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File No: J-11011/90/2011-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **16/02/2024**

To,

Sridhara Narasimha Sastry
GRASIM INDUSTRIES LIMITED
Survey no. 1-4, 7-8 & 11 Village : Balabhadrapuram, Mandal Bikkavolu, District : East Godavari, ANDHRA PRADESH - 533343
factorymanager.bbpuram@adityabirla.com

Subject: Expansion of existing Membrane Cell based Caustic Soda (from 400 TPD to 1000 TPD), Chlorine Derivative Chemicals (from 350 TPD to 720 TPD) and installation of Membrane Cell based Caustic Potash Plant (100 TPD), Chloromethanes (150 TPD), Carbon tetrachloride (70 TPD) within the existing plant premises at Village: Balabhadhrapuram, Mandal: Biccavolu & at Village: G.Dontamuru (V), Mandal: Rangampeta, District: East Godavari(AP) by M/s. Grasim Industries Limited - Grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 -regarding.

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/AP/IND3/454499/2023 dated 20/12/2023 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.	EC23A1601AP5272699N
(ii) File No.	J-11011/90/2011-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	4(d) Chlor-alkali industry,5(f) Synthetic organic chemicals industry
(vi) Sector	Industrial Projects - 3
(vii) Name of Project	Expansion of existing Membrane Cell based Caustic Soda (from 400 TPD to 1000 TPD), Chlorine Derivative Chemicals (from 350 TPD to 720 TPD) and installation of Membrane Cell based

	Caustic Potash Plant (100 TPD), Chloromethanes (150 TPD), Carbon tetrachloride (70 TPD) within the existing plant premises at Village: Balabhadhrapuram, Mandal: Biccavolu & at Village: G.Dontamuru(V), Mandal: Rangampeta, District: East Godavari(Andhra Pradesh) by M/s. Grasim Industries Ltd.
(viii) Name of Company/Organization	GRASIM INDUSTRIES LIMITED
(ix) Location of Project (District, State)	EAST GODAVARI, ANDHRA PRADESH
(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 expansion of the existing Membrane Cell based Caustic Soda (from 400 TPD to 1000 TPD), Chlorine Derivative Chemicals (from 350 TPD to 720 TPD) and installation of Membrane Cell based Caustic Potash Plant (100 TPD), Chloromethanes (150 TPD), Carbon tetrachloride (70 TPD) within the existing plant premises at Village: Balabhadhrapuram, Mandal: Biccavolu & at Village: G.Dontamuru (V), Mandal: Rangampeta, District: East Godavari(AP) by M/s. Grasim Industries Limited.

4. The project/activity is covered under Category 'A' of item 4(d), 5(f), Synthetic organic chemicals industry of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended).

5. The Standard ToR was issued by the Ministry, vide letter no. No. J-11011/90/2011-IA-II(I) dated 09.09.2022. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is an **Expansion** case. The proposal is placed in this 73rd EAC meeting held on 17th January, 2024 wherein the PP along with accredited Consultant, J.M. EnviroNet Pvt. Ltd. [Accreditation number NABET/EIA/23-26/RA 0308; dated 29.11.2023 Valid till 07.08.2026] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

6. The PP reported that Existing land area is 7,21,800 m2 (~72.18 ha) and additional 275600 m2 (~27.56 ha) land will be required for proposed expansion and no R& R is involved in the Project. The details of products to be manufactured are as follows:

S. No.	Products	CAS Number	Production Capacity								Remarks
			Existing (A)				Additional(B)		Total after expansion (A+B)		
			Granted as per EC/CFE		Operating						
			TPD	TPA*	TPD	TPA*	TPD	TPA	TPD	TPA	
A	**Chlor Alkali Plant**										
i.	**Product**										
1	Caustic Soda Lye (100%)	1310-73-2	400	132000	400	132000	600	198000	1000	330000	Increase in Production Capacity
2	Caustic Soda Flakes	1310-73-2	120	40000	120	40000	200	66666.67	320	106666.7	Increase in Production Capacity
3	Caustic Potash Lye (100%)	1310-73-2	Nil	Nil	Nil	Nil	100	33000	100	33000	Not Implemented
4	Caustic Potash Flakes	1310-73-2	Nil	Nil	-	-	60	20000	60	20000	Not Implemented
ii.	**By-Products**										
5	Sodium Hypochlorite (LMT)	7681-52-9	120	40000	120	40000	300	100000	420	140000	Increase in Production Capacity

S. No.	Products	CAS Number	Production Capacity								Remarks
			Existing (A)				Additional(B)		Total after expansion (A+B)		
			Granted as per EC/CFE		Operating						
			TPD	TPA*	TPD	TPA*	TPD	TPA	TPD	TPA	
6	Sulphuric acid (78%)	7664-93-9	15	4950	15	4950	25	8250	40	13200	Increase in Production Capacity
7	Liquid Chlorine	7782-50-5	200	66000	200	66000	300	99000	500	165000	Increase in Production Capacity
8	Hydrogen Gas (Bottling)	1333-74-0	2	660	2	660	4	1320	6	1980	Increase in Production Capacity
9	Hydrochloric Acid (33%) –CA Plant	7647-01-0	600	200000	600	200000	600	200000	1200	400000	Increase in Production Capacity
B	**Chlorine Derivative**										
i.	**Water Treatment Chemicals**										
10	Stable Bleaching Powder	7778-54-3	50	16500	50	16500	50	16500	100	33000	Increase in Production Capacity
11	Poly Aluminum Chloride	1327-41-9	Nil	Nil	Nil	Nil	250 TPD Liquid	83333.33	250 TPD Liquid	83333.33	Partially Implemented
							50 TPD Powder	16666.67	50 TPD Powder	16666.67	
12	**Chlorine Derivative** Calcium Hypochlorite	7778-54-3	Nil	Nil	Nil	Nil	60	20000	60	20000	Partially Implemented
13	**Chlorine Derivative** Trichloro Iso Cyanuric Acid	87-90-1	Nil	Nil	Nil	Nil	60	19800	60	19800	To be added
14	**Chlorine Derivative** Sodium di Chloro isocynurate (SDIC)	2893-78-9	Nil	Nil	Nil	Nil	30	9900	30	9900	To be added
15	**Chlorine Derivative** Anhydrous Aluminum Chloride	7446-70-0	Nil	Nil	Nil	Nil	100	33000	100	33000	Obtained CFE, Partially Implemented
16	**Chlorine Derivative** Calcium Chloride	7440-70-2	Nil	Nil	Nil	Nil	150	49500	150	49500	To be added
ii.	**Others**										
17	Chlorinated Paraffin Wax	63449-39-8	30	10000	30	10000	30	10000	60	20000	Increase in Production Capacity
18	Mono-Chloro Acetic Acid	79-11-8	20	6600	20	6600	40	13200	60	19800	Increase in Production Capacity

