



File No: J-11011/194/2016-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Date **08/08/2024**



To,

Sh. Sanjaya Bhatnagar,
M/s. HALDIA PETROCHEMICALS LIMITED,
P. O. Box No. 12, Durgachak, Haldia , Salt Lake, 24 PARAGANAS NORTH, WEST BENGAL,
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hpl_parivesh@hpl.co.in

Subject: **Expansion in Propylene, Phenol & Acetone capacity (within 20%) alongwith Olefin Conversion Unit (OCU) at the existing plant facility at Tehsil Sutahata-I, Haldia, Dist: East Medinipur, West Bengal by M/s. Haldia Petrochemicals Limited – Consideration of Environment Clearance reg.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/WB/IND2/465335/2024 dated 15/04/2024 for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A2101WB5692081N
(ii) File No.	J-11011/194/2016-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(c) Petro-chemical complexes (industries based on processing of petroleum fractions ,5(e) Petroleum products and petrochemical based processing such as production of carbon black and electrode grade graphite (processes other than cracking
(vi) Sector	Industrial Projects - 2
(vii) Name of Project	Environmental Clearance for Increase in Propylene, Phenol and Acetone (within 20% capacity) alongwith Olefine Conversion Unit (OCU) at the existing plant facility at Tehsil Sutahata-I, Haldia, Dist. East Medinipur, West Bengal By M/s. Haldia Petrochemicals Ltd.
(viii) Name of Company/Organization	HALDIA PETROCHEMICALS LIMITED

(ix) Location of Project (District, State)	MEDINIPUR EAST, WEST BENGAL
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance for proposed expansion under para 7(ii) Clause III of EIA Notification, 2006 (phase I i.e., 0 % to 20 %) in Propylene, Phenol & Acetone capacity (within 20%) alongwith new Olefin Conversion Unit (OCU) at the existing plant facility at Tehsil Sutahata-I, Haldia, Dist: East Medinipur, West Bengal by M/s. Haldia Petrochemicals Limited.

4. All products fall under petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics) & Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes) which are listed at S.N. 5 (c) & 5 (e) of Schedule of Environment Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC).

5. The details of products and capacity are placed in Annexure-II.

6. Ministry has issued Environmental Clearance to the existing capacity as mentioned above vide File No. J-11011/194/2016-IA-II(I) dated 20th March 2018 and J-11011/194/2016-IA-II(I) dated 27th August 2020. Certified Compliance report of existing EC has been obtained from Integrated Regional Office, MoEFCC Bhubaneswar (Sub-Office: Kolkata) vide File no- 102-590/17/EPE/163 dated 26.10.2023. Action Taken Report has been submitted to IRO, MOEFCC, vide letter dated 23rd November, 2023 for partial compliances related to excess discharge waste water effluent generation during October, 2022 to March, 2023 and higher BOD values were observed from WWTP, emission of particulate matter above the stipulated standard during December 2022 and January, 2023 and BOD values were above stipulated standards for October, 2022. EAC discussed the ATR submitted in detail and was satisfied with the compliance status.

7. Standard ToR and Public Hearing are not applicable as the proposed expansion is submitted under para 7(ii) Clause III of EIA Notification, 2006 (phase I i.e., 0 % to 20 %) and as per Ministry's OM IA3-22/10/2022-IA.III[E-177258] dated 11th April, 2022. There is no litigation pending against the project.

8. Total plant area is 451.5 Ha and no additional land is required for proposed expansion, which is under possession of the company. Out of the total plant area 103 Hectares i.e., 23% of the total plant area has already been developed as greenbelt & plantation and the same will be maintained/ will be developed under greenbelt & plantation in and around plant premises. EAC suggested that greenbelt within the plant premises shall be increased to 117.39 i.e., 26% of the total plant area and additional green belt developed in 50 Ha of forest land. The estimated project cost is Rs. 600 Crores. Capital cost of EMP would be Rs. 53.1 Crores and recurring cost for EMP would be Rs. 33.82 Crores per annum. Industry proposes to allocate Rs. 3 Crores towards extended EMP (Corporate Environment Responsibility). Total Employment after expansion will be 130 persons as direct & indirect.

9. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance. River Hoogly is at a distance of 2 Km from the project site.

