

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

Dated: 14.10.2022

**Meeting ID: IA/IND2/13350/12/10/2022
MINUTES OF MEETING OF THE EXPERT APPRAISAL COMMITTEE
(INDUSTRY-2 SECTOR PROJECTS)
HELD ON 12th October, 2022**

**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/IND2/13349/11/10/2022) held on 11th October, 2022 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: -

12th October, 2022 (Wednesday)

Agenda No. 1

Proposed 600 KLPD Grain based Ethanol Plant along with 15.0 MW Cogeneration Power Plant at Village Semaliya, Tehsil & District Banswara, Rajasthan by M/s. Grainfuel Distilleries Private Limited - Consideration of Environmental Clearance

[IA/RJ/IND2/400717/2022; IA-J-11011/374/2022-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 600 KLPD Grain based Ethanol Plant along with 15.0 MW Cogeneration Power Plant at Village Semaliya, Tehsil & District Banswara, Rajasthan by M/s. Grainfuel Distilleries 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	Ethanol	600 KLPD
2.	Co-generation power plant	Power	15.0 MW
3.	DWGS dryer	DDGS	279 TPD
4.	Fermentation unit	Carbon di-oxide	454 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 no litigation is pending against the proposal.

Total land area required is 13.62 hectares. Greenbelt will be developed in total area of 4.5 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 600 Crores. Capital cost of EMP would be Rs 55.0 Crores and recurring cost for EMP would be Rs 5.0. Crores/ annum. Industry proposes to allocate additional Rs. 6.0 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 400 persons as direct.

There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance. Unnamed patches of Reserved Forest is located at a distance of 5.2 km in NE direction & RF is located at 7.5 km in SSW direction. Water bodies: KagdiNadi is located 1.0 km in North direction. NolNadi is located 2.0 km in ENE direction, Sukha Nala is located 3.5 km in ESE direction, Gujaria Nala is located 3.5 km in NW direction, KalolNadi is located 9.5 km in NW direction Chap Nadi is located ,10 km in NW direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would 0.477 µg/m³, 0.770 µg/m³ and 0.880 µg/m³ with respect to PM, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 2747 m³/day which will be met from Ground water. Company has applied to CGWA for groundwater permission vide Application no. 81794. Effluent (Condensate/spent lees/blowdown etc.) of 2965 m³/day will be treated through Condensate Polishing Unit /Effluent Treatment Plant of capacity 3500 KLPD. Raw stillage (3679 KLPD) will be sent to decanter followed by MEE and dryer to produce DDGS (279 TPD). STP of capacity 40 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 13.0 MW and will be met from proposed 15.0 MW Co-generation power plant. 135 TPH biomass/coal fired boiler will be installed. ESP with a stack height of 80 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 3x1500 KVA DG set will be used as standby during power failure and stack height (10 m) will be provided as per CPCB norms to the proposed DG set.

Details of Process emissions generation and its management:

- ESP (Electrostatic Precipitator) with a stack height of 80 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.
- CO₂ (454 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:

- DDGS (Distilled Dried Grains Stillage) (279 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (320 TPD) will be used for brick manufacturing and supplied to nearby brick manufacturers in covered vehicles for coal ash and for biomass ash PP shall install own brick manufacturing unit for making bricks.
- Used oil (1.5 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (10 TPM) and STP Sludge (0.02 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 600 KLPD will be used for manufacturing fuel ethanol only.

The total project area of 13.62 ha (33.6 acres) which is completely under the possession of the company. The company has applied for land conversion to Revenue Department vide Application ID LC/2022-23/133561 dated 15.09.2022 and is under process. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- Revised plant layout showing the drain passing through project site shall be submitted. NOC shall be obtained from State Irrigation Department regarding natural drain passing through the project site. PP informed that they will discuss with State Irrigation Department regarding drain diversion or construct drain outside plant premises. PP has submitted revised plant layout.
- Commitment that PP shall install air cooled condensers. PP has committed the same.
- Fresh water consumption shall not exceed 4 KL/KL ethanol production. PP has submitted that fresh water requirement is decreased from 3178 KLPD to 2747 KLPD.
- OHS budget shall be increased to Rs. 1 Crore.
- Commitment that Industry shall install brick manufacturing plant for biomass ash disposal.

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 600 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 shall be obtained from State Irrigation Department regarding natural drain passing through the project site. PP shall ensure that no effluent/treated water shall be discharged into the drain.
- (v). NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (vi). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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. Air cooled condensers shall be installed.
- (vii). Spent wash shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (viii). Electrostatic precipitator (5 fields & 99.9 % efficiency) & stack height of 80 meters will be installed with 135 TPH biomass/coal fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be below 100 mg/Nm³. 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 (320 TPD) will be used for brick manufacturing and supplied to nearby brick manufacturers in covered vehicles for coal ash and for biomass ash PP shall install own brick manufacturing unit for making bricks. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel in boiler. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (x). CO₂ (454 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.
- (xi). PP shall allocate at least Rs. 1 Crores/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). 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.
- (xiii). 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.
- (xiv). 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. Filter press shall be installed for drying of sludge.
- (xv). 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.

- (xvi). The green belt of at least 5-10 m width shall be developed in nearly 4.5 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.
- (xvii). PP proposed to allocate Rs. 6.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.
- (xviii). 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.
- (xix). 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.

- (xx). 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.
- (xxi). 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.
- (xxii). 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. 2

Greenfield Project of 150 KLD Grain Based Ethanol Plant along with 4 MW Co-generation Power Plant located at Gut No. 426, 428/1, 428/2, 428/3, 428/4, Village-Prakasha, Taluka-Shahada, District Nandurbar, Maharashtra by M/s. Sh. Yogesh Narayan Patil & Others- Consideration of Environmental Clearance

[IA/MH/IND2/287143/2022; IA-J-11011/311/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. GRC India Pvt Ltd

(NABET certificate No. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 150 KLPD Grain Based Ethanol Plant along with 4 MW Co-generation Power Plant located at Gut No. 426, 428/1, 428/2, 428/3, 428/4, Village-Prakasha, Taluka-Shahada, District Nandurbar, Maharashtra by M/s. Sh. Yogesh Narayan Patil & Others.

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	Ethanol	150 KLPD
2	Co-generation power plant	Power	4.0 MW
3	DWGS dryer	DDGS	64TPD
4	Fermentation unit	Carbon di-oxide	75 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 no litigation is pending against the proposal.

Total land area required is 6.77 hectares. Greenbelt will be developed in total area of 2.23 hectares i.e., 33% of total project area. The estimated project cost is INR Rs. 221.01 Crores. Capital cost of EMP would be INR Rs. 34.01 Crores and recurring cost for EMP would be INR Rs. 6.15 Crores per

annum. Industry proposes to allocate Rs. 2.21 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 111 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Devapat Nala is adjacent to the project site in West direction. The nearest Shirpur airport is which is approximately 65.77 km in ESE direction from the project site. Gomati River is 2.7 km in South Direction, Tapi River is 2.8 km in SSW, Prakasha Dam is 2.9 km in SSW direction, ChandvaNadi is 5.0 Km in SW Direction, NijhriNadi is 6.2 Km in N direction from the project site, VakiNadi is 6.7 Km in W direction from the project site and DhodNadi is 7.3 Km in W direction from the project site. NOC for Devapat Nala has been obtained from Sub Divisional Officer, Irrigation Sub Division, Prakasha, Tal Shahada Distt. Nandurbar stating that no flood line survey has been conducted on Devpat stream and in the past 25 years no flood has been reported.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be $0.11\mu\text{g}/\text{m}^3$, $0.07\mu\text{g}/\text{m}^3$, $0.63\mu\text{g}/\text{m}^3$, $0.80\mu\text{g}/\text{m}^3$ and $2.79\mu\text{g}/\text{m}^3$ with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 , NO_2 and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement including co-generation power plant will be $834\text{ m}^3/\text{day}$ which will be met from ground water. The application for permission of withdrawal of ground water has been submitted to CGWA vide Application Number 21-4/7993/MH/IND/2022. Effluent (Condensate/spent lees/blowdown etc.) of $744\text{ m}^3/\text{day}$ quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 900 KLPD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 5 KLD 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 4 MW and will be met from proposed 4 MW co-generation power plant. 35 TPH Coal/Rice Husk fired boiler will be installed.

ESP a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 500 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:

- ESP with a stack height of 60 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.
- CO₂ (75 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:

- DDGS (Distilled Dried Grains Stillage) (64 TPD) will be sold as cattle feed/fish feed/ prawn feed.
- Boiler ash (56 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.85 Cr. bricks per annum.
- Used oil (2 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (100.73 kg/day) and STP Sludge (0.55 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 150 KLPD will be used for manufacturing fuel ethanol only.

Total land of 6.77 Hectares which is under the possession of Sh. Yogesh Narayan Patil & Others and CLU application has been submitted to Sub

Divisional Officer, Shahada dated 04.07.2022.EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- Copy of Document related to Registrar of Companies indicating directors of the company shall be submitted. PP informed that land is in the name of family members and a lease agreement has been made for use the land for the said ethanol project. PP submitted the registered land lease agreement between Sh. Yogesh Narayan Patil, Sh. Arivind Narayan Patil, Smt. Bhagavati Yogesh Patil, Ms. Swati Arvind Patil and Sh. Narayan Sudam Patil for setting up the proposed project for 25 years.
- EAC suggested that PP shall ensure construction of RCC retaining wall along the adjacent Devpat stream is constructed in plot area. They should also ensure that there is no encroachment of the land. 50 m buffer zone shall be left from Devpatstream to projects site and greenbelt development shall be done in that buffer area.
- Committee suggested that 20% biomass pellets shall be used as fuel in boiler.

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 150 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). Strong RCC retaining wall along the Devpat stream shall be constructed in plot area. 50 m buffer zone shall be left from stream to projects site and greenbelt development shall be done in that buffer area.
- (v). NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (vi). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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.
- (vii). Spent wash shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for makeup water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (viii). Electrostatic precipitator (5 field & 99.9% efficiency) & stack height of 60 meters will be installed with 35 TPH Coal/Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (56 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.85 Cr. bricks per annum. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel in boiler. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (x). CO₂ (75 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.
- (xi). PP shall allocate at least Rs. 50 Lakhs/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). 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.
- (xiii). 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.
- (xiv). PP shall disclose threat zone influence/risk assessment outside the plant boundary (approx. 1.5 km) as informed during EAC to District Magistrate and include the same in offsite disaster management plan.

- (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. Filter press shall be installed for drying of sludge.
- (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 shall be developed in nearly 2.23 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.
- (xviii). PP proposed to allocate Rs. 2.21 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant 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.

- (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 12thAugust, 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. 3

Greenfield Project of Grain Based Distillery Plant of 100 KLD along with 3.3 MW Co-generation Power Plant located at Plot no. 10, 118,

120, 121, 119, 104, 105, 106, 103, 102, 95, 94 Village-Shamaspur, Hastinapur, Tehsil-Mawana, District-Meerut, State-Uttar Pradesh by M/s. Hempco Ventures Private Limited- Consideration of Environmental Clearance

[IA/UP/IND2/401875/2022; IA-J-11011/403/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s GRC India Pvt Ltd (NABET certificate no. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 100 KLPD Grain Based Ethanol Plant along with 3.3 MW co-generation power plant located at Plot no. 10, 118, 120, 121, 119, 104, 105, 106, 103, 102, 95, 94 Village Shamaspur, Hastinapur, Tehsil Mawana, District Meerut, State Uttar Pradesh by M/s.Hempco Ventures Private Limited- Environmental Clearance.

