सत्यमेव जयते

File No: IA-J-11011/225/2024-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **31/05/2025**

To,

Mr Ramkumar Shankar
CHEMPLAST SANMAR LIMITED
No.9 CATHEDRAL ROAD CHENNAI 600086, CHENNAI, TAMIL NADU, 600086
nnk1@sanmargroup.com

Subject: **Proposed Expansion of Refrigerant Gases Manufacturing Unit located at Ward-D, Block-2, TS-2A, 2B, Block-3, TS-1, Block-5, TS-1 of Village and Taluk Mettur, Salem District, Tamil Nadu - 636001 by M/s. Chemplast Sanmar 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/TN/IND3/533121/2025 dated 25/04/2025 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.	EC25A0202TN5671565N
(ii) File No.	IA-J-11011/225/2024-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(f) Synthetic organic chemicals industry
(vi) Sector	Industrial Projects - 3
(vii) Name of Project	Expansion of Refrigerant Gases Manufacturing Unit
(viii) Name of Company/Organization	CHEMPLAST SANMAR LIMITED
(ix) Location of Project (District, State)	SALEM, TAMIL NADU
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. The Ministry of Environment Forest and Climate change has examined the proposal seeking Environmental Clearance for proposed expansion of Refrigerant Gases Manufacturing Unit located at Ward-D, Block-2, TS-2A, 2B, Block-3, TS-1,

Block-5, TS-1 of Village and Taluk Mettur, Salem District, Tamil Nadu - 636001 by M/s. Chemplast Sanmar Limited.

4. The project is covered under the Category A of item 5(f) of the Schedule of Environment Impact Assessment (EIA) Notification, 2006 (amended from time to time), since the project site is located outside notified industrial area and due to applicability of the general condition i.e., the project site is located in Critically Polluted Area (CPA) and hence the proposal is appraised at the Central Level by the Expert Appraisal Committee (EAC).

5. Standard ToR by Ministry vide letter No. IA-J-11011/225/2024-IA-II(I); dated 31.05.2024. The project proposal was considered by the Expert Appraisal Committee (Industry-3) in its 100th meeting held on 13.07.2025 wherein the Project Proponent (M/s Chemplast Sanmar Limited) and the Accredited Consultant namely **M/s. Perfect Enviro Solutions Pvt. Ltd. (Certificate Letter No. NABET/EIA/2225/RA 0284(Rev 01): valid till 26.11.2025**) made a detailed presentation on the salient features of the project and informed that:

6. The existing land area is 44800 m2 and additional 165200 m2 land will be used for proposed expansion.

S. No.	Plot no./ Survey no./Gut no.	Plot Area (sq. m.)	Date of land allotment (if Applicable)	Date of land possession (if applicable)	Date of lease/ sale deed / Land transfer	Validity of lease/sale deed or possession certificate	Name on the lease/ sale deed Or allotment/possession certificate
1.	Ward-D, Block-2, TS-2A, 2B, Block-3, TS-1, Block-5, TS-1	300276.7	Vide Government Order **(MS) No.990 dated 17.05.1937** by the Public Works (Irrigation) Department, Government of Madras Province, alienated 72.4 acres of land to M/s. Mettur Chemicals and Industrial Corporation Limited	17.05.1937	-	M/s.Mettur Chemicals and Industrial Corporation Limited amalgamated with M/s. Chemplast Sanmar Limited by the Hon'ble High Court of Madras vide its order dated 27.11.1989 in C.P No.13/1989 and the above said lands stood vested in the name of Chemplast Sanmar Limited	Lands were alienated for Industrial purposes by the Government of Tamil Nadu. The Town Survey Land Register reflects that these lands are Sarkar lands, wherein the possession is also mentioned in the name of the Company such as Mettur Chemicals, Chemicals Colony etc. The possession and enjoyment of the land is vested absolutely with Chemplast Sanmar Limited for operating Industry there.

Initially the land was sanctioned to M/s Mettur Chemicals and Industrial Corporation Limited by then State Government / PWD vide G.O. (Ms) No. 990 dated 17.05.1937. Subsequently, The Hon'ble High Court of Madras vide its order dated 27.11.1989 in C.P No.13/1989 amalgamated M/s. Mettur Chemicals and Industrial Corporation Limited with Chemicals and Plastics India Limited along with "all the undertakings, properties, rights and powers, investments, inventories and all assets. Later M/s Chemicals and Plastics India Limited was merged with M/s Chemplast Sanmar Limited and now it is in the possession of CSL.