S. No.	Products	CAS Number	Production Capacity								Remarks
			Existing (A)				Additional(B)		Total after expansion (A+B)		
			Granted as per EC/CFE		Operating						
			TPD	TPA*	TPD	TPA*	TPD	TPA	TPD	TPA	
19	Carboxy Methyl Cellulose (CMC)	9004-32-4	Nil	Nil	Nil	Nil	30	10000	30	10000	To be added
20	Chloro Acetyl Chloride	79-04-9	Nil	Nil	Nil	Nil	30	10000	30	10000	To be added
21	Hydrogen Peroxide	7722-84-1	30	10000	Nil	Nil	30	10000	30	10000	Partially Implemented
22	Acetyl Chloride	75-36-5	Nil	Nil	Nil	Nil	30	10000	30	10000	To be added
23	Sodium Monochloro Acetate	3926-62-3	Nil	Nil	Nil	Nil	30	10000	30	10000	To be added
C	**Chloromethanes + Value Chain**										
24	Methyl Chloride	74-87-3	Nil	Nil	Nil	Nil	150	49500	150	49500	To be added
25	Methylene chloride	74-87-3									
26	Chloroform	67-66-3									
27	Carbon tetrachloride	56-23-5									
28	Carbon tetrachloride from Chloroform	56-23-5	Nil	Nil	Nil	Nil	70	23100	70	23100	To be added
D											
i.	**Products**										
29	PTFE	9002-84-0	Nil	Nil	Nil	Nil	30	10000	30	10000	To be added
ii.	**By-Products**										
30	Hydrochloric Acid (as 33%)	7647-01-0	Nil	Nil	Nil	Nil	80	26400	80	26400	To be added
31	Sulphuric Acid (78%)	7664-93-9	Nil	Nil	Nil	Nil	60	19800	60	19800	To be added
Note: * TPA- Quantity has been calculated based on 330 working days/year except S.No. 5 HCl (As 33%) -CA Plant based on 333 working days/year.											

7. The PP reported that there is no violation case as per the Notification No. S.O. 804(E) dated 14.03.2017 and no direction is issued under E (P) Act/Air Act/Water Act.

8. The PP reported that the Ministry had issued EC earlier vide letter no. J-11011/90/2011-IA II (I) dated 22.03.2013 to the Membrane Cell based Caustic Soda (400 TPD) and Membrane Cell based Caustic Potash Plant (100 TPD) at Sy. No. 1-4, 7-8 &11, Village Balabhadrapauram, Mandal Biccavolu, District East Godavari, Andhra Pradesh was initially issued in the favour of M/s. K. P. R. Industries (India) Ltd. Further, the EC was transferred to M/s. Grasim Industries Limited from M/s. K. P. R Industries (India) Limited dated 21.11.2019. Also, an extension of the EC's validity until 22.03.2023 was obtained dated 18.08.2020.

9. The PP reported that the compliance of conditions stipulated in the existing EC letter has been certified by Regional Officer, Integrated Regional Office, Vijayawada of MoEFCC vide. File No. SO/VIJ/EPA/EC-A/101/03-94/2023 dated 05.09.2023. As per CCR obtained, one partially complied condition (Specific Condition No. iv) was observed i.e. “It is required to provide interlocking facilities to the pollution control equipment’s so that in case of any increase in pollutants beyond permissible limits, plant should be automatically stopped. 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”. ATR on the Partially complied condition has been submitted to IRO, Vijayawada of MoEFCC vide on 13.10.2023.

10. The PP reported that there are no ecologically sensitive areas such as National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve or other protected areas viz. Wildlife Corridors, Reserved / Protected Forest (PF) within a radius of 10 Km from the plant site. No schedule I species found within the study area during the survey as per (IWPA) Indian

Wildlife Protection Act, 1972 and Wildlife (Protection) Amendment Act, 2022. Authenticated list of flora and fauna within 10 km radius study area of plant site from DFO, East Godavari Division, Rajamahendravaram vide letter no. Rc. No. 527/2022-A1 dated 05.07.2023. There are 12 water bodies in 10 km radius of the plant site, i.e., Vedulla Cheruvu (~2.0 km in SW), Lingala Cheruvu (~3.0 km in ESE), Gajalugothi Kaluva (Canal) (~3.0 km in ENE), Samalkot Canal (~3.5 km in SE), Nakkala Channel (~5.5 km in SE), Ulapalli Drain (~6.0 km in SSE) , Kakinada Canal (~7.0 km in South), Tossipudi South Side Channel (~ 7.5 km in SSE), Pandalapakobodi Channel (~ 7.5 km in SSW), Tullabhaga Drain (~ 8.0 km in S), Palatodu Branch Channel (~8.5 km in SSW), Biccavolu Drain (~9.5 km in ESE).

11. The PP reported that the Ambient air quality monitoring was carried out at 10 locations during Pre - Monsoon Season (March, 2022 to May 2022) and the baseline data indicates the ranges of concentrations as: PM10 (from 45.3 to 81.7 mg/m3), PM2.5 (from 29.4 to 49.2 µg/m3), SO2 (from 5.2 to 12.1 mg/m3) and NO2 (from 10.3 to 25.2 µg/m3). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion project would be 0.288 µg/m3, 1.94 µg/m3 and 1.18 µg/ m3 with respect to PM, SO2 and NOx. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

12. The PP reported that the total water requirement is 12505 m3/day of which fresh water requirement is 10465 m3/day will be met from Ground water and Godavari River. After proposed expansion total effluent/waste water generation will be 2550 KLD (2438 KLD Industrial + 112 KLD Domestic), which will be treated in 4505 KLD ETP (Existing 1505 KLD + proposed 3000 KLD) and 1950 KLD recycled water will be utilized in various plant process and greenbelt area. Domestic effluent generation will be 112 KLD (32 KLD existing + 80 KLD proposed) will be treated in STP (100KLD & 50KLD), 90 KLD recycled water will be used in flushing and greenbelt. No wastewater is being discharged outside the plant premises. Zero Discharge is being maintained through recycling of treated waste water back into the process. The same practice will continue for the proposed expansion project. Therefore, the plant will remain Zero Liquid Discharge Unit after the proposed expansion

13. Power requirement is 165.34 MW, which is being/will be met from Andhra Pradesh Electricity Board, ABG Group Captive renewable solar power and IEX Power. Also, there are 3 existing (3x2000 KVA) and 4 additional (4x2000 KVA) D.G. Sets, it will be used during emergency. Stack height (36 meters) is provided as per CPCB norms to the DG Sets.

14. Existing unit has 2 (1 x 15 TPH & 1 x 20 TPH) Coal or rice husk fired, additionally (1 (1 x 50 TPH) Coal or rice husk fired boilers and 2 (1x50 TPH) gas fired) will be installed during proposed expansion of the plant. ESP and bag filter with a stack of height of 32 m will be installed for controlling the particulate emissions within the statutory limit of 50 mg/Nm3 for the proposed boilers.