10. Ambient air quality monitoring was carried out at 8 locations during 3rd March 2023 to 31st May 2023 and the baseline data indicates the ranges of concentrations as: PM10 (41.42 -66.60 g/m3), PM2.5 (19.87-35.50 g/m3), SO2 (4.8-19.20 g/m3) and NO2 (12.0-25.5 g/m3). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 4.07 µg/m3, 4.3 µg/m3 and 7.98 µg/m3 (at AAQ-8 Baishnabchak Location) with respect to PM10, SO2 and NOX. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

11. Total fresh water requirement after expansion will be 45,410 CMD, which will be met from Haldia Development Authority. NOC has been obtained by Haldia Petrochemicals Ltd. vide letter dated 22nd February 2019. Existing effluent generation is 7125 CMD (with blowdown) which is treated through Effluent Treatment Plant of design capacity 4090

CMD (Process Effluent+ Sanitary Effluent) and 28,220 CMD Cooling Tower Blowdown + DM Neutralization Waste. Proposed effluent generation will be 409 CMD (with blowdown) which will be treated through proposed Effluent Treatment Plant of capacity 4090 CMD (Process Effluent+ Sanitary Effluent) and 28,220 CMD Cooling Tower Blowdown + DM Neutralization Waste). Domestic wastewater is being treated in existing ETP (Design Capacity of ETP in 4090 KLD). Total Effluent generation (Process waste + Sanitary waste + Cooling Tower Blowdown + DM Neutralization Waste) remain within existing discharge limits of 8,625 CMD. The plant is being/will be based on Zero Liquid discharge system and treated effluent/water is being/will not be discharged outside the factory premises.

12. Total power requirement after proposed expansion will be 111.59 MW which will be sourced from existing power plant. NOC for power requirement from State Grid is Not Applicable. Existing unit has 2 x 34.5 MW GTs, 1 x 16.7 MW BPSTG, 2 x 33 MW CSTGs, 2 x 120 TPH HRSGs and 5 x 120 TPH Auxiliary Boilers and 25 MW BPSTG will be installed. APCE ESP, Bag filter with a stack of height of 140 m is installed with the existing coal fired boiler for controlling the particulate emissions within the statutory limit of 30 mg/Nm³. Industry has 1500 KVA DG set which will be used as standby during power failure and stack height (17.20 m) will be provided as per CPCB norms to the proposed DG sets. An additional 1x 2,000 KVA DG Set is provided as back-up for OCU-Phenol unit fully complying with CPCB norms.

13. Details of Process emissions generation and its management:

- The potential pollutants emitted from point and fugitive sources during normal operations at HPL Plant include Sulfur dioxides, Oxides of Nitrogen, Carbon Monoxide and other Volatile Organic Compounds.
- The existing units of Naphtha Cracker, Incinerator, PGHU and CPP have combustion processes.
- There are 18 stacks connected to these different processes. Fuel grade Naphtha, lean and off gases are used as fuel in CPP. Additionally, 4 stacks have been proposed for the project. In addition, there is one existing Flare Stack of 120 mt height. An additional Flare Stack of 120 mt height has also been proposed for the project.
- Use of sulfur free fuel gas (mixture of CH₄+H₂) as a fuel in furnaces of Naphtha Cracker Unit (NCU) and Pyrolysis Gasoline Hydrogenation Unit (PGHU). Due to C/H ratio of the fuel gas, particulate emissions also negligible from these sources.
- Use of low NO_x burners in NCU. In PGHU, the temperature is low, where NO_x generation is not possible.
- Gaseous hydrocarbons are stored at high pressure and low temperature (Ethylene and Butadiene) in spheres. Due to this, fugitive emissions are negligible during material movement to sphere.
- Nitrogen padding has been provided to prevent emissions during material in/out to the tanks.
- Loading of all pressurized hydrocarbons is through close circuit. Vapour return circuits have been provided for all these hydrocarbons like LPG, Butadiene, Butene-1 and Propylene, etc.
- Loading of Benzene and Butadiene services.
- Canned pump in Butadiene service.
- Oxygen Analyzers and Calorific Value Analyzers installed in furnaces of NCU to ensure that sufficient oxygen is available for complete combustion of fuel. Calorific Value analyzers help to adjust the fuel flow.
- Vapour collection system for Benzene. Benzene Recovery Unit (BRU) has been provided to extract Benzene from these vapours.
- Routing of all process vents to Flare Header.
- Use of bag filters during solids handling in Polymer Plants.
- Placement of Gas Analyzers at strategic locations.
- Design of flare stack for a load up to 1,300 TPH to take care of any abnormal load.
- Flare monitoring for identifying abnormal flaring and to take preventive action.
- Leak Detection and Repair (LDAR) program for all process plants and hydrocarbon storage and handling area.
- Monitoring of all air pollutants at source, work zone and ambient air (as per CPCB guidelines) and modelling to estimate the impact on environment.

