EAC found the information satisfactory.

Standard Terms of Reference have been obtained vide F. No. J-11011/321/2022-IA-II(I) dated 23.08.2022. It was informed that there is no litigation is pending against the project.

Public Hearing for the proposed project had been conducted as per MoEF & CC guidelines by Maharashtra Pollution Control Board on 05.01.2023 at Village Chandapuri (factory site), Tehsil Malshiras, District Solapur chaired by Additional District Magistrate. The main issues raised during the public hearing and their action plan:

Issue in Brief	**Action plan in brief**	**Budget allocated and timeline**
During Public Hearing- (Except Written Suggestions / Comments / Complaints)		
Attendee raised the concern regarding the problem faced by the local people, of the ash generated by the project. The ash which is produced in the sugar factory flies in the area and troubles the people. For this, modern pollution control system should be installed. They do not face any other pollution problems. If the ash goes into the eyes of the people, the medical treatment is indispensable. So,	Electrostatic Precipitators (ESP) and stack with suitable height will be used as Air Pollution Control (APC) measures for proposed 110 TPH and incineration boiler. Project Proponent (PP) has earmarked 700 lakhs and 20 lakhs for APC measures, as capital and recurring costs respectively. Whereas for Solid Waste Management (SWM) PP has reserved 20 lakhs and 7 lakhs as capital and recurring costs respectively. The ash collection, storage	The costs of APC measures and SWM are 720 lakhs as capital cost and 27 lakhs as recurring cost, details of the same have been provided in EMP budget.

detailed information should be given regarding disposal of ash in a scientific manner.	and handling are considered in APC measures and SWM. Details of the same have been provided in EMP budget in EIA report.	
Attendee questioned that, whether waste water generated during the production process in the factory will be used after treatment in the factory and/or whether it will be made available to the local farmers?	The cost of ZLD system as water pollution control measure, that includes upgradation of existing sugar ETP, establishment of sugar CPU, distillery CPU, also MEE and Incineration boiler for spent wash treatment, is 3500 lakhs rupees as capital cost and 100 lakhs rupees as recurring cost which is considered in EMP budget.	PP has earmarked 3600 lakhs rupees for water pollution control measures. Details of the same have been provided in the EMP budget in EIA report.
Attendee questioned that, whether solar energy will be used in the factory?	PP has reserved rupees 20 lakhs as capital cost for solar energy appliances, which shall be utilized for purposes such as lighting requirements of admin building, street and parking lighting. Also 3 lakh rupees will be reserved as recurring cost for solar power.	PP has earmarked 23 lakh rupees for solar energy appliances. Details of the same have been provided in the EMP budget of EIA report.
Attendee stated, how will the spent	The cost of ZLD system as water	PP has earmarked 3600 lakhs rupees for water

wash/industrial waste water be used in the factory?	pollution control measure, that includes upgradation of existing sugar ETP, establishment of sugar CPU, distillery CPU, also MEE and Incineration boiler for spent wash treatment, is 3500 lakhs rupees as capital cost and 100 lakhs rupees as recurring cost which is considered in EMP budget.	pollution control measures. Details of the same have been provided in the EMP budget in EIA report.
Attendee stated, Due to distillery unit, the factory will be benefitted greatly. However, their demand is that the distillery project should be started as soon as possible.	--	--
Attendee demanded information regarding the benefits of this project to Chandapuri village. He also stated that the said project should be started as soon as possible.	Locals will be given priority in employment opportunities. Also, various ancillary businesses will be boosted due to proposed project. PP has earmarked Rs. 2.355/- crores as CER funds. The funds will be utilized within span of 05 years for sanitization, drainage, drinking water,	Project Proponent has earmarked Rs. 2.355/- crores as CER funds. Details of the same have been provided in Chapter 10, section 10.6, in the EIA Report.

	educational aids, etc.	
Public Hearing- (Written Suggestions / Comments / Complaints)		
The Proponent of M/S Onkar Sakhar Karkhana Pvt. Ltd. Proposes to Expansion of Sugar Unit as mentioned above. The Environment consultant of this project study area covered 10 km radius around the proposed Project area, they studied locations of air ambient quality, noise levels recorded, water samples collected, soil samples also collected these all are in norms of CPCB. This is satisfactory.	--	--
The consultant, please take health states of village people in 10 km radius around is must, why because it is very useful in future.	Medical Camps will be arranged in the study area under CER funds before commissioning of the proposed unit. Also, records of health status of villagers residing in study area will be maintained.	The industry has reserved Rs. 2.355 Crores, which will be spent on the activities like sanitation and health, education, and educational facilities as a cost towards corporate environment responsibility (CER).
Please take Crop production details from near Agriculture lands also.	Details will be collected from district authorities. Also, the command area is rich in sugarcane cultivation and has excellent irrigation facilities.	---

	Considering the Sugarcane cultivation potential and the availability of sugarcane in the command area the industry is proposing expansion.	
For operation of the project water requirement is 4015 KLD /Day, It is taking from Nira Right Bank Canel, in summer season chance to down fall water level so please arrange rain water harvesting system.	Total maximum daily fresh water requirement after proposed expansion will be 585 KLD. Rainwater harvesting system will be implemented. Accordingly, the rainwater storage tank will be constructed to store the rainwater that will be used as per requirement. The details for rainwater harvesting system have been provided in EIA report as Annexure V.	Capital investment of 12 lakhs and recurring investment of 2 lakhs will be utilized for rainwater harvesting.
Please utilize waste water to plantation, sprinkling on roads. It controls Dust Pollution when your vehicles transport time.	Excess condensate from sugar shall be treated in CPU and used for recycling as process water, gardening and spraying for dust suppression.	Capital investment of 35 crores and recurring investment of 10 crores will be utilized for Existing Sugar ETP Up-gradation, Construction of Sugar and distillery CPU and MEE & incineration boiler for Distillery Spentwash treatment.
Your taking 5.413 HA (33%) plantation for Green belt is good, it	We have provided 33% of land for greenbelt as per CPCB	Capital investment of 10 lakhs and recurring investment of 3 lakhs will be

is CPCB norms, but I am requesting to increase if any possible.	norms. In addition to greenbelt 1000 – 1500 plants will be planted.	utilized for green belt development activity and additionally recurring investment of 3 lakhs will be reserved for maintenance of green belt.
You take avenue plantation to near villages, road side, It is useful to save environment. Plant fruit barins and medicinal value trees.	Avenue plantation will be carried under CER activities in study area.	The industry has reserved Rs. 2.355 Crores, which will be spent as a cost towards corporate environment responsibility (CER).
Please give employment opportunities to local people first and conduct skilled programs for local youth, like ITI, Diploma. They will get job opportunities other industries also.	The local people will be given priority for the employment in the industry. Also, various skill development programs for local youth will be undertaken under CER.	The industry has reserved Rs. 2.355 Crores, which will be spent as a cost towards corporate environment responsibility (CER).
Give medical facilities to near villages, Conduct Medical Camps Regularly.	Medical Camps will be arranged in study area under CER funds.	The industry has reserved Rs. 2.355 Crores, which will be spent on the activities like sanitation and health, education, and educational facilities as a cost towards corporate environment responsibility (CER).
Give drinking water facility to near villages.	Drinking water facilities will be provided to needy villages in study area under CER activities.	The industry has reserved Rs. 2.355 Crores, which will be spent as a cost towards corporate environment responsibility (CER).
Give good education to near village	Schools in study area will be provided	The industry has reserved Rs. 2.355 Crores, which will

children.	facilities such as computers, laboratory equipments, sport kits, etc. under CER activities.	be spent on the activities like sanitation and health, education, and educational facilities as a cost towards corporate environment responsibility (CER).
Develop all main roads and street roads of near villages.	Road development activities for site approach roads and roads in nearby villages (need basis) will be undertaken under CER activities.	The industry has reserved Rs. 2.355 Crores, which will be spent as a cost towards corporate environment responsibility (CER).
The project will contribute additional revenue to the State & Central Govt.	Various revenues will be paid to state and central government as per government norms.	---
For using of CSR & CER budget please form a Co-ordination committee with village people, Govt. officials and company people, and find necessary works for villages not target oriented works.	The CER funds will be utilized for study area with consultation of District Administration and representatives of villages.	---
We want to take steps to prevent the release of pollution into the environment as per government regulations.	Necessary pollution prevention measures have been proposed to protect environmental degradation. The details of the same have been provided in EIA Report.	--
Conduct skill development training	Various skill development	The industry has reserved Rs. 2.355 Crores, which will

programs for unemployed youth and provide employment to eligible candidates.	programs for local youth will be provided under CER.	be spent as a cost towards corporate environment responsibility (CER).
CSR funds for development of affected villages should go through village committees.	The CER funds will be utilized for study area with consultation of District Administration and representatives of villages.	---
Health camps should be organized among the people of the surrounding villages.	Medical Camps will be arranged in study area under CER funds before commissioning of the proposed unit.	The industry has reserved Rs. 2.355 Crores, which will be spent on the activities like sanitation and health, education, and educational facilities as a cost towards corporate environment responsibility (CER).
And we want to grow greenery around the company and nearby villages with fruit barring and medicinal plants.	We have provided 33% of land for greenbelt as per CPCB norms. In addition to greenbelt 1000 – 1500 plants will be planted.	Capital investment of 10 lakhs and recurring investment of 3 lakhs will be utilized for green belt development activity and additionally recurring investment of 3 lakhs will be reserved for maintenance of green belt.
Today unemployment is the major pollution…in India. That way I am supporting the Industrial sector, please provide the local employment.	The local people will be given priority for the employment in the industry.	The industry has reserved Rs. 2.355 Crores, which will be spent as a cost towards corporate environment responsibility (CER).

