सत्यमेव जयते

File No.: J-11011/274/2015-IA II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
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Dated **09/05/2025**

To,

Shri Alok Nayan Nath
M/s NUMALIGARH REFINERY LIMITED,
Pankagrant Numaligarh Refinery Complex Pankagrant, GOLAGHAT, ASSAM 785699
baby.deori@nrl.co.in

Subject: **Expansion of Numaligarh Refinery from 3 MMTPA to 9 MMTPA at village Pankagrant, District Golaghat, Assam & permission in 'No Development Zone' for inclusion of 2.4 KTPA Green Hydrogen Generation Unit by M/s Numaligarh Refinery Limited (NRL)– Consideration for Amendment in Environmental Clearance.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/AS/IND2/514112/2024 dated 02/03/2025 for grant of an amendment in prior Environmental Clearance (EC) to the 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.	EC24A1201AS5388569A
(ii) File No.	J-11011/274/2015-IA II(I)
(iii) Clearance Type	Amendment in EC
(iv) Category	A
(v) Schedule No./ Project Activity	4(a) Petroleum refining industry
(vi) Sector	Industrial Projects - 2
(vii) Name of Project	EC Amendment for inclusion of Green Hydrogen Plant at Numaligarh Refinery, Assam
(viii) Location of Project (District, State)	GOLAGHAT, ASSAM
(ix) Issuing Authority	MoEF&CC
(x) EC Date	27/03/2025
(xi) Applicability of General Conditions	NO
(xiii) Status of implementation of the project	

3. The Ministry of Environment, Forest and Climate Change has considered the above proposal for amendment in Environmental Clearance granted by the Ministry vide letter no. J-11011/274/2015-IA II (I) dated 27th July, 2020 for the

expansion of refinery from 3 MMTPA to 9 MMTPA at village Pankagrant, District- Golaghat, Assam & permission in 'No Development Zone' in favour of M/s Numaligarh Refinery Limited (NRL).

4. M/s NRL intends to set up a 2.4 KTPA (300 kg/hr) electrolyser system for Green Hydrogen production facility at its NRL complex in line with National Green Hydrogen Mission of Government of India. The estimated project cost is 145 Crores (inclusive of GST) and tentative completion schedule will be September 2027. In this context, NRL needs amendment in Existing EC of Expansion of Numaligarh Refinery from 3 MMTPA to 9 MMTPA at village Pankagrant, District Golaghat, Assam for inclusion of 2.4 KTPA Green Hydrogen Generation Unit (GHGU) by M/s NRL

5. The project proponent has requested for amendment in the environmental clearance (EC) with the details are as under:

Para of EC issued by MoEFCC	To be Amend as	Justification/Reasons
On Page No. 1, Section no. 3 The details of products and capacity.	In addition of Green Hydrogen of capacity 2.4 KTPA in the product slate of existing EC.	

The revised details of Products & Capacity are as below product slate:

Products	Capacity (MMTPA)
Liquefied Petroleum Gases (LPG)	0.566
Naphtha	0.288
Motor Spirit BS VI	1.932
High Speed Diesel BS VI	5.606
Aviation Traffic Fuel (ATF)	0.060
Superior Kerosene Oil (SKO) / Mineral Turpentine Oil (MTO)	0.072
Sulphur	0.151
Wax	0.05
Coke	0.325
Green Hydrogen	2.4 KTPA *

*Green Hydrogen generated from the proposed Plant shall be utilized in the process via the existing Hydrogen header in the NRL refinery. The Hydrogen produced from the new Green Hydrogen Plant shall replace the existing grey hydrogen produced by SMR process.

Salient Features of the Project:

S. No.	Salient Features	Description as per approved EC for Capacity Expansion from 3 to 9 MMTPA at NRL	Change in Capacity/Resources Due to proposed Green Hydrogen Plant
1	Land requirement	The existing total land area is 333.5 ha.	No Change Total overall land requirement for Green Hydrogen Plant (GHP) is 1650 sq. meter (0.165 hectares)
2	Power Requirement	Power requirement post expansion of refinery will be 135 MW and sourced from state electricity grid and proposed STG.	16.05 MW required for proposed Green Hydrogen project. The renewable power requirement for the GHP shall be sourced through contractual agreement with the green power supplier through Grid Network.