15. Details of fuel:

S. No.	Particular	Unit	Quantity			Probable transportation	
			Existing	Additional	Total After expansion	Source	Distance and mode
1	Steam Boiler-1 (Coal or Rice husk fed)	TPA	25000	0	25000	Indigenous/ Imported	500 km / By Road
2	Steam boiler-2 (Coal or Rice husk fed)	TPA	30000	0	30000	Indigenous/ Imported	500 km / By Road
3	Steam Boiler-3 (Coal or Rice husk fed)	TPA	0	55000	55000	Indigenous/ Imported	500 km / By Road
4	Gas fired steam boilers-4	Million scm3 /Annum	0	3500	3500	Godavari Gas	50 km / Dedicated pipeline

16. Details of Process Emissions Generation and its Management:

Sr. No.	Source	Type of Pollutant/ Emission	Pollution controlling equipment	Number of units		Control Systems
				Existing	Proposed	
1	Membrane cell Plant- Unit 1	Cl2	Alkali Scrubber	1	1	Absorption of Unreacted Chlorine to produce bleach liquor (Sodium Hypochlorite)
		HCL Vapors	Water scrubber	4	4	Absorption of Unreacted HCL vapors in water
2	Stable bleaching powder plant	Cl2	Alkali Scrubber	1	1	Absorption of Unreacted Chlorine to produce bleach liquor (Sodium Hypochlorite)

Sr. No.	Source	Type of Pollutant/ Emission	Pollution controlling equipment	Number of units		Control Systems
				Existing	Proposed	
		PM	Bag filters	4	4	For Control of SPM
3	Chlorinated paraffin Plant	HCL Vapors	Water Scrubber	1	1	Absorption of Unreacted HCL vapors in water
4	Poly aluminum chloride plant	HCL Vapors	Water scrubber	1	2	Absorption of Unreacted HCL vapors in water
5	Calcium Chloride Plant	HCL Vapors	Water scrubber	0	2	Absorption of Unreacted HCL vapors in water
6	Chloromethanes	HCL Vapors	VRC Chamber	0	2	All vents after guard condenser are directed to volatile reduction chamber (VRC unit) where it is incinerated.
7	MCAA Plant	HCL Vapors	Water Scrubber	1	2	Absorption of Unreacted HCL vapors in water
8	Steam Boiler-1	PM	Electrostatic Precipitator	1	0	The collected dust from ESP is sent to fly ash silo, from where it is sent to brick manufacturers
9	Steam boiler-2	PM	Bag Filter	0	1	The collected dust from Bag filter is sent to fly ash silo, from where it is sent to brick manufacturers
10	Anhydrous Aluminum Chloride	Cl2	Alkali Scrubber	0	1	Unreacted Chlorine and uncondensed gases are efficiently scrubbed
11	Calcium Hypochlorite	Cl2	Alkali Scrubber	0	1	Unreacted Chlorine and uncondensed gases are efficiently scrubbed
		PM	Bag Filter	0	1	For control of Dust
12	Hydrogen Peroxide	HC	Emission of HC	0	1	Activated Carbon Adsorption System will be provided.

17. Details of Solid Waste/ Hazardous Waste Generation and its Management:

S. No	Hazardous & Other waste Type	Quantity			Method of Treatment and Disposal
		Existing as per Consent & Authorisation	Proposed	Total after Expansion	
Hazardous waste					
1	Brine Sludge (TPD)	30	30	60	Routed through M/s. APEMC to TSDF/Brick Manufactures
2	ATFD salts (TPD)	7	15	22	Sent to TSDF
3	Brine Sludge from Caustic potash plant (TPD)	Nil	5	5	To be sent to TSDF/ Brick Manufactures
4	Sludge from Calcium Hypochlorite (TPD)	Nil	2	2	To be sent to TSDF
5	PAC process waste and residues (TPD)	Nil	6	6	To be sent to TSDF
6	Sludge/ Residue from Hydrogen Peroxide (TPD)	Nil	1	1	To be sent to TSDF
7	Wastes / residues from waste treatment systems (TPA)	12	10	22	Routed through M/s. APEMC to TSDF
8	ETP Sludge (TPD)	12	12	24	Routed through M/s. APEMC to TSDF
9	Filter Press Sludge from SBP Plant (TPM)	30	30	60	Routed through M/s. APEMC to TSDF

S. No	Hazardous & Other waste Type	Quantity			Method of Treatment and Disposal
		Existing as per Consent & Authorisation	Proposed	Total after Expansion	
10	Wastes/ Residues containing oil (TPD)	1	2	3	Sold to authorized Recycler/ Incinerator.
11	Discarded containers barrels liners contaminated with hazardous wastes/ chemicals (TPA)	10	10	20	After detoxification, routed through M/s. APEMC to authorized agencies / sent to TSDF
12	Sludge from wet scrubbers (TPA)	6	6	12	Sent to TSDF
13	Spent Catalyst (TPD)	Nil	9	9	To be sent to TSDF
14	Process waste from Calcium chloride plant (TPD)	Nil	2	2	To be sent to TSDF
15	Anhydrous aluminium chloride dross waste (TPD)	Nil	5	5	To be sent to TSDF
16	Anhydrous aluminium chloride residues waste (TPD)	Nil	5	5	To be sent to TSDF
17	Electrolyzers waste membrane (TPD)	Nil	5	5	To be sent to TSDF
18	CPW residues (TPD)	Nil	2	2	To be sent to TSDF
19	Bleach liquor from Calcium Hypochlorite plant (KLD)	Nil	100	100	To be sold via M/s. APEMC
20	Rejected lime from Plants	NIL	1	1	Sent to TSDF
21	Used / Spent Oil (TPA)	60	60	120	M/s. APEMC to APPCB authorized agencies for Re-processing/ Recycling
22	Reacter/tanks cleaning residues from various plants (TPD)	NIL	2	2	To be sent to TSDF
23	Oil soaked/contaminated waste (TPD)	NIL	1	1	To be sent to TSDF
24	Bagfilter clothes (TPD)	NIL	1	1	To be sent to TSDF
25	Spent acid (TPD)	NIL	2	2	To be sent to TSDF
26	Spent ion exchange resins and other resins(TPD)	NIL	2	2	To be sent to TSDF
27	Oil and grease skimming residues (TPD)	NIL	2	2	To be sent to TSDF
28	Glasswool insulation waste (TPD)	NIL	2	2	To be sent to TSDF
29	Used RO filters and candles (TPD)	NIL	2	2	To be sent to TSDF
30	Residue/ Sludge from TISC and SDIC(TPD)	NIL	1	1	To be sent to TSDF
31	Spent ion exchange resins and other resins (TPD)	NIL	2	2	To be sent to TSDF
32	Sent to TSDFOil and grease skimming residues (TPD)	NIL	2	2	To be sent to TSDF
33	Residue/ Sludge from Chloromethanes (TPD)	NIL	4	4	Sent to TSDF/ recycling/ incineration
34	Residue/ Sludge from CFC’s (TPD)	NIL	2	2	Sent to TSDF/ recycling/ incineration
Other Waste					
35	E waste (TPA)	0.5	2	2.5	Sold to authorized Recycler only.
36	Scrap (TPA)	5	5	10	Sold to Scrap handling agencies.
37	FRP Waste (TPA)	Nil	10	10	Co-processing in Cement industry.

S. No	Hazardous & Other waste Type	Quantity			Method of Treatment and Disposal
		Existing as per Consent & Authorisation	Proposed	Total after Expansion	
38	Used Lead Acid Batteries (TPA)	1	5	6	buy back scheme.
39	Sludge from STP (TPM)	6	4	10	Used as Manure
40	Plastic Waste (MT)	50	75	125	Through Authorized recyclers only.
41	Other Solid waste (MT)	10	18	28	Organic waste to compost, while non organic waste sold to authorized recyclers.
Bio Medical Waste					
42	Category- Yellow (Human Anatomical Waste, Animal Anatomical waste, Soiled Waste, Expired or Discarded medicines, Chemical Solid Waste, Chemical Liquid Waste, Discarded Lenin, Mattresses Beddings Contaminated with blood or Body Fluid, Microbiology, Biotechnology and other clinical laboratory waste). (TPA)	0.024	0	0.024	Sent to Common Bio Medical Waste Treatment Facility
43	Category- Red (Contaminated Waste) (Recyclable) (TPA)	0.012	0	0.012	
44	Category- White (Translucent)/ (Waste sharps including Metals) (TPA)	0.012	0	0.012	
45	Category- Blue (Glassware) and Metallic Body Implants (TPA)	0.012	0	0.012	

18. The Budget earmarked towards the Environmental Management Plan (EMP) is 200 Crores (capital) and the Recurring Cost (operation and maintenance) will be about . 10 Crores / annum. Industry proposes to allocate Rs. 725 Lakhs towards Corporate Environment Responsibility.