Total plant area after expansion will be 16.20 Ha (existing plant area – 16.20 Hectares and 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 5.47047 Hectares i.e. 33.77% of the total plant area has already been developed as greenbelt & plantation and the same will be developed under greenbelt & plantation in and around plant premises. The estimated project cost is Rs. 313.99 Crores. Capital cost of EMP would be Rs. 43.52 Crores and recurring cost for EMP would be Rs. 1.68 Crores per annum. Industry proposes to allocate Rs. 2.355 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment will be 210 persons as direct (Distillery Division – 90 Persons & Sugar Division – 120 Persons) & more than 250 persons indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. Reserve forests at a distance of 2.81 Km in southwest direction and protected forests at a distance of 4.23 km in north-north-west direction. Conservation plan for schedule I species has been submitted to MoEF&CC dated 08.03.2023 and a budget of 0.14 Crores has been earmarked for the same. Water bodies: Neera Right Bank Canal is at a distance of 0.05 Km in East direction, Nimgaon Lake is at a distance of 2.0 Km in East direction and Kalambwadi Lake is at a distance of 9.10 Km in south-south-east direction for which NOC has been obtained from State Irrigation Department (Executive Engineer, Neera Right Bank Canal Division, Phaltan) vide letter no. 570/Year 2023 dated 15.02.2023 stating that receival of NOC for proposed project. River Bhima is at a distance of 30 Km in East direction.

Ambient air quality monitoring was carried out at 08 locations during 1st March 2022 to 31st May 2022 and the baseline data indicates the ranges of concentrations as: PM10 (40.20 to 62.20 µg/ m^3), PM2.5 (22.90 to 41.30.µg/m3), SO2 (6.74 to 15.80.µg/m3) and NO2 (9.20 to 18.90.µg/m3).AAQ modelling study for point and line source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.75 µg/m3, 0.50 µg/m3, 0.50 µg/m3 and 0.58 µg/m3 with respect to PM10, PM2.5, SO2 and NOX. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement after expansion will be 680 CMD which will be met from Neera Right Bank Canal. NOC has been obtained by Maharashtra Krishna Khore Development Corporation, Sinchan Bhavan, Mangalwar Peth,

Pune-411011 vide letter no. M.Kru.Kho.Vi.M.-56/(348/2022)/Sin.Vya.-3/1477/Year 2023 dated 13.03.2023. Existing effluent generation is 128 CMD (Sugar and spray-pond effluent) which is treated through existing Effluent Treatment Plant Unit of capacity 150 CMD. Proposed effluent generation will be 497 CMD (Sugar and spray-pond effluent) which will be treated through upgraded Effluent Treatment Plant Unit of capacity 550 CMD). Existing effluent generation is 360 CMD (Sugar condensate) which is treated through Condensate Polishing Unit of capacity 400 CMD. Proposed effluent generation will be 1050 CMD (Sugar condensate) which will be treated through proposed Condensate Polishing Unit of capacity 1100 CMD).

Proposed effluent generation from distillery unit will be 1379 CMD (Spentwash) quantity will be treated through MEE followed by Incineration technology to make valuable potash rich Ash of capacity 1400 CMD. Proposed effluent generation will be 1382 CMD (Distillery condensate and other diluted effluent) which will be treated through proposed Condensate Polishing Unit of capacity 1500 CMD).

Domestic waste water will be treated in 100 KLD STP (Capacity of STP in KLD/MLD). The plant will be based on Zero Liquid discharge system and treated effluent/water will not be discharged outside the factory premises.

Total power requirement of sugar mill and cogeneration unit after expansion will be 6.72 MW which will be sourced from proposed 20 MW co-generation power plan. Total power requirement of distillery after establishment will be 2.5 MW which will be sourced from proposed 3.0 MW co-generation power plant (3 MW TG set connected to proposed 30 TPH incineration boiler). Existing unit has 1x35 TPH Bagasse fired boiler which shall be stand-by after proposed expansion and proposed boiler of 110 TPH capacity shall be installed for sugar division. 30 TPH Incineration boiler will be installed for proposed distillery unit. APCE Multi-cyclone Dust Collector with a stack of height of 60 m is installed with the existing boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm^3, APCE ESP connected to existing stack of height of 60 m shall be installed. APCE Bagfilter with a stack of height of 72 m will be installed for controlling the particulate matter emissions within the statutory limit of 30 mg/Nm3 from the proposed 30TPH incinerator boiler. Industry has – existing 2*320 KVA and proposed 1*750 KVA DG set which will be used as standby during power failure and stack height 6.0 meter each above roof level) will be provided as per CPCB norms to the proposed DG sets. APCE Bag filter with a stack of

height of 60 m will be installed for controlling the particulatematter emissions within the statutory limit of 50 mg/Nm3 from the proposed 110TPH boiler.

Details of Process emissions generation and its management:

Sr. No.	Stack Attached to	Type of Fuel	Minimum stack height based on SO2 Emission Rate	APC Equipment
1	Existing 35 TPH (standby after proposed expansion) & Proposed 110 TPH	Bagasse	60 (Existing Stack is Adequate)	ESP for proposed boiler and a common stack of 60 meters height is already provided.
2	1*30 TPH Incineration boiler	Conc SW + Bagasse	67.89	ESP and stack of 72 meters height will be provided.
		Conc SW+ Coal	71.37	
3	Existing 2*320 kVA DG Set	HSD	6 m above roof level	--
	Proposed 1*750 kVA DG Set	HSD	6 m above roof level	--

In case of shortage of bagasse, Coal at 80 MT/D as supplementary fuel for incineration boiler.

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

Non-Hazardous solid wastes details

Sr. No.	Description of waste	Quantity	Mode of Collection and Disposal
1.	Boiler Ash from Existing 35 TPH & Proposed 110 TPH [Existing 35 TPH boiler shall be standby after proposed expansion]	Existing 35 TPH Boiler – 5.73 MT/D Proposed 110 TPH Boiler - 18 MT/D	All the solid wastes are mixed with Pressmud/ETP sludge and sold as manure.

Sr. No.	Description of waste			Quantity	Mode of Collection and Disposal
2.	ETP Sludge			131 MT/A	
3.	Press mud			188 MT/D	
4.	Incinerator boiler Ash	C Molasses Conc. SW	Bagasse OR	53.125 MT/D	Sold as potash rich manure to farmers.
			Coal	61.52 MT/D	
		B Heavy Molasses Conc. SW	Bagasse OR	34.87 MT/D	
			Coal	48.32 MT/D	
		Cane Syrup/Juice Conc. SW	Bagasse OR	30.87 MT/D	
			Coal	51.60 MT/D	
Other Solid Wastes					
1.	Paper waste			0.01 MT/M	Manually collected and stored in a designated area and sold to scrap vendors
3.	Municipal Solid waste				
	Non-Biodegradable			100 Kg/M	Manually collected and sold to scrap vendors
	Bio-degradable			1 MT/M	Used in Composting

Hazardous wastes

Sr. No.	Category	Description of waste	Quantity	Mode of Collection and Disposal
1.	5.1	Used Oil	1.3 KLA	Shall be collected in Leak Proof Containers and utilized as lubricant for bullock carts.

Details of capital and recurring cost of EMP are given below:

The cost of the proposed project has been estimated at Rs 313.99 crores, which comprises of land development, civil and building, plant and machinery, margin money of working capital. The estimated time of completion of project will be one to two year after the receipt of Environmental Clearance from the respective authority. The capital cost for the EMP will be Rs. 4352 Lakhs. And recurring cost will be Rs. 168 Lakhs. The detailed EMP budget is given in table below.

Sr. No.	Component	Particulars		Capital Investment (In Lakhs)	Recurring Investment (In Lakhs)
1.	Air	Construction of new stack for boiler and ESP		700	20
2.	Water	• Sugar ETP Up-gradation, Construction Sugar and distillery CPU • MEE & incineration boiler for Distillery Spentwash treatment		3500	100
3.	Noise	Acoustic enclosures, Silencer pads, ear plugs etc		15	3
4.	Environment monitoring and Management	Quarterly Environment Monitoring (Per Year)		--	10
		Ambient air monitoring	PM_{10}, $PM_{2.5}$, SO_2, NOx		
		Boiler & DG Set Monitoring	TPM, SO_2, NOx		
		Effluent (Treated &Untreated)	pH, COD, BOD, TSS, TDS, Oil & Grease		
5.	Occupational Health	Glares, Breathing Masks, Gloves, Boots, Helmets, Ear Plugs etc. & annual health-medical checkup of workers, Occupational Health (training, OH center)		40	10
6.	Greenbelt	Green belt development activity		10	3
		Maintenance of green belt		--	3
7.	Solid Waste Management	Solid Waste Management		20	7
8.	Rain water Harvesting	Rain water Harvesting		12	2
9	Stormwater Harvesting	Stormwater Harvesting		15	3

10	Solar Power & Energy Conservation	Street lights installation with Solar Systems	20	3
11	Fire and Safety	Fire and Safety Management	10	2
12	Laboratory	Testing and Analysis	10	2
		Total Cost (INR, Lakhs)	**4352**	**168**

Details of CER with proposed activities and budgetary allocation:

The cost of the proposed project has been estimated at Rs 313.99 crores. The estimated time of completion of project will be 1.5 years after the receipt of Environmental Clearance from the respective authority. The industry has reserved Rs. 2.355 Crores (0.75 % of the cost of the project as per Office Memorandum Vide F. No. 22-65/2017-IA.III Dated 01.05.2018) which will be spent on the activities like sanitation and health, education, and educational facilities as a cost towards corporate environment responsibility (CER).