7. The details of products and capacity as under:

S. No.	Products Details	CAS Number	Existing Quantity	Proposed Quantity	Total Quantity	Uses
			TPA			
EC Products						
1.	Monochloridifluoromethane (R22)	75-45-6	1,663	0	1,663	Refrigerant gas
2.	Difluoromethane (R32)	75-10-5	0	42,000	42,000	Refrigerant gas
Non - EC Products						
3.	Anhydrous Hydrofluoric Acid (AHF)	7664-39-3	0	40,000	40,000	Raw material for R32 production
4.	Hydrochloric Acid (HCl-30%)	7647-01-0	4,500	1,89,000	1,93,500	–
By-Products						
5.	Dilute Sulfuric Acid (70-80%)	7664-93-9	106	4,200	4,306	–
6.	Dilute Hydrofluoric Acid (10-15%)	7664-39-3	400	420	820	–
7.	Gypsum Anhydrite	7778-18-9	0	1,50,000	1,50,000	–

8. Certified Compliance Report (CCR) for CTO obtained from TNPCB vide letter No.: T5/TNPCB/F.004466/SLM/RL/2025, dated 24.03.2025.

9. EC for the existing unit is not applicable as the plant has been in operation prior to EIA Notification 1994, with its first consent order received vide Consent Order No. APC/A2/929/87, Dated 25.07.1987, renewed from time to time by TNPCB till date. The Details of CTE/ CTO in chronological order is as follows:

● Consent to Operate obtained vide 2205241811558 (Air) & 2205141811558 (Water), dated 31.05.2022, valid upto 31.03.2027 from TNPCB.

S. No.	Environment Related Clearance/Permit Type	Granted by	Document No. & Date
1	Consent to Operate (CTO)	TNPCB	APC/A2/929/87, dated t. 25.07.1987
2	Consent to Operate (CTO)	TNPCB	i. T1/A4/7696/84/F9/S1m/dt.23.9.88, ii. T9/S1m/F-9/A/92-1/dt 29.5.92, iii. C&PI/PC/NR-SK/10-3/dt 2.1.93, iv. R9/F9/S1m/TNPCBd/A/R/94
3	Consent to Operate (CTO)	TNPCB	R9/F9/S1m/TNPCBd/A/R/94
4	CTO Amendment	TNPCB	T11/Chemical/TNPCBd/F.No.463332/RL/Amend/A/2009 dated 06.03.2009
5	CTO Amendment	TNPCB	T11/TNPCB/Chem/F46332/Amend/SLM/RL/W/10 dated 28.09.2010
6	CTO (Air)	TNPCB	Consent Order No. 2205241811558 (Air dated 31.05.2022
7	CTO (Water)	TNPCB	Consent Order No 2205141811558 (Water) dated 31.05.2022

10. There are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Stanley Reservoir is located at a distance of 0.40 km in SW direction. 14 No. of Schedule I species are found in the buffer area i.e. 1. ***Macaca radiata (***Bonnet macaque***), 2. Cervus unicolor (***Sambar***),***

3. Canis aureus (Jackal***), 4. Urva edwardsii (***Indian grey mongoose***), 5. Varanus bengalensis (***Bengal monitor lizard***), 6. Python molurus (***Indian rock python***), 7. Chamaeleo zeylanicus (***Indian Chameleon***), 8. Naja naja (***Indian Cobra***), 9. Gallus sonneratii (***Grey junglefowl***), 10. Pavo cristatus (***Peafowl***), 11. Viverricula indica (***Small Indian Civet***), 12. Melanochelys trijuga (***Indian black turtle***), 13. Cypsiurus balasiensis (***Asian palm swift***), 14. Glaucidium radiatum (***Jungle Owlet***)*. **Conservation plan is prepared and submitted to DFO, Salem Division for approval on 21.03.2025**. The plan proposes an expenditure of INR 66 lakhs to be utilized over a five-year period for conservation efforts.

11. Ambient air quality monitoring was carried out at 11 locations during 1st February 2023 to 30th April, 2023 and the baseline data indicates the ranges of concentrations as: PM10 (39.59 µg/m^3 to 74.46 µg/m^3), PM2.5 (16.19 µg/m^3 - 38.54 µg/m^3), SO2 (3.09 µg/m^3 - 14.15 µg/m^3) and NO_2 (17.64 µg/m^3 - 44.79 µg/m^3) are within the limits of National Ambient Air Quality Standards (NAAQS) for both core & buffer zone. AAQ modeling study for all point source emissions indicates that the maximum incremental GLCs after the proposed expansion would be PM10- 1.68 µg/m^3, PM2.5-1.39 µg/m^3, NOx- 3.48 µg/m^3, SO_2- 3.03 µg/m^3, CO- 0.008 mg/m^3. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