14. Details of solid waste/Hazardous waste generation and its management are placed in Annexure-III.

15. During deliberations, EAC discussed the following:

- PP shall submit undertaking for reusing 10 % of treated process effluent by mid-2025, to reuse and recycle 50 % of treated effluent by December 2026 and to adhere to the action plan submitted for achieving ZLD by 2030.

- PP shall increase CoC to more than seven and switch from water-cooled system in the CPP to air-cooled system by 2026.
- Industry has submitted MoU between HPL and Department of Forest GoWB vide letter No. 03/PCCF&HoFF/PA/2024 dated 12.06.2024 for 50 ha CSB plantation in Purba, Medinipur district for the period 2024-25 to 2027-28. EAC directed that after 2027-28, Industry shall take the responsibility of maintaining the plantation.
- MOU between HPL and Department of Forest GoWB for densification of existing greenbelt is targeted to be in place by July 2024. Further, EAC suggested that Industry shall increase the greenbelt to 117.39 ha i.e., 26% of total area within the industry.
- PP shall submit undertaking for enhancement & densification of the existing Greenbelt with density of 2500 trees /Ha.
- PP shall submit details of dust suppression measures in the overhead pipe conveyor.
- PP shall submit details of storage tanks considered for Risk Analysis.
- PP shall ensure that the concentration of pollutants in the ambient air quality remain within the norms specified in NAAQS 2009. In case any exceedance of air quality parameters is observed, the unit shall take action to curtail its activities immediately, till such time the ambient air quality is restored within the norms and inform the status to RO-MoEF&CC.

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.

16. The proposal was considered by the EAC (Meeting ID: EC/AGENDA/EAC/803402/6/2024) held on 20nd June, 2024 in the Ministry, wherein the project proponent and the accredited Consultant M/s. ABC Techno Labs India Pvt. Ltd. (NABET certificate no. NABET/EIA/2225/RA0290 and validity Nov 16, 2025), 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 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.

18. The Committee noted that the EIA/EMP report is in compliance of the proposed project activities, 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.

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 for establishment of Expansion in Propylene, Phenol & Acetone capacity (within 20%) alongwith Olefin Conversion Unit (OCU) at the existing plant facility at Tehsil Sutahata-I, Haldia, Dist: East Medinipur, West Bengal by M/s. Haldia Petrochemicals Limited, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions.

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.

Copy To

1. The Principal Secretary, Department of Environment & Forest, 5th Floor, Pranisampad Bhawan, Block LB-II, Salt Lake, Sector III, Bidhannagar, Kolkata – 700 106.
2. The Regional Officer, Ministry of Env., Forest and Climate Change, Integrated Regional Office, Kolkata IB – 198, Sector-III, Salt Lake City, Kolkata - 700106.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 32.
4. The Member Secretary, West Bengal Pollution Control Board, Paribesh Bhawan 10A, Block-LA, Sector-III Bidhannagar, Kolkata-700 106.
5. Compliance and Monitoring Division, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi.
6. District Collector, East Medinipur, West Bengal.
7. Guard File/Monitoring File/ Parivesh Portal /Record File.