Sr. No.	Project Area/ Sector	Budgetary Provisions (Rs in Lakhs)					
		Year 2022-23	Year 2023-24	Year 2024-25	Year 2025-26	Year 2026-27	Total
1.	Site approach roads and roads in nearby villages, Sanitation, drainage and sewage treatment plant, Drinking water facilities to nearby villages, educational aids such as computers, E-learning materials to Primary schools within study area.	30	30	20	20	17.5	**117.5**
2.	Solar street lights across the streets within study area	8	8	8	5	5	**34**
3.	Skill development programs for farmers for increasing the crop yield. Training for youth for job-oriented enhancement in skills.	3	3	2	2	2	**12**
4.	Watershed development programme in nearby villages	8	8	8	6	5	**35**

5.	Funds for improving soil quality and fertility of the farmlands within study area	5	5	5	5	5	**25**
6.	Medical Camps	3	3	2	2	2	**12**
Total		**57**	**57**	**45**	**40**	**36.5**	**235.5**

During deliberations, EAC discussed following issues:

- PP confirmed that the existing unit has 1*35 TPH Bagasse fired boiler shall be redundant after proposed expansion
- PP informed that filter press to be installed instead of sludge drying bed.

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 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.

(ii). 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.

(iii). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from Neera Right Bank Canal for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(iv). As proposed, the existing unit has 1*35 TPH Bagasse fired boiler shall be redundant after proposed expansion and accordingly, it shall be disposed off.

(v). Total fresh water requirement shall not exceed 600 m^3/day, which will be sourced from Neera Right Bank Canal. 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.

(vi). The spent wash shall be concentrated in MEE and concentrated spent wash shall be incinerated in the incineration boiler. Other lean effluents Spent lees, MEE Condensates and utility effluents shall be treated in the condensate polishing unit (CPU) comprising of three stage RO. The treated permeate will be reused in cooling tower water makeup and for molasses dilution. The RO rejects will be taken back to MEE. Treated effluent will be recycled/reused for make up water of cooling towers/process etc. 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. STP shall be installed to treat sewage generated from factory premises. PP shall ensure to implement Zero Liquid Discharge (ZLD) in existing and expansion of sugar factory and cogeneration plant including proposed Distillery.

(vii). 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.

(viii). Bag filter shall be installed with a stack height of 60 m is installed to the proposed bagasse fired boiler of capacity 110 TPH each for controlling the particulate emissions within the statutory limit of 50

mg/Nm^3. Bag fllterswith a stack of height of 72 m will be installed for proposed 30 TPH boiler to control the particulate emissions within the statutory limit of 30 mg/$Nm^3$and SO_2& NO_x levels shall be less 100 mg/Nm^3. 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.

(ix). Boiler ash (Existing 35 TPH & Proposed 110 TPH) being solid wastes are mixed with Pressmud/ETP sludge and sold as manure. Incinerator boiler Ash will be Sold as potash rich manure to farmers. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises.

(x). CO_2 generated 114 MT/day during the fermentation process will be scrubbed and sold to vendors as per local demand.

(xi). PP shall allocate at least Rs. 0.4 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.

(xii). Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing.

(xiii). 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.

(xiv). 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.

(xv). 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.

(xvi). 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.

(xvii). The green belt of at least 5-10 m width has already been developed in 5.47047 Hectares i.e. 33.77% of total project area which shall be thickened with tree density @ 2500 trees per hectares, mainly along the plant periphery which shall be maintained. 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.

(xviii). PP proposed to allocate Rs. 2.355 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan. Further, all the proposed activities under CER shall be completed in consultation with District Administration.

(xix). 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. PP shall ensure no direct entry or exit of the vehicles from Main Road/Highway and it shall be through slip road only

(xx). 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.

(xxi). 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.

(xxii). 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.

(xxiii). 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 12th 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. 07

Proposed 500 KLPD Grain based Ethanol plant along with 12.5 MW Co-generation power plant under Ethanol Blending Programme at Model Industrial Park-Mallavalli Phase I, Village Mallavalli, Tehsil Bapulapadu, District Krishna, Andhra Pradesh by M/s. Avisa Foods & Fuels Private Limited -Consideration of Environmental Clearance.

[IA/AP/IND2/421882/2023, IA-J-11011/106/2023-IA-II(I)]

The Project Proponent and the accredited Consultant J.M. EnviroNet Pvt. Ltd. (NABET certificate no. NABET/EIA/2023/SA 0172 and validity till 7th August, 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 proposed 500 KLPD Grain based Ethanol plant along with 12.5 MW Co-generation power plant under Ethanol Blending Programme at Model Industrial Park-Mallavalli Phase I, Village Mallavalli, Tehsil Bapulapadu, District Krishna, Andhra Pradesh by M/s. Avisa Foods & Fuels Private Limited.

As per the MoEF&CC Notification S.O. 2339(E), dated 16th 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:

S. No.	Name of unit	Name of the product/ by-product	Production capacity
1.	Distillery (Grains-broken rice, maize, barley & sorghum)	Ethanol (Biofuel)	500 KLPD
2.	Co-generation power plant	Power	12.5 MW
3.	DWGS dryer	DDGS	220 TPD
4.	Fermentation unit	Carbon di-oxide	384 TPD

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

Total land area required is 19.04 hectares. Greenbelt will be developed in total area of 6.3 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 652.07 Crores. Capital cost of EMP would be Rs. 36.8

Crores and recurring cost for EMP would be Rs. 2.36 Crores per annum. Industry proposes to allocate Rs. 6.50 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 250 persons as direct.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Protected forests, Wildlife Corridors etc. within 10 km distance. Reserve forests: Katrenipadu RF at a distance of 8.0 km in NNE direction, Regunta RF at a distance of 9.5 km in NW direction; Water bodies: Nuzvid Major Distributary at a distance of 0.9 km in WSW direction, Ramileru Vagu at a distance of 4 km in NE direction, Suravaram Pedda Cheruvu at a distance of 4.77 km in SSW direction, Tadi Vagu at a distance of 5.0 km in WSW direction, Vempadu Major Canal at a distance of 7.0 km in NE direction, Brahmayyalingam Lake at a distance of 7.2 km in WSW direction are present within 10 km radius of study area.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.5 µg/m3, 0.184 µg/m3, 0.709 µg/m3 and 0.918 µg/m3 with respect to PM10, PM2.5, SO2 and NOx. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 2150 CMD which will be met from Andhra Pradesh Industrial infrastructure Corporation Ltd. The company has obtained permission from Andhra Pradesh Industrial infrastructure Corporation Ltd. for the supply of adequate Surface/Ground water for the industrial operation vide letter no. ZM-VJA/APIIC/Avisa/MFP-MLVL/2022-23 dated 09.03.2022. Effluent (Process Condensate) of 2073 CMD will be treated through Condensate Polishing Unit /Process Condensate Treatment Plant of capacity 2500 CMD & Effluent of 338 CMD (40 CMD CT Blow down, 280 CMD DM Plant Reject & Washing, 58 CMD Boiler Blow Down) will be treated through Waste Water Treatment Plant of capacity 400 CMD. Raw stillage (2904 KLPD) will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 30 KLPD will be installed to treat sewage generated from factory premises. The plant will be based on Zero Effluent discharge system and no effluent/treated water will be discharged outside factory premises.

Power requirement will be 11.14 MW and will be met from proposed 12.5 MW Co-generation power plant. 90 TPH Biomass /Rice husk along with 15% coal as auxiliary fuel fired boiler will be used as fuel as per EIA Notification 2006. APCE ESP with a stack height of 67 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. 2 x 1500 KVA DG sets will be used as standby during power failure and stack height (8 m each) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- APCE ESP with a stack height of 67 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm3.
- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB/SPCB servers.
- CO2 (384 TPD) generated during the fermentation process will be collected and sold to vendors as per local demand.

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

- DDGS (Distilled Dried Grains Stillage) (220 TPD) will be sold as cattle feed.
- Boiler Ash (93 TPD) generated during biomass based operations will be given to brick manufacturers in covered vehicles only.
- Used oil (0.5 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (2.5 TPD), WWTP Sludge (0.4 TPD) and STP Sludge (0.015 TPD) will be used as manure.

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self-certification in the form of notarized affidavit declaring that the proposed capacity of 500 KLPD will be used for manufacturing fuel ethanol only.

Total land of 19.04 Hectares is under possession of the company and already industrial in nature. The total land has been allotted to the company by APIICL (Andhra Pradesh Industrial Infrastructure Corporation Limited) vide Procs no. Avisa Foods/ APIIC/Model Indl. Park, Mallavalli/VIJAYAWADA/2022 dated 01.03.2023. EAC found the information satisfactory.