12. The total existing water requirement for the operational industry is 126.2 KLD. Fresh water is used - 5 KLD for domestic purposes, 26.2 KLD is used in greenbelt, 30 KLD used in process, 65 KLD is used in the Boiler & Cooling tower. 15 KLD effluent and 4 KLD sewage is generated.
The total water requirement after expansion during the non-monsoon season will be 1169 KLD. Fresh water will be used - 55 KLD for domestic purposes, 430 KLD will be used in process, & 515 KLD will be used in Boiler & Cooling Tower, 169 KLD will be used in greenbelt. The total water requirement after expansion during monsoon season will be reduced to 1000 KLD. Fresh water will be used - 55 KLD for domestic purposes, 230.5 KLD will be used in the process. 302.5 KLD treated effluent, 80 KLD treated sewage and 132.5 KLD rainwater will be used in the Boiler & Cooling Tower. Greenbelt requirement during the rainy season will reduce to 0 KLD. 199.5 KLD rainwater will be used in the process. **Fresh water will be sourced from Mettur Stanley Water Reservoir with the approval for Extraction of water obtained from Water Resources Department, Tamil Nadu vide proceeding Ref: R.C. 7193/ 2020/ A8 dated 21.12.2021.**

13. Effluent of 315 KLD will be treated through ETP of 350 KLD capacity followed by RO of 350 KLD capacity & MEE of 40 KLD capacity. The treated effluent of 302.5 KLD will be reused in the Boiler and Cooling Tower. The plant will maintain the Zero Liquid discharge (ZLD) system for treating 315 KLD of Effluent generated.
44.0 KLD sewage generated from the plant during the operation phase after expansion will be treated along with 45 KLD sewage from the external housing colony in STP of 100 KLD capacity. The treated sewage 80.0 KLD will be reused within the plant premises for greenbelt development.

14. Rainwater storage tank capacity: Four Nos. of rainwater collection tanks with dimensions 12m x 12m x 7.3m each, having a total capacity of about 4200 m^3 are proposed for collection of rooftop rainwater and storage of 2 days. First and second rain from rooftops of admin, engineering, and stores buildings will be collected in a proposed collection tank and sent to ETP for treatment.

15. Power requirement after expansion will be 8000 kW including existing 250 kW and will be met from Tamil Nadu Electrical Board (TNEB) Grid Supply. The existing unit has 1 No. DG set of 125 kVA capacity, additionally 02 No. of DG sets of 1500 kVA is proposed as standby during power failure. Stack height of 30m for will be provided as per CPCB norms to the proposed DG sets.

16. The existing unit has 1 No. of 1 TPH boiler. Additionally, 1 No. of 25 TPH boiler will be installed with a stack of height of 40 m for controlling the emissions statutory limit of PM - 100 mg/Nm^3, SO_2 - 600 mg/Nm^3, NO_x - 300 mg/Nm^3 for the proposed boiler.

17. Details of fuel:

S. No.	Name of Fuel	Purpose of Use	Unit	Existing Quantity	Proposed Quantity	After Expansion Quantity
1	HSD	DG Sets & Vehicles	TPD	0.3		
2	Furnace Oil*	Boiler (Existing)	TPD	0.9	11.25	11.25
3	LSHS***	Boiler (Proposed)	TPD	-		
		Dryer Vent		-	2.5	2.5
		HF Reactor Vent	KL/Day	-	13.0	13.0
4	Hydrogen	M23 Gas Incinerator	TPD	0.2	0.2	0.4

*1 TPH Boiler running on Furnace Oil will be discontinued after proposed expansion.
**The proposed 25 TPH Boiler will be designed to work on both LSHS and Natural Gas fuel. PP commits transitioning of fuel from LSHS with Natural Gas subject to availability after the expansion.
***LSHS is Low Sulphur Heavy Stock.

18. Details of Process emissions including details of process stacks and incinerator (800 kg/day) and its management:

S. No.	Stack attached to	No. of Stack	Revised Stack Height (m)	APCM	Online Analyser	Parameter	Emission limit/Concentration of each Parameter	Frequency of Monitoring
Existing Stack								
	M23 Incinerator Vent (1x 800 kg/day)	1	25	Incineration followed by venturi scrubber followed by 2 stage water scrubber followed by Adequate Stack Height	-	SOx, NOx, HCl, HF	● HF - 1 mg/Nm^3 ● SO_2 - 200 mg/Nm^3 ● NO_x - 45 mg/Nm^3 ● HCl- 50 mg/Nm^3	CEMS and Manual monthly manual sampling through NABL Accredited Laboratory
Proposed Stacks								
1	Stack Attached to Gypsum Storage	1	40	Bag Filter followed by Adequate Stack Height	-	PM	● PM-50 mg/Nm^3 ● HF - 1 mg/Nm^3 ● HCl- 35 mg/Nm^3	Monthly manual sampling through NABL Accredited Laboratory
2	Stack Attached to AHF Plant	1	40	2 - Stage Water Scrubber, 1 - Stage Caustic Scrubber followed by Adequate Stack Height	Online analyser for HF	HF		
3	Stack Attached to R32 Plant	1	40	Scrubber followed by Adequate Stack Height	-	HCl, HF		

Details of Utility emissions and its management:

S. No.	Stack attached to	No. of Stack	Fuel Name & its Quantity	Revised Stack Height (m)	APCM	Emission Norms	Frequency of Monitoring
Existing Stacks							
1	Boiler	1	HSD, 0.9 TPD	30	Adequate	PM - 500 mg/Nm	CEMS shall be installed on