Annexure 1

Specific EC Conditions for (Petroleum Products And Petrochemical Based Processing Such As Production Of Carbon Black And Electrode Grade Graphite (Processes Other Than Cracking)

1. Petroleum Products And Petrochemical Based Processing Such As Production Of Carbon Black And Electrode Grade Graphite (Processes Other Than Cracking)

S. No	EC Conditions
1.1	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 (Annexure-IV).
1.2	Total freshwater requirement shall not exceed 45410 KLD which will be met from Haldia Development Authority. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The freshwater requirement shall be reduced after installation of rainwater harvesting system in the unit/project area.
1.3	Industry shall comply with undertaking submitted for reusing 10%of treated process effluent by mid-2025; to reuse and recycle 50% treated effluent by December 2026 and to adhere action plan

S. No	EC Conditions
	submitted for achieving ZLD by 2030.
1.4	PP shall increase CoC to more than seven and switch from water-cooled system in the CPP to air-cooled system by 2026.
1.5	Comprehensive water audit shall be conducted annually and a report submitted to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme.
1.6	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through the guard pond.
1.7	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
1.8	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF. The ash from the boiler shall be sold to brick manufacturers/cement industry.
1.9	Regular VOC monitoring shall be done at vulnerable points.
1.10	The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bioremediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
1.11	Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
1.12	<p>The company shall undertake waste minimization measures as below:</p> <ul style="list-style-type: none"> 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 cleaning etc. to reduce wastewater generation.
1.13	<p>The greenbelt of 5-10 m width in total area of 117.39 i.e., 26% of the total plant area shall be developed and maintained the plant premises. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Saplings 4-6 feet high shall be planted. Selection of plant species shall be as per the CPCB guidelines and in consultation with the State Forest Department and native species shall be only planted. Industry shall comply with the MOU obtained vide letter No. 03/PCCF&HoFF/PA/2024 dated 12.06.2024 for 50 ha CSB plantation in Purba, Medinipur district during the period 2024-25 to 2027-28. EAC directed that after 2027-28, the Industry shall take the responsibility of maintaining the plantation and shall regularly update the maintenance status to the Regional Office, MoEF&CC alongwith six monthly compliance reports. PP shall submit undertaking for enhancement & densification of the existing Greenbelt with tree density of 2500 trees/Ha. Trees shall be planted in the Green Belt under the campaign #Plant4Mother #एक पेड़ माँ के नाम and uploaded on the MeriLiFE portal (https://merilife.nic.in/).</p>
1.14	PP proposed to allocate Rs. 03.00 Crore towards CER (Annexure-V).

S. No	EC Conditions
1.15	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.
1.16	The unit shall make the arrangement for the protection of possible fire hazards during the manufacturing process in material handling. The firefighting system shall be as per the norms.
1.17	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. PP shall ensure that the concentration of pollutants in the ambient air quality remain within the norms specified in NAAQS 2009. In case any exceedance of air quality parameters is observed, the unit shall take action to curtail its activities immediately, till such time the ambient air quality is restored within the norms and inform the status to RO, MoEF&CC.
1.18	PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. 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.
1.19	The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November 2012 as amended from time to time shall be followed.
1.20	Recommendations of mitigation measures for possible accidents shall be implemented based on Risk Assessment studies conducted for worst-case scenarios using the latest techniques.
1.21	The unit shall make the arrangement for protection of possible fire hazards during the manufacturing process in material handling. The firefighting system shall be as per the norms. PESO certificate shall be obtained. Location of storage tanks of hazardous/flammable/toxic substances shall be placed in such a way that in the event of any fire, accident, explosion or any unforeseen conditions the impact of such an event should not go beyond the boundary of the plant i.e. the risk should be tolerable (acceptable) at the boundary.
1.22	Company shall maintain an Emergency Response Decision support system in such a way so that identification of the detector's network for the location of the leak source and the probable leaked quantity in real-time, followed by modelling of the dispersion of the plume and consequences as forecast is done in advance and thus, no leak accident may go unattended. Accordingly, a Risk Mitigation plan shall be in place and tested using the 3D CFD modelling.
1.23	Company shall determine the distance of fire hydrant while finalizing its location from storage tanks of flammable substances or any other hazardous storage substance shall be based on dispersion of Thermal Radiation so that during any unforeseen situation fire hydrant is always available to operate manually.
1.24	The project proponent shall develop R& D facilities to develop their own technologies for propylene and polypropylene processing.
1.25	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

S. No	EC Conditions
	concerned authority.

2. General Conditions

S. No	EC Conditions
2.1	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.
2.2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
2.3	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).
2.4	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.
2.5	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.
2.6	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.
2.7	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.
2.8	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.

S. No	EC Conditions
2.9	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.
2.10	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.
2.11	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.