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	Ethanol	100 KLD
2	Co-generation power Plant	Power	3.3 MW
3	DWGS dryer	DDGS	51 TPD

4	Fermentation unit	Carbon di-oxide	78 TPD
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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 no litigation is pending against the proposal.

Total land area required is 6.49 hectares. Greenbelt will be developed in total area of 2.14 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 129.6 Crores. Capital cost of EMP would be Rs. 20.1 Crores and recurring cost for EMP would be Rs. 5.02 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, Biosphere Reserves, Tiger/Elephant Reserves, etc. within 10 km distance. The reserve forests within 10 km distance are Hastinapur RF at a distance of 3.6 km towards E direction, Dropdi RF at a distance of approx. 8 km towards SE direction, Yadhishttra RF at a distance of approx. 8.5 km towards SSE direction, Dudhli RF at a distance of approx. 9.6 km towards SE direction. Irrigation Canal is adjacent to the project site for which NOC has been obtained from competent authority dated 26/09/2022. Hastinapur Wildlife Sanctuary at a distance of 1.08 km towards East direction from the project site. The project site is located at 80 meters towards East direction from notified ESZ and project site falls outside eco-sensitive zone of Hastinapur Wildlife Sanctuary (defined as 0 – 1 km), hence NBWL is not applicable. Distance authentication letter w.r.t ESZ has been obtained vide letter no. 4207/14-1 dated 14/02/2022. Conservation plan for peafowl has been submitted to DFO and budget of Rs. 4.5 Lakhs has been earmarked for the same. A copy of letter vide no. 4207/14-1 dated 14th February, 2022 issued by Divisional Director, Social Forestry Department, Meerut stating that proposed site is outside the ESZ of sanctuary.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.02 $\mu\text{g}/\text{m}^3$, 0.01 $\mu\text{g}/\text{m}^3$, 0.67 $\mu\text{g}/\text{m}^3$, 0.55 $\mu\text{g}/\text{m}^3$ and 1.44 with respect to PM₁₀, PM_{2.5}, SO₂, NO_x and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement including co-generation power plant will be 550 m³/day which will be met from ground water. Application has been submitted to competent authority for the permission of withdrawal of ground water vide application no. MERT0922NIN0149. Effluent (Condensate/spent lees/blowdown etc.) of 402 m³/day quantity from the project site will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 500 KLPD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 15 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 3.3 MW and will be met from proposed 3.3 MW co- generation power plant. 25 TPH Rice Husk fired boiler will be installed. ESP a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm³ for the proposed boiler. 2 x 750 kVA DG set will be used as standby during power failure and stack height will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP with a stack height of 60 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.
- CO₂ (78 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:

- DDGS (Distilled Dried Grains Stillage) i.e. 51 TPD will be sold as cattle feed/fish feed/ prawn feed.

- Boiler ash (35.69 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises.
- Used oil (2.5 Kiloliters per annum) will be sold to authorized recyclers.
- ETP/CPU sludge (41 KG/day) and STP Sludge (2.2 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 100 KLPD will be used for manufacturing fuel ethanol only.

Total land required for project is 6.49 Hectares which is under possession of the company and land use conversion application has been submitted to competent authority dated 29/07/2022. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- PP shall submit no. of trees present in the project site. PP assured that maximum trees will be retained and cutting of trees shall be done only after obtaining permission from concerned authority. Details regarding no. of trees, action plan for cutting of trees, size of trees and NOC regarding the same shall be submitted. PP submitted that 153 trees are present in the proposed site out of which 103 trees will be retained and rest will be cut.
- Commitment in form of affidavit that PP shall obtain land use conversion permission before start of construction activities.
- Committee suggested that PP shall ensure that 50 m buffer zone shall be established within the premises towards the location of ESZ.
- Action plan to prevent fugitive emissions shall be submitted. Accordingly, PP mentioned that proper maintenance and cleaning of roads shall be done to control the fugitive dust emissions. PP also informed that raw materials and flyash shall be transported in covered trucks.
- Revised CER cost from Rs. 1.29 Crores to Rs. 2 Crores has been submitted.

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 100 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). As proposed, PP shall retain existing 103 grown up trees. PP shall not cut any trees without prior permission from the concerned State authority.
- (iii). 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.
- (iv). 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.
- (v). NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.

- (vi). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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.
- (vii). Spent wash shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (viii). Electrostatic precipitator (5 field & 99.9% efficiency) with a stack height of 60 meters will be installed with 25 TPH Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm³. 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 (35.69 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. Coal shall not be used as fuel at any circumstances. 20% biomass pellets shall be used as fuel in boiler.PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (x). CO₂ (78 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.

- (xi). PP shall allocate at least Rs. 50 Lakhs/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). 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.
- (xiii). 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.
- (xiv). 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. Filter press shall be installed for drying of sludge.
- (xv). 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.
- (xvi). The green belt of at least 5-10 m width shall be developed in nearly 2.14 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.

- (xvii). PP proposed to allocate Rs. 2.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.
- (xviii). 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.
- (xix). 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.
- (xx). 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.
- (xxi). 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.

- (xxii). 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. 4

Proposed 150 KLPD grain-based Fuel Ethanol Plant and 5 MW Power Cogeneration Plant located at village KhuiyanMalkana and Mithri, Tehsil Dabwali&Kalianwali respectively, District Sirsa, Haryana by M/s. Babu Ram Bio energies LLP - Consideration of Environmental Clearance

[IA/HR/IND2/400859/2022; IA-J-11011/377/2022-IA-II(I)]

The project proponent and the accredited Consultant M/s. Enviro Infra Solutions Pvt. Ltd. (NABET certificate no. NABET/EIA/1922/RA 0157 and validity upto 13th November, 2022) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for 150 KLPD Grain based Ethanol Plant & 5 MW Co-generation power plant (biomass based) located at Village KhuiyanMalkana and Mithri, Tehsil Dabwali&Kalianwali, District Sirsa, State Haryana by M/s.Babu Ram Bio energies 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 the Unit	Name of Product/By-product	Production Capacity
1.	Distillery (Grain based)	Fuel Ethanol	150 KLPD
2.	Cogeneration of Power	Power	5 MW
3.	Fermentation Unit	CO ₂	115 TPD
4.	DWGS Dryer	DDGS	80 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 no litigation is pending against the proposal.

Total land area required is 5.45 hectares. Greenbelt will be developed in total area of 1.80 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 150 Crores. Capital cost of EMP would be Rs. 16.50 Crores and recurring cost for EMP would be Rs. 3.0 Crores per annum. Industry proposes to allocate Rs. 1.5 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 300 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 water bodies within 10 km. radius of project site.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 2.17 µg/m³ for particulate matter and 3.36 µg/m³ for SO₂. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 616 m³/day which will be met from canal water supply. Application has been submitted to Executive Engineer, Rori Water Services Division, Sirsa dated 12/09/2022 vide letter no. 1628.

Effluent (Condensate/ Spent lees /blowdown) of 837 m³/day quantity will be treated through Condensate polishing unit. Raw Stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP will be installed to treat sewage generated. 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 4 MW and will be met from proposed 5 MW cogeneration power plant. 35 TPH biomass/coal fired boiler will be installed. ESP will be installed with the boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 1 x 1000 kVA DG set will be used as standby during power failure and stack height (6.5 m) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP with a stack height of 50 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.
- CO₂ (115 TPD) generated 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) (80 TPD) will be sold as cattle feed/fish feed/prawn feed.
- Boiler ash (30 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 (0.2 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 150 KLPD will be used for manufacturing fuel ethanol only.

Total land of 5.45 Hectares is under possession of the company and the land use conversion has been completed vide letter no.178740/2022/TCP-OFA/1920/2022 dated 16.09.2022. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- The Committee noted that the environmental consultant was unable to present the entire environmental issues associated with the project. Accordingly, the committee suggested them to submit action plan to achieve 33% greenbelt including details of Number of trees and species to be planted.
- Consultant presented that certain quantity of process effluent will be used for gardening purpose. Accordingly the Committee intervened and informed to PP and environmental consultant that process effluent shall be treated and recycled for the process activities and proposed distillery unit shall be based on complete ZLD. Treated water from STP can be used for gardening. Accordingly, the Committee suggested them to submit revised treatment process as well as water balance.
- EMP cost seems to be on lower side. Cost of pollution control equipment including MEE shall be incorporated and revised cost for EMP to be submitted.
- Increase CER cost to Rs. 1.5 Crores from Rs. 1.125 Crores. Detailed & quantitative CER activities including villages shall be submitted.
- PP shall commit that there will be no effluent discharge and ZLD shall be maintained. Revised water balance shall be submitted.
- The Consultant unable to present risk and its mitigation plan involved in project. Accordingly the Committee suggested that the PP shall ensure that detailed risk assessment/damage assessment studies shall be conducted & 2D risk assessment and submitted.
- List of native tree species to be developed as greenbelt shall be submitted.

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

Agenda No. 5

Proposed 120 KLPD Grain Based Distillery along with 3.5 MW Co-Gen Power Plant and ZLD Unit at Village Kadrabad, Tehsil- Indri, District-Karnal, Haryana M/s Nakshtra Biofuels Pvt. Ltd–Re-consideration of Environmental Clearance

[IA/HR/IND2/277010/2022, IA-J-11011/195/2022-IA-II(I)]

The proposal was earlier considered by the EAC (Ind-2) in its meeting (ID: IA/IND2/13342/26/09/2022) held on 26.09.2022, wherein EAC deferred the proposal and desired certain requisite information/inputs. After submission of ADS reply by Project Proponent, proposal was again considered in EAC meeting (Meeting ID: IA/IND2/13350/12/10/2022) held on 12th October, 2022. Information desired by EAC and responses submitted by the project proponent along with remarks of EAC as discussed in meeting are as follows:

S. No.	ADS by MOEFCC	Reply of PP	Remarks by EAC
1.	Commitment that Bio mass shall only be used as fuel for boiler. Coal shall not be used.	Commitment that only Biomass will be used as a fuel for boiler. Coal will not be used.	EAC desired that 20% biomass pellets shall be used as fuel. PP agreed.
2.	Total fresh water consumption shall not exceed 4 KL/KL of ethanol production including consumption for co-generation power plant. PP shall submit revised water	Total fresh water consumption shall not exceed 4 KL/KL of ethanol production. 480 KLD water for ethanol production shall be used. Total fresh water requirement will be 691 KLD. This has been reduced from the originally proposed water requirement of 960 KLD. PP has reduced fresh	PP has assured that they will use rainwater and reduce fresh water consumption thereby. EAC found the information satisfactory.

	balance confining total fresh water requirement to 480 KLD.	water requirement by 28.02%.	
3.	Western Yamuna Canal is at a distance of 20 m. PP has informed that canal is abandoned and known as diffused Western Yamuna Canal. In this regard, EAC opined that clarification from Irrigation Dept. shall be obtained that the proposed site is located at diffused Western Yamuna Canal instead of main Western Yamuna Canal as 20 m distance from the project site seems like encroachment of canal land.	There is no encroachment of canal land. Diffused Western Yamuna Canal (Sirsa Branch) is located at a distance of 20 m. instead of main Western Yamuna Canal. NOC from irrigation department is obtained dated 27.09.2022 and 26.08.2022.	50 m buffer zone shall be provided within the premises towards the Sirsa Branch (canal) and greenbelt development shall be done in that buffer area. PP shall ensure that no effluent/treated effluent shall be discharged into the canal.
4.	Budget earmarked for CER shall be increased to 1% of the total project cost. PP shall submit	CER budget is revised from 1.07 crores (0.5%) to 2.10 crores (1.0%). It will be utilized for development of computer lab in 5 nearby villages, installation of RO water treatment plant in 5 villages,	Replace RO facility with potable water supply. Revised CER activities shall be submitted. PP

	action plan along with implementation timeline for the proposed activities under CER. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.	Avenue plantation, Solar Panel installation in 3 nearby villages, installation of Solar Street lights in 5 nearby villages. All the activities will be completed before the commencement of project instead of 3 years. Revised.	has submitted the same.
5.	PP shall increase the funds allocated to EMP and shall submit details of the same.	PP has increased the EMP budget to Rs. 20.94 Crores.	EAC found the information satisfactory.

