



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The Director
KIJALK STARCH AGRO PRIVATE LIMITED
3RD FLOOR, MAHALAXMI TOWER, PEE PEE COMPOUND, MAIN
ROAD, RANCHI,,Ranchi,Jharkhand-834001

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

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/JH/IND2/283136/2022 dated 30 Sep 2022. The particulars of the environmental clearance granted to the project are as below.

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|--|--|
| 1. EC Identification No. | EC22A060JH148087 |
| 2. File No. | IA-J-11011/258/2022-IA-II(I) |
| 3. Project Type | New |
| 4. Category | A |
| 5. Project/Activity including Schedule No. | 5g(a)-Grain Based distilleries for Ethanol Blended Petrol |
| 6. Name of Project | Greenfield Project of 100 KLD Grain Based Ethanol Plant along with 2.8 MW Co-generation Power Plant at Village-Ruam, Tehsil & Block - Musabani, District - East Singhbhum, Jharkhand |
| 7. Name of Company/Organization | KIJALK STARCH AGRO PRIVATE LIMITED |
| 8. Location of Project | Jharkhand |
| 9. TOR Date | N/A |

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

Date: 07/11/2022

(e-signed)
A N Singh
Scientist E
IA - (Industrial Projects - 2 sector)

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

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PARIVESH

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and Virtuous Environment Single-Window Hub)



This has reference to your online proposal no. IA/JH/IND2/283136/2022, dated 30th September, 2022 for environmental clearance to the above-mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance for establishment of 100 KLPD Grain Based Ethanol Plant along with 2.8 MW Co-generation Power Plant located at Village Ruam, Tehsil & Block Musabini, District East Singhbhum, State Jharkhand by M/s Kijalk Starch AgroPvt. Ltd.

3. 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.

4. 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	2.8 MW
3	DWGS dryer	DDGS	43 TPD
4	Fermentation unit	Carbon di-oxide	50 TPD

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

6. Total land area required is 10.12 hectares. Greenbelt will be developed in total area of 3.33 hectares i.e., 33 % of total project area. The estimated project cost is Rs. 150.38 Crores. Capital cost of EMP would be Rs. 23.80 Crores and recurring cost for EMP would be Rs. 7.2 Crores per annum. Industry proposes to allocate Rs. 1.50 Crores towards Extended EMP (Corporate Environment Responsibility). Total Employment will be 105 persons including 69 persons as permanent and 36 persons as temporary.

7. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. Reserve Forest/Protected Forest: Forest Block Jadugoda-Mosabani Range is located at a distance of 0.8 km towards West direction, Trailtribe Hill is at a distance of 5.3 km towards West direction, Rohor Buru Hill is at a distance of 9 km towards East direction and Basadera RF is at a distance of 13 km towards East direction. Water

bodies: Swarnrekha River is at a distance of 0.8 km, Hill River (Garra Nalla) is at a distance of 0.03 km towards North direction for which NOC has been obtained from State Irrigation Department stating that they have made local enquiry and survey and found that Garra Nala is at a distance of 21.33 meters from the project site towards N direction and there is no history of flood in the region for more than 30 years. Therefore, they have no objection in development of the project if concern agency construct plant 100 meters away from the bank of Garra Nala and then there will be no impact on Garra Nala.

8. AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be $0.91\mu\text{g}/\text{m}^3$, $0.37\mu\text{g}/\text{m}^3$, $3.17\mu\text{g}/\text{m}^3$, $2.03\mu\text{g}/\text{m}^3$ and 1.64 with respect to PM_{10} , $\text{PM}_{2.5}$, SO_2 , NO_x and CO. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

9. Total fresh water requirement including co-generation power plant will be $555\text{ m}^3/\text{day}$, which will be met from Subarnrekha river. Application for permission of withdrawal of water vide no. 241 dated 05.08.2022 has been submitted. Effluent (Condensate/spent lees/blow-down etc.) of $439\text{ m}^3/\text{day}$ quantity will be treated through Condensate Polishing Unit/Effluent Treatment Plant of capacity 525 KLPD each. Raw stillage will be sent to decanter followed by MEE and dryer to produce DDGS. STP of capacity 10 KLPD will be installed to treat sewage generated from factory premises. The plant will be based on Zero Liquid discharge system and no effluent/treated water will be discharged outside factory premises.

10. Power requirement will be 2.8 MW will be met from 2.8 MW co- generation power plant. ESP & a stack height of 60 m will be installed with 25 TPH Coal/Rice Husk fired boiler for controlling the particulate emissions within the statutory limit of $30\text{ mg}/\text{Nm}^3$. 2x 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.