19. As per the existing EC, out of the existing plant area of 7,21,800 m2 (72.18 ha.), the industry has already developed 2,75,200 m2 (27.52 ha.) of greenbelt which is 38.13 % of the total plant area. After the proposed expansion, out of the total plant area 9,97,400 m2 (99.74 ha.), the industry will develop 3,31,800 m2 (33.18 ha.) as greenbelt and plantation which is 33.27% of the total plant area. The plantation density will be maintained @2500 trees/ha.

20. The PP submitted that Public Hearing for the proposed expansion project was conducted on 28th Feb, 2023 (at 11:00 am) at Z.P. High School Ground, Balabhadhrapuram (V), Biccavolu (M), East Godavari District which was presided by the District Collector. The Major issues raised during the public hearing are given below:

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
1 Employment to Local: • Request to prioritize employment for nearby villages or local people, as the company claimed 76% employment for locals. • The project proponent considers the entire East Godavari District as "local," which contradicts the assurance given during the plant's inauguration of providing 70%	• GIL confirmed that they have met with the 75% local employment criteria as per G.O. Ms. No. 21, dated 14/10/2019, issued by Govt. of Andhra Pradesh. • Due to minimal graduate in the area required for chemical plant operations, however company started Unnati scheme 6 months ago by taking B.Sc. and M.Sc. graduates as well as	• The project will generate direct employment opportunities for 1400 persons during the construction phase of the project in addition to indirect employment opportunities for local villagers. • During operational phase of the project, total 1400 number of persons will be employed, where the preference will be given to

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
employment exclusively to locals. • The project authorities are urged to provide employment opportunities exclusively to locals. **2 Employment Figures and Job Fair:** • Demand for transparency in the employment figures and a "White paper" addressing concerns and assurances made during the plant commissioning. • A job mela (employment fair) should be conducted in the surrounding five villages. • The project proponent should clarify the number of local people actually employed, including both existing and expansion projects. • Priority should be given to local educated unemployed youth in employment opportunities. **3 Skill Development and Training:** • Promotion of skill development training for unemployed youth, providing them with better employment prospects within the company or other industries. • Conducting skill development programs like ITI (Industrial Training Institute) and Diploma courses for local youth to increase their job opportunities in other industries. **4 Livelihood and Self-Employment:** • Provision of livelihood opportunities for local people, along with self-employment schemes. • Emphasis on maintaining gender equality in workplaces and ensuring fair payment of wages to workers. • Greenbelt development shall be given to the local societies so that the BPL families will be benefited.	company provided them training them to suit the chemical plant requirement. • Employment has been provided to the local people according to their qualification and priority and in the expansion project also, employment will be given to the local people based on their qualification & company's requirement. • The company has been engaged in various CSR activities in nearby villages aimed at promoting sustainable livelihoods, skill development, and supporting unskilled workers through self-employment opportunities.	suitable candidates from local as per their eligibility, skills, and experience. • Apart from the above, various indirect employment opportunities are envisaged by way of transportation, workshops, petty contractors; shopkeepers, throughout the state and in its marketing regions. • Rs. 45 has been allocated for skill development program in study area will be spent in 3 years for development

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
Environment and Pollution related Issues		
1 Pollution Control Measures: • Potential groundwater pollution, noise pollution, and air pollution, as well as the risk of accidents. • Request for measures to control air pollution, dust pollution, and proper storage and disposal of solid waste. • Doubts about the control equipment proposed to handle chlorine emissions, safety measures for storing flammable gases like hydrogen, and handling ammonia. • Highlighting the ban on certain chemicals like Chloro Floro Carbons (CFC) as per the Montreal convention.	• The company has established state-of-the-art facilities for pollution control for the existing plant and ensures implementation of the mitigation measures to keep the pollution level within the prescribed norms. The same practice will continue for the proposed expansion project. • The company is being/will take all precautionary measures utmost priority for control of pollution and will install efficient APCE to control of pollution. • As per the existing EC, out of the existing plant area of 188.02 acres (76.09 ha.), the industry has developed 68 acres (27.52 ha.) of greenbelt which is 38.13 % of the land area. • Out of 246.45 acres (99.74 ha.), 68 acres (27.52 ha.) of greenbelt has already been developed and in addition to this company has proposed 14 acres (5.67 ha.) to ramp up and increase plant density to maintain @2500/trees. • Therefore, the greenbelt will be ramped up to 82 acres (33.18 ha.) i.e., 33.27 % of total area and the plantation density will be maintained @2500trees/ha. via gap plantation. • Hazardous waste generated from the existing plant are routed through M/s APEMC so as to send to TSDF. • The Solid Waste generated from the existing plant are used as manure. • Plastic waste is being/will be sold to Authorized Recyclers. • Additionally, FRP Waste will be generated and it will be sent to cement industries for co-processing. • Small quantity of used oil from rotating equipment's, exhausted resin, exhausted carbon generated on replacement/ cleaning activities is being sold to authorized recyclers. • The Sludge additionally generated will be sent to TSDF. • The ash generated from the boiler is being/will be sold to nearby brick manufacturer. • The details measures proposed for	• For Environment Management company has allocated Rs. 200 Crores as capital cost and Rs. 10 Crores as recurring cost / annum. • Company has earmarked an amount of Rs. 250 Lacs as capital cost and Rs. 20 Lacs as recurring cost / annum for Greenbelt and plantation. • Under Socio-economic development plan and for this company has allocated Rs 60 lacs for afforestation in nearby villages. • Additional Green belt development in 14 acres is envisaged in FY 23-24, cost estimate Rs. 25 Lacs. • Apart from this, company has proposed to distribute and plant 1000 no. of saplings in public places under Socio-economic development plan.
2 Safety Measures and Public Health: • Concerns about the manufacture of hazardous substances like Sulphuric Acid, Hydrogen, and Chlorine, and the need for safety precautions to prevent accidents. • Demand for health and safety measures for workers, development of a traffic plan, and upgradation of roads and intersections. • Emphasis on incorporating public health and groundwater status in project assessment.		
3 Environmental Impact and Green Initiatives: • Request for the development of greenbelts in the surrounding villages and plantation of a variety of trees, including herbal and fruit-bearing species. • Compliance with environmental guidelines such as CPCB and CREP. • Call for increasing the percentage of plantation and greenbelt beyond		