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 Project Proponent and the accredited Consultant M/s. Vardan EnviroNet (NABET certificate no. NABET/EIA/2023/SA0158 and validity 05.05.2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for 120 KLPD Grain based Ethanol Plant & 3.5 MW Co-generation power plant (Biomass) and ZLD unit located at Village-Kadradabad, Tehsil-Indri, District- Karnal, State- Haryana by M/s. Nakshtra Biofuels Pvt. Ltd.

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	Ethanol	120 KLPD
2	Co-generation power plant	Power	3.5 MW
3	DWGS dryer	DDGS	70-75 TPD
4	Fermentation Unit	CO ₂	80-85 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 no litigation is pending against the project.

Total land area required is 4.08827 ha. Greenbelt will be developed in total area of 1.4287 ha. i.e., 35% of total project area. The estimated project cost is Rs. 210.0 Crores. Capital cost of EMP would be Rs. 20.94 Crores and recurring cost for EMP would be Rs. 0.2454 Crores per annum. Industry proposes to allocate Rs. 2.10 crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 310 persons as direct & indirect during Operation and construction Phases.

There are No national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance.

River/water body Western Yamuna Canal is at a distance of 20 m in South direction & Western Yamuna Canal (Main Branch) is flowing at a distance of 2.26 km in East direction. Western Yamuna Canal at a distance of 20 m for which NOC has been obtained from Water Services Sub- Division, Jyotisar, Irrigation and Water Resource Department, Govt. of Haryana vide. letter no. 7946/38000D dated 31.08.2022 stating that the project site is away from flood prone area.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 82.92 $\mu\text{g}/\text{m}^3$, 49.97 $\mu\text{g}/\text{m}^3$, 15.72 $\mu\text{g}/\text{m}^3$ and 26.82 $\mu\text{g}/\text{m}^3$ with respect to PM10, PM2.5, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 691 m³/day which will be met from ground water. Application has been submitted to HWRA vide. Application no. HWRA/IND/N/2022/3693 dated 22.06.2022. Effluent of 1079 KLPD quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 1080 KLPD. Raw stillage 890 KLPD: quantity of raw spent wash from distillation) will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 5 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 3.5 MW and will be met from proposed 3.5 MW cogeneration power plant/state grid. 32 TPH Rice husk (Biomass) fired boiler will be installed. Electrostatic Precipitator and a stack height of 40 m for controlling the particulate emissions within the statutory limit of 50 mg/Nm³ for the proposed boiler. 1000 kVA and 225 kVA of DG Set will be used as standby during power failure and stack height of 15 m will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- Electrostatic Precipitator will be provided with a stack height of 40 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.
- CO₂ of total 80-85 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:

- DDGS (Distilled Dried Grains Stillage) of 24750 TPA will be sold as cattle feed.
- Boiler Ash (9000 TPA) will be used in-house for brick manufacturing.
- Used oil 2.5 Kilolitres per annum will be sold to authorized recyclers.
- CPU sludge (0.3 TPD) and STP Sludge (Less than 1 kg Per 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 120 KLPD will be used for manufacturing ethanol only.

Total land of 4.08227 ha. (40822.7 Sq.m) is under possession of the company and land use conversion has been completed vide letter no. CLU/KL-1119A/CTP/20799/2022 dated 19.07.2022 land use conversion application has been submitted to Directorate of Town & Country Planning, Haryana dated 09.03.2022. EAC found the information 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 120 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). 50 m buffer zone shall be provided within the premises towards the Sirsa Branch (canal) and greenbelt development shall be done in that buffer area. PP shall ensure that no effluent/treated effluent shall be discharged into the canal.
- (v). NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (vi). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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.
- (vii). Spent wash shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.

- (viii). Electrostatic precipitator with a stack height of 40 meters will be installed with 32 TPH Rice husk (Biomass) fired boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm³. 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 (9000 TPA) shall be used for brick making in proposed in-house brick manufacturing unit. As committed, no coal shall be used as fuel. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel in boiler. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (x). CO₂ of total 80-85 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.
- (xi). PP shall allocate at least Rs. 50 Lakhs/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). 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.
- (xiii). 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.
- (xiv). 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. Filter press shall be installed for drying of sludge.

- (xv). 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.
- (xvi). The green belt of at least 5-10 m width shall be developed in nearly 1.4287 hectares i.e., 35% 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.
- (xvii). PP proposed to allocate Rs. 2.10 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.
- (xviii). 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.
- (xix). 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.

- (xx). 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.
- (xxi). 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.
- (xxii). 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. 6

Onshore Development and Production by drilling and development of wells located at Villages Changara, Chikaliya, Dugari, Indranaj, Isarwada, Jichka, Kalamsar, Kandhroti, Kasbara, Khada, Mahiyari, Moraj, Ralaj, Undel, Varsada, Vasna, Alindra, Antroli, Bhalada, Daloli, Garmala, Kharenti, Khumaarvada, Limbasi, Machhiel, Malavada, Maliyataj, Marala, Matar, Nandhanpur, Nagrama, Palana, Punaj,

Ratanpur, Siholdi, Sokhda, Traj, Tranja, Undhela, Vansar, Vastana, Tehsil Tarapur, Sojitra, Anand, Petlad, Borsad, Khambat, Anklav, Mehmedabad, Thasra, Mahudha, Matar, Nadiad and Kheda, District Anand & Kheda, State Gujarat by M/s. Gujarat State Petroleum Corporation Ltd– Re-consideration of Environmental Clearance

[IA/GJ/IND2/73049/2018, IA-J11011/59/2018-IA-II(I)]

The proposal was earlier considered by the EAC (Ind-2) in its meeting (ID: IA/IND2/13342/26/09/2022) held on 26.09.2022, wherein EAC deferred the proposal and desired certain requisite information/inputs. After submission of ADS reply by Project Proponent, proposal was again considered in EAC meeting (Meeting ID: IA/IND2/13350/12/10/2022) held on 12th October, 2022. Information desired by EAC and responses submitted by the project proponent along with remarks of EAC as discussed in meeting are as follows:

S. No.	ADS by MOEFCC	Reply of PP	Remarks by EAC
1.	Action plan along with measures to be taken for issues raised in Public Hearing was not prepared.	Reconfirmation of public hearing replies by GSPC have been presented and submitted.	EAC found the information satisfactory.
2.	Details of Early Production Facilities for the proposed project to be submitted.	Proposed plant layout & details of facilities for drilling and Early Production Facilities are submitted.	EAC found the information satisfactory.
3.	Details of flaring system for	Details of flaring system at EPS is submitted.	EAC found the information

	the development wells/EPS to be submitted.		satisfactory.
4.	Details of waste water generation, treatment & disposal from the Early Production Facilities shall be submitted.	Primary treatment of generated wastewater is done at the EPS before it is disposed at CETP Kalol under agreement. Primary treatment details at EPS is submitted along with CETP Kalol membership certificate.	Mobile STP shall be installed.
5.	The data presented in wind rose diagram is not matching with isopleth displayed in the presentation. Therefore, fresh GLC shall be estimated and submitted.	GLC has been revised and submitted for DG set and flare system. For DG sets, 1.68 $\mu\text{g}/\text{m}^3$, 0.693 $\mu\text{g}/\text{m}^3$ & 0.730 $\mu\text{g}/\text{m}^3$ w.r.t PM, SO ₂ & NO _x and for flare system, predicted GLC is 0.0029 & 0.107 $\mu\text{g}/\text{m}^3$ w.r.t. SO ₂ and NO _x .	EAC found the information satisfactory.
6.	Detailed project cost for the development drilling as well as EPS shall be	Project cost: Approximate project cost considering initial drilling of 5 wells: Cost of drilling of five wells would be approximately 70 crores. Setting up of one production facility is 3	EAC found the information satisfactory.

	<p>submitted. Accordingly, capital cost and recurring cost of EMP shall be revised.</p>	<p>crores. Total project cost initially would be around 73 crores.</p> <p>Budget for EMP Implementation:</p> <table border="1" data-bbox="507 405 1158 1624"> <thead> <tr> <th>Sr. No.</th> <th>Pollution Control Measures</th> <th>Capital Cost (Lakhs)</th> <th>Recurring Cost per Annum Rs. (Lakhs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Air Pollution Control</td> <td>30.0</td> <td>4.0</td> </tr> <tr> <td>2</td> <td>Water Pollution Control</td> <td>30.0</td> <td>20.0</td> </tr> <tr> <td>3</td> <td>Noise Pollution Control</td> <td>16.0</td> <td>2.0</td> </tr> <tr> <td>4</td> <td>Environment Monitoring and Management</td> <td>0</td> <td>5.0</td> </tr> <tr> <td>5</td> <td>Road Safety and Traffic Management</td> <td>3.0</td> <td>1.5</td> </tr> <tr> <td>6</td> <td>Solid waste management</td> <td>6.0</td> <td>3.0</td> </tr> <tr> <td>7</td> <td>Occupational health and safety training</td> <td>32</td> <td>4.0</td> </tr> <tr> <td>8</td> <td>Greenbelt</td> <td>20.0</td> <td>5.0</td> </tr> <tr> <td></td> <td>Total EMP Cost</td> <td>137</td> <td>44.5</td> </tr> </tbody> </table>	Sr. No.	Pollution Control Measures	Capital Cost (Lakhs)	Recurring Cost per Annum Rs. (Lakhs)	1	Air Pollution Control	30.0	4.0	2	Water Pollution Control	30.0	20.0	3	Noise Pollution Control	16.0	2.0	4	Environment Monitoring and Management	0	5.0	5	Road Safety and Traffic Management	3.0	1.5	6	Solid waste management	6.0	3.0	7	Occupational health and safety training	32	4.0	8	Greenbelt	20.0	5.0		Total EMP Cost	137	44.5	
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7.	<p>Activities proposed in CER along with timeline</p>	<p>GSPC would undertake the following CER activities;</p>	<p>Revised CER activities with timeline & budget shall</p>																																								

