



सत्यमेव जयते

File No.: IA-J-11011/420/2023-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Dated 15/03/2024



To,

JITENDRA TIWARI
Grasim Industries Ltd. (Chemical Division, Karwar)
P.O. Binaga, District: Uttara Kannada (Karnataka), Binaga, UTTARA KANNADA, KARNATAKA,
581307
jitendra.k.tiwari@adityabirla.com

Subject: Expansion of Membrane Cell based Caustic Soda plant (Brown Field Chlor- Alkali Plant) from 59,400 MTPA to 1,00,000 MTPA at Binaga, Karwar Taluk, Uttara Kannada District, Karnataka by M/s. Grasim Industries Limited (Chemical Division, Karwar) - Amendment in Environmental Clearance (EC) under the provision of the EIA Notification 2006 and as amended thereof - Regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/KA/IND3/454055/2023 dated 27/01/2024 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.	EC23B1602KA5699155A
(ii) File No.	IA-J-11011/420/2023-IA-II(I)
(iii) Clearance Type	Amendment in EC
(iv) Category	B1
(v) Schedule No./ Project Activity	4(d) Chlor-alkali industry
(vi) Sector	Industrial Projects - 3 Amendment in Existing Environment Clearance letter issued for Membrane Cell based Caustic Soda Plant at Binaga, Taluk: Karwar, District: Uttara Kannada, Karnataka by M/s. Grasim Industries Limited (Chemical Division, Karwar)
(vii) Name of Project	UTTARA KANNADA, KARNATAKA
(viii) Location of Project (District, State)	UTTARA KANNADA, KARNATAKA
(ix) Issuing Authority	MoEF&CC
(x) EC Date	22/02/2024

(xi) Applicability of General Conditions NO

(xiii) Status of implementation of the project

3. The proposal is for Amendment in the Environmental Clearance granted by the SEIAA, Karnataka vide letter No. SEIAA 10 IND 2015 dated 10th November 2016 for Expansion of Membrane Cell based Caustic Soda plant (Brown Field Chlor - Alkali Plant) from 59,400 MTPA to 1,00,000 MTPA at Binaga, Karwar Taluk, Uttara Kannada District, Karnataka by M/s. Grasim Industries Limited (Chemical Division, Karwar).

4. In order to streamline the plant activities and production capacities in the existing EC granted by the SEIAA, Karnataka vide letter No. SEIAA 10 IND 2015 dated 10th November 2016, M/s. Grasim Industries Limited (Chemical Division, Karwar) is proposing an amendment in the existing Environment Clearance granted by the SEIAA, Karnataka vide letter No. SEIAA 10 IND 2015 dated 10th November 2016 for the project "Expansion of Membrane Cell based Caustic Soda plant (Brown Field Chlor- Alkali Plant) from 59,400 MTPA to 1,00,000 MTPA at Binaga, Karwar Taluk, Utra Kannada District, Karnataka by M/s. Grasim Industries Limited (Chemical Division, Karwar)".

5. In this connection, the company have submitted the application for the said proposal to SEIAA, Karnataka. But, due to absence of SEIAA, Karnataka at present; the company has submitted the application to MoEFCC for obtaining Amendment in Existing Environment Clearance Letter; as per EIA Notification dated 14th September, 2006, as amended from time to time. SEIAA vide letter no. SEIAA 10 IND 2015 dated 24.01.2024 has transferred the original file containing 1654 pages to the Ministry for necessary action on application submitted for amendment.

6. The project proposal or the detailed description of the existing granted, existing operating, proposed capacities & total capacity after amendment are given in table below:

S. No.	Products	Existing Granted Capacity (As per EC dated 10th Nov., 2016)	Existing Operation Capacity	Capacity for Proposed Amendment	Total Capacity after Amendment	Remarks
Main Product						
1	Caustic Soda (TPA)	1,00,000	1,00,000	Nil	1,00,000	No change
Other Products*						
2	Chlorine Generation (TPA)	88,750	88,750	Nil	88,750	No change
3	Hydrochloric Acid (100%)	50,400	50,400	Combined Capacity of Hydrochloric Acid (100%) and Liquid Chlorine i.e. 88750 TPA	88,750 (Hydrochloric Acid (100%) / Liquid chlorine)	With production of 1,00,000 TPA Caustic Soda, there will be 88,750 TPA chlorine gas production. In proposed amendment, as per market demand, the generated chlorine will either be used to manufacture Hydrochloric acid or Liquid chlorine with the consideration to produce minimum Liquid Chlorine and maximum Hydrochloric Acid production. This is due to the high hazard of Liquid Chlorine. Higher Hydrochloric Acid Production will ultimately reduce the liquid Chlorine generation and will enhance the safety by reducing the high hazard operation.
4	Liquid Chlorine (TPA)	39,011	39,011			
5	Sodium	720	2,208***	Nil	2,208	-