	1x 1 TPH*				Stack Height	SO_2 - 600 mg/Nm^3 NOx - 300 mg/Nm^3	Boiler stack and Monthly manual sampling, through NABL Accredited Laboratory
2	DG Set 1x 125 kVA	1	HSD: 0.3 TPD	15	Adequate Stack Height	PM - 30 mg/Nm^3 SO_2 - 100 ppm NO_x - 50 ppm	
Proposed Stacks							
1	Boiler 1x 25 TPH	1	LSHS: 11.25 TPD	45	Adequate Stack Height	PM - 100 mg/Nm^3 SO_2 - 600 mg/Nm^3 NOx - 300mg/Nm^3	CEMS shall be installed on Boiler, Dryer and HF reactor vent and Monthly manual sampling, through NABL Accredited Laboratory
2	DG Set 2x 1500 kVA	2	HSD: 0.3 TPD	30 m each	Adequate Stack Height	PM - 30 mg/Nm^3 SO_2 - 100 ppm NO_x - 50 ppm	
3	Fluorspar Dryer (20 Lacs Kcal/ Day) - 1 No.	1	LSHS: 2.5 TPD	40	Adequate Stack Height	PM - 50 mg/Nm^3 SO_2-100 mg/Nm^3 NO_x-300 mg/Nm^3	
4	HF Reactor Heating Chamber Vent (50 Lacs Kcal/ Day)-1 No.	1	LSHS: 13 KL/day	40	Adequate Stack Height		

*1 TPH Boiler running on Furnace Oil will be discontinued after proposed expansion.
**The proposed 25 TPH Boiler will be designed to work on both LSHS and Natural Gas fuel. PP commits transitioning of fuel from LSHS with Natural Gas subject to availability after the expansion.

19. Details of Solid waste/ Hazardous waste generation and its management are given in following tables:

Details of Solid Waste

Category	Type of Waste	Quantity (TPA)			Treatment/Disposal
		Existing	Proposed	After Expansion	
Biodegradable	Domestic/Organic Waste	3.03	9.75	12.78	Treatment in inhouse organic waste convertor (OWC) and use manure for horticulture development purposes in the premises
Non-Biodegradable	Recyclable Waste (Plastic, paper, wood, glass, etc.	4.54	14.62	19.16	Given to authorized recycler
Total		**7.57**	**24.37**	**31.94**	-

Details of Hazardous Waste Management

S. No.	Type of Waste	Category*	Source of Generation	Existing	Proposed	Total After Expansion	Method of Collection/Storage	Treatment / Disposal
				TPA				

1	Used or spent oil	5.1	Equipment and Machineries	10	52	62	MS Drums	Recover and Reuse / CPCB Authorized recyclers (Recyclers)
2	Wastes or residues containing oil	5.2	Process	1	50.5	51.5	MS Drums	Recover and Reuse / CPCB Authorized recyclers/ Coprocessing
3	Empty barrels/containers/liners contaminated with hazardous chemicals/ wastes	33.1	Raw Material Storage	25	105	130	Stored under roof	Recover and Reuse / CPCB Authorized recyclers
4	Chemical sludge from wastewater treatment and MEE Plant	35.3	ETP & MEE	25	1000	1025	Plastic Drums	Common Landfill / TSDF
5	Process or distillation residue	36.1	Process	50	105	155	MS Tanks	Incineration – Captive & CHWTSDF

* As per HWM Rules, 2016

Details of Biomedical waste:

Name of the Waste	Source	Qty (TPA)	Mode of Disposal	Mode of Transport
Soiled Waste	Occupational Health Center	0.05	Common Biomedical Waste Treatment Facilities (CBWTFs)	By road
Expired or discarded medicine	Occupational Health Center	0.05		By road
Microbiology & Biotechnology &other clinical waste	From Microbiology Lab	0.05		By road
Waste Sharps	From Microbiology Lab	0.05		By road
Contaminated Waste (Recyclable)	OHC Medical Check up	0.05		By road
Glassware	OHC Medical Check up	0.05		By road

Details of Other Waste:

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of transport
E-Waste	Office electronics items	0.01	Through authorized vendor	By road
Battery waste	Used battery	0.6	Through authorized vendor	By road
Plastic Waste	Site office and Admin Office	1.0	Will be handled through authorized recycler	By road

20. Public Hearing for the proposed project has been conducted by the Tamil Nadu Pollution Control Board on 23.12.2024. Public hearing notice was published on 16.11.2024 in 02 No. of prominent newspapers namely Daily Newspaper Dinathanthi (Tamil) and The New Indian Express (English). The Public Hearing was attended by 600 No. of persons. Public hearing was conducted at JKB Mahal, Thoppur - Bhavani Road, Near Karumalaikoodal police station, P.N. Patti, Mettur, Taluk, Salem district - 6364202 on 23.12.2024 presided by the District Collector, Salem District. Action plan to address the issues raised during public hearing is as given below:

Issue raised	Response/ Commitment from Project Proponent	Action Plan with time frame and budget
Major concerns raised by the public were related to requesting preference to local people in employment, provision of clean drinking water, groundwater contamination, & cleaning the road from the spillage of material during transportation to ensure road safety.	In response the project proponent commits to include the following activities with timelines and budget: INR 45 Lakhs Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village, INR 50 Lakhs for Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur villages, INR 90 Lakhs for upgradation of primary Health Care Centres, INR 50 Lakhs for upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village, INR 50 Lakhs for Infrastructure development at nearby villages in School including P N Patti and Kavipuram village, INR 60 lakhs for Improvement of Sanitation Facilities in Nearby Villages including karumalai koodal & kavipuram village, INR 75 Lakhs for Plantation (1,00,000 No.) in the nearby villages & open areas (fast growing local and medicinal species), INR 50 Lakhs Conducting annual medical camps for the general public, INR 25 Lakhs for Water Sprinkler to be provided on roads to reduce fugitive emissions, INR 15 Lakhs for Mechanized cleaning of road & INR 30 Lakhs for Provision of Solar light/street lights in nearby Villages. Total Budget Allocated for Social Welfare is INR 540 lakhs in next 5 years. All environmental related issues and social improvement activities are to be resolved involving the local public by constituting a joint consulting mechanism. PP confirms that they have good rapport with local panchayats and public and all their social improvement works are discussed with concerned panchayat officials before being done.	**Table given Below**

Details of Social Welfare Budget

S. No.	Activity	Action Plan	Capital Expenditure to be done in 5 years	Recurring Expenditure /year	
1	Skill development	Establishment vocational training centers in nearby	45	5	

		villages including Kavipuram & Karumalai Koodal village.		
2	Infrastructure Development	Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur village.	50	5
3		Upgradation of primary healthcare centers	90	15
4		Upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village	50	10
5		Infrastructure development at nearby villages in School including P N Patti and Kavipuram village.	50	15
6		Improvement of Sanitation Facilities in in nearby villages including karumalai Koodal & Kavipuram village	60	12
7	Environment	Plantation (1,00,000 No.) in the nearby villages & open Areas (fast growing local and medicinal species)	75	20
8		Conducting annual medical camps for the general public	50	10
9		Water Sprinkler will be provided on roads to reduce fugitive emissions	25	5
10		Mechanized cleaning of road	15	7
11		Provision of Solar light/street lights in nearby Villages	30	5
Total			**540**	**109**

21. Details/ Status of approved Wildlife Conservation Plan: Wildlife Conservation Plan for the 14 scheduled species has been prepared and submitted to DFO Salem on 21.03.2025.

22. There is no litigation pending against the project. No Violation of the EIA Notification 2006, its subsequent amendments.

23. Industry will develop greenbelt in an area of 40.14 % i.e. 84300 m^2 out of total area of the project i.e. 210000 m^2. Considering @2,500 trees per hectare of green belt, Total Trees to 21,075 Nos. of trees to be planted. The No. of existing Tree Species is 1,437. So, total No. of Trees planted will be 19,638 Nos.

24. Total Employment will be 870 Nos. including construction & operation phases. 20 Nos. (permanent) and 500 Nos. (Temporary) will be employed during the construction phase, 107 Nos. (permanent) and 160 Nos. (Temporary) will be employed during the expansion phase of the unit, making 150 Nos. (permanent) and 200 Nos. (Temporary) after proposed expansion. Industry proposes to allocate Rs 540 Lakhs @ of 0.54% towards CER.

25. The estimated project cost is Rs 1206.46 Crore including existing investment of Rs 206.46 Crore. Proposed capital cost earmarked towards environmental pollution control measures is Rs 767.0 Lakhs and the proposed Recurring cost (operation and maintenance) will be about Rs 120.65 Lakhs per annum. The breakup of capital and recurring cost is as follows:

S. No.	**Particulars**	**Proposed Capital cost**	**Proposed Recurring cost per annum**	**Basis for Cost Estimates**
		INR Lakhs		
1.	Air pollution control	150.0	15.0	APCS systems