	<p>shall be submitted. Occupational health and safety budget shall be submitted.</p>	<p>Occupational health Budget:</p> <table border="1" data-bbox="507 280 1158 1265"> <thead> <tr> <th colspan="3" data-bbox="507 280 1158 331">Proposed CER Activities</th> </tr> <tr> <th data-bbox="507 331 595 409">S. No</th> <th data-bbox="595 331 930 409">Item</th> <th data-bbox="930 331 1158 409">Timeline</th> </tr> </thead> <tbody> <tr> <td data-bbox="507 409 595 600">1</td> <td data-bbox="595 409 930 600">Provision of clean drinking water to identified villages (water treatment plant)</td> <td data-bbox="930 409 1158 1265" rowspan="6">During Construction & Production Phase of Project.</td> </tr> <tr> <td data-bbox="507 600 595 790">2</td> <td data-bbox="595 600 930 790">Conducting workshops for farmers welfare on tackling climate change</td> </tr> <tr> <td data-bbox="507 790 595 902">3</td> <td data-bbox="595 790 930 902">Conducting health camps for the villagers</td> </tr> <tr> <td data-bbox="507 902 595 1014">4</td> <td data-bbox="595 902 930 1014">Provision of saplings to schools and Govt. offices</td> </tr> <tr> <td data-bbox="507 1014 595 1104">5</td> <td data-bbox="595 1014 930 1104">Development & repairing of Roads.</td> </tr> <tr> <td data-bbox="507 1104 595 1265">6</td> <td data-bbox="595 1104 930 1265">Undertakes regular plantation drives for all sites & nearby area.</td> </tr> </tbody> </table> <p>Approved HSE budget for FY: 2022-23 for Tarapur block: Approximately 32,00,000 INR</p>	Proposed CER Activities			S. No	Item	Timeline	1	Provision of clean drinking water to identified villages (water treatment plant)	During Construction & Production Phase of Project.	2	Conducting workshops for farmers welfare on tackling climate change	3	Conducting health camps for the villagers	4	Provision of saplings to schools and Govt. offices	5	Development & repairing of Roads.	6	Undertakes regular plantation drives for all sites & nearby area.	<p>be submitted. Rs. 75 Lakhs shall be earmarked for CER.</p>
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8.	<p>Onsite emergency plan including oil spill management plan shall be submitted.</p>	<p>Onsite emergency plan (ERP) including oil spill management plan is submitted.</p>	<p>EAC found the information satisfactory.</p>																			

9.	H ₂ S contingency plan shall be submitted for emissions control.	H ₂ S contingency plan is not applicable as there is no H ₂ S concentration in any wells of entire cambay basin (Tarapur Block). Regular fixed gas detection system & portable gas detectors shall be used at each site.	EAC found the information satisfactory.
10.	Copy of MOU for disposal of hazardous waste to the TSDF site shall be submitted.	Current MOU for disposal of hazardous waste is attached as Annexure-7. GSPC also follows the tendering process for waste disposal requirement & dispose the waste as per the applicable rules & regulations to authorized disposal agency.	EAC found the information satisfactory.

The committee was satisfied with the response provided by PP on above information.

The Project Proponent and the accredited Consultant M/s. SV Enviro Labs & Consultants (NABET certificate no. NABET/EIA/2124/RA 0240 and validity 24.10.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project Onshore Development and Production by drilling and development of wells located at Villages Changara, Chikaliya, Dugari, Indranaj, Isarwada, Jichka, Kalamsar, Kandhroti, Kasbara, Khada, Mahiyari, Moraj, Ralaj, Undel, Varsada, Vasna, Alindra, Antroli, Bhalada, Daloli, Garmala, Kharenti, Khumaarvada, Limbasi, Machhiel, Malavada, Maliyataj, Marala, Matar, Nandhanpur, Nagrama, Palana, Punaj, Ratanpur, Siholdi, Sokhda, Traj, Tranja, Undhela, Vansar, Vastana, Tehsil Tarapur, Sojitra, Anand, Petlad, Borsad, Khambat, Anklav, Mehmedabad, Thasra, Mahudha, Matar, Nadiad and Kheda, District Anand & Kheda, State Gujarat by M/s. Gujarat State Petroleum Corporation Ltd.

All Offshore and onshore oil and gas exploration, development & production proposals are listed at S.N. 1(b) of Schedule of Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

GSPC is operator for the block awarded Tarapur CB-ON/2 block situated in Kheda and Anand districts of Gujarat state to the consortium of GSPC, ONGC & GEO GLOBAL BARBADOS INC during PRE NELP round of bidding. GSPC is planning to carry out construction of Production Facility at each or any of the well sites (depending on technical and commercial feasibility to optimize the numbers of PRODUCTION FACILITY creation) and connecting wells to PRODUCTION FACILITY through laying of 4"/6" underground pipeline. Total block area is 570 Sq. Km.

The details of products and capacity as under:

S. No	Unit	Product/by product	Existing Quantity	Proposed Quantity	Total Quantity
1	SCM/Day	Crude Oil (per well)	--	30-40	30-40
2	SCM/Day	Natural Gas (per well)	--	5000-7000	5000-7000

Co-ordinates of proposed wells:

Name	Latitude	Longitude
1	22°37'15.6384"N	72°37'34.5859"E
2	22°18'35.0577"N	72°45'27.5662"E
3	22°19'20.3244"N	72°46'3.8566"E
4	22°19'8.6225"N	72°45'19.5444"E
5	22°43'38.5099"N	72°42'26.8199"E
6	22°43'18.8358"N	72°43'22.5028"E
7	22°44'22.8286"N	72°43'26.8424"E
8	22°45'25.3695"N	72°43'3.8233"E
9	22°32'28.5132"N	72°32'54.0802"E
10	22°42'2.1600"N	72°41'45.7400"E
11	22°41'7.0200"N	72°42'20.4300"E
12	22°41'1.1301"N	72°44'17.4899"E
13	22°37'24.4898"N	72°38'15.7101"E
14	22°36'21.4601"N	72°39'8.6000"E
15	22°36'48.8999"N	72°36'10.4101"E
16	22°37'26.4899"N	72°36'26.2099"E

17	22°38'10.3000"N	72°36'58.6800"E
18	22°38'44.0275"N	72°44'14.8355"E
19	22°35'20.5999"N	72°35'24.1299"E
20	22°31'8.8884"N	72°37'20.6944"E
21	22°27'43.1492"N	72°37'57.6480"E
22	22°22'4.2901"N	72°41'13.2799"E
23	22°41'13.2649"N	72°40'15.1733"E
24	22°39'48.0799"N	72°39'10.7101"E
25	22°38'16.3999"N	72°37'58.0799"E
26	22°34'45.4701"N	72°33'11.3398"E
27	22°32'14.0049"N	72°35'24.8577"E
28	22°31'39.9491"N	72°29'55.6781"E
29	22°30'31.8868"N	72°32'23.9630"E
30	22°28'52.8013"N	72°34'57.2534"E
31	22°28'58.9700"N	72°36'35.5200"E
32	22°19'1.0600"N	72°42'9.7400"E
33	22°33'53.2101"N	72°39'2.7401"E
34	22°32'39.8152"N	72°30'10.3543"E
35	22°33'30.2301"N	72°29'35.5402"E
36	22°34'5.1826"N	72°31'46.8943"E
37	22°34'54.3326"N	72°31'53.8223"E
38	22°33'16.9546"N	72°32'27.3641"E
39	22°34'13.1687"N	72°32'43.5495"E
40	22°35'20.8181"N	72°32'38.1504"E
41	22°39'26.6502"N	72°41'49.1825"E
42	22°34'12.4553"N	72°36'43.0060"E
43	22°30'31.0274"N	72°34'46.1314"E
44	22°33'41.8392"N	72°34'50.0819"E
45	22°37'3.7362"N	72°33'47.6686"E
46	22°20'31.2051"N	72°41'38.3376"E
47	22°17'21.1870"N	72°46'3.4222"E
48	22°20'0.1908"N	72°43'23.6647"E
49	22°29'42.8053"N	72°32'6.1124"E
50	22°37'2.8565"N	72°36'57.8321"E

Block CB-ON/2: The PSC for the Pre-NELP block CB-ON/2 was signed on 12.04.2000. The block completed its exploration phase of 7 years in 22.11.2007 and one year of extended exploration phase in 22.11.2008 with GSPC as an Operator and ONGC and GGRB as JV partners. GSPC as an Operator carried out onshore exploration, development and production of oil and gas in block CB-ON/02 (Tarapur Block) in Gujarat state. To carry out further development activities GSPC proposes to drill around 50 number of wells and based on the drilling results development plan will be decided in future course. The block boundary coordinates cover an area of approximately 570 square kilometres including both parts A and B of the block.

Standard ToR has been issued by Ministry vide letter No IA-J-11011/59/2018-IA-II(I) dated 17.02.2018. Public Hearing for the proposed project had been conducted by the Gujarat Pollution Control Board on 16.06.2022 & 17.06.2022 at Anand and Kheda chaired by Additional District Magistrate and District Magistrate of those respective districts. It was informed that no litigation is pending against the proposal.

Major issues raised in PH are related to compensation given for land to be acquired by M/s. GSPC and negative effects on the environment due to the project. PP has informed that land would be taken on rental basis and compensation according to prevailing norms would be paid for land taken on rent and the standing crops on it. Further it was informed that GSPC always follows all environmental guidelines to prevent air, water, soil and noise pollution and he added that they would do the same for this project also so that there was no adverse effect on the environment.

Total land area required is 57000 hectares. The estimated project cost is Rs. 14-15 crores per drilling of 1 well and Rs. 3-4 Crores in the development of production facilities at each site. Capital cost of EMP would be Rs. 137 Lakhs and recurring cost for EMP would be Rs. 44.5 Lakhs per annum. Industry proposes to allocate Rs. 0.75 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 10 Nos (Drilling) and 25-30 Nos (Production) persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Shedi

River is at a distance of 0.542 Km from Well no 8 in North direction. River Sabarmathi is at a distance of 2.795 Km. Mahi river is at 2.89 km

Ambient air quality monitoring was carried out at 8 locations during 01st January, 2020 To 31st March, 2020 and the baseline data indicates the ranges of concentrations as: PM₁₀ (53.2-78.7 µg/m³), PM_{2.5} (25.4-41.5µg/m³), SO₂ (16.6-20.2µg/m³) and NO₂ (7.70-15.50g/m³).AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 80.38 µg/m³, 15.493 µg/m³ and 20.93 µg/m³ with respect to PM, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 40 CMD (Drilling for each well) and 6 CMD (Production for each well) which will be met from locally through approved authorities (name of river, if any). Effluent of 10 CMD (Drilling) and 3 CMD (Domestic) quantity and will be discharged in HDPE line pit at site for natural evaporation. Domestic waste water will be generated and disposed to well designate septic tank at site.

Power requirement will be 662.5KVA (Drilling) and will be met from proposed 2 x 380 KVA DG Sets and Production: From Gujarat Electricity Board (GEB), Power requirement: (Motive: 100 HP &Light: 25 KVA) from GEB; Emergency: 62.5 KVA DG Set. NOC for power requirement from State Grid will be obtained as and when production facility is established. APCE Acoustic enclosure with a stack of height of 9 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm³ for the proposed DG sets.