S. No.	Products	Existing Granted Capacity (As per EC dated 10th Nov., 2016)	Existing Operation Capacity	Capacity for Proposed Amendment	Total Capacity after Amendment	Remarks
	Hypochlorite (TPA)					
6	Compressed Hydrogen (Nm3)	7,956,000	7,956,000	Nil	7,956,000	No change
7	Dilute Sulphuric Acid (78%) (TPA)	1,029	1,029	Nil	1,029	No change
8	Calcium Phosphate (TPA)	Nil	12,000***	Nil	Nil	Machinery will be dismantled but building will be used for Organic Fertilizer Unit.
9	Phosphoric Acid (TPA)	Nil	24,000***	Nil	24,000	Replacement of existing old technology Phosphoric Acid Plant with new technology Phosphoric Acid Plant of same capacity.
10	Poly Aluminium Chloride (TPA)	Nil	73,000***	Nil	73,000	No change
11	Crushed Phosphate Sludge (TPA)	Nil	Nil	18,000	18,000**	To be added
12	Organic Fertilizer Unit (TPA)	Nil	Nil	36,000	36,000**	To be added
13	Anhydrous Sodium Sulphate (TPA)	Nil	Nil	540	540**	To be added
Associated Activities						
14	D.G. Set (KVA)	1 x 2000	1 x 2000	1 x 1010	1 x 2000 1 x 1010	Increase in capacity by 1,010 KVA for back-up purpose
15	Coal Fired Boiler (TPH)	1 x 10 1 x 18	1 x 10 1 x 18	Nil	1 x 10 1 x 18	No change
	Oil Fired Boiler (TPH)	Nil	1 x 3	1 x 8 (-) 1 x 3	1 x 8	To be added Installation of 8 TPH Oil Fired Boiler (LDO based) in replacement of existing 3 TPH Oil Fired Boiler (FO based) as a backup for 1 x 18 TPH Coal Fired Boiler.

7. The project proponent has requested for amendment in the EC with the details are as under:

Reference (EC dated 10th Nov., 2016)	As per EC dated 10th Nov., 2016 obtained from SEIAA, Karnataka	Proposed Amendment	Justification / Reason
Point No. 3, Line - 7	Total water consumption is 3,326 KLD will be met from Karnataka Urban Water Supply & Drainage Board and Recycled Water, out which 250 KLD for domestic and gardening purpose, 1876 KLD for Caustic Soda Plant, 1200 KLD for Phosphoric Acid Plant.	Total water consumption is 3,326 KLD will be met from Karnataka Urban Water Supply & Drainage Board, Ground Water and Recycled Water, out of which, 250 KLD for domestic and gardening purpose, 1876 KLD for Caustic Soda Plant, 1200 KLD for Phosphoric Acid Plant & Process Boiler, Poly Aluminium Chloride (PAC) & Organic Fertilizer Unit.	There will be no change in the total water consumption. Ground Water will be used for drinking purpose only. Permission for extraction of ground water for drinking use has been obtained from Karnataka Ground Water Authority (KGWA), Government of Karnataka.
Point No. 3, Line - 11	Existing D.G. Set of capacity 1 No. x 2000 KVA for emergency power back-up.	Existing D.G. Set of capacity 1 No. x 2000 KVA and installation of new 1 No. x 1010 KVA for emergency power back-up.	Addition of DG Set for emergency power back-up only.
Point No. 3, Line - 12	Existing 1 No. x 10 TPH & 1 No. x 18 TPH capacity of Coal Fired Boiler.	Existing 1 No. x 10 TPH & 1 No. x 18 TPH capacity of Coal Fired Boiler along with installation of 1 No. x 8 TPH Oil Fired Boiler.	1 x 8 TPH boiler (proposed) will be utilized for steam requirement in emergency / maintenance of existing boilers.
Point No. 4, Line - 1	The wastewater generation will be 1,525 KLD, out of which 85 KLD will be the domestic sewage and treated in STP of capacity 60 KLD and remaining 25 KLD shall be sent to septic tank followed by soak pit, 1410 KLD will be the Phosphoric Acid Plant effluent shall be treated in ETP of capacity 1440 KLD, 60 KLD will be the Caustic Soda Plant effluent shall be treated in ETP of capacity 120 KLD.	The wastewater generation will be 1,695 KLD, out of which, 225 KLD domestic wastewater will be treated in proposed 250 KLD capacity of Sewage Treatment Plant of MBBR technology with ultrafiltration system; 1410 KLD effluent (1200 KLD from Phosphoric Acid Plant and 210 KLD from Caustic Soda Plant) is treated in ETP of capacity 1440 KLD; 60 KLD wastewater generated from Chlorine tonner & floor washings from Caustic Soda plant is either used for Milk of lime preparation in ETP or treated in Caustic Soda plant ETP of capacity 120 KLD.	Earlier, part of domestic sewage was disposed off in soak pit via septic tank, which will now be treated in the proposed 250 KLD STP. 100% domestic waste water will now be treated in STP and treated water will be used in cooling tower make up and greenbelt development/ plantation within the premises. There will be no change in the industrial effluent.
Point No. 4, Line - 6	The solid waste generated are Brine Sludge from Caustic Soda Plant of 5 MTPD, Sludge generated in Caustic Soda ETP of 2.5 MTPA, Sludge from Phosphoric acid Plant ETP of 30 MTPD shall be consolidated within the factory premises, STP sludge of 5 Kg/day shall be used as manure and Hazardous waste generated are Used/Spent lubricant oil of 1.625 KL/Annum shall be sold to Authorized Recyclers, fly ash from boiler of 6.05 TPD shall be sent to brick	The solid waste generated are Brine Sludge from Caustic Soda Plant of 5 MTPD, Sludge generated in Caustic Soda ETP of 2.5 MTPA, Sludge from Phosphoric acid Plant ETP of 30 MTPD shall be consolidated within the factory premises, STP sludge of 50 kg/day shall be used as manure and Hazardous waste generated are Used/Spent lubricant oil of 1.625 KL/Annum shall be sold to Authorized Recyclers, fly ash from boiler of 7.55 TPD shall be sent to brick manufacturing unit and cement plant.	Change in the quantity of STP sludge is due to increase in STP capacity. Change in the quantity of fly ash is due to variation in the ash content in coal.