Capital cost and recurring cost of EMP are given below:

S. No.	Description		Capital Cost (Crores)	Recurring Cost/annum (Crores)
1.	Air Pollution management	Boiler stack + ESP + Online Monitoring System	10.0	0.05
2.	Effluent Treatment Facilities	Spent wash treatment facilities, ZLD System, Condensate polishing unit, ETP and STP	21.6	1.5
3.	Environment monitoring	Lab instrument, Online monitoring System, Third party monitoring, audit	1.0	0.2
5.	Solid waste management	Ash handling & management	3.0	0.5
		Others		
6.	Greenbelt & plantation development	Plantation for greenbelt	0.8	0.06
7.	Rain water harvesting	Required infrastructure	0.4	0.05
	Total		**36.8**	**2.36**

Details of CER with proposed activities and budgetary allocation:

S. No.	PROPOSED ACTIVITIES	IMPLEMENTATION OF EMP FOR SOCIAL AND INFRASTRUCTURE DEVELOPMENT ON THE BASIS OF PHYSICAL TARGETS		TOTAL BUDGET ALLOCATED (RS. IN LAKHS)
		Year 1	Year 2	
1	**Up gradation of School infrastructure & Educational facilities**- Provide Interactive smart class equipments/gadgets /solar panels like desktop computers, projectors, Interactive White Boards and	Rs. 150 Lakhs (Govt school at Village Meerjapuram & Gollapalli) (8 nos potable water facilities - Rs.5 lakhs, 10 nos. sanitized toilets- Rs 20 lakhs, solar panels installation- Rs. 80 lakhs, Rs 45 lakhs for desktop computers,	Rs. 150 Lakhs (Govt school at Village Mallavalli & Edulagudem) (8 nos potable water facilities - Rs.5 lakhs, 10 nos. sanitized toilets- Rs 20 lakhs, solar panels installation- Rs. 80 lakhs, Rs 45 lakhs for desktop computers,	300

	distributing study materials, school bags, sports equipments etc. to students, Seating Benches, installation of potable water facilities, construction of sanitized toilets etc.	projectors, Interactive White Boards and distributing study materials, school bags, sports equipments, etc)	projectors, Interactive White Boards and distributing study materials, school bags, sports equipments, etc)	
2	**Social Infrastructure Development-** Installation of Solar Street Light, Solar Lanterns, assistance to Anganwadi centres, Village Pond & RWH pond Infrastructure Development, etc.	Rs. 50 Lakhs Village Mallavalli & Edulagudem (Rs. 15 Lakhs for 150 nos. solar street light, Rs. 20 Lakhs for local ponds development & RHW pond development, Rs. 15 lakhs will be provided to give assistance to Anganwadi Centres)	Rs. 50 lakhs Village Meerjapuram & Gollapalli (Rs. 15 Lakhs for 150 nos. solar street light, Rs. 20 Lakhs for local ponds development & RHW pond development, Rs. 15 lakhs will be provided to give assistance to Anganwadi Centres)	100
3	**Skill development for youth**- Organizing Training programmes for youth/residents in Skill Development centre in collaboration with District/State government	Rs. 40 Lakhs Village Mallavalli&Edulagudem (Benefit to be extended to 250 persons)	Rs. 40 Lakhs Village Meerjapuram&Gollapalli (Benefit to be extended to 250 persons)	80
4	**Up gradation of Healthcare facilities-** Provision of oxygen cylinders, ambulance,	Rs. 45 Lakhs (PHC at Village Meerjapuram&Gollapalli) (Provision of 8	Rs. 45 Lakhs (PHC at Village Mallavalli&Edulagudem) (Provision of 8	90

	Health Check- up camps, medical instruments etc.	oxygen cylinders- Rs. 8 lakhs, 2 ambulance facility- Rs 20 lakhs, Health Check- up camps-Rs 5 lakhs, Medical instruments-Rs 12 lakhs etc.)	oxygen cylinders- Rs. 8 lakhs, 2 ambulance facility- Rs 20 lakhs, Health Check- up camps-Rs 5 lakhs, Medical instruments-Rs 12 lakhs etc.)	
5	**Plantation**– Plantation/ Avenue plantation along roadside, tree plantation in nearby schools/colleges/vacant land/Panchayat bhavan, etc.	Rs. 40 lakhs Village Mallavalli (3500 no. of plants to be planted), Village Edulagudem(3500 no. of plants to be planted)	Rs. 40 Lakhs Village Meerjapuram (3500 no. of plants to be planted), Village Gollapalli (3500 no. of plants to be planted)	80
			TOTAL	**650**

During deliberations, EAC discussed following issues:

- PP has revised the water balance and informed that the total water Input for the Grain based Ethanol Plant will be 7498 KLPD out of which 5524 KLPD will be recycled in plant operations. Hence, the fresh water requirement for the project will be 2004 KLPD (1974 KLPD Grain based Ethanol Plant& Co-gen Power Plant + 30 KLPD for domestic use & others).
- The company will increase provision of solar power within plant and to the nearby areas from 10% to 15% of total power consumption of the unit in form of solar lights/solar panels/solar gadgets etc. as a part of socio economic developmental activities.
- PP informed that 33% of total project area, i.e., 6.3 hectares will be developed as greenbelt within plant premises which will be achieved within one year. Local species like Silk tree (*Albizia lebbeck*), Mango (*Mangifera indica*), Peepal tree (*Ficus religiosa*), Neem (*Azadirecta indica*), Gulmohar (*Delonix regia*), Tamarind (*Tamarindus indica*), False Ashoka (*Polyalthia congifoli*), Arjun tree (*Terminalia arjuna*), Rain tree

(*Samanea saman*), Pitsal (*Pterocarpus sp.*), Teak (*Tectona gra*ndis), Jasmine (Jasminum sp.), Mulberry (*Morus alba*), Moringa (*Moringa oleifera*), Indian ash tree (*Lannea coromandelica*) will be planted as greenbelt inside the plant premises.

- Boiler ash generated during biomass based operations will be given to brick manufacturers in covered vehicles only.
- The company informed that the alcohol storage section will remain the same as depicted in the plant layout & storage tank sizes will not be changed as per the Risk Assessment Plan. The company will follow all the recommendations for risk mitigation as per the EMP report.

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed capacity of 500 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.

(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). 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.

(iv). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the surface water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(v). Total fresh water requirement shall not exceed 2000 m^3/day, which will be sourced from Andhra Pradesh Industrial infrastructure Corporation Ltd. 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.

(vi). Spent Wash/stillage shall be sent to the decanter followed by the Multiple Effect Evaporator and dryer to form DDGS. DDGS to be used as cattle feed. The MEE & Drier condensate, spent lees, WTP Rejects, Boiler & Cooling tower blowdowns, washings etc., is shall be treated in the 'Condensate Polishing Unit' (CPU). 30 KLPD STP shall be installed to treat domestic wastewater. The plant will be based on 'Zero Liquid Discharge' system and no effluent/treated water will be discharged outside factory premises.

(vii). APCE ESP (5 field) with a stack height of 67 meters will be installed with the Biomass /Rice husk fired 90 TPH boiler alongwith 15% coal as auxiliary fuel for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. SO_2 and NOx emissions shall be less than 100 mg/Nm^3. 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.

(viii). Boiler Ash (93 TPD) generated during biomass based operations will be given to brick manufacturers in covered vehicles only. PP shall use Biomass / Coal fired as fuel for the proposed boiler. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

(ix). CO2 (384 TPD) generated during the fermentation process will be collected and sold to vendors as per local demand.

(x). 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.

(xi). 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.

(xii). 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.

(xiii). 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.

(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). The green belt of at least 5-10 m width has already been developed in 6.3 hectares i.e., 33 % of total project area shall be maintained with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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.

(xvi). PP proposed to allocate Rs. 6.50 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.

(xvii). 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.

(xviii). 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.

(xix). 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.

(xx). 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.

(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 12th 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. 08

Proposed project for 1 x 225 KLPD grain-based Fuel Ethanol plant and 1 x 4.4 MW of Cogeneration power plant (Biomass), located at Survey No.s: 331,332,336,338,339 & 340 Porda Village, Dasada Tehsil, Surendranagar Distict, Gujarat by M/s. Raghuvir Biofuel & Energy LLP-Consideration of Environmental Clearance.

[IA/GJ/IND2/421128/2023, IA-J-11011/333/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. Pioneer Enviro Laboratories and Consultants Private Limited (NABET / EIA/ 1922 / SA 0148 valid upto 06-06-2023) , made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for 1 x 225 KLPD grain-based Fuel Ethanol plant and 1 x 4.4 MW of Cogeneration power plant (Biomass), located at Survey No.s: 331,332,336,338,339 & 340 Porda Village, Dasada Tehsil, Surendranagar Distict, Gujarat by M/s Raghuvir Biofuel & Energy LLP.

As per the MoEF&CC Notification S.O. 2339(E), dated 16th 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:

S. NO.	NAME OF UNIT	NAME OF THE PRODUCT	PRODUCTION CAPACITY
1	Distillery plant	Ethanol	225 KLPD
2	Power plant	Electricity	4.4 MW
BY-PRODUCTS			
1	Distillery plant	DDGS	180 TPD
2	Distillery plant	CO_2 recovery	171 TPD

Standard ToR and public Hearing conduction is not applicable as the project falls under category B2 as per OM dated 16th June, 2021. It was informed that no litigation is pending against the project.

Total land required is 13.38 Ha. (33.07 acres). Greenbelt will be developed in total area of 4.54 Ha. (11.24 acres) i.e 33.98 % of total project area. The estimated project cost is Rs. 346.38 crores. Capital cost of EMP would be Rs. 30.0 crores and recurring cost of EMP would be Rs. 5.1 Crores per annum. Industry proposes to allocate Rs. 3.5 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment will be 140 persons.