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
the prescribed norms. • Avoidance of pipeline construction in major settlement areas to prevent dust emissions. **4 Banned Chemicals and Environmental Compliance:** • Expressing concerns about the production of banned chemicals like Carbon tetrachloride and Chlorofluorocarbons (CFCs) under the Montreal Protocol. • Questioning the issuance of TOR (Terms of Reference) by MoEF&CC for manufacturing these banned chemicals. • Request for appropriate actions to prevent the production of banned chemicals. **5 Public Safety and Comparative Study:** • Highlighting the risks associated with introducing PFOA, a substance with health risks, in PTFE production. • Demand for a study of local groundwater to measure PFOA levels and ensure public safety. • Concerns about the lack of means to analyze water with low concentrations and the potential undesirable impact on the East Godavari district. • Calls for the intervention of the district magistrate, deferral of the public hearing, and a better EIA (Environmental Impact Assessment) report. **6 Overall Pollution Prevention:** • Emphasizing the need to prevent air, water, and soil pollution	storage and disposal of solid waste generated will section 2.17, Chapter 2 of this EIA/EMP report. • Safety for employees is utmost important practice in their plant. "Andariki Suraksha" is their motto and they truly follow that. • Aditya Birla Group is the largest Chlorine Manufacturer in the world. Grasim Industries have 75 years of incident free history in Chlorine handling. • Company have adopted 3 Layer robust safety systems to handle Chlorine, which is visible at present and can be exhibited to those who are keen to see. • Manufacturing of Ozone depleting substances was notified by MoEF&CC under Kyoto protocol. The manufacture of ODS is essential as feed stocks for pharma industry and they would obtain registration from MoEF&CC, GoI for the same before establishment of ODS manufacturing units. • As per MOEFCC, the greenhouse gases are to be reduced by 2047. As the law states, company can use ODS as feedstock and MOEFCC will consider all these details and take a call on issuance of permissions. • Also, there is no other technically feasible route to produce the same products other than these compounds. • There are about 25 factories in India that manufacture Chloromethanes; and 3 lakh Tonnes is being imported from other countries to India, out of which 5000 tonnes is imported through Kakinada. • They are competing with other global countries and manufacturing Chloromethane in India, as there is an acute shortage of this, required in Pharma industries • Company has proposed to distribute and plant …. no. of saplings in nearby villages under Socio-economic development plan.	
Water related Issues		

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
1 Impact on Agriculture and Drinking Water: • Concerns about the drawl of large quantities of Godavari water and groundwater, which could adversely affect agriculture in the Godavari delta area. • Potential scarcity of drinking water for Peddapuram, Samalkot, Kakinada, and the erstwhile East & West Godavari Districts. • Depletion of groundwater levels in Balabhadrapuram and G. Donthamuru villages, even with the existing industry's drawl of 1000 KLD (Kilo Liters per Day). **2. Wastewater Treatment and Clean Technologies:** • Importance of addressing wastewater quantity, quality, and treatment facilities. • Need for cleaner technologies to minimize the environmental impact of the chemical industry's operations. **3. Groundwater Depletion and Water Table:** • Concerns about the chemical industry leading to a • depletion of groundwater levels by up to 500 feet. • Expansion of the project could exacerbate groundwater depletion and cause water scarcity in the area. • Request for the government to take action and prevent excessive drawl of groundwater. **4. Rainwater Harvesting and Water Conservation:** • Suggestions for the development of rainwater harvesting structures to minimize groundwater extraction. • Construction of above-ground	• Government had carefully reviewed and sanctioned Godavari water allocation from upper flood bank and not from the direct canal; whenever there is extra water demand from farmers company will reduce usage of Godavari water, for which they have water storage capacity of 3 months consumption. • Approximately, 135 Cusecs of Godavari water is being drained into Sea, out of which 7 Cusecs is sanctioned to company, which is very meager. • Company is also thinking on usage of ground water, about 943 m3 water is being evaporated through cooling tower. All their products are water based and their customers get 50% water along with the product. • They get washing water for treatment. There is no wastage anywhere • Company has already ETP plant built with investment of Rs. 55 crore and washed water is treated here. • Company has already installed 1505 KLD capacity of ETP and 100 KLD capacity of STP. • Company is using 336 KLD of recycled water for industrial and greenbelt purpose. After the proposed expansion company will utilize 2040 KLD recycled water. • Also, company has proposed ETP of (3000 KLD) Capacity and STP (50 KLD) for proposed expansion. • As per CGWB, Ground Water Resources of the Godavari Deltaic Area for Biccavolu falls in safe category. • Company have dedicated Storm water channel inside the plant premises, the rain water is channelized to the Central reservoir of 1 Lakh Cubic Meter capacity to hold the water for reutilization. The same water is utilized for industrial purpose.	• Company has allocated Rs. 110Cr for ETP (Capacity 3000 KDL)and STP (50 KLD Capacity) • Also, company has earmarked Rs. 20 lakhs for development and upgradation of 4 ponds. • Company will spend Rs. 20 lakhs to develop three rainwater harvesting ponds outside the plant premises, in addition to channelizing the rain water to the reservoir. • Under Socio Economic Development plan Company has already spent Rs. 90 lakhs for construction of RO facilities in nearby villages. • An amount of approximately Rs. 200 lakhs spent on construction of water storage tanks in 3 nearby villages.

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
Effluent Treatment Plants (ETP) to prevent leakages and groundwater pollution. • Utilization of wastewater for plantation, road sprinkling, and dust suppression. • Provision of drinking water facilities in nearby villages and contributing to village development. • Emphasis on establishing pure water facilities, providing daily water supply, and promoting water-saving measures like soak pits and groundwater storage.		
Transportation and related Issues		
1. Health and Environmental Impact: • Concerns about the effect on the health of local residents, particularly in Balabhadrapuram and G. Donthamuru villages, due to the transportation of 56 types of raw materials from different locations. • Possibility **of** accidents during the transportation of 30,000 tonnes of coal used for the boiler by trucks. • Pollution problems associated with the transportation of raw materials and products, including air and noise pollution, as well as dust nuisance.	• The LOS value due to existing and proposed expansion will remain same. It is "Very Good" for road from Balabhadhrapuram to Rajanagaram and LOS Value for road from Balaravaram Road to Nallamili Village is "Excellent". • Company has allocated Rs. 30 lcs for development and maintenance of 1.35 KM long village road for black toping (Road from Main gate of company to MDR 26 between from Balabhadrapuram and Balvarum). • Also, company will make sure that approach road (From main gate of company to MDR 26 between Balabhadrapuram and Balvarum) and MDR 26 (Major district road from Balvarum to Balabhadrapuram) will be blacked topped wherever it is required and maintained to ensure that no fugitive emission will be generated • Besides this, M/s. Grasim Industries Ltd. is being / will take all appropriate measures to reduce the impact of transportation and to minimize the traffic flow to the best possible extent resulting in low level of dust, noise and gaseous emissions. Grasim will develop a railway siding at Biccavolu station to transport major raw material and finished products. Use of rakes via	• Company has allocated Rs. 30 lakhs. for development and maintenance of 1.35 KM long village road for black toping (Road from Main gate of company to major district road no. 26 between Balabhadrapuram and Balvarum) and approach road (From main gate of company to MDR 26 between from Balabhadrapuram and Balvarum) and MDR 26 (Major district road from Balvarum to Balabhadrapuram). • The same will be completed within in 3 years.
2. **Traffic Issues and Road Development:** • Request for the project authorities to address the traffic problems in the area caused by the movement of vehicles for transportation. • Request for the industry to fund the construction of roads in the surrounding areas due to heavy traffic related to raw material and product transportation. • Suggestion to halt transportation during school timings to ensure the		