Reference (EC dated 10th Nov., 2016)	As per EC dated 10th Nov., 2016 obtained from SEIAA, Karnataka	Proposed Amendment	Justification / Reason
	manufacturing unit and cement plant.		
Part - A Specific Condition No. 1	Fresh water requirement of 3326 KLD after the proposed expansion shall be met through the Karnataka Urban Water Supply and Drainage Board only. No ground water shall be tapped in any case for the project requirements.	Fresh water requirement of 3326 KLD after the proposed expansion shall be met through the Karnataka Urban Water Supply and Drainage Board & Ground Water (drinking purpose only). No ground water shall be tapped in any case for the industrial requirements.	There will be no change in the total water consumption. Ground Water will be used for drinking purpose only. Permission for extraction of ground water for drinking use has been obtained from Karnataka Ground Water Authority (KGWA), Government of Karnataka.
Part - A Specific Condition No. 2	Wastewater generated from the DM plant, Boiler blow down, HCl preparation, recovery from caustic soda evaporation plant of total 570 KLD shall be reused in process plant.	Wastewater generated from the DM plant regeneration, ion exchange, Boiler blow down, HCl preparation, recovery from Caustic Soda Evaporation Plant of total 410 KLD shall be reused in process plant.	-
Part - A Specific Condition No. 3	1410 KLD of treated effluent from the existing ETP conforming to the CPCB / KSPCB norms shall be discharged into the sea through existing pipeline.	1410 KLD of treated effluent from the existing ETP conforming to the CPCB / KSPCB norms shall be discharged into the sea through re-routed pipeline.	The existing treated effluent discharge line was passing through the Grasim premises, Village: Binaga, Naval Base and then finally enter into the Arabian Sea. M/s. Indian Navy is expanding their residential colony in that area & therefore, put a request to M/s. Grasim Industries Limited (Chemical Division, Karwar) for rerouting of existing discharge line. CRZ clearance for proposed laying/ re-routing of pipeline of treated effluent into the sea from plant to outfall diffuser at Village: Binaga, Taluk: Karwar, District: Uttara Kannada, Karnataka was obtained from MoEFCC, New Delhi vide Letter No. 11-7/2021-IA III dated 19th May, 2021.