Details of Process emissions generation and its management:

- Fugitive emissions may result from handling and storage of hydrocarbons (crude, diesel & chemicals) which are very minor. At the time of transportation dust will be generated. Water spraying to be done on the access roads to control re-entrained dust during dry season (if required).
- The engines and exhaust systems of all vehicles and equipment used will be maintained as such, that exhaust emissions are low and do not breach statutory limits set for the concerned vehicle/equipment type.

Details of solid waste/Hazardous waste generation and its management

- During drilling, domestic solid waste of approximately 4-5 kg/day per well will be generated and 1-2 kg/day generated during production at each site will be segregated at source (Organic / inorganic) & disposed accordingly
- Drill Cutting wastes 300-500 MT generated during drilling shall be handover to authorised TSDF facility.
- Waste/Used oil of 200 Liters/Well during Drilling and 30Kg/month during production will be used for internal purpose or handover to authorised disposal site.
- Oily Cotton waste of 15kg/month/well (Drilling) and 30Kg/month (Production) will be handover to authorised disposal site.
- Waste Sludge oil of 1 SCM/Month will be generated. It will be sent to authorised recycler or authorised disposal site

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

The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has found the baseline data is within NAAQ standards. The Committee has deliberated the action plan proposed by the project proponent to arrest the incremental GLC due to the project. The Committee has also deliberated on the CER plan and found to be addressing the issues in the study area. The EAC has deliberated the proposal and has made due diligence in the process

as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC have found the proposal in order and have **recommended** for grant of environmental clearance.

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

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

- (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). No pipelines or its part shall be laid in the Forest land/Protected Area without prior permission/approval from the Competent Authority.
- (iii). Total fresh water requirement shall not exceed 40CMD which will be met from tanker supply. Prior permission shall be obtained from the concerned regulatory authority.
- (iv). The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises. Mobile ETP coupled with RO shall be installed to reuse the treated water in drilling system. Mobile STP shall be installed to treat

the domestic sewage. Size of the waste shall be equal to the hole volume+ volume of drill cutting and volume of discarded mud if any. Two feet free board may be left to accommodate rain water. There shall be separate storm water channel and rain water shall not be allowed to mix with waste water. Alternatively, if possible pit less drilling be practiced instead of above.

- (v). Produce water from the EPS shall be treated in the efficient ETP. Treated effluent shall be disposed at CETP Kalol after achieving discharge standards for CETP. Online effluent monitoring system shall be installed and records shall be maintained.
- (vi). During production, storage and handling, the fugitive emission of methane, if any, shall be monitored using Infra-red camera/ appropriate technology.
- (vii). The project proponent also to ensure trapping/storing of the CO₂ generated, if any, during the process and handling.
- (viii). Approach road shall be made pucca to minimize generation of suspended dust.
- (ix). The project proponent shall make all arrangements for control of noise from the drilling activity. Acoustic enclosure shall be provided for the DG sets along with the adequate stack height as per CPCB guidelines.
- (x). The company shall construct the garland drain to prevent runoff of any oil containing waste into the nearby water bodies. Separate drainage system shall be created for oil contaminated and non-oil contaminated.
- (xi). Drill cuttings separated from drilling fluid shall be adequately washed and disposed in HDPE lined pit. Waste mud shall be tested for hazardous contaminants and disposed according to HWMH Rules, 2016. No effluent/drilling mud shall be discharged/disposed off into nearby surface water bodies. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.

- (xii). Oil spillage prevention and mitigation scheme shall be prepared. In case of oil spillage/ contamination, action plan shall be prepared to clean the site by adopting proven technology. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorized recyclers.
- (xiii). The project proponent shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At fixed installations or plants use of ground flare shall be explored. At the place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during operation.
- (xiv). The project proponent shall develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H₂S detectors in locations of high risk of exposure along with self-containing breathing apparatus.
- (xv). Blow Out Preventer system shall be installed to prevent well blowouts during drilling operations.
- (xvi). On completion of the project, necessary measures shall be taken for safe plugging of wells with secured enclosures to restore the drilling site to the original condition. The same shall be confirmed by the concerned regulatory authority from environment safety angle. In case of hydrocarbon not found economically viable, a full abandonment plan shall be implemented for the drilling site in accordance with the applicable DGH / Indian Petroleum Regulations. After completion of drilling of any well, the owner or operator shall restore the well site, remove or fill all pits used to contain produced fluids or industrial waste and remove all drilling supplies and equipment not needed for production.
- (xvii). As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility (Rs. 0.75 Crores), 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.

- (xviii). No lead acid batteries shall be utilized in the project/site.
- (xix). Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xx). Oil content in the drill cuttings shall be monitored and report & shall sent to the Ministry's Regional Office.
- (xxi). The project proponent shall prepare operating manual in respect of all activities, which would cover all safety & environment related issues and measures to be taken for protection. One set of environmental manual shall be made available at the drilling site/ project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office. Remote monitoring of site should be done.
- (xxii). 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. 7

Proposed 120 KLPD Grain based distillery with Power generation of 4.0 MW located at KasaraNo 98/2, 160/3, 160/2, 162, 163, 168, 169, 165/3,188,190/2,185,158/1, 190/3, Keotara, Dist: Raipur,

Chhattisgarh by M/s. Ecofora Energy Biofuels Private Limited ("EEBPL")- Consideration of Environmental Clearance

[IA/CG/IND2/ 400800/2022; IA-J-11011/376/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. Techno Green Solution (NABET certificate no. NABET/EIA/2124/IA0081 and validity till 05th July 2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance of Proposed 120 KLPD Grain based Ethanol Plant with 4.0 MW co-generation power plant located at Kasara No. 98/2, 160/3, 160/2, 162, 163, 168, 169, 165/3, 188, 190/2, 185, 158/1, 190/3, Village Keotara, Tehsil Tilda, District Raipur, State Chhattisgarh by M/s. Ecofora Energy Biofuels Private Limited ("EEBPL").

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:

Sr No	Name of unit	Name of the products /by products	Production capacity
1	Distillery	Ethanol	120 KLPD
2	Power Plant	Power	4.0 MW
3	DWGS Dryer	DDGS	60 TPD
4	Fermentation	Carbon Dioxide	96 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 no litigation is pending against the proposal.

Total land area required is 10.69 hectares. Greenbelt will be developed in total area of 3.55 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 150.80 Cr. Capital cost of EMP would be Rs. 12.45 Crores and recurring cost for EMP would be Rs. 0.721 Crores per annum. Industry proposes to allocate Rs. 2.26 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 210 persons as direct & indirect.

There are no national parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Khaulidari Protected Forest is at 5.4 km from project site. Water bodies: Kumbhari Tank is 1.7 km and Bhibhori Tank is 1.0 km from project site. No objection certificate is obtained from executive engineer, Water resources division, Raipur.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.73 $\mu\text{g}/\text{m}^3$, 0.35 $\mu\text{g}/\text{m}^3$, 1.76 $\mu\text{g}/\text{m}^3$ and 0.73 $\mu\text{g}/\text{m}^3$ with respect to PM₁₀, PM_{2.5}, SO₂&Nox. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement is 540 m³/day which will be met from Ground water. Application has been submitted to CGWA for ground water permission. (application Number : 21-4/7094/CT/IND/2022). Effluent (Condensate/ Spent lees /blowdown) of 627 m³/day quantity will be treated through Condensate polishing unit of capacity 650 m³/day. Raw Stillage (803 KLPD: quantity of raw spent wash from distillation) will be sent to decanter followed by MEE and dryer to produce DDGS. STP will be installed to treat sewage generated. 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 3.3 MW and will be met from proposed 4.0 MW cogeneration power plant. 32 TPH biomass/coal fired boiler will be installed. ESP with a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 1000 kVA DG set will be used as standby during power

failure and stack height (6 m) will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP with a stack height of 60 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.
- CO₂ (96 TPD) generated during the fermentation process will be collected by utilizing CO₂ scrubbers and sold to authorized vendors/collected in installed bottling plant.

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

- DDGS (Distilled Dried Grains Stillage) (60 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (Coal Ash 23.4 TPD or 39.30 TPD Rice Husk) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises.
- Used oil will be sold to authorized recyclers
- CPU & STP sludge 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 120 KLPD will be used for manufacturing fuel ethanol only.

Total land of 10.69 Hectares is under possession of M/s. Ecofora Energy Biofuels Private Limited ("EEBPL") and Land is converted into Non Agriculture use (NA) dated 16th February, 2022. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- PP shall commit that fresh water consumption shall not exceed 4 KL/KL of ethanol production. PP has committed the same.

- Approach road/village road shall be maintained by the industry. PP has committed the same.
- Revised native tree species shall be submitted instead of plantation species. PP has submitted the same. However, the committee suggested to ensure correct botanical and family name in the list of plants proposed in green belt. It was also suggested to consult local DFO for green belt development.
- Provide undertaking that project site is located more than 10 km away from Critically Polluted Area of Raipur. PP has submitted the undertaking that Raipur Industrial Area is 33 km aerial distance from project site.
- Replace supply of RO facilities with potable water supply in CER activities and submit. PP has submitted revised CER activities.

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 120 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 Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (vii). Electrostatic precipitator (5 field & 99.9% efficiency) with a stack height of 60 meters will be installed with 32 TPH biomass/coal fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (Coal Ash 23.4 TPD or 39.30 TPD Rice Husk) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel. 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 (96 TPD) generated during the fermentation process will be collected by utilizing CO₂ scrubbers and sold to authorized vendors/collected in installed bottling plant.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Filter press shall be installed for drying of sludge.
- (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 3.55 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. 2.26 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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. Approach road/village road connecting the State Highway after 10 km shall be maintained by the company.
- (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. 8

Grain Based 200 KLD Fuel Ethanol Plant & 6.0 MW Co- Generation Power Plant (By Product: 100 TPD of CO2 Generation & DDGS : 90)located at Khasara no 239 Village –RusiaPairakhedi, Tehsil Kurwai, Dist Vidisha Madhya Pradesh by M/s. Shri Raamaya Bio Refineries Pvt. Ltd.- Consideration of Environmental Clearance

[IA/MP/IND2/ 400282/2022; IA-J11011/367 /2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. Creative Enviro Services (NABET certificate no. NABET/EIA/2023/SA-0162 and validity 22.03.2023) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project for 200 KLPD Grain based Ethanol Plant & 6.0 MW Co-generation power plant (biomass/coal based) located at Khasara no 239 Village RusiaPairakhedi, Tehsil Kurwai, District Vidisha, State Madhya Pradesh by M/s. Shri Raamaya Bio Refineries Pvt. 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:

Sr No	Name of Unit	Name of the product/by product	Production Capacity
1	Grain Based Fuel ethanol Unit	Ethanol	200 KLPD
2	Co-Generation Power Plant	Power	6 MW
3	DWGS Dryer	DDGS	90 TPD
4	Fermentation Unit	Carbon Di Oxide	100 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 no litigation is pending against the proposal.