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
safety of students **3. Alternative Transportation and Health Concerns:** • Recommendation for the company to explore alternative methods of coal transportation, such as using rail transport. • Concerns about potential health problems related to coal and ash handling and transportation.	rail will significantly reduce number of road trips and trips kilometers to large customers. • The company have/will implement pollution control measures to minimize emissions and prevent spills during transportation. • Currently Company is using low-emission vehicles, installing spill containment systems, and providing training to employees on safe handling and transportation practices	
Healthcare Facilities related Issues		
1. Health Problems and Chemical Handling: • Allegations that the operation of the existing industry has led to health problems such as cancer and kidney failure among the local residents. • Concerns about the health impact of transporting salt through Balabadhrapuram village. • Worries regarding the potential health effects on people due to the handling of dangerous chemicals by the project authorities. **2. Healthcare Facilities and Awareness:** • Recommendation for the company to establish a 100-bed hospital in Anaparthy and provide ambulance services for the villages. • Proposal for the organization of health camps and Health Immunity Development Awareness Programs by the company. **3. Investigation and Assurance:** • Demand for a thorough investigation into the health issues reported by the locals, particularly regarding the release of waste materials and chemicals into the atmosphere. • Request for an assurance letter	• Under CSR head company has already done sanitization of 14 villages in nearby vicinity during and after COVID-19, Distribution of bleaching powder, Awareness sessions on health and hygiene and Extended support during Pandemic at PHC, Biccavolu. • The company has established state-of-the-art facilities for pollution control for the existing plant and ensures implementation of the mitigation measures to keep the pollution level within the prescribed norms. The same practice will continue for the proposed expansion project. • Aditya Birla Group is the world's largest Chlorine Manufacturer. • Grasim Industries, a part of Aditya Birla Group, has a remarkable 75-year incident-free history in handling Chlorine. • The company has implemented a three-layered robust safety system specifically designed for Chlorine handling.	• Company has allocated Rs.5 lacs for organizing three health camps in in Balabadhrapuram village.

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
from the government and industry management, outlining their plan to address and prevent health-related concerns.		
Infrastructure related Issues		
1. Road Development and Infrastructure Facilities: • Road development through the R&B department, including the construction of FOB (Foot Over Bridges) and addressing railway level crossings. • Laying of cement roads and development of main roads and street roads in nearby villages. • Providing infrastructure facilities such as drainage systems and other village development initiatives.	• Company has allocated Rs. 30 lacs for development and maintenance of 1.35 KM long village road for black toping (Road from Main gate of company to MDR 26 between from Balabhadrapuram and Balvarum). • Also, company will make sure that approach road (From main gate of company to MDR 26 between Balabhadrapuram and Balvarum) and MDR 26 (Major district road from Balvarum to Balabhadrapuram) will be blacked topped wherever it is required and maintained to ensure that no fugitive emission will be generated • Company has allocated Rs. 20 lacs for development of ponds in nearby villages.	• Company has allocated Rs. 30 lakhs. for development and maintenance of 1.35 KM long village road for black toping (Road from Main gate of company to major district road no. 26 between Balabhadrapuram and Balvarum) and approach road (From main gate of company to MDR 26 between from Balabhadrapuram and Balvarum) and MDR 26 (Major district road from Balvarum to Balabhadrapuram). Company has allocated Rs. 20 lacs for development of ponds in nearby villages.
2. Provision of Water and Sanitation Facilities: • Contract for providing water to DWARKA Women. • Installation of bio-toilets for village women.		
Education related Issues		
• Company should provide Good Mid-day meals to students. • Company should support the rural primary education for weaker sections. • Provide good education facility to children in nearby villages. • The industry must facilitate a study circle with well-developed library and coaching to enable the local youth to secure better employments Civil services.	• Rs. 10 lacs have been earmarked for upgradation and renovation of school infrastructure within 3 years under socio economic development plan • Company has allocated Rs.15 lacs for Capacity building and livelihood support were provided to women through training in various areas such as pickles, snacks, embroidery, mango jelly, and horticulture • Also, company has allocated Rs. 450 lacs for construction of Cultural centres in Economically backward areas • Also, Rs. 15 lacs allocated for Job oriented skills development training to unemployed youth	• Rs. 10 lacs have been earmarked for upgradation and renovation of school infrastructure within 3 years under socio economic development plan • Company has allocated Rs.15 lacs for Capacity building and livelihood support were provided to women through training in various areas such as pickles, snacks, embroidery, mango jelly, and horticulture • Also, company has allocated Rs. 450 lacs for construction of Cultural centres in Economically backward areas • Also, Rs. 15 lacs allocated for Job oriented skills development training to unemployed youth

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
Socio-Economy and CSR related Issues		
1. CSR Funds Allocation and Utilization: • Focus on allocating more CSR funds and increasing CSR activities. • Emphasize the need for the funds to be utilized in the affected villages and for the benefit of the local community. • Stress the importance of investing a portion of the company's profit towards CSR initiatives. **2. Collection of Baseline Data and Health Status:** • Highlight the collection of baseline data for air, water, and land. • Request for the assessment of health status, crop production, and groundwater availability. **3. Village Development and Community Involvement:** • Advocate for the development of surrounding villages and provision of infrastructure facilities. • Stress the involvement of village committees in decision-making and coordination. • Emphasize the need for government officials and company representatives to prioritize the welfare of the villagers.	• Company is already carrying under CSR head for development of nearby villages the same practice will be continue for expansion project. • Rs. 725 lacs has been allocated for socio economic development. • Company is already operating various skill development centres to impart trainings on Tailoring, embroidery and fashion. (Kausalya Mahila Vikasa Kendram) for women empowerment. • To make women empowered and to sustain themselves for income generation. As of now 1080 females have been trained.	• Rs. 725 lacs has been allocated for socio economic development which will be implemented in 3 years.
Other Issues		
• They alleged that the offices of Tahsildar, Biccavolu, Rangampeta mandals and offices of Panchayat Secretaries, Balabhadrapuram, G. Donthamuru, Nallamilli, Singampalli, Balavaram have not displayed the draft EIA report and executive summaries at,their notice boards and the issue was brought to the notice of District Collector and EE, Pollution	• The draft EIA report and executive summaries were displayed at various government offices and local authorities in East Godavari District, Andhra Pradesh, for public reference which are given as under: • The Collector & District Magistrate, East Godavari District, Rajamahendravaram; • The Sub Collector, Rajamahendravaram, East Godavari	-

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
Control Board. • After brought to the notice of the higher authorities only, the project proponent have conducted Grama Sabhas to create awareness on the general 'public on the proposed expansion, that is also for sake of objections raised by them. • Awareness shall be created among the general public on the present proposal	District; • The Chief Executive Officer, Zilla Parishad, Kakinada; • The Member Secretary, A.P. Pollution Control Board, Board Office, Vijayawada; • The Member Secretary, State Level Impact Assessment Authority (SEIM), A.P. Pollution Control Board, Board Office, Vijayawada; • The Joint Director, Ministry of Environment & Forest and Climate Change, Integrated Regional Office (IRO), Green House Complex, Gopal Reddy Road, Vijayawada-520010, Andhra Pradesh; • The General Manager, District Industries, Rajamahendravaram, East Godavari District; • The Joint Chief Environmental Engineer, Zonal Office, A.P. Pollution Control Board, Visakhapatnam, Visakhapatnam District; • The Tahsildar, Mandal Revenue Office, Biccavolu Mandal, East Godavari District; • The Tahsildar, Mandal Revenue Office, Rangampeta Mandal, East Godavari District; • The Panchayat Secretary, Balabhadrapuram Village, Biccavolu Mandal and the Panchayat Secretary, Balavaram Village, G. Dontamuru Village, Nallamilli Village and Singampalli Village, Rangampeta Mandal, East Godavari District. • Public Hearing Notification was published in Sakshi & The Hindu on 28.01.2023 inviting the views, objections, suggestions etc., from the general public on the proposed expansion giving 30 days of minimum time as per EIA notification, 2006. • On 20.02.2023, the panchayat secretaries, Balabhadrapuram, Balavaram, G. Dontamuru, Nallamilli and Singampalli Villages were requested to give wide publicity in their concerned jurisdiction on the proposal of M/s. Grasim Industries	