				(Process stack) =@ 10 lakh/ stack = 10 Lakhs x 3 = INR 30 Lakhs (Boiler, TFH, Flourspar Dryer, HF Reactor) = @ 10 Lakhs/ stack = 10 lakhs x 4 = INR 40 Lakhs DG Set = @ 3.5 Lakhs/ DG set = 5 lakhs x 2 = INR 10 Lakhs APCS Systems: Two Scrubber System @ 35 Lakh each= Rs. 70 Lakhs Total: INR 150 Lakhs Recurring Cost: 10 % of Opex cost = 15 Lakhs
2.	Water pollution control	500.0	130	ETP (350 KLD) = INR 200 Lakhs RO (350 KLD) = INR 150 Lakhs MEE(40 KLD) = INR 100 Lakhs STP (100 KLD) =INR 50 Lakhs Total: INR 500 Lakhs Recurring Cost: Rs 125/ KL x315x 330 (No. of Day) = Rs. 129.93 Lakhs = 130 lakhs
3.	Solid and Hazardous Waste Management	7.0	70.0	Hazardous waste shed and disposal = INR 7 lakhs Recurring Cost: Landfill : Rs. 4 per Kg = 2739 Kg/day x 4 x 330 = Rs. 36,15,480 = Approx 36 Lakhs Incineration : Rs. 35 per Kg = 288 Kg/day x 35 x 330 = 33,26,400 =Approx Rs. 33.5 Lakhs Co-processing: Rs. 1 per Kg = 138 Kg/day x 1 x 330 = Rs. 45, 540 = Approx 0.5 Lakhs Total Rs. 70 Lakhs/Annum
4.	Environment Monitoring and Management	-	6.0	-
5.	Green belt Development	72.0	10.0	Rs. 350 per sampling, no. of trees sampling 19,638 = INR 68 Lakhs. Additional charges for replacement, safety guards etc.= INR 4 lakhs Total = 72 Lakhs Rs. 50 per sampling for maintenance = 19638 x 50 = 9,81,900 = Approx 10 Lakhs
6.	Occupational Health (OHC)	8.0	16.5	Personal Protective Equipment (PPEs) = (Rs. 5 Lakhs), Safety training centre = INR 3 Lakhs Total = 8 Lakhs
7.	Rain Water Harvesting Tank & Storm Water Pond	30.0	2.0	04 No. of Rain Water Collection Tanks @ 5 Lakh each = 5 x 4 = 20 Lakhs 01 No. of Storm Water Tank of 2100 cum.= 5 Lakhs 01 No. of Storm Water Pond of 2100 cum. =Rs 5 Lakhs Total= 30 Lakhs Maintenance Cost of Rain water collection tank = Rs. 1.5 Lakhs Maintenance Cost of Storm Water Pond = 0.5 Lakhs Total = 2.0 Lakhs
Total		**870**	**263.5**	**-**
7.	Social Activity (CER)	540.0	109	INR 45 Lakhs Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village, INR 50 Lakhs for Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur villages, INR 90 Lakhs for upgradation of primary Health Care Centres,

				INR 50 Lakhs for upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village, INR 50 Lakhs for Infrastructure development at nearby villages in School including P N Patti and Kavipuram village, INR 60 lakhs for Improvement of Sanitation Facilities in Nearby Villages including karumalai koodal & kavipuram village, INR 75 Lakhs for Plantation (1,00,000 No.) in the nearby villages & open areas (fast growing local and medicinal species), INR 50 Lakhs Conducting annual medical camps for the general public, INR 25 Lakhs for Water Sprinkler to be provided on roads to reduce fugitive emissions, INR 15 Lakhs for Mechanized cleaning of road & INR 30 Lakhs for Provision of Solar light/street lights in nearby Villages.
8.	Cost of conservation plan of Schedule-I species	66.0	-	The Proponent has proposed a sum of INR 66 Lakh for conservation of species.

S. No.	Particular	Activity	Amount Allocated (INR Lakhs)
1.	Total Cost	R22 to R32 conversion project, R32 Project, AHF Project	120646 (Existing INR 20646 Lakhs + Proposed INR 100000 Lakhs)
2.	EMP Cost	Air pollution control, Water pollution control, Solid and Hazardous Waste Management, Green belt Development, Occupational Health (OHC), Rain Water Harvesting Tank & Storm Water Pond	(Existing INR 32.12 Lakhs + Proposed INR 870 Lakhs)
3.	Recurring Cost	-	(Existing INR 34.0 Lakhs + Proposed INR 263.5 Lakhs)
4.	CER Cost	-	540.0
5.	Land	210000 sq.m (21 ha)	
6.	PH Commitment and action plan in brief	The project proponent commits to include the following activities with timelines and budget: INR 45 Lakhs Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village, INR 50 Lakhs for Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur villages, INR 90 Lakhs for upgradation of primary Health Care Centres, INR 50 Lakhs for upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village, INR 50 Lakhs for Infrastructure development at nearby villages in School including P N Patti and Kavipuram village, INR 60 lakhs for Improvement of Sanitation Facilities in Nearby Villages including karumalai koodal & kavipuram village, INR 75 Lakhs for Plantation (1,00,000 No.) in the nearby villages & open areas (fast growing local and medicinal species), INR 50 Lakhs Conducting annual medical camps for the general public, INR 25 Lakhs for Water Sprinkler to be provided on roads to reduce fugitive emissions, INR 15 Lakhs for Mechanized cleaning of road & INR 30 Lakhs for Provision of Solar light/street lights in nearby Villages. Total Budget Allocated for Social Welfare is INR 540 lakhs in next 5 years	
7.	Green Belt	Greenbelt area of total 8.43 ha. (i.e. 40.14% of total plot area) will be maintained. Considering @2,500 trees per hectare of green belt, Total 21,075 Nos. of trees to be planted. The No. of existing Tree Species is 1,437. So, total No. of Trees planted will be 19,638 Nos.	72.0
8.	Conservation Plan	14 No. of Schedule I species are found in the buffer area i.e. 1. ***Macaca radiata*** *(*Bonnet macaque***), 2. *Cervus unicolor* (**	66.0