11. Details of Process emissions generation and its management:

- ESP & a stack height of 60 meters will be installed with the boiler for controlling the particulate emissions.
- Online Continuous Emission Monitoring System will be installed with the stack and data will be transmitted to CPCB/SPCB servers.
- CO_2 (50 TPD) generated during the fermentation process will be collected by utilizing CO_2 scrubbers and it shall be sold to authorized vendors/collected in installed bottling plant.

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

- DDGS (Distilled Dried Grains Stillage) (43 TPD) will be sold as cattle feed/fish feed/ prawn feed.
- Boiler ash (58 TPD) will be used for brick manufacturing in proposed brick

manufacturing plant inside plant premises.

- Used oil (2.0 Kilolitres per annum) will be sold to authorized recyclers.
- ETP/CPU sludge (49.72 KG/day) and STP Sludge (52.24 KG/day) will be used as manure.

13. 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.

14. Total land of 10.12 Hectares has been allotted to M/s. Kijalk Starch Agro Private Limited by Jharkhand Industrial Area Development Authority vide application no. 2000000478, dated 23.10.2018.

15. During deliberations, EAC discussed following issues:

- PP shall commit that at 100 m, industry shall construct strong RCC retaining wall against the Garra Nala and 20 m wide greenbelt shall be developed towards the drain i.e. North side. PP shall submit copy of clarification letter and NOC obtained from State Irrigation Department for Garra Nala/Hill River. PP has submitted NOC and committed as above in writing.
- Reverify the PHAST deductions for risk assessment as distance of threat zone is large i.e. 120 m due to less quantity of alcohol storage considered. Revised Risk assessment has been submitted.
- Revised CER activities shall be submitted including solar lightings, hospital and school upgradation and drinking water facility. Revised CER activities have been submitted.
- Revised water balance by utilizing rainwater as fresh water shall be submitted. PP has submitted the same.

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

16. The proposal was considered by EAC (Ind-2) in its meeting ID: IA/IND2/13349/11/10/2022 held on 11th October, 2022 in the Ministry, wherein the project proponent and their accredited Consultant namely M/s. GRC India Pvt Ltd (NABET certificate no. NABET/EIA/2124/RA0213 and validity 15.02.2024), presented the case. The Committee **recommended** the project for grant of environmental clearance.

17. 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.

18. 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.

19. 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.

20. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for establishment of 100 KLPD Grain Based Ethanol Plant along with 2.8 MW Co-generation Power Plant located at Village Ruam, Tehsil & Block Musabini, District East Singhbhum, State Jharkhand by M/s Kijalk Starch AgroPvt. Ltd, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

A. Specific Condition:

- (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 per NOC issued by State Irrigation Department, PP shall construct distillery plant 100 meters away from the bank of Garra Nala and PP shall ensure that there shall be no impact on Garra Nala. At 100 m, industry shall construct strong RCC retaining wall against the Garra Nala and ensure that in any case, no treated water/waste water is discharged into the drain/waterbodies.

- (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 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.
- (vi). Total Fresh water requirement shall not exceed 4 KL/KL of ethanol production which will be met from Subarnrekha river. No ground water recharge shall be permitted within the premises. Industry shall construct a rain water storage pond of 60 days capacity and the accumulated water to be used as fresh water thereby reducing fresh water consumption.
- (vii). 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) and 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.
- (ix). Boiler ash (58 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. 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.

- (x). CO₂ (50 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 3.33 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. 20 m wide greenbelt shall be developed towards drain i.e. North side.
- (xvii). PP proposed to allocate Rs. 1.5 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.

- (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. Approach road to project site shall be maintained.
- (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.

B. General Condition:

- (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.

21. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

22. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

23. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

24. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

25. This issues with the approval of the competent authority.

(A. N. Singh)
Scientist-'E'

Copy to: -

1. The Additional Chief Secretary, Environment & Forests Department, Government of Jharkhand, Secretariat, Nepal House, Doranda, Ranchi-834001

2. The Regional Officer, Ministry of Env., Forest and Climate Change, Integrated Regional Office, Bungalow No. A-2, Shyamali Colony, Ranchi-834002
3. The Member Secretary, Central Pollution Control Board Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 32
4. The Member Secretary, Jharkhand Pollution Control Board, Town Administrative Building, HEC, Dhurwa, Ranchi- 824004
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi
6. District Collector, East Singhbhum, Jharkhand
7. Guard File/Monitoring File/ Parivesh Portal /Record File.

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