Issued Raised	Response/Commitment from Project Proponent	Action plan with time frame and budget
Employment related Issues		
	Limited and also on public hearing to be held on 28.02.2023 by way of Tom Tom/ through public address system. • After all these efforts PH has been conducted by APPCB on 28.02.2023 At 11:00 a.m. at Z. P. High School Ground, Balabhadrapuram (V), Biccavolu (M), East Godavari District; Andhra Pradesh as per the EIA notification 2006, amended from time to time.	
Safety measure shall be taken care of and DMRF funds shall be utilized for local villages only	• The company has established state-of-the-art facilities with a three-layered robust safety system.	• For Environment Management company has allocated Rs. 200 Crores as capital cost and Rs. 10 Crores as recurring cost / annum.

21. The PP proposed to set up a Managing Unit head- DH EHS- SH Environment- FLO Environment- Junior Associate Environment for the functioning of Environment Management Cell.

22. The PP submitted the Disaster Management Plan and On-site and Off-site Emergency Plans in the EIA report.

23. The estimated project cost is Rs.2450 Crores (Existing: 995 crores + Additional: 1455 Cores). Total Employment will be 1250 persons in construction phase and 1400 persons in operational phase after expansion.

24. Deliberations by the EAC:

During deliberations, EAC discussed the following issues:

<table>
<tr><th>S. No.</th><th>Additional Details required</th><th>Reply submitted</th></tr>
<tr><td>1</td><td>As per Montreal Protocol, the company has proposed the production of banned chemical i.e. Chloro difluoromethane (R22) for which purpose of production is not mentioned in the EIA Report. Apart from that HFC-23 is the byproduct, not mentioned in the proposal. Clarification of the same to be provided.</td><td>In light of the discussion held during the EAC meeting, Grasim Industries Limited has decided to drop the production of Chloro difluoromethane (R22) as part of proposed expansion project. Revised proposal table is submitted</td></tr>
<tr><td>2</td><td>Boiler details w.r.t. capacity, type of fuel, stack height, pollution control equipment and fly ash Management is to be provided</td><td>Boilers details are given as under:
<table>
<tr><th>S. No.</th><th>Capacity of boiler</th><th>Stack height</th><th>Type of Fuel</th><th>Fuel requirement</th><th>Pollution control equipment</th></tr>
<tr><td colspan="6">Existing</td></tr>
<tr><td>1.</td><td>15 TPH</td><td>36 m</td><td rowspan="2">Coal</td><td>25000 TPA</td><td>ESP</td></tr>
<tr><td>2.</td><td>20 TPH</td><td>52 m</td><td>30000 TPA</td><td>Bag filter</td></tr>
<tr><td colspan="6">Additional</td></tr>
<tr><td>3.</td><td>50 TPH</td><td>62 m</td><td>Coal</td><td>55000 TPA</td><td>ESP</td></tr>
<tr><td>4.</td><td>50 TPH</td><td>32 m</td><td>Natural</td><td>3500 (Million</td><td>NA</td></tr>
</table></td></tr>
</table>

S. No.	Additional Details required	Reply submitted
		5. 50 TPH 32 m Gas scm3 /Annum) NA **Fly Ash Management -** Existing fly ash generation is 19250 TPA and additional fly ash generation for the proposed expansion will be 19250 TPA. Fly ash generated from the Boilers is collected in to the silo and is given to the brick manufacturers. The same practice will continue for the proposed expansion as well.
3	Out of the total fresh water requirement after the proposed expansion i.e. 10465 KLD, break up of ground water and surface water to be provided. The action plan for phasing out the ground water usage after laying down the pipeline from Godavari River to the plant site to be provided.	After considering the recovery of MEE condensate water (465 KLD), the fresh water requirement after expansion will reduce from 10465 KLD to 10000 KLD. Out of the same, 60% requirement will be met from surface water (w.e.f. the completion of pipeline and the start of drawl of Godavari Water) and rest 40% will be sourced from ground water.
4	Please explore the feasibility of setting up the Private Railway Siding for coal transportation.	The total coal requirement after the expansion project will be 110000 TPA, which will require around 12 no. of total trips/day (@ 30 tons capacity). Therefore, it is not viable to set up the private railway siding for coal transportation. However, company will explore the possibility for setting up the railway siding in future.
5	Chlorine management plan in case of emergency	Chlorine Management / Contingency Plan has been prepared to be implemented in case of Emergency.
6	Please explore the feasibility of coprocessing of Hazardous waste in cement plant.	Majority of the hazardous waste to be generated from the proposed expansion project will be inorganic wastes which have no calorific value as well as no materiality, therefore not suitable for co-processing in the cement plant. Other organic wastes have very low calorific value (less than 800 kcal/kg). hence, due to such low calorific value, these wastes are not suitable for co processing in the cement plant. Apart from the above, Oil wastes will be sent to the authorized recyclers.
7	Justification of high TDS in ETP outlet as per the CCR is to be provided.	The reason for high value of TDS in ETP outlet given in the Certified Compliance Report are due to fluctuation in influent from the process stabilization at varying plant loads. However, this ETP outlet water was sent to ZLD plant. The company has installed ZLD plant with 4 stage RO followed by Multi Effect Evaporator (MEE) along with ATFD. The same practice will continue for the proposed expansion as well.
8	Process emission details to be submitted in presentation format.	Details of process emission from stack has been submitted
9	Revised water balance considering recycling of MEE condensate (w.r.t. 488 KLD sludge)	Revised water balance considering recycling of MEE condensate (w.r.t. 488 KLD sludge) has been prepared.
10	Revised socio-economic development plan including Road Development and maintenance and health facilities.	Socio-economic development plan has been revised w.r.t. Road Development and maintenance and improving the health facilities. The Socio-economic development plan cost has been revised from Rs. 7.25 crores to Rs. 9.15 crores.

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

The EAC constituted under the provisions of the EIA Notification, 2006 comprising expert members /domain experts in various fields, examined the proposal submitted by the PP in desired format along with the EIA/EMP reports prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the PP.

The EAC noted that the PP has given an 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 reports. 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 PP.

The EAC noted that the EIA reports are in compliance with the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The EAC deliberated on the proposed mitigation measures towards Air, Water, Noise and Soil pollutions. The EAC advised that the storage of toxic/explosive raw materials/products shall be undertaken with utmost precautions and following the safety norms and best practices.

The EAC deliberated on the Onsite and Offsite Emergency plans and various mitigation measures to be proposed during the implementation also of the project and advised the PP to implement the provisions of the Rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

The EAC deliberated on the proposal with 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 expert members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent 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 PP 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.