There are no National parks / Wild life sanctuaries, Biosphere Reserves, Tiger reserves / Elephant reserves, Wildlife corridors etc. within 10 Km radius of project site. Stream is at a distance of 2.5 Kms. Few tanks/ ponds are present within 10 Km. radius of the project site. Minor canal is passing through the site. We have obtained NOC from Sardar Sarovar Narmada Nigam Limited for construction of bridge or culvert over the canal. AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.1 µg/^{m3}, 0.1 µg/^{m3}, 0.38 µg/^{m3}, and 0.38 µg/^{m3} with respect to P_{M10}, $P_{M2.5}$, S_{O2} and N_{OX}. The net resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 900 m^3/day which will be sourced from Ground water. Application has been submitted to Department of Water Resources, Central Ground Water Authority (CGWA) . Effluent (Condensate/spent lees/blow down etc.) of 1331 m^3/day quantity will be treated through Condensate Polishing Unit of capacity 1450 KLPD. Raw stillage (1350 KLPD quantity of raw spent wash from distillation) will be treated in decanter followed by MEE and then dryer to produce DDGS. Non-

Process effluent (Backwash from DM plant & Boiler blowdown) of 75 KLD will be will be sent to Condensate Polishing Unit and will be utilized for greenbelt development, dust suppression and ash conditioning after ensuring compliance with treated effluent quality as per MoEF / SPCB Standards. 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.

The power requirement will be 6 MW and will be met from the proposed 1 x 4.4 MW captive power plant. 1 x 32 TPH Biomass boiler will be installed. APCE Electro Static Precipitator with a stack height of 30 m will be installed for controlling the particulate matter emissions within the statutory limit of 30 mg/Nm^3 for the proposed boiler. 2 x 1000 KVA DG set will be used as standby during power failure and stack height (3 m above building) will be provided as per the CPCB norms to the proposed DG sets

Details of Process emissions generation and its management:

- APCE- ESP with 5- fields with a stack height of 30 meters will be provided to boiler.
- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB/SPCB servers.
- CO_2 generated (171 TPD) during the fermentation process will be collected by utilizing CO_2 scrubbers and sold to authorized vendors (dry ice manufacturers/soft drink manufacturers).

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

- DDGS (Distilled Dried Grains Stillage) of 180 TPD will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (31.0 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises.
- Used oil (0.5 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (0.3 TPD) and STP Sludge (0.08 Kg/day) will be used as manure.

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self certification in the form of notarized affidavit declaring that the proposed capacity of 1 x 225 KLPD will be used for manufacturing fuel ethanol only.

Total land of 13.38 Ha. (33.07 acres) is registered with the company name and Application submitted for land conversion. EAC found the information satisfactory.

Capital cost and recurring cost of EMP are given below:

S.NO	ITEM	Capital Cost (Rs in Crores)	Recurring cost (Rs in Crores/Annum)
1.	Air emission control systems (ESP, stack, bag filters, dust suppression, etc.)	6.0	1.0
2.	Ash handling & management	2.0	0.6
3.	Effluent Treatment Plant	17.0	2.0
4.	Fire fighting	2.4	0.5
5.	Online monitoring equipment (CEMS& OEMS)	1.0	0.6
6.	Greenbelt development	0.6	0.1
7.	Occupational Health & Safety	1.0	0.3
TOTAL		**30.0**	**5.1**

Details of CER with proposed activities and budgetary allocation:

S.NO.	MAJOR ACTIVITY HEADS	TOTAL EXPENDITURE (RS. In Crores)
1	Community & Infrastructure Development Such as Road strengthening of village roads in Pordha village, Upnyala village, Sadla village & Goralya village	0.6
2	**for Health & Hygiene of the community** (Potable Water plants, construction toilets in Pordha village, Upnyala village, Sadla village & Goralya village)	0.85

3	**Skill Development** **A Community Centre will be established in Pordha village which will consist of the following:** i)Vocational Training Institute with latest tools, machinery & softwares etc. for making them Industry ready. ii)Workshop centre with latest tailoring machines for training women (like tailoring, stitching etc.) iii)Skill development / Computer / IT Training Centre for improving computer knowledge and making Industry ready.	1.65
4	**for Education & Sports** (Construction of class rooms in schools, providing computers in class rooms, development of library facility in Pordha village, Upnyala village, Sadla village & Goralya village)	0.4
	Total	**3.5**

During deliberations, EAC discussed following issues:

- PP informed that PP vide EC ID No. EC22A060GJ116167 File no J-11011/333/2022 IA –II (I) dated 14.10.2022 has already obtained environmental clearance for establishment of 120 KLPD Grain based Ethanol plant and 3.4 MW co-generation power plant located at Survey No: 331, 332, 338, 339 & 340, Village Porda, Tehsil Dasada, District Surendranagar, State Gujarat by M/s Raghuvir Biofuels And Energy LLP. PP informed that no construction has been taken up pertaining the proposed 120 KLPD grain based ethanol plant and 3.4 MW cogeneration power plant and submitted the copy of photograph of the site. Now, PP has requested to cancel the existing EC dated 14.10.2022.
- PP informed that as per OM dated 8.06.2022, self certified compliance report for the latest EC shall be sufficient if project is submitted within period of 6 months from grant of previous EC. Now PP has requested for cancellation/surrender of previous EC dated 14.10.2022 as per OM dated 29.03.2022.
- PP informed the following reasons for going for 225 KLPD Ethanol unit along with 4.4 MW Co-generation power plant instead of 120 KLPD

Ethanol unit along with 3.4 MW Co-generation power plant are furnished below:

i. The specific condition in the Environmental clearance issued for 120KLD Ethanol unitis to restrict the water consumption to 4 KL/KL for Ethanol. To achieve this we need to adopt better technology which is having Capex cost implication and was resulting in non-viability of the plant.
ii. PP made comparison of different parameters for both 120 KLPD and 225 KLPD Ethanol units for justifying our proposal

Plant Capacity	**Original 120 KLPD Proposal**	**Per KL**	**New 225 KLPD Proposal**	**Per KL**
Fresh Water Requirement	707KLPD	5.89 KL/KL	900 KLPD	4 KL/KL
Power Requirement	3400 KW	28.3 KW / KL	4400 KW	19.5 KW / KL
Steam Requirement	28 TPH	5.6 TPD / KL	32 TPH	3.4 TPD / KL
Project Cost	227.8 Cr	1.9 Cr / KL	346.38 Cr	1.53 Cr / KL
Land Utilization	11.53 Ha	0.096 Ha / KL	13.37 Ha	0.059 Ha / KL
Solar Plant Installation	0 KW		Up to 1200 KW	

iii. Additional capital involved in enhanced environmental control equipment increases the capital costs which make the original 120KLD unit proposal economically unviable.
iv. In new 225 KL plant proposal, the water, fuel and power requirement per KL reduces due to better technology.
v. 225KLD unit proposal is more technically and economically viable compared to 120KL plant proposal.
vi. Solar plant is not counted in old 120 KL plant proposal while solar plant is counted in new 225 KL plant proposal.

- PP informed that earlier for the proposed 120 KLPD Grain based Ethanol plant and 3.4 MW co-generation power plant the land proposed was 11.54 Ha.The Sy No. of the site will be now 331, 332, 338, 339 & 340. Now for the proposed 225 KLPD Grain based Ethanol plant along with4.4 MW co-generation power plantadditional land of 1.84 Ha. has been proposed. The Sy No. of the site will be now 331, 332, 336, 338, 339 & 340. **Now the total land will be 13.38 Ha.**

- Fly ash brick manufacturing plant will be established within the plant premises for effective ash management.
- CO_2 recovery plant will be established and will be given to dry ice manufacturers/soft drink manufacturers.
- PP confirmed that 15% of the total power requirement will be met through Solar energy.
- Total budget for CER is Rs 4.0 Crores and this amount will be spent before commissioning of the plant. This budget will be spent on establishment of Solar power, Potable water supply& development of school in villages of Porda, Upnyala, Goralya & Sadlaandschool development activities such as construction of class rooms, providing facilities like library, furniture, computers, sports equipment,etc. PP provided the revised CER budget and EMP cost for the project.

DETAILED ACTIVITY WISE EXPENDITURE TO BE INCURRED IN A SPAN OF 1 YEAR

S.NO.	MAJOR ACTIVITY HEADS	TOTAL EXPENDITURE (RS. In Crores)
1	Community & Infrastructure Development Such as Road strengthening of village roads in Pordha village, Upnyala village, Sadla village &Goralya village	0.80
2	**for Health & Hygiene of the community** (2 no.s of Potable Water plants, construction of 10 no.s of toilets in Pordha village, Upnyala village, Sadla village & Goralya village)	0.80
3	**Skill Development** **A Community Centre will be established in Pordha village which will consist of the following:** i) 1 no. of Vocational Training Institute with latest tools, machinery &softwares etc. for making them Industry ready. ii) 1 no. of Workshop centre with latest tailoring machines for training women (like tailoring, stitching etc.) iii) 1 no. of Skill development / Computer / IT Training Centre for improving computer knowledge and making Industry ready.	2.00

4	**for Education & Sports** (Construction of class rooms in schools, providing computers in class rooms, development of library facility in Pordha village, Upnyala village, Sadla village &Goralya village)	0.40
	Total	**4.00**

COST FOR ENVIRONMENTAL PROTECTION & MANAGEMENT

S.NO	ITEM	CAPITAL COST (Rs. inCrores)	RECURRING COST (Rs. in Crores/Annum)
1.	Air emission control systems (ESP, stack, bag filters, dust suppression, etc.)	6.00	1.00
2.	Ash handling & management	2.00	0.60
3.	Effluent Treatment Plant	17.00	2.00
4.	Fire fighting	2.40	0.50
5.	online monitoring equipment (CEMS& OEMS)	1.00	0.60
6.	Greenbelt development	0.60	0.10
7.	OccupationalHealth&Safety	1.00	0.30
8.	Environment Monitoring	--	0.06
Total		**30.00**	**5.16**

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed capacity of 225 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.