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission
Propylene	Product	385	75	460	KTA	Pipe Conveyor
Phenol	Product	200	40	240	KTA	Road
Acetone	Product	123	24	147	KTA	Road

The details of products and capacity are as under:

S. No	Product/by- product	Existing Quantity (KTA)	Proposed Quantity (KTA)	Total Quantity (KTA)
1	Ethylene	770	0	770
2	Propylene	385	75	460
3	Polypropylene	341	0	341
4	High Density Polyethylene (HDPE)	494	0	494
5	Linear Low-Density Polyethylene (LLDPE)	386	0	386
6	Butadiene	111	0	111
7	Benzene	175	0	175
8	C4 Raffinate	126	0	126
9	Vinyl Acetate Ethylene (VAE)	60	0	60
10	Mixed Butane	126	0	126
11	Cyclo Pentane	8.2	0	8.2
12	Pyrolysis Gasoline/Pentane	200	0	200
13	Motor Spirit (MS) Euro IV	300	0	300
14	Phenol	200	40	240
15	Acetone	123	24	147
16	Carbon Black Feedstock (CBFS)	100	0	100
17	Poly Butylene Terephthalate (PBT)	70	0	70
18	Tetrahydrofuran (THF)	16	0	16
19	C6 Raffinate	64	0	64
20	Cumene (Intermediate)	266	53	319

Note: The proposed capacity of Olefin Conversion Unit (OCU) is 117 KTA

Annexure –III**Details of solid waste/Hazardous waste generation and its management are given below:****Solid Waste details and disposal methods:**

Sl. No.	Non-Hazardous waste	Existing Quantity	Proposed Quantity after expansion	Method of disposal
1	Kitchen waste	9 TPA	9 TPA	Sent to landfill for MSW through Municipality
2	Metal/Wooden scrap, Miscellaneous Garbage,	1,142 TPA	1,142 TPA	Proper segregation and storage at designated area inside scrap yard Miscellaneous Garbage, Broken packaging wastes will be

				periodically sold to local waste recyclers.
3	Recyclable waste like flexible packaging materials (plastic woven sacks) under EPR obligation as Brand Owner & Importer	4,485 TPA	4,485 TPA	An authorized PWP/PRO agency has been engaged to collect/transport and recycle through authorized plastic recycler to meet the yearly target.
4	Fly ash & Bed ash from CPP (Coal Fired Boiler)	15-40 TPH	15-40 TPH	Sent to ash based industries/landfilling

Hazardous waste details:

Sl. No	Description	Category	Source	Quantity	Mode of Disposal
Existing Hazardous Waste					
1	ETP Sludge	35.3	WWTP	425 MT/Year	Incineration at CHWTSDf/Co-processing in Cement Kiln
2	Oily Wastes (Skimmed oil, Slop oil, Waste Lube oil, etc)	5.1 & 5.2	NCU, NCAU, Polymer Plants/Mechanical & Electrical Maintenance	350 m3/Year	Incineration at CHWTSDf/Recycled through authorised Waste & Used Oil Recyclers
3	Catalysts (Inert Materials and traces of heavy metals)	1.6	NCU, LLDPE, HDPE	150 MT in 3-5 year	Sent to authorized recycler of spent catalyst
4	Molecular sieves (Sodium Aluminium Silicate)	1.6	NCU	125 MT in 3-5 year	Secured landfill at CHWTSDf
5	Ion exchange resins (Polymeric Materials)	35.2	WTP, NCU, NCAU	10-12 m3 in every 2 years	Incineration at CHWTSDf