Total land area required is 8.81 hectares. Greenbelt will be developed in total area of 2.91 hectares i.e., 34% of total project area. The estimated project cost is Rs. 211.45 Crores. Capital cost of EMP would be Rs. 31.67 Crores and recurring cost for EMP would be Rs. 1.12 Crores per annum. Industry proposes to allocate Rs. 2.0 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 250 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors / Reserve forest/Protected forest

etc. within 10 km distance.. Water bodies: River Betwa is at a distance of 3.50 Km in Eastern direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 3.63 $\mu\text{g}/\text{m}^3$, 1.09 g/m^3 , 12.1 $\mu\text{g}/\text{m}^3$ and 12.0 $\mu\text{g}/\text{m}^3$ 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 800m³ /day which will be met from River Betwa. Consent has been obtained from water resource department of Govt of MP vide no V.P.N.M/31/Tech/S.L./1031/2022/309 dated 01.09.2022 Effluent (Condensate/spent lees/blow-down etc.) of 1009 m³ /day quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 1200 KLPD. Raw stillage (1115 KLPD:quantity of raw spent wash from distillation) will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 20 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 5.8 MW and will be met from proposed 6 MW cogeneration power plant. 50 TPH coal/rice husk fired boiler will be installed. ESP with a stack height of 46 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 1010 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:

- ESP with a stack height of 46 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.
- CO₂ (100 TPD) generated 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) (90 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (63 TPD) will be used for brick manufacturing in proposed brick manufacturing plant.
- Used oil (1 Kilolitre per annum) will be sold to authorized recyclers.
- CPU sludge (0.2 TPD) and STP Sludge (0.05 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 8.81 Hectares is under possession of the company and is allotted by MPIDC , hence land use conversion is not required.EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- The Committee noted that land is divided into two parts by a village road. PP informed that both land will have separate boundaries so that village road is accessible for villagers and there will be no encroachment of road. Greenbelt shall be developed on both side of road. PP informed that Gram Panchayat NOC has been obtained.
- Revised CER activities including repair and maintenance of road shall be submitted. PP has submitted revised CER activities.
- PP shall ensure that detailed risk assessment is conducted before commencement of operations. PP has submitted the detailed risk assessment.

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 Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met from River Betwa. 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated

effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.

- (vii). Electrostatic precipitator (5 field & 99.9% efficiency) and stack height of 46 meters will be installed with 50 TPH coal/rice husk fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (63 TPD) will be used for brick manufacturing in proposed brick manufacturing plant. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (ix). CO₂ (100 TPD) generated during the fermentation process will be collected by utilizing CO₂ scrubbers and it shall be sold to authorized vendors/collected in proposed bottling plant.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Filter press shall be installed for drying of sludge.
- (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 2.91 hectares i.e., 34% 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. Greenbelt shall be developed on both side of road.
- (xvi). PP proposed to allocate Rs. 2.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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. 9

Greenfield Project of 65 KLPD Grain Based Ethanol Plant along with 2.5 MW Co-generation Power Plant located at Gram Panchayat: Nowda, Mouza: Malon, J.L. No. 32, P.O. Bhanail, P.S. Hemtabad, District: Uttar Dinajpur, West Bengal by M/s. North Eastern Bio Refinery Private Limited- Consideration of Environmental Clearance

[IA/WB//IND2/401855/2022; IA-J-11011/405/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. GRC India Pvt. Ltd. (NABET certificate no. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 65 KLPD Grain Based Ethanol Plant along with 2.5 MW Co-generation Power Plant located at Gram Panchayat: Nowda, Mouza: Malon, J.L. No. 32, P.O. Bhanail, P.S. Hemtabad, District Uttar Dinajpur, State West Bengal by M/s. North Eastern Bio Refinery 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	Ethanol	65 KLPD
2	Co-generation power plant	Power	2.5 MW
3	DWGS dryer	DDGS	35 TPD

4	Fermentation unit	Carbon di-oxide	40 TPD
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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 no litigation is pending against the proposal.

Total land area required is 3.24 hectares. Greenbelt will be developed in total area of 1.07 hectares i.e., 33% of total project area. The estimated project cost is Rs. 135 Crores. Capital cost of EMP would be Rs. 20.50 Crores and recurring cost for EMP would be Rs. 2.03 Crores per annum. Industry proposes to allocate Rs. 1.35 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 200 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Baharail Forest and Surangapur forest is at a distance of 1.5 km (SW) and 3.3 km (SSW) respectively. Kulik Nadi is at a distance of 7 km.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.08 $\mu\text{g}/\text{m}^3$, 0.04 $\mu\text{g}/\text{m}^3$, 1.06 $\mu\text{g}/\text{m}^3$, 1.13 $\mu\text{g}/\text{m}^3$ and 0.1 $\mu\text{g}/\text{m}^3$ with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 , NO_2 and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 375 KLD which will be sourced from Ground water. Application for ground water withdrawal has been submitted to Water Resources and Investigation & Development Department dated 19th September, 2022. Effluent (Condensate/spent lees/blowdown etc.) of 491 m^3/day quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 300 KLPD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 10 KLD 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 1.75 MW and will be met from proposed 2.5 MW co-generation power plant. 17.5 TPH Coal/Rice Husk fired boiler will be

installed. ESP& a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 500 kVA DG set will be used as standby during power failure and stack height will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP and stack height of 60 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.
- CO₂ (40 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:

- DDGS (Distilled Dried Grains Stillage) (9900 TPA) will be sold as cattle feed/fish feed/ prawn feed.
- Boiler ash (20,000 TPA) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.6 Cr. bricks per annum.
- Used oil (1.0 Kilolitres per annum) will be sold to authorized recyclers.
- CPU/ETP sludge (13.20 TPA) and STP Sludge 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 65 KLPD will be used for manufacturing fuel ethanol only.

Total land of 3.24 Hectares which under possession by the company and CLU has been applied to competent authority vide letter no.

CONV2022180700216 dated 29.09.2022. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- PP shall ensure that construction shall not be started without CLU certificate.
- PP shall ensure that ground water permission shall be obtained before start of construction activities.
- 20 % biomass pellets shall be used as fuel in CPP.
- PP submitted risk assessment and its mitigation plan.

The committee was satisfied with the response provided by PP on above information.

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 65 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 Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.

- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (vii). Electrostatic precipitator (5 field & 99.9% efficiency) with a stack height of 60 meters will be installed with 17.5 TPH Coal/Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of 50 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (20,000 TPA) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.6 Cr. bricks per annum. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel. 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 (40 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.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Filter press shall be installed for drying of sludge.
- (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 1.07 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. 1.35 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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

Greenfield Project of 120 KLPD Grain Based Ethanol Plant along with 3 MW Co-generation Power Plant located at Village- Kathiya, Tehsil-Berla, District- Bemetara, Chhattisgarh by M/s. Varsha Biofuels Private Limited- Consideration of Environmental Clearance

[IA/CG/IND2/401627/2022; IA-J-11011/312/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. GRC India Pvt. Ltd. (NABET certificate no. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 120 KLPD Grain Based Ethanol Plant along with 3 MW Co-generation Power Plant located at Village Kathiya, Tehsil Berla, District Bemetara, State Chhattisgarh M/s. Varsha Biofuels 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	Ethanol	120 KLPD
2	Co-generation power plant	Power	3 MW
3	DWGS dryer	DDGS	54 TPD
4	Fermentation unit	Carbon di-oxide	60 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 no litigation is pending against the proposal.

Total land area required is 8.02 hectares. Greenbelt will be developed in total area of 2.65 hectares i.e., 33% of total project area. The estimated project cost is INR Rs. 160 Crores. Capital cost of EMP would be Rs. 24.25 Crores and recurring cost for EMP would be Rs. 3.79 Crores per annum. Industry proposes to allocate Rs. 1.60 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 200 persons as direct & indirect.

There are no national parks, reserved forests, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Shivnath River is at approx. 1.26 km distance from the project site in SSE direction. Kharun River is at approx. 4.2 km distance from project site in SE direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.59 µg/m³, 0.24 µg/m³, 2.75 µg/m³, 1.64 µg/m³ and 0.77 µg/m³ with respect to PM₁₀, PM_{2.5},

SO₂, NO₂ and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement including co-generation power plant will be 720 m³/day which will be met from surface water. The application for 721 KLPD surface water has been submitted to Department of Water Resources Authority having application no. WA00342; dated 25th July, 2022. Effluent (Condensate/spent lees/blowdown etc.) of 491 m³/day quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 600 KLPD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 15 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 3 MW and will be met from proposed 3 MW co-generation power plant. 25 TPH Coal/Rice Husk fired boiler will be installed. ESP& a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 2 x 500 kVA DG set will be used as standby during power failure and stack height will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP & a stack height of 60 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.
- CO₂ (60 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:

- DDGS (Distilled Dried Grains Stillage) (54 TPD) will be sold as cattle feed/fish feed/ prawn feed.
- Boiler ash (52.48 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.6 Cr. bricks per annum.
- Used oil (2 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (67.02 kg/day) and STP Sludge (2.05 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 120 KLPD will be used for manufacturing fuel ethanol only.

Total land of 8.02 Hectares is under possession of the company and land use conversion application has been submitted to competent authority dated 22.07.2022.EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- Commitment that CLU permission shall be obtained before start of construction activities.
- PP informed that the project site does not fall within Critically Polluted Area (Silthara Industrial Area Phase-II) which is around 23.4 km away.
- PP ensured that PESO clearance shall be obtained before commencement of the project.

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

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Experts Members/domain experts in various fields, have examined the proposal submitted by the Project Proponent in desired form along with the 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 120 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 for surface water supply shall be obtained before start of the construction of plant, 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met from surface 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.

- (vii). Electrostatic precipitator with a stack height of 60 meters will be installed with 25 TPH Coal/Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (52.48 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 2.6 Cr. bricks per annum. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. 20% biomass pellets shall be used as fuel. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.
- (ix). CO₂ (60 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.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Filter press shall be installed for drying of sludge.
- (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 2.65 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. 1.60 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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. 11

Expansion of 300 KLPD (Molasses/Grains) Distillery to 700 KLPD (Grains/ Cane Syrup) for Ethanol Production along with Electricity

Generation From 13 to 30 MW located at 96/5B, 96/5A, 96/3A/2, 96/4C, 98/1B/4, 98/1B/5, 98/1B/3, 1/1, 1/6, 2/2A, 2/2B, 98/1C, 95/2, 99/1, 99/4, 95/3, 99/3, 98/1B/1, 99/2 A/P: Yadrav, Tal: Raibag, Dist: Belgaum, Karnataka by M/s. Hermes Distillery Pvt. Ltd. (HDPL) - Consideration of Environmental Clearance

[IA/KA/IND2/400414/2022; IA-J-11011/143/2014-IA-II (I)]

The Project Proponent and the accredited Consultant M/s. Equinox Environments (I) Pvt. Ltd. (NABET Certificate no. : NABET/EIA/2124/SA 0177 and validity 10.10.2024) 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 300 KLPD (Molasses/ Grains) Distillery to 700 KLPD (Grains/ Cane Syrup) for Ethanol Production along with Electricity Generation 13 to 30 MW located at A/P: Yadrav, TehsilRaibag, District Belgaum, State Karnataka, by M/s. Hermes Distillery Pvt. Ltd.

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:

Sr. No.	Name of Unit	Products & By Products	Capacity (KLPD)		
			Existing	Expansion	Total
1.	Distillery	Molasses based (RS/ENA/Ethanol) or	100 KLPD	--	100 KLPD
		Grain based	100 KLPD	--	100 KLPD

		(RS/ENA/Ethanol) or			
		Molasses/ Grain based (RS/ENA/Ethanol) or	100 KLPD	--	100 KLPD
		Grain based (Ethanol) or	--	400 KLPD	400 KLPD
		Cane Syrup based (Ethanol)	--	700 KLPD	700 KLPD
2.	Cogeneration	Electricity Generation	13 MW	17 MW	30 MW
3.	Fermentation Unit	CO ₂ Gas	215 TPD	300 TPD	515 TPD
4.	DWGS Dryer	DDGS	160 TPD	320 TPD	480 TPD

Note: At any given time, maximum capacity of production shall not increase 700 KLPD.