(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). 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.

(iv). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(v). Total fresh water requirement shall not exceed 900 m^3/day, which will be sourced from Ground water. 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.

(vi). Spent Wash/stillage shall be sent to the decanter followed by the Multiple Effect Evaporator and dryer to form DDGS. DDGS to be used as cattle feed. The MEE & Drier condensate, spent lees, WTP Rejects, Boiler & Cooling tower blowdowns, washings etc., is shall be treated in the 'Condensate Polishing Unit' (CPU). 10 KLPD STP shall be installed to treat domestic wastewater. The plant will be based on 'Zero Liquid Discharge' system and no effluent/treated water will be discharged outside factory premises.

(vii). APCE ESP (5 field)with a stack height of 30 meters will be installed with the 32 TPH Biomass fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. Coal shall not be used as fuel.. 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.

(viii). Boiler ash (31.0 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

(ix). CO_2 generated (171 TPD) during the fermentation process will be collected by utilizing CO_2 scrubbers and sold to authorized vendors (dry ice manufacturers/soft drink manufacturers).

(x). PP shall allocate at least Rs. 1.0 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.

(xi). 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.

(xii). 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.

(xiii). 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.

(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). The green belt of at least 5-10 m width has already been developed in 4.54 Ha. (11.24 acres) i.e 33.98 % of total project area shall be maintained with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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.

(xvi). PP proposed to allocate Rs. 4 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.

(xvii). 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.

(xviii). 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.

(xix). 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.

(xx). 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.

(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 12th 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. 09

Greenfield Project of Grain Based Distillery Plant of 200 KLD (100 KLD x 2 Phase) and Cogeneration Power Plant of 6.0 MW (3 MW x2 Phase) located near Vill. Paraghat Block- Masturi, Dist- Bilaspur of Chhattisgarh State by of M/s. Rashi Steel & Power Limited – Consideration of Environmental Clearance

[IA/CG/IND2/419089/2023, IA-J-11011/77/2023-IA-II(I)]

The Project Proponent and the accredited Consultant M/s Enviro Infra Solutions Pvt. Ltd., Ghaziabad, (NABET Certificate No. NABET/EIA/2123/SA 0181/Rev.01 and validity 08th June 2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 200 KLPD Grain Based Ethanol Plant and 6 MW Cogeneration Power Plant (Fuel to be use Rice Husk / Biomass Briquette and coal upto 15% will be used as auxiliary fuel) located near Vill. Paraghat, Block- Masturi, Dist- Bilaspur of Chhattisgarh State by M/s. Rashi Steel & Power Limited (RSPL).

As per the MoEF&CC Notification S.O. 2339(E), dated 16th 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:

S. No.	Name of Unit	Name of Product / By Product	Production Capacity
1	Distillery (Broken Rice / Maize raw material)	Ethanol	200 KLPD
2	Power Cogeneration	Power	6.0 MW
3	DDGS Dryer	DDGS	160 TPD
4	Fermentation Unit	CO_2	160 TPD

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

Total land area required is 9.218 Hectares. Greenbelt will be developed in total area of 3.04 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 220 Crores. Capital cost of EMP would be Rs. 8.95 Crores and recurring cost for EMP would be Rs. 2.7 Crores per annum. Industry proposes to allocate Rs. 2.35 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 70 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. radius. Water bodies: River Lilagar is at a distance of 8 Km in E direction. PP has reported that seasonal Nalla which is located at distance of 60 m from the project site. PP has obtained NOC from water Resource Department Chhattisgarh, vide

letters No. 6132 & 731/Tech./2023 dated 07.12.2022 & 17.02.2023 respectively.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 2.41 µg/m^3, 1.3 µg/m^3, 1.67 µg/m^3 and 1.76 µg/m^3 with respect to PM10, PM2.5, SO2 and NOX. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 820 m^3/day which will be met from Borewells within premises. Application has been submitted to CGWA vide Application No. 21-4/8189/CT/IND/2023 Dt: 16.02.2023. Effluent (Condensate/spent lees/blowdown etc.) of 470 m^3/day quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 1200 m^3/day. Raw stillage (1586 KLPD :quantity of raw spent wash from distillation) will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 25 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 6 MW and will be met from proposed 6 MW cogeneration power plant. 32 TPH Rice husk/briquette fired boiler (Coal upto 15% will be used as auxiliary fuel) will be installed. APCE ESP with a stack height of 60 m will be installed for controlling the particulate matter emissions within the statutory limit of 30 mg/Nm^3 for the proposed boiler. 2 Nos. 1000 kVA and 1 No. 500 kVA DG set will be used as standby during power failure and stack height (3.5 m. above roof of the building) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- APCE ESP with a stack height of 60 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_2 (160 TPD) generated during the fermentation process will be collected by utilizing CO_2 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) (160 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (60 TPD) will be supplied to fly ash brick manufacturers.
- Used oil (0.5 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (0.1 TPD) and STP Sludge (0.025 TPD) will be used as manure.

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self certification in the form of notarized affidavit declaring that the proposed capacity of 200 KLPD will be used for manufacturing fuel ethanol only.

Total land of 9.218 Hectares is under possession of the company and land use conversion for use of land for industrial purposes has been done by Office of SDO (Revenue), Bilaspur, Chhattisgarh dated 05.10.2021. EAC found the information satisfactory.

Capital cost and recurring cost of EMP are given below:

Particulars	Amount in INR, Lakhs
One Time Installation Cost	
1. Installation of Air Pollution Control System	225.0
2. Installation of MEE, CPU & DWGS Dryer System	385.0
3. Solid waste such as Garbage, process and ETP storage and odor management system	25.0
4. Green Belt Development	50.0
5. Installation of Tertiary Water Treatment Plant	30.0
6. Installation of Fire Safety System	75.0
7. Installation of Solar Power System	60.0
8. Rain Water Harvesting System	45.0
Total	895.0
Recurring Cost / Annum	
1. Environmental Monitoring	25.0

2. Maintenance Cost of Air Pollution Control System	75.0
3. Maintenance of MEE, CPU & DWGS Dryer System	125.0
4. Greenbelt maintenance	25.0
5. Maintenance of ETP / STP / Water Treatment Plant	20.0
Total	270.0
Grand Total	**1165.0**

Details of CER with proposed activities and budgetary allocation:

CER Activities	**Period with Budget allocation**		
	Upto Dec. 2024	**Upto Dec. 2025**	**Total**
a. Financial assistance & Support to agriculture deptt. for implementation of PM Kusum Yojana for Harvesting of Solar Power and Installation of standalone solar powered agricultural pumps.	50	50	100
b. Support to Govt. Heath Care agencies for improvement and upgradation of existing health infrastructure in Bilaspur District	40	40	80
c. Skill development for 100 nos. local youths (as per employability potential) from villages within 10 km. radius. Training Charges Rs. 7500/= plus Rs. 2500/= stipend per month for 3 months. (Rs. 15000 / youth)	7.5	7.5	15
d. Development of Rain Water Collection Pond in 2 nos. villages within 10 Km. radius	10	10	20
e. Tree Plantation within 10 Km. Radius in consultation with DFO	10	10	20
TOTAL CER AMOUNT (1.068% of Total Project Cost)	**117.5**	**117.5**	**235**

During deliberations, EAC discussed following issues:

- PP informed that the modelling for PM was conducted in earlier EMP (which includes PM_{10} and $PM_{2.5}$) but now the revised modelling was conducted for PM_{10} and $PM_{2.5}$ separately.

- The Committee noted that PP has revised the AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 2.41 µg/m^3, 1.3 µg/m^3, 1.67 µg/m^3 and 1.76 µg/m^3 with respect to PM_{10}, $PM_{2.5}$, SO_2 and NO_X.
- Further, EAC also recommended that the Ministry should issue show cause notice against the Accredited Consultant for negligence in data compilation w.r.t. incremental GLC in the EMP report.

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed capacity of 200 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.

(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). 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.

(iv). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from ground water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(v). Total Fresh water requirement shall not exceed 800 m^3/day which will be met from Borewells/ground water. 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.

(vi). Spent Wash/stillage shall be sent to the decanter followed by the Multiple Effect Evaporator and dryer to form DDGS. DDGS to be used as cattle feed. The MEE & Drier condensate, spent lees, WTP Rejects, Boiler & Cooling tower blowdowns, washings etc., is shall be treated in the 'Condensate Polishing Unit' (CPU). STP shall be installed to treat domestic wastewater. The plant will be based on 'Zero Liquid Discharge' system and no effluent/treated water will be discharged outside factory premises.

(vii). ESP (5 field) with a stack height of 60 meters will be installed with the Rice Husk/Biomass Briquette (with 15% coal usage as auxiliary fuel) fired 32 TPH boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm^3. SO_2 and NOx emissions shall be less than 100 mg/Nm^3. 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.