SI · N o	Description	Categor y	Source	Quantit y	Mode of Disposal
6	Oil impregnated Coke	36.2	NCU	25 MT/Year	Incineration at CHWTSDF
7	Incinerator ash (Inorganics)	37.2	Incinerator	22 m3/year	Secured landfill at CHWTSDF
8	PBT	4.2	Polybutylene Terephthalate & THF	10-20kg/day	Will be sent to CHWTSDF / Recycling
9	Oligomers	4.4	Polybutylene Terephthalate & THF	6kg/day	Will be sent to CHWTSDF / Recycling
10	Prepolymer with steel sieves	1.6	Polybutylene Terephthalate & THF	8-12 kg/day	Will be sent to CHWTSDF / Recycling
11	Polymer with steel sieves	1.6	Polybutylene Terephthalate & THF	2-5 kg/day	Will be sent to CHWTSDF / Recycling
12	Side stream THF column	4.4	Polybutylene Terephthalate & THF	2000-3000 kg/day	Will be sent to CHWTSDF / Recycling
13	Spent hydrogenation catalysts	1.6	Pyrolysis Gasoline Hydrogenation Unit	9.5 TPA	Sent to authorized recycler of spent catalyst
Proposed Hazardous Waste					
14	Alkylation catalyst (PBE-1 zeolite)	1.6	Phenol & Acetone	39120 kg/20 years	Will be sent to authorized recycler of spent catalyst
15	Fresh Benzene N2 guard treater clay	1.6	Phenol & Acetone	20290 kg/ 6 months	Will be sent for secured landfilling at CHWTSDF
16	Propylene arsine guard treater adsorbent	1.6	Phenol & Acetone	1188 kg/ year	Will be sent for secured landfilling at CHWTSDF
17	Propylene N2 guard treater adsorbent	1.6	Phenol & Acetone	3680 kg/ 4 years	Will be sent for secured landfilling at CHWTSDF
18	Phenol	35.2	Phenol &	31200	Will be sent for

Sl. No	Description	Category	Source	Quantity	Mode of Disposal
	purification reactor Resin		Acetone	kg/4 years	incineration at CHWTSDF
19	AMS hydrogenation catalyst	1.6	Phenol & Acetone	16800 kg / year	Will be sent to authorized recycler of spent catalyst
20	TBC treater adsorbent	1.6	OCU	24960 kg/ 2 months	Will be sent for secured landfilling at CHWTSDF
21	C5 Feed treater adsorbent	1.6	OCU	21861 kg/ 3 years	Will be sent for secured landfilling at CHWTSDF
22	OCT Reactor feed treater catalyst	1.6	OCU	24342 kg/ 4 year	Will be sent to authorized recycler of spent catalyst
23	Spent Hydrogenation catalysts	1.6	OCU	62 m ³ / 4 years	Will be sent to authorized recycler of spent catalyst

Annexure - IV

Capital cost and recurring cost of EMP are given below:

Sl. No	Description	Capital Cost in Crores	Recurring Cost in Crores / Annum
1	Air Pollution Control		
	a) Flare Stack with associated piping	40	29.64
	b) Continuous Emission Monitoring System for 3 stacks		0.06
	c) Pollution Control during construction stage (Dust suppression, wastewater treatment and disposal, piling muck disposal, bio-toilet etc.)	2	
	d) Air quality Monitoring	1	0.05
2	Wastewater Management		
	a) Pre-treatment Plant (350 KLD)		0.47
	b) Wastewater Quality Monitoring		0.14

3	Noise and Vibration Mitigation		
	a) Noise Monitoring (Ambient & Spot Noise)		0.004
	b) Sound attenuation Panels/Cabins	1.5	
	c) Silencers, Mufflers, Rubber mountings, isolators	0.5	
4	Leak Detection (fugitive emission from approx. 2000 points)		0.009
5	Solid & Hazardous Waste Management		
	a) Disposal of Hazardous Waste (adsorbent/clay/resin/others)		0.20
	b) Concrete platform with bund wall and oil collection system for storage of HSD, and other Oil Drums and Used Oil	1.5	
6	Storm water Management	5.5	
7	Rainwater Harvesting	1.10	
8	Green Belt Development and Maintenance		1.23
9	Statutory Clearances (CTE/CTO/PESO/Others)		2.02
	Grand Total	53.1	33.82

Annexure - V

Details of extended EMP (CER) with proposed activities and budgetary allocation:

Sl. No	Proposed activity	Proposed Budget (in Lacs INR)
1.	a) School building repair and renovation b) Setting up Science Laboratory & Book Distribution c) Installation of Drinking Water facility	143.25
2	a) Infrastructure & facility development in health care centres & hospitals b) Mobile Clinical Van c) Patient Rehabilitation - physiotherapy care equipment	87.98
3	Skill & livelihood development by imparting training to rural women to craft diversified jute products	20
4	Community forest and mangrove plantation in Sajnekhali (Sunderban) Distribution of fruit bearing plants to local community	22.9
5	Water Purifiers for District Police Force Computer for Coaching Centres & Schools	26.2
	Grand Total	300.33