Ministry has issued Environmental Clearance to the existing Industry for a capacity of 100 KLPD Molasses based Distillery along with 13 MW generation of power vide File No. F. No. J-11011/143/2014-IA-II (I) dated 31.01.2017 & for Expansion from 100 KLPD to 300 KLPD Molasses/Grains based Distillery vide File No. F. No. J-11011/143/2014-IA-II (I) dated 26.02.2019 & Amendment in EC for Expansion of 100 KLPD to 300 KLPD Distillery dated 19.05.2021 & dated 27.06.2022. Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC, Bangalore vide File No-EP/12.1/4/2014-15/KAR dated 11.05.2022. Action taken report submitted along with undertaking for observing compliance of CSR and RWH. Accordingly, same is mentioned in IRO report dated 11.05.2022. EAC was satisfied with the response.

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 no litigation is pending against the proposal.

Total plant area after expansion will be 20.27 Ha. (Existing plant area is 8.12 Ha. Additional land of 12.15 Ha. is acquired by HDPL, Of which 7.76 Ha. is

on lease from sister concern unit-Shivshakti Sugars Ltd., Yadrav, Dist.: Belgaum for proposed distillery expansion and 4.39 Ha. land purchased by HDPL for additional green belt and parking) which is under possession of the company and plant area converted to industrial use. Out of the total plant area, 6.6 Ha. i.e. 33% of total plant area will be under green belt. Out of total Green Belt area, 2.7 Ha area of land is already under green belt which is 13% of total plant area and 3.9 Ha of area which is 20 % of total plant area will be developed under expansion. The estimated project cost is Rs 450 Crores. Capital cost of EMP would be Rs. 19.50 Crores and recurring cost for EMP would be Rs. 6.4Crores per annum. Industry proposes to allocate Rs. 5.0 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 280 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Reserve Forest is 0.65 Km from the project site. Water bodies: River Krishna is at a distance of 4.5 Km in North West direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be $2.00 \mu\text{g}/\text{M}^3$, $0.50 \mu\text{g}/\text{M}^3$, $8.27 \mu\text{g}/\text{M}^3$ and $2.34 \mu\text{g}/\text{M}^3$ with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 and NO_x . The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement after expansion of distillery will be 2191 m^3 /day which will be met from Krishna River. NOC has been obtained from Irrigation Division, Govt. of Karnataka vide letter no. KA/1140/2016-17/4219 dated 27.12.2016. Application for renewal of agreement submitted on 17.02.2021. Existing effluent generation is 1880 m^3 /day from molasses and grain based distillery which is treated through Condensate Polishing Unit of capacity 2000 m^3 /day. Proposed total effluent generation from the distillery will be 3009 m^3 /day which will be treated through proposed Condensate Polishing Unit (Additional CPU capacity 1500 M^3 /day).In Molasses/ Cane Syrup based operation, spent wash generated from the analyser column during distillation will be concentrated in Multi Effect Evaporator and concentrated spent wash will be burnt in incineration boiler. In grain based distillery, raw stillage (2058 MT/day : quantity of raw

spentwash from distillation) will be sent to decanter followed by MEE followed by dryer to produce DDGS. Domestic waste water will be treated in STP of capacity 25 KLD. The plant is being based on Zero Liquid discharge system and treated effluent/water is not to be discharged outside the factory premises.

Total power requirement of distillery after expansion will be 16.5 MW which will be sourced from 30 MW co-generation power plant in distillery. Existing distillery has 35 TPH Spentwash & Coal fired boiler, 36 TPH bagasse based Boiler, 39 TPH Spent wash + Coal fired boiler (Yet to be implemented). Under expansion additional 110 TPH Coal / Bagasse fired boiler will be installed in distillery. ESPs with stack height of 72 m, 62 m is installed for existing boilers. For proposed boiler (110 & 39 TPH); ESP with a stack of height of 90 m & 50 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. Industry has existing one 750 KVA DG set & proposed one 750 KVA DG set will be used as standby during power failure and stack height (6 M each) are provided as per CPCB norms to the DG sets.

Details of Process emissions generation and its management:

- ESPs with stack height of 72 m, 62 m is installed for existing boilers in distillery Plant. For proposed boiler (110 & 39 TPH); ESP with a stack of height of 90 m & 50 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³.
- Online Continuous Emission Monitoring System to be installed with the stack and data transmitted to CPCB/SPCB servers.
- CO₂ (515 TPD) generated during the fermentation process will be collected by utilizing CO₂ scrubbers and sold to authorized vendors/collected in installed bottling plant.

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

- Concentrated spent wash (421 M³/day) will be burnt in incineration boiler.

- DDGS (480 TPD) will be sold as cattle feed.
- Boiler ash (278 TPD) after expansion will be used for brick manufacturing/ will be given to reprocessor for recovery of potash and bagasse ash as fertilizer.
- Used oil (1.0 MT/A) will be forwarded to authorized reprocessor.
- CPU sludge (0.06 MT/D) and Yeast Sludge (2 MT/D) will be burnt in Incineration Boiler.

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 expanded capacity of 400 KLPD based on grains/ 700 KLPD Cane Syrup will be used for manufacturing fuel ethanol only.

During deliberations, EAC discussed following issues:

- PP Informed that based on the recommendation of IRO, greenbelt has been densified by planting 4610 trees, Rs. 2.0 Cr has been spent on CER activities, two tanks of RWH have been provided of capacity 1500 m³ and 10000 m³.
- Air cooled condensers shall be installed.
- CER budget shall be increased to Rs. 5 Crores from Rs. 3.55 Crores.

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 expanded capacity of 400 KLPD based on grains/700 KLPD Cane Syrup 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 for surface water supply shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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. Air cooled condensers shall be installed to reduce fresh water requirement.
- (vi). Spent wash shall be dried to form DDGS to be used as cattle feed in grain based operations and in molasses based operation, concentrated spent wash will be burnt as fuel in incineration boiler. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (vii). Electrostatic precipitator with a stack height of 90 & 50 meters will be installed with 39 TPH Spent wash + Coal fired boiler and 110 TPH Coal / Bagasse fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than

100 mg/Nm³. 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 (278 TPD) from boiler after expansion will be used for brick manufacturing/ will be given to re-processor for recovery of potash and bagasse ash as fertilizer. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel. 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 (515 TPD) generated during the fermentation process will be collected by utilizing CO₂ scrubbers and sold to authorized vendors/collected in installed bottling plant.
- (x). 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.
- (xi). PP shall allocate at least Rs. 50 Lakhs/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). 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.

- (xiii). 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.
- (xiv). 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. Filter press shall be installed for drying of sludge.
- (xv). 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.
- (xvi). The green belt of at least 5-10 m width shall be developed in nearly 6.6 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.
- (xvii). PP proposed to allocate Rs. 5.0 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.
- (xviii). 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.

- (xix). 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.
- (xx). 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.
- (xxi). 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.
- (xxii). 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. 12

Greenfield Grain Based Ethanol Plant of 250 KL/Day Capacity located at Survey No. 2270, 2277, 2319, (old Survey No. 1448/1/P/10, 1448/1/P/7, 1448/P/5/P), Village- Gangad, Taluka- Bavla, District- Ahmedabad, Gujarat by M/s. DAPS Infra Private Limited- Consideration of Environmental Clearance

[IA/GJ/IND2/401290/2022; IA-J-11011/296/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. GRC India Pvt Ltd (NABET certificate no. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 250 KLPD Grain Based Ethanol Plant located at Village Gangad, TehsilBavla, DistrictAhmedabad, State Gujarat by M/s. DAPS Infra 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	Ethanol	250 KL/Day
2	DWGS dryer	DDGS	172 TPD
3	Fermentation unit	Carbon di-oxide	165 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 no litigation is pending against the proposal.

Total land area required is 8.38 hectares. Greenbelt will be developed in total area of 2.76 hectares i.e., 33% of total project area. The estimated project cost is Rs. 246 Crores. Capital cost of EMP would be Rs. 39.00 Crores and recurring cost for EMP would be Rs. 9.2 Crores per annum. Industry proposes to allocate Rs. 2.5 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 140 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Water bodies: Bagodara Lake is at a distance of 8.5 Km in SW direction. Rodh River is at a distance of 8 km in West direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.0029 $\mu\text{g}/\text{m}^3$, 0.0019 $\mu\text{g}/\text{m}^3$, 0.0012 $\mu\text{g}/\text{m}^3$, 0.05 $\mu\text{g}/\text{m}^3$ and 0.012 $\mu\text{g}/\text{m}^3$ with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 , NO_2 and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement including domestic, horticulture is 950 KLD which will be met from ground water. The application for permission of withdrawal of ground water have been submitted to CGWA vide application No- 21-4/9509/GJ/IND/2022 dated 29.07.2022. Effluent from industrial process 1026 KLD will be treated in in-house ETP/CPU of 1250 KLD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. The plant will be based on Zero Liquid discharge system and effluent/treated water will be discharged inside factory premises.

Power requirement will be 6 MW sourced from 12 MW Co-generation Power Plant of its sister company M/s Aamanya Organics Private Limited (AOPL) which is adjacent to DIPL site. 2 x 750 kVA DG set will be used as standby during power failure and stack height will be provided as per CPCB norms to the proposed DG sets. No boiler has been proposed in this project site.

Details of Process emissions generation and its management:

- CO₂ (165 TPD) generated during the fermentation process will be collected, scrubbed and sold to beverage & packaging industry.

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

- DDGS (Distilled Dried Grains Stillage) (172 TPD) will be sold as cattle feed/fish feed/ prawn feed.
- Used oil (2 Kilolitres per annum) will be used for oiling the machine in house and balance will be given to authorized re-cycler.
- STP Sludge (2 TPA) will be used as manure.
- ETP Sludge (10.18 kg/day) will be given to authorized re-cycler.

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 250 KLPD will be used for manufacturing fuel ethanol only.

Total land is 8.38 Hectare, and land has been taken on lease basis from Dishman Infrastructure Ltd for 30 Years by DAPS Infra Private Limited to set-up Distillery plant. Current land use is deemed industrial Land and change of land use application for final Industrial Land is submitted to competent authority. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- PP informed that power will be sourced from sister company located adjacent to the plant.
- Revised cost of EMP shall be submitted as it is on lower side. Accordingly, PP submitted revised EMP Capital cost of amount Rs. 39 Cr. and recurring cost is Rs. 9.2 Crore/annum.

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 250 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 Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (vii). CO₂ (165 TPD) generated during the fermentation process will be collected, scrubbed and sold to beverage & packaging industry.
- (viii). PP shall allocate at least Rs. 50 Lakhs/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.
- (ix). 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.
- (x). 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.
- (xi). 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. Filter press shall be installed for drying of sludge.
- (xii). 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.

- (xiii). The green belt of at least 5-10 m width shall be developed in nearly 2.76 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.
- (xiv). PP proposed to allocate Rs. 2.5 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. Further, all the proposed activities under CER shall be completed before the commissioning of the plant in consultation with District Administration.
- (xv). 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.
- (xvi). 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.