(viii). Boiler Coal ash (60 TPD) will be supplied to brick manufacturers. PP shall use Rice husk / Biomass Briquette (Agri-waste based) / Coal (for startup only) as fuel for the proposed boiler. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

(ix). CO_2 (160 TPD) generated during the fermentation process will be collected by utilizing CO_2 scrubbers and it shall be sold to authorized vendors/collected in proposed bottling plant.

(x). 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.

(xi). 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.

(xii). 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.

(xiii). 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.

(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). The green belt of at least 5-10 m width shall be developed in nearly 3.04 hectares i.e., 33 % of the total project area with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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 before commissioning of the plant.

(xvi). PP proposed to allocate Rs. 2.35 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.

(xvii). 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.

(xviii). 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.

(xix). 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.

(xx). 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.

(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 12th 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. 10

Proposed expansion of existing Molasses/Juice/Syrup based distillery unit from 55 KLPD to 175 KLPD (Additional 120 KLPD) capacity, while increasing the existing Sugarcane crushing capacity from 4500 TCD to 6500 TCD (Expansion of 2000 TCD) Under Ethanol Blending Programme (EBP) by M/s. Udagiri Sugar and Power Ltd., (USPL) at Gat number 586, 587,588 & 617 village Bamani (Pare), Tal. Khanapur, Dist.:Sangli, Maharashtra - Consideration of Environmental Clearance.

[IA/MH/IND2/420179/2023, IA- J-11011/135/2014-IA II (I)]

The Project Proponent and the accredited Consultant M/s. AmplEnviron Pvt. Ltd. (NABET certificate No. NABET/EIA/2023/IA0061 and validity 22nd October, 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 55 KLPD to 175 KLPD, sugar mill from 4500 TCD to 6500 TCD & Existing Co-generation Power Plant 16.25 MW (Bagasse & Biogas) for sugar mill & distillery unit is located at Gat number 586, 587,588 & 617 village Bamani (Pare), Tal. Khanapur, District Sangli Maharashtra.by M/s. Udagiri Sugar and Power Ltd.

As per EIA Notification 2006 (Schedule 5 (g) Category A); however, as per in the MoEFCC Notification S.O. 345(E), dated the 17th January, 2019, notification number S.O. 750(E), dated the 17th February, 2020, S.O. 980 (E)dated 02nd March, 2021 & S. No. 2339(E) 16th June, 2021, a special provision in the EIA Notification, 2006 "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:

S.NO.	Name of Unit	Name of The Product/By-Product	Existing Production Capacity	Additional Production Capacity	Total Production Capacity
1.	Distillery (Syrup and Molasses)	Ethanol	55 KLPD	120 KLPD	175 KLPD
2.	Bagasse fired Co-generation Power Plant for Distillery/Sugar mill	Power	16.25 MW	00 MW	16.25 MW
3.	Sugar Mill	Sugar	4500 TCD	2000 TCD	6500 TCD
4.	Fermentation Unit	Carbon Di-oxide	00	132 TPD	132 TPD
5.	ATFD	Conc. Spent Wash Powder	--	22.9 TPD (During Syrup based production) 68.2 TPD (During B-Molasses based Production) 123.17 TPD (During C-Molasses based Production)	22.9 TPD (During Syrup based production) 68.2 TPD (During B-Molasses based Production) 123.17 TPD (During C-Molasses based Production)

SEIAA has issued Environmental Clearance to the existing industry for a capacity of 55 KLPD vide file No. SIA/MH/IND2/251460/2022 dated 15th January, 2022, Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, Nagpur vide file No. 5-

51/2015(ENV)/11304 dated 3rd March 2023. PP has also submitted the copy of CCR dated 17.03.2023 for sugar unit by MPCB. MPCB has not mentioned any non-compliance. IRO informed that PP needs to plant suitable fruit-bearing trees as well as suitable bird nesting trees for attract avian diversity in and around the project area.' PP needs to plant butterfly host plants for protection and conservation of Butterfly fauna in and around the project area. PP should ensure the implementation of Green belt development plan and CSR/CER/ EMP activities 30%, funds should be earmarked for Water Conservation and Seedling plantation/distribution related works. The Committee suggested that suggestions of IRO may be stipulated as conditions for the proposed environmental clearance.

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

Total plant area after expansion will be 28.1159 Ha (existing plant area - 26.2159 Hectares and additional land required - 1.90 Hectares for proposed activity) which is under possession of the company and converted to industrial use for Gat No. 587 & 588 (Part) & for Gat No. 586, 588 (part) & 617 NA application is in process. 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 9.278 Hectares i.e. 33 % of the total plant area will be developed under greenbelt & plantation in and around plant premises. The estimated project cost is Rs. 395.037 Crores. Capital cost of EMP would be Rs. 29.5355 Crores and recurring cost for EMP would be Rs. 1.7518 Crores per annum. Industry proposes to allocate Rs. 1.376 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 117 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife Corridors etc. present within 10 km distance. Reserve Forest: Reserved forest patch near Ghoti Bk. Village: 2.16 Km. in NE direction from project site. Reserved forest patch near Pare Village: 2.36 Km in NW direction from project site. Reserved forest patch near Padali village: 2.52 Km in East direction from project site. Reserved forest patch near Narsewadi village: 3.20 Km in NE direction from project site. Reserved forest patch at Nathacha Dondar: 3.23 Km in SE direction from project site. Reserved forest patch near Khalsa Dhamani Village: 4.20 Km in SE direction

from project site. Reserved forest patch at Honai Dondar: 5.27 Km in SE direction from project site. Reserved forest patch near Kacharewadi Village: 7.27 Km in NE direction from project site. Reserved forest patch near Renavi Village: 7.29 Km in North direction from project site. Reserved forest patch near Kinderwadi Village: 7.84 Km in NE direction from project site. Reserved forest patch near Ghoti Kh. Village: 8.04 Km in NE direction from project site. Reserved forest patch near Revangaon Village: 8.16 Km in NE direction from project site. Reserved forest patch near Ped Village: 8.7 Km in East direction from project site. Water bodies: Small Pond present at the distance of 0.5 km in south direction of the project site. Dam present near Chinchani village at distance of 3.58 km in SE direction of the project site. Check Dam present near Khalsa Dhamani village at distance of 2.70 km in NW direction of the project site. Dargoba Water Talav, Pare is present at a distance of 3.84 Km in NE direction. Tembu lift irrigation canal at 0.87 km in NW direction project plot boundary. Takari lift irrigation canal at 0.78 km in SE direction project plot boundary. Ped lake at 7.19 km in East direction project plot boundary. Check dam present near vittal Nagar (Ped) at the distance of 6.37 km in SE direction. Kapur Nala at 6.25 km in East Direction from project plot boundary. Malwadi Talav is present at 2.58 Km in North direction. Padali Talav is present at 2.52 Km in NE direction. Kacharwadi Dam is present at 6.42 Km in NE direction. Narsewadi Dam is present at 4.98 Km in NE direction. Dam present near Vita village at distance of 7.24 km in NW direction of the project site. Two Dam present near Karve village at distance of 4.5 km & 5.1 km in NW direction of the project site. PP informed that NOC vide letter no ONT LIPMD/PB-2/931/2023 dated 16.03.2023 has been obtained from Tembhu Lift Irrigation Project Management Division, Ogalewadi for proposed expansion.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 1.16 µg/m^3, 0.88 µg/m^3, and 1.07 µg/m^3 with respect to PM10, SO2 and NOX. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement after expansion, during season it will be Nil (for sugar & Distillery), however during off-season the fresh water requirement will be 320.02 CMD (Sugar mill Nil and Distillery 320.02 CMD) which will be met from Krishna River. NOC has been obtained by Irrigation Department, Sangli vide letter No.: BiSiAA2014/(264/14)Si.Vy.Dho.)

Dated 02.09.2014. Existing effluent generation is 200 CMD from Distillery which is treated Condensate Polishing Unit (410 CMD capacity). Proposed effluent generation from Distillery unit which will be 1630.2 CMD treated through upgraded CPU (1900 CMD capacity). Existing effluent 280 CMD from sugar mill which is treated through Effluent Treatment Plant (300 CMD capacity). Proposed effluent generation from sugar mill will be 2490.96 CMD which will be treated through upgraded ETP and new CPU of Sugar Unit with capacity of 1900 CMD & 650 CMD respectively. In molasses based operation, spent wash generated from analyzer Colum during distillation will be concentrated & treated in integrated evaporation system followed by bio-methanation and converted into powder form by spent wash dryer technology and the spent wash powder will be sold to farmer in packed form. Domestic waste water will be treated in aeration tank of ETP/CPU. The plant is being based on Zero liquid Discharge System and treated effluent is not being discharged outside the factory premises and same will followed for expansion activity.

Total power requirement of distillery and Sugar Unit after expansion will be 9.8 MW which will be sourced from existing 16.25 MW Co-generation Power Plant in Sugar mill (14.0 MW) & distillery unit (2.25 MW). Existing Sugar mill & Distillery has 85 TPH & 20 TPH bagasse & biogas fired boiler APCE 99.99% ESP followed by dry-FGD with stack height of 75 m (combine stack) is installed with the existing boiler for controlling the particulate matter within the statutory limit of 50 mg/Nm3 and APCE multicyclone followed by scrubber with a stack height of 30 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 for proposed spent wash dryer. Industry has 320 KVA & 2 Nos. x 650 KVA DG sets which will be used as standby during power failure and stack height (3.6 m, 5.1 respectively) has provided as per CPCB norms to the existing DG sets.