3	Water Requirement	Total fresh water requirement post expansion of refinery will be 60192 KLD (2508 cum/hr).	No Change Average 4 m3/hr DM water and 7 m3/hr of cooling water make-up is required for proposed GHP which shall be met from the existing refinery complex.
4	Effluent Generation	The RO-DM reject of 300 cum/hr to be discharged to Dhansiri River through pipeline (to downstream only), shall confirm to the CPCB guidelines.	No Change Total effluent generation from the GHP shall be about 0.087 m3/hr (2.09 KLD). Out of 0.087 m3/hr total effluent, 0.082 m3/hr is planned to be reused within the unit and 0.005 m3/hr will be sent to existing ETP.
5	SO2 Emission	Total SO2 emission post expansion from the refinery will be 586 kg/hr.	No Change No additional SOx emission is envisaged due to the proposed plant.
6	Waste Generation	Hazardous solid waste like spent catalyst shall be disposed-off to CPCB approved recyclers. Tank bottom sludge shall be disposed-off to CPCB approved recyclers/bioremediation.	Quantity of solid waste generated are as follows: · 1 m3 (0.9 TPA) of Spent Palladium Catalyst shall be generated in every 5 years. And the same shall be collected & disposed of through authorized recyclers. · 0.7 m3 (0.63 TPA) of Spent molecular sieve will be replaced as per requirement based on the efficiency and will be disposed of through authorized recyclers.

6. The proposal was considered by the EAC (ID: EC/AGENDA/EAC/259122/3/2025) meeting held on 18th March, 2025 in the Ministry.

7. During deliberations, following issues were discussed:

• PP shall provide the Energy balance for the Proposed Green Hydrogen Plant ensuring that the CO2 emission for the proposed Green Hydrogen Plant should be less than 2 kg CO2 eq./kg of H2 as per MNRE Guidelines. Accordingly, PP submitted the same.
• PP shall provide the green power sources for the Green Hydrogen Plant. Accordingly, PP submitted the same.
• The relaxation given to PP to discharge the treated effluent in Dhansiri river shall be stopped with immediate effect. PP shall achieve ZLD within the entire industry.
• PP shall submit the quantum of oxygen and heat recoveries and details regarding their utilization. Accordingly, PP submitted the same.
• Electrolyzer imported shall be complied with the environmental standards and norms laid down in India.
• EAC desired to explore the possibility to use treated water from STP for Green Hydrogen generation. Accordingly, PP agreed for the same.

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.

8. After detailed deliberations, EAC found the justification satisfactory. Accordingly, the committee recommended the proposal for amendment in EC as proposed by the project proponent with the additional conditions.

9. However, all other terms and conditions stipulated in the existing EC vide letter no. J-11011/274/2015-IA II (I) dated 27.07.2020 shall remain unchanged.

10. This issues with approval of the competent authority.

Copy To

1. The Secretary, Environment & Forest, H-Block, 2ndFloor, Janata Bhawan, Disupr, Guwahati - 781006 (Assam)
2. The Regional Officer, Ministry of Environment, Forest and Climate Change, Regional Office, Guwahati, 4thFloor, HOUSEFED Building, G.S. Road Rukminigaon, Guwahati -781022
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 32.
4. The Member Secretary, Pollution Control Board Assam, Bamunimaidam, Guwahati - 21 (Assam).
5. Compliance & Monitoring Division, Ministry of Environment, Forest and Climate Change, Indira ParyavaranBhawan, JorBagh Road, New Delhi – 3.
6. District Collector, Golaghat, Assam.
7. Guard File/Monitoring File/ Parivesh Portal /Record File.

Annexure 1

Additional EC Conditions

1. PP shall achieve ZLD within the entire industry within 42 months and no treated effluent or RO/D.M. rejects shall be discharged into Dhansiri River.

2. PP Electrolyzer imported shall be complied with the environmental standards and norms laid down in India

Signature Not Verified

Digitally Signed by : Dr Vimal Kumar Hatwal
EAC Member

Date: 09/05/2025