- (xvii). 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.
- (xviii). 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.
- (xix). 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. 13

Greenfield Project of 200 KLD Grain Based Ethanol Plant along with 6 MW Co-generation Power Plant located at Village- Talajaring, Tehsil- Junagarh, District- Kalahandi, Odisha by M/s. SAO Breweries and Distilleries Private Limited- Consideration of Environmental Clearance

[IA/OR/IND2/400928/2022; IA-J-11011/395/2022-IA-II(I)]

The Project Proponent and the accredited Consultant M/s. GRC India Pvt Ltd (NABET certificate no. NABET/EIA/2124/RA0213 and valid till 15.02.2024) made a detailed presentation on the salient features of the project and informed that the proposal is for environmental clearance to the project 200

KLD Grain Based Ethanol Plant along with 6 MW Co-generation Power Plant located at Village Talajaring, Tehsil Junagarh, District Kalahandi, State Odisha by M/s. SAO Breweries and Distilleries 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	Ethanol	200 KLD
2	Co-generation powerplant	Power	6 MW
3	DWGS dryer	DDGS	91 TPD
4	Fermentation unit	Carbon di-oxide	142 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 no litigation is pending against the proposal.

Total land area required is 16.19 hectares. Greenbelt will be developed in total area of 5.34 hectares i.e., 33% of total project area. The estimated project cost is INR Rs. 250Crores. Capital cost of EMP would be INR Rs. 37.5 Crores and recurring cost for EMP would be Rs. 6.25 Crores per annum. Industry proposes to allocate Rs. 2.5Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 200 persons as direct & indirect.

There are no national parks, wildlife sanctuaries, Wildlife Corridors etc. within 10 km distance. Reserve Forest/Protected Forest: Parhiagarh Reserve forest is approx. 0.4 km towards W; Ghana Reserve forest is approx. 1.7 km towards SW; Panigan Reserve forest is approx. 4 km towards NW; Shaledangar Reserve forest is approx. 4.3 km towards NE; Kanamajura Reserve forest is approx. 4.6 km towards ESE; Brahmani Reserve forest is approx. 5 km towards NE; Bhallipaharh Reserve forest is approx. 6 km towards W; Garjan Reserve forest is approx. 6.4 km towards S; Singapaharh Reserve forest is approx. 7 km towards E; Chura Reserve forest is approx. 7.5 km towards W; Junagarh forest is approx. 7.8 km towards WSW and Jharabandha Reserve forest is approx. 9 km towards SSE. Water bodies: A Canal is passing through the site in the NW direction. Sagda River is at approx. 1.9 km towards E direction. Tel River is at approx. 5.2 km, E direction. NOC has been obtained for canal dated 15.09.2022 from Office of the Chief Construction Engineer, Upper Indravati Project stating that they have no objection and no flood record in the last 30 years.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be $0.19 \mu\text{g}/\text{m}^3$, $0.13 \mu\text{g}/\text{m}^3$, $2.65 \mu\text{g}/\text{m}^3$, $1.73 \mu\text{g}/\text{m}^3$ and $0.91 \mu\text{g}/\text{m}^3$ with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 , NO_2 and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement including co-generation power plant will be $1160 \text{ m}^3/\text{day}$ which will be met from surface water. The recommendation for drawing water from Sagada river has been forwarded by IPICOL to Department of Water Resources vide letter no. GM/SLNA/TPSB/358/21/2843, dated 04/11/2021. Effluent (Condensate/spent lees/blowdown etc.) of $821 \text{ m}^3/\text{day}$ quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 1000 KLPD. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 15 KLD 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 4.4 MW and will be met from proposed 6 MW co-generation power plant. 50 TPH Coal/Rice Husk fired boiler will be installed.

ESP& a stack height of 60 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. 2 x 1010 kVA DG sets will be used as standby during power failure and stack height will be provided as per CPCB norms to the proposed DG sets.

Details of Process emissions generation and its management:

- ESP with a stack height of 60 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.
- CO₂ (142 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:

- DDGS (Distilled Dried Grains Stillage) (91 TPD) will be sold as cattle feed/fish feed/ prawn feed.
- Boiler ash (150 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 7.4 Cr. bricks per annum.
- Used oil (2 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (112.07 kg/day) and STP Sludge (2.05 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 200 KLPD will be used for manufacturing fuel ethanol only.

Total land of 16.19 Hectares which has been allotted to the company for 90 years on lease basis Vide Letter No.- IDCO/HO/P&A-LA-E-8228/21-22/19755

dated 02.082022 by Odisha Industrial Infrastructure Development Corporation (IDCO).EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- PP committed that 20 % biomass pellets shall be used as fuel in CPP.
- PP ensured that PESO clearance shall be obtained before commencement of the project.
- Detailed risk assessment shall be carried out and submitted to PESO and the IRO, MOEFCC. PP agreed to it.

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 Concerned Local authority for surface water supply shall be obtained before start of the construction of plant, 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.

- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met from surface 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 shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.
- (vii). Electrostatic precipitator (5 field & 99.9% efficiency)& stack height of 60 meters will be installed with 50 TPH Coal/Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (150 TPD) will be used for brick manufacturing in proposed brick manufacturing plant inside plant premises of capacity approx. 7.4 Cr. bricks per annum. Low sulphur coal with maximum sulphur content of 0.5% shall only be used. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel in boiler. PP shall meet 10% of the total power requirement from solar power by generating power inside plant premises/adjacent/nearby areas.

- (ix). CO₂ (142 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.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Detailed risk assessment shall be carried out and submitted to PESO and the IRO, MOEFCC.
- (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. Filter press shall be installed for drying of sludge.
- (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 5.34 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. 2.5 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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. 14

Proposed 120 KLPD Grain based Ethanol plant along with 3.0 MW Co-generation Power Plant located at Village Chak 2HWD, Tehsil Suratgarh, District Sri Ganganagar, Rajasthan by M/s. AGSM Liquors Private Limited- Consideration of Environmental Clearance

[IA/RJ/IND2/401059/2022; IA-J-11011/418/2022-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 120 KLPD Grain based Ethanol plant along with 3.0 MW Co-generation Power Plant at Village Chak 2HWD, Tehsil Suratgarh, District Sri Ganganagar, Rajasthan by M/s. AGSM Liquors 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	Ethanol	120 KLPD
2.	Co-generation power plant	Power	3.0 MW
3.	DWGS dryer	DDGS	59 TPD
4.	Fermentation unit	Carbon di-oxide	92 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 no litigation is pending against the proposal.

Total land area of 6.07 ha is under the possession of the company. Greenbelt will be developed in total area of 3 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 160 Crores. Capital cost of EMP would be Rs 20.0 Crores and recurring cost for EMP would be Rs 2.0. Crores/annum. Industry proposes to allocate additional Rs. 1.6 Cores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 100 persons as direct.

There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/ Elephant Reserves, Reserved Forest (RF)/ Protected Forest (PF), Wildlife Corridors etc. lying within 10 km distance. Water bodies: AnupgarhShakha (Indira Gandhi Nahar) is located at a distance of 3.6 km in SE direction, Sangita Distributary is located at a distance of 6.1 km in East direction & Silwaniya Distributary is located at a distance of 9.1 km in East direction.

AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.277 µg/m³, 0.554 µg/m³ and 0.665 µg/m³ with respect to PM, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Total fresh water requirement will be 530 m³/day which will be met from Ground water. The application has been submitted to CGWA for extraction of 680 KLPD ground water vide Application no. 81627. Effluent (Condensate/spent lees/blowdown etc.) of 660 m³/day will be treated through Condensate Polishing Unit /Effluent Treatment Plant of capacity 800 KLPD. Raw stillage (778 TPD) will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 20 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 3.0 MW and will be met from proposed 3.0 MW Co-generation power plant. 27 TPH Biomass /coal fired boiler will be installed. ESP with a stack height of 50 m will be installed for controlling the particulate emissions within the statutory limit of 30 mg/Nm³ for the proposed boiler. A 500 kVA DG set will be used as standby during power failure and stack height (5 m) will be provided as per CPCB norms to the proposed DG set.

Details of Process emissions generation and its management:

- APCE ESP with a stack height of 50 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.
- CO₂ (92 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:

- DDGS (Distilled Dried Grains Stillage) (59 TPD) will be sold as cattle feed / fish feed / prawn feed.
- Boiler ash (28 TPD) will be used for brick manufacturing in proposed in-house brick manufacturing unit.
- Used oil (0.3 Kilolitres per annum) will be sold to authorized recyclers.
- CPU sludge (0.8 TPD) and STP Sludge (0.01 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 120 KLPD will be used for manufacturing fuel ethanol only.

Total land of 6.07 Hectares is under possession of the company. Application has been submitted to Revenue Department, Government of Rajasthan for conversion of Agricultural land to Industrial land vide application no. LC/2022-23/133381 dated 13.09.2022 and is under process. EAC found the information satisfactory.

During deliberations, EAC discussed following issues:

- Commitment that air cooled condensers shall be installed and reduce fresh water consumption. PP has committed the same.
- Undertaking that CLU shall be obtained before start of construction activities.
- Fresh water consumption shall not exceed 4 KL/KL of ethanol production. Revised water balance shall be submitted. PP has reduced the fresh water requirement from 680 KLPD to 530 KLPD.

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 120 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 Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project 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.
- (v). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met 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. Air cooled condensers shall be installed to reduce fresh water consumption.
- (vi). Spent wash shall be dried to form DDGS to be used as cattle feed. The condensate, spentlees and utilities effluent shall be treated in the ETP comprising tertiary treatment (Condensate Polishing Unit). Treated effluent will be recycled/reused for make up water of cooling towers/process etc. and no waste or treated water shall be discharged outside the premises. STP shall be installed to treat the sewage generated from factory premises.

- (vii). Electrostatic precipitator with a stack height of 50 meters will be installed with 27 TPH Biomass /coal fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. SO₂ and NO_x emissions shall be less than 100 mg/Nm³. 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 (28 TPD) will be used for brick manufacturing in proposed in-house brick manufacturing unit. PP shall use biomass like rice husk/bagasse as fuel for the proposed boiler. 20% biomass pellets shall be used as fuel in 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 (92 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.
- (x). PP shall allocate at least Rs. 50 Lakhs/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. Filter press shall be installed for drying of sludge.

- (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 3.0 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. 1.6 Crores towards Extended EMP (CER) which shall be spent as submitted in CER plan for monitorable activities like up-gradation of schools with provision of facilities e.g. Class rooms, playground, Laboratory, Library, Computer class, toilets, potable drinking water facilities, solar light/solar power support for uninterrupted power supply, soil nutrient management etc. 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.

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.	Dr. Onkar Nath Tiwari	Member
5.	Dr. Rahul Ramesh Rao Mungikar	Member
6.	Dr. Seshagiri Rao Ambati	Member
7.	Dr. Sanjay V Patil	Member
8.	Dr. Siddhartha Singh (IMD)	Member
9.	Shri A.N. Singh, Scientist 'E'	Member Secretary
MoEFCC		
10.	Dr. Mahendra Phulwaria	Scientist 'C'
11.	Mr. Kanaka Teja	Research Assistant
12.	Ms. Meetika Gupta	Research Associate