Details of Process emissions generation and its management:

- APCE 99.99% ESP followed by dry-FGD with stack height of 75 m (combine stack) is installed with the existing boiler (85 TPH & 20 TPH) for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 for the proposed boiler.
- APCE multicyclone followed by scrubber with a stack height of 30 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 for proposed spent wash dryer

- Online Continuous Emission Monitoring System is installed with the stack and data will be transmitted to CPCB/SPCB servers.
- CO2 (132 TPD) generated during the fermentation process will be collected by utilizing CO2 scrubbers and it shall be sold to authorized vendors/collected in installed bottling plant.

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

- Concentrated spent wash (123.17 m3/day) will be converted to powder by ATFD
- Boiler ash (20.87 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises.
- Used oil (0.2 Kilolitres per annum) is will be sold to authorized recyclers.
- CPU sludge (4.02 TPD) from distillery unit will be used as manure.
- ETP Sludge & CPU sludge (13.96 TPD) from sugar unit will used as manure.
- Bagasse (1090.22 TPD) will be used as fuel in Sugar mill and Distillery Unit.
- Molasses (146.04 TPD) will be stored and used in distillery as raw material (during off-season).

As per Notification S.O 2339(E), dated 16th June, 2021, PP has submitted self- certification in the form of notarized affidavit declaring that the proposed expansion capacity of distillery 120 KLPD & Sugar 2000 TCD will be used for manufacturing fuel ethanol only.

Capital cost and recurring cost of EMP are given below:

SN	Component	Particulars	Existing Investment Capital Investment (In Crores)	Proposed Capital Investment (In Crores)	Recurring Investment (In Crores /Annum)
1.	Air	➢ Existing Stack of 75 meters height ➢ Existing ESP of 75 TPH Boiler with 99.9% efficiency ➢ Existing ESP of	3.00	5.25	0.50

SN	Component	Particulars	Existing Investment Capital Investment (In Crores)	Proposed Capital Investment (In Crores)	Recurring Investment (In Crores /Annum)
		20 TPH Boiler ➢ Proposed installation of CO2 Bottling Plant ➢ Proposed installation of stack of spray Dryer ➢ Proposed installation of FGD for 75 Meter Stack Height			
2.	Water	➢ Existing ETP & It's Up gradation ➢ Existing CPU of sugar and distillery & It's up gradation ➢ Existing MEE & It's Up gradation of MEE ➢ Installation of Spent wash dryer	7.10	16.80	1.00
3.	Noise	Acoustic enclosures, Silencer pads, ear plugs etc.	0.10	00	0.02
4.	Environment monitoring and Management	Quarterly Environment Monitoring	0.15	0.05	0.06
5.	Occupational Health	Gloves, Breathing Masks, Gloves, Boots, Helmets, Ear Plugs etc. &annual health-medical checkup of workers, Occupational	0.10	0.50	0.05

SN	Component	Particulars	Existing Investment Capital Investment (In Crores)	Proposed Capital Investment (In Crores)	Recurring Investment (In Crores /Annum)
		Health (training, OH center)			
6.	Greenbelt	Green belt development activity and Maintenance of green belt	0.15	1.2155	0.0438
7.	Solid Waste Management	Solid Waste Management	0.30	--	0.02
8.	Rain Water & Storm water management	Provision of Rain water & Storm water drainage	0.15	--	0.008
9.	Solar system	Existing in-house solar system of 200 KW capacity	1.00	--	0.05
		Installation of in-house solar system of 1270 KW capacity	--	5.72	--
		TOTAL COST	**12.05**	**29.5355**	**1.7518**

Details of CER with proposed activities and budgetary allocation:

S.No	Proposed Activity	Proposed Budget in Crores (INR)
1.	Providing Basic Amenities To ZP School Bamani and Dhamani-Padali ZP school	0.676
2.	Provision of Solar Lights to Bamani and Padali Village	0.70
	Grand Total	**1.376**

During deliberations, EAC discussed following issues:

- PP informed that we will achieve 15% of the power requirement generated through solar energy, i.e. 1470 KW.
- PP informed that they will discontinue the bio composting activity at the project site.
- PP informed that the effluent from the scrubber will be treated in the CPU unit of the distillery; the detailed water budget showing the effluent generation rate from the scrubber along with CPU details have been provided.
- PP shall replace the sludge drying beds with filter press.
- PP will provide a CPU unit of 2150 KLD capacity for the Sugar unit.
- PP committed that they will create ecosystem for local butterflies.
- PP committed that they will provide bagasse storage shed.
- PP revised CER budget with a total cost of 2 Cr (INR). Break up is as given below:

CER Action Plan

Proposed Cost of Expansion Project: 183.49 Crore; Cost of the CER Activity: 2.0 Cr

Year of Implementation	Amount in INR	Activity	Cost Estimate	
CER Activities will be completed before commissioning of the project	1,30,00,000	Providing Basic Amenities To ZP School Bamani and Dhamani- Padali ZP school.	Particulars	Amount (Approx.) INR
			Potable Water Treatment facility	9,00,000
			Storage Tank	5,00,000
			Fitting charges	1,00,000
			Projector (40 Nos)	10,00,000
			Computers (10 Nos.)	5,00,000
			Development of Greenbelt Near	35,00,000
			Up-gradation of School	62,45,000
			Provision of Library	2,55,000
	70,00,000	Provision of Solar Lights to Bamani and Padali Village	Particulars	Amount (Approx.)
			Solar Street Lights	70,00,000

*Note 1: CER Cost as per O.M. F No. 22-65 / 2017- IA III (CER Regarding

- PP informed that numbers of trees to be planted is 23,196 Nos. Existing Trees available is 8,190 Nos. Proposed Plantation will be

15,006 Nos. Fund Allocated as Capital Cost is 121.55 Lacs (INR) Recurring Cost: 4.38 Lacs (INR)/Year The species are mostly native, evergreen, fast-growing, Air pollutant Absorbing, etc.

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: -

(i). As per the Notification S.O. 2339(E), dated 16th June, 2021, project falls in category B2 and the proposed expansion capacity of distillery 120 KLPD & Sugar 2000 TCD 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.

(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). 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.

(iv). PP shall comply with the conditions stipulated in the NOC vide letter no ONT LIPMD/PB-2/931/2023 dated 16.03.2023 obtained from Tembhu Lift Irrigation Project Management Division, Ogalewadi for proposed expansion of sugar & Distillery unit.

(v). NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from surface water for the distillery activities, State Pollution Control Board / Pollution Control Committees 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.

(vi). PP shall abandon the bio composting practised in the existing Industry within 2 years. The sludge settled in the lagoons shall be disposed as specified in the rules and C&D waste disposed as specified in the C&D Waste Management Rules.

(vii). Total fresh water requirement shall not exceed 320.02 m^3/day, which will be sourced from Krishna River. 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.

(viii). The spent wash shall be concentrated in MEE and concentrated spent wash shall be biomethanation and converted into powder form by spent wash dryer technology. Other lean effluents Spent lees, MEE Condensates and utility effluents shall be treated in the condensate polishing unit (CPU) comprising of three stage RO. The treated permeate will be reused in cooling tower water makeup and for molasses dilution. The RO rejects will be taken back to MEE. Treated effluent will be recycled/reused for make up water of cooling towers/process etc. 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. STP shall be installed to treat sewage generated from factory premises. PP shall ensure to implement Zero Liquid Discharge (ZLD) in existing and expansion of sugar factory and cogeneration plant including proposed Distillery.

(ix). 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.

(x). ESP of 99.99% efficiency followed by dry-FGD with stack height of 75 m (combine stack) is installed with the existing 85 TPH & 20 TPH bagasse & biogas fired boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm^3. APCE multicyclone followed by scrubber with a stack height of 30 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 for proposed spent wash dryer. Coal shall not be used as fuel in the 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.

(xi). Boiler ash (20.87 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall meet 15% of the total power requirement from solar power by generating power inside plant premises.

(xii). CO2 (132 TPD) generated during the fermentation process will be collected by utilizing CO2 scrubbers and it shall be sold to authorized vendors/collected in installed bottling plant.

(xiii). 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.

(xiv). 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.

(xv). 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.

(xvi). 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.

(xvii). 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.

(xviii). The green belt of at least 5-10 m width has already been developed in 9.278 Hectares i.e. 33 % of total project area which shall be thickened with tree density @ 2500 trees per hectares, mainly along the plant periphery which shall be maintained. 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.

(xix). PP proposed to allocate Rs. 2.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan. Further, all the proposed activities under CER shall be completed in consultation with District Administration.

(xx). As proposed by IRO, PP shall plant suitable fruit-bearing trees as well as suitable bird nesting trees for attract avian diversity in and around the project area. PP needs to plant butterfly host plants for protection and conservation of Butterfly fauna in and around the project area. PP should ensure the implementation of Green belt development plan and CSR/CER/ EMP activities, adequate funds should be earmarked for Water Conservation and Seedling plantation/distribution related works.

(xxi). 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. PP shall ensure no direct entry or exit of the vehicles from Main Road/Highway and it shall be through slip road only

(xxii). 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.

(xxiii). 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.

(xxiv). 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.

(xxv). 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 12th 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.

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 31st 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

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

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