		Sambar***), 3. Canis aureus (***Jackal***), 4. Urva edwardsii (***Indian grey mongoose***), 5. Varanus bengalensis (***Bengal monitor lizard***), 6. Python molurus (***Indian rock python***), 7. Chamaeleo zeylanicus (***Indian Chameleon***), 8. Naja naja (*** Indian Cobra***), 9. Gallus sonneratii (*** Grey junglefowl***), 10. Pavo cristatus (***Peafowl***), 11. Viverricula indica (***Small Indian Civet***), 12. Melanochelys trijuga (***Indian black turtle***), 13. Cypsiurus balasiensis (***Asian palm swift***), 14. Glaucidium radiatum (***Jungle Owlet***)***. Conservation plan is prepared and submitted to DFO, Salem Division for approval on 21.03.2025. The plan proposes an expenditure of INR 66 lakhs to be utilized over a five-year period for conservation efforts.	
9.	Water Approval	Fresh water will be sourced from Mettur Stanley Water Reservoir with the approval for Extraction of water obtained vide Bilateral Water Drawal Agreement dated 09.10.2024 with validity upto 06.04.2028 from Water Resources Department, Tamil Nadu.	
10.	Critical issues related to the project, (if any)	None	

Breakup of CER cost

S. No.	Activity	Action Plan	Capital Expenditure to be done in 5 years	Recurring Expenditure /year	
1	Skill development	Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village.	45	5	
2	Infrastructure Development	Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur village.	50	5	
3		Upgradation of primary healthcare centers	90	15	
4		Upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village	50	10	
5		Infrastructure development at nearby villages in School including P N Patti and Kavipuram village.	50	15	
6		Improvement of Sanitation Facilities in in nearby villages including karumalai Koodal & Kavipuram village	60	12	
7	Environment	Plantation (1,00,000 No.) in the nearby villages & open Areas. (fast growing local and medicinal species)	75	20	
8		Conducting annual medical camps for the general public	50	10	
9		Water Sprinkler will be provided on roads to reduce fugitive emissions	25	5	
10		Mechanized cleaning of road	15	7	
11		Provision of Solar light/street lights in nearby Villages	30	5	
Total			**540**	**109**	

25. Action Plan to comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area (CPA):

S. No.	Mitigation Measures as per MoEF&CC OM dated 31.10.2019	Compliance
Air Act		
1.	**Stipulation of conditions such as:** i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.	**Details of Utility Stacks:**

S. No.	Stack attached to	No. of Stack	Fuel Name & its Quantity	Stack Height (m)	APCM	Emission Norms	Frequency of Monitoring
			Existing Stacks				
1	Boiler 1x 1 TPH **(Shall be dismantled)**	1	Furnace Oil, 0.9 TPD	30	Adequate Stack Height	PM - 500 mg/Nm^3 SO_2 - 600 mg/Nm^3 NOx - 300 mg/Nm^3	CEMS shall be installed on Boiler stack and Monthly manual sampling, through NABL Accredited Laboratory
2	DG Set 1x 125 kVA	1	HSD: 0.3 TPD	15	Adequate Stack Height	PM - 30 mg/Nm^3 SO_2 - 100 ppm NO_x - 50 ppm	
			Proposed Stacks				
1	Boiler* 1x 25 TPH	1	LSHS: 11.25 TPD **(Shall be replaced with Natural Gas as fuel based on availability)**	45	Adequate Stack Height	PM - 100 mg/Nm^3 SO_2 - 600 mg/Nm^3 NOx - 300 mg/Nm^3	CEMS shall be installed on Boiler, Dryer and HF reactor vent and Monthly manual sampling, through NABL Accredited Laboratory
2	DG Set 2x 1500 kVA	2	HSD: 0.3 TPD	30 m each	Adequate Stack Height	PM - 30 mg/Nm^3 SO_2 - 100 ppm NO_x - 50 ppm	
3	Fluorspar Dryer (20 Lacs Kcal/day) - 1 No.	1	HSD: 2.5 TPD	40	Adequate Stack Height	PM - 50 mg/Nm^3 SO_2-100 mg/Nm^3 NO_x-300 mg/Nm^3	
4	HF Reactor Heating Chamber Vent (50 Lacs Kcal/day) -1 No.	1	HSD: 13 KL/day	40	Adequate Stack Height		