8. Deliberations by the EAC:

During the deliberation EAC discussed the following issues:

i. PP submitted the Use of Ground Water as a source of water along with quantity: Ground Water (100 KLD) will be used for drinking purpose only in case of water scarcity. Permission for extraction of 124.8 KLD ground water from dug well obtained from Karnataka Ground Water Authority (KGWA), Government of Karnataka.

ii. **Existing APCEs/ Measures Installed at Major Stacks are as follows:**

S. No.	Particular	Type of fuel	Chimney height	Name of APCE's
1.	10 TPH Coal Fired Boiler	Coal	50	Bag Filter
2.	18 TPH Coal Fired Boiler	Coal	36	Bag Filter
3.	3 TPH Oil Fired Boiler	Furnace Oil	75	Air Preheater
4.	D.G. Sets (1 x 2000 KVA)	HSD	36	Acoustic Enclosures

Proposed APCEs/ Measures Installed at Major Stacks (Additional Units) are as follows:

S. No.	Particular	Type of fuel	Chimney height	Name of APCE's
1.	8 TPH Oil Fired Boiler	LDO	50	Recuperator / Air Preheater
2.	D.G. Sets (1 x 1010 KVA)	HSD	30	Acoustic Enclosures

iii. PP submitted the Reason for change in the quantity of fly ash. *Change in the quantity of fly ash is from 6.05 to 7.55 TPD is due to variation in the ash content in Indonesian Coal i.e. in between 7% to 9%.*

iv. There will be no change in the coal consumption after proposed amendment.

PP submitted details to be followed for the Storage & management of Phosphate Sludge generated from Phosphoric Acid Plant.

v. PP submitted the Quantity of total wastewater generation from plant including industrial & domestic effluent *“There will be no change in the existing industrial effluent i.e. 1410 KLD. At present, 85 KLD domestic wastewater is being generated from plant and 140 KLD from colony. The total domestic wastewater (225 KLD) will now be treated in STP (proposed 250 KLD) and treated water will be used within the premises. Due to inclusion of 140 KLD domestic waste water from colony in 85 KLD generated from plant, the total domestic waste water has been increased from 85 to 225 KLD”.*

vi. The Committee was of the view that Furnace oil (FO) should not be allowed to use 3TPH oil fired boiler. Accordingly, PP shall change the fuel and go for LDO instead of FO.

9. The proposal was considered by the EAC (Meeting ID: IA/IND3/746074/1/2024) in its meeting held on 6th - 7th February, 2024. After detailed deliberations EAC found the justification for amendment sought at Paras (6) and (7)) above satisfactory and recommended for amendment in EC as proposed at paras (6), (7) & (8) above by the project proponent with additional conditions at annexure I.

10. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval to the proposed amendments in the environmental clearance dated dated 10th November 2016 as stated at paras 6), (7) & (9) above, for Expansion of Membrane Cell based Caustic Soda plant (Brown Field Chlor - Alkali Plant) from 59,400 MTPA to 1,00,000 MTPA at Binaga, Karwar Taluk, Uttara Kannada District, Karnataka by M/s. Grasim Industries Limited (Chemical Division, Karwar).

11. All other terms and conditions mentioned in EC vide letter No. SEIAA 10 IND 2015 dated 10th November 2016 shall remain unchanged.

12. This issues with approval of the competent authority.

Copy To

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Kendriya Sadan, 4th Floor, E&F Wings, 17th Main Road, Koramangala II Block, Bangalore –

560034.

2. The Additional Chief Secretary to Government, Forest, Environment & Ecology Department, Karnataka Government Secretariat, Room No. 447, 4th Floor, Gate No. 2, M. S. Building, Bangalore-560001.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
4. The Member Secretary, Karnataka State Pollution Control Board, "Parisara Bhavan", No. #49, Church Street, Bengaluru – 560001.
5. The Member, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi – 110011.
6. The Office of District Collector, Rabindranath Tagore Beach Entrance of, Kodibag, Karwar, Karnataka 581301.
7. Guard File/Monitoring File/Website/Record File/Parivesh portal.

Annexure 1

Specific EC Conditions for (Chlor-alkali Industry)

1. Additional Conditions

S. No	EC Conditions
1.1	Stack height of 50 m shall be provided to the proposed 8 TPH Oil Fired Boiler and Stack height of 30 m shall be provided to the proposed D.G. Sets (1 x 1010 KVA). At no time, the emission levels shall go beyond the prescribed standards.
1.2	All the hazardous waste shall be managed and disposed as per the HWM Rules 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or sent for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet waste shall be converted into compost and used as manure for greenbelt development. Fly ash shall be collected in the silo and handed over to the brick manufacturers.
1.3	PP shall store sludge /waste including Phosphate Sludge generated from Phosphoric Acid Plant in the environmentally sound manner as per CPCB guidelines. PP shall ensure that leachate generated from the waste storage site shall be collected, treated and disposed in an environmentally sound manner as per CPCB guidelines.
1.4	The total domestic wastewater (225 KLD) shall be treated in STP (proposed 250 KLD) and treated water shall be used within the premises.
1.5	Furnace oil (FO) should not be allowed to use in 3TPH oil fired boiler. Accordingly, PP shall change the fuel to LDO instead of FO.