25. Based on the proposal submitted by the project proponent and recommendations made by EAC in 73rd EAC meeting held on 16-17 January, 2024, Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the project "***Expansion of existing Membrane Cell based Caustic Soda (from 400 TPD to 1000 TPD), Chlorine Derivative Chemicals (from 350 TPD to 720 TPD) and installation of Membrane Cell based Caustic Potash Plant (100 TPD), Chloromethanes (150 TPD), Carbon tetrachloride (70 TPD), within the existing plant premises at Village: Balabhadhrapuram, Mandal: Biccavolu & at Village: G.Dontamuru (V), Mandal: Rangampeta, District: East Godavari(AP) by M/s. Grasim Industries Limited"*** under the provisions of the EIA Notification, 2006, and the amendments therein, subject to specific terms and conditions as mentioned in Annexure -1 and Standard EC Conditions.

26. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

27. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

28. The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

29. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

30. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

31. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

32. Any appeal against this EC 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.
This issues with the approval of the Competent Authority

Copy To

1. Inspector General of Forests, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Vijayawada Green House, Gopalareddy Road, Vijayawada – 520010, Andhra Pradesh.
2. The Special Chief Secretary, Environment, Forests, Science & Technology Department, Andhra Pradesh Secretariat, Velagapudi, Amaravati-522503.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
4. The Member Secretary, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, APIIC Colony Road, Gurunanak Colony, Autonagar, Vijayawada- 520007.
5. The Member, Central Ground Water Authority, 18/11, Jamnagar House, Mansingh Road, New Delhi – 110011.
6. The District Collector, 5&8, National Highway 16, Dowlaiswaram Industrial Estate, Industrial Estate, Dhavaleswaram, Rajamahendravaram, Andhra Pradesh 533125.
7. Guard File/Monitoring File/Website/Record File/Parivesh portal.

Annexure 1

Specific EC Conditions for (Synthetic Organic Chemicals Industry)

1. Specific Conditions

S. No	EC Conditions
1.1	(i) PP shall not produce Chloro difluoromethane (R 22) as PP has dropped the proposal for production/manufacturing of Chloro difluoromethane (R 22) from the list of products for proposed expansion. (ii) PP shall obtain registration under Ozone Depleting Substances (Regulation and Control) Rules 2000 as amended from time to time for generation of Carbon Tetra Chloride as byproduct for only feedstock purposes, which is an Ozone Depleting Substance. (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) ESP alongwith stack of 62 m height shall be provided to the proposed coal fired 50 TPH boiler to control the particulate emissions. Stack of 32 m height shall be provided to proposed gas fired boiler (2 x 50 TPH). (v) Alkali Scrubbers shal be provided in the Caustic Soda Plant and Chlorine derivated products units to control HCl and Cl2 emissions. Activated Carbon Adsorption System will be provided to control the emission of HC from Hydrogen peroxide plant. Chlorine bearing waste gases from various sections of the plant shall be treated in the water scrubber. The gases shall be scrubbed with NaOH (18%) and the unabsorbed gases will be vent into atmosphere. An on-line Chlorine analyzer shall be installed in the Chlorine section with a minimum reading of 1 ppm and will be connected to the DCS control room. An alarm with indication will also be provided at the field level. (vi) Total fresh water requirement shall not exceed 10000 m3/day. Out of which, 60% fresh water requirement will be sourced from surface water and remaining 40 % shall be sourced from ground water. (vii) 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

S. No	EC Conditions
	Control of Pollution) Act till the project proponent shall obtain such permission. (viii) Total effluent/waste water generation shall not exceed 2550 KLD (2438 KLD Industrial + 112 KLD Domestic), which shall be treated in 4505 KLD ETP (Existing 1505 KLD + proposed 3000 KLD), MEE and ATFD. 2415 KLD recycled water shall be utilized in various plant process and greenbelt area. Domestic effluent generation will be 112 KLD (32 KLD existing + 80 KLD proposed) shall be treated in STP (100KLD & 50KLD), 90 KLD recycled water shall be used in flushing and greenbelt. No effluent /treated water shall be discharged outside the plant premises and plant shall maintain Zero Liquid Discharge Unit after the proposed expansion. (ix) The PP shall develop greenbelt of at least 5-10 m width over an area of 3,31,800 m2 within the project site mainly along the plant periphery, preferably within a year of the grant of EC. The number of saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year. (x) A separate Environmental Management Cell (having qualified persons 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 and shall also engage Unit head- DH EHS- SH Environment- FLO Environment- Junior Associate Environment.In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year. (xi) 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. The budget proposed under EMP is 200 Crores (Capital cost) and 10 Crores / annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year. (xii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard. (xiii) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard. (xiv) 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. Garbage shall be segregated into wet garbage and dry garbage. Wet garbage shll be converted into compost at project site and used for horticulture purpose. Fly ash shall be collected in silo and handed over to bricks manufacturers. (xv) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and

S. No	EC Conditions
	Response) Rules, 1996. The occupier of new as well as expansion projects shall be required to comply with the provisions of the MSHIC Rules, 1989 including notifying their activities or seeking site approval from the concerned authorities, to address operational safety aspects. In doing so, various schedule, particularly Schedule-5 of the said rules may be referred. (xvi) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out. (xvii) 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 servers. 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) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report. (xix) The 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. (xx) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies. (xxi) 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. (xxii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be fire proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation. (xxiii) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water. (xxiv) The PP 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 vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation. (xxv) 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. (xxvi) The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.

Standard EC Conditions for (Synthetic organic chemicals industry)

1.

S. No	EC Conditions
1.1	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.
1.2	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.
1.3	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
1.4	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).
1.5	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
1.6	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.
1.7	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.
1.8	The project proponent shall also upload/submit six monthly reports on Parivesh Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated 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.
1.9	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 Integrated Regional Office of MoEF&CC by

S. No	EC Conditions
	e-mail.
1.10	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.
1.11	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.
1.12	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 the Project

<table>
<tr><th>S. No.</th><th>Particulars</th><th colspan="2">Details</th></tr>
<tr><td>a.</td><td>Details of the Project</td><td colspan="2">Expansion of existing Membrane Cell based Caustic Soda (from 400 TPD to 1000 TPD), Chlorine Derivative Chemicals (from 350 TPD to 720 TPD) and installation of Membrane Cell based Caustic Potash Plant (100 TPD), Chloromethanes (150 TPD), Carbon tetrachloride (70 TPD) within the existing plant premises at Village: Balabhadhrapuram, Mandal: Biccavolu & at Village: G.Dontamuru(V), Mandal: Rangampeta, District: East Godavari(Andhra Pradesh) by M/s. Grasim Industries Ltd.</td></tr>
<tr><td>b.</td><td>Latitude and Longitude of the project site</td><td colspan="2">16.98761682637873,81.99653537937745 17.00455755469963,82.00832162429072</td></tr>
<tr><td>c.</td><td>Land Requirement (in Ha) of the project or activity</td><td colspan="2"><table><tr><th>Nature of Land involved</th><th>Area in Ha</th></tr><tr><td>Non-Forest Land (A)</td><td>72.18</td></tr><tr><td>Forest Land (B)</td><td>0</td></tr><tr><td>Total Land (A+B)</td><td>72.18</td></tr></table></td></tr>
<tr><td>d.</td><td>Date of Public Consultation</td><td colspan="2">Public consultation for the project was held on 2023-02-28</td></tr>
</table>

S. No.	Particulars	Details
e.	Rehabilitation and Resettlement (R&R) involvement	NO
f.	Project Cost (in lacs)	245000
g.	EMP Cost (in lacs)	20000
h.	Employment Details	150

Signature Not Verified

Digitally Signed by : Mr A N Singh
Member Secretary, MoEFCC (EC)

Date: 16/02/2024