Details of Process Stacks:

S. No.	Stack attached to	No. of Stack	Stack Height (m)	APCM	Online Analyser	Parameter	Emission limit/Concentration of each Parameter	Frequency of Monitoring
Existing Stack								
1	M23 Incinerator Vent (1x 800 kg/day)	1	25	Incineration followed by venturi scrubber followed by 2-stage water scrubber followed by Adequate Stack Height	-	SOx, NOx, HCl, HF	· HF - 1 mg/Nm^3 · SO_2 - 200 mg/Nm^3 · NO_x - 45 mg/Nm^3 · HCl- 50 mg/Nm^3	CEMS and Manual monthly manual sampling through NABL Accredited Laboratory
Proposed Stacks								
2	Stack Attached to Gypsum Storage	1	40	Bag Filter followed by Adequate Stack Height	-	PM	· PM - 50 mg/Nm^3 · HF - 1 mg/Nm^3 · HCl- 35 mg/Nm^3	Monthly manual sampling through NABL Accredited Laboratory
3	Stack Attached to AHF Plant	1	40	2-Stage Water Scrubber, 1 - Stage Caustic Scrubber followed by Adequate Stack Height	Online analyser for HF	HF		
4	Stack Attached to R32 Plant	1	40	Scrubber followed by Adequate Stack Height	Online analyser for HF	HCl, HF		

ii. CEMS may be installed in all large/ medium red category industries (air polluting) and connected to SPCB and CPCB servers.

Existing:

· The boiler stack has been fitted with CEMS to ensure monitoring of emissions and the same is connected to the SPCB & CPCB server.

After Expansion:

· The proposed boiler stack will be fitted with CEMS to ensure monitoring of emissions and the same will be connected to the SPCB & CPCB server.

iii. Effective fugitive emission control measures should be imposed in the process of transportation,

Measures are taken in the existing as well as for proposed expansion are as under:

Equipment and Storage Measures

Aspects	Details
Reactors	Provided with mechanical seals
Condensers	Chilled water condenser to minimize evaporation losses.

Process Controls and Emission Monitoring

<table>
<tr><td></td><td>packing etc</td><td>
<table>
<tr><th>Aspects</th><th>Details</th></tr>
<tr><td>Scrubbers</td><td>Wet scrubbers to remove harmful gases and odors from industrial emissions</td></tr>
<tr><td>Instrumentation</td><td>Leakage detection and alarm system for critical equipment.</td></tr>
<tr><td>Charging</td><td>Liquid & solid raw materials will be done under vacuum wherever necessary, pumps with mechanical seals to avoid leakages.</td></tr>
<tr><td>Closed Loop Systems</td><td>Used to arrest fugitive emissions.</td></tr>
<tr><td>Pipes</td><td>Installation of right leak proof valves. Valves and flanges preventive maintenance program will be followed regularly. Regular monitor of system for leaks</td></tr>
</table>
Dust and Fugitive Emission Control
<table>
<tr><th>Aspects</th><th>Details</th></tr>
<tr><td>Fugitive Emission Monitoring</td><td>- Monitoring in the work zone environment.
- Strong ventilation and local exhaust systems.</td></tr>
<tr><td>Equipments</td><td>Regular inspection and maintenance.</td></tr>
</table>
The same will be followed after expansion as well.
</td></tr>
<tr><td></td><td>iv. Transportation of materials by rail/ conveyor belt, wherever feasible.</td><td>Transportation of materials is being done via PUC compliant vehicles adhering to the safety norms.
The same will be followed after expansion as well.</td></tr>
<tr><td></td><td>v. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided).</td><td>- Current fuel being used in boiler is Furnace oil, in compliance with the CPA Norms, there will be discontinuation of the existing 1 TPH Boiler running on Furnace Oil.
- The proposed 25 TPH Boiler will be designed in such a way that it can work on both LSHS and Natural Gas as a fuel. We commit to transitioning to a natural gas fuel whenever it becomes available after the expansion.</td></tr>
<tr><td></td><td>vi. Best Available Technology may be used. For example, usage of EAF/SAF/IF in place of Cupola furnace: Usage of Supercritical technology in place of sub-critical technology.</td><td>- The unit is already in compliance with the latest norms in the manufacturing industry. The R&D team of the unit works to reduce use of toxic chemicals and for low pollution load processes.
- The same will be followed after expansion as well.</td></tr>
<tr><td></td><td>vii. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.</td><td>- An existing green area of 1.48 ha (33.01%) has been developed within the site which is 33.01% of the existing plant area.with 1437 No. of trees.
- In the proposed expansion, the green belt will increase from 1.48 ha to 8.43 ha (40.14%), with a total of 21,075 No. of trees of 17 different species.</td></tr>
</table>

	viii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	- PP commits for Plantation of about 1,00,000 no. of trees in the nearby villages & common areas as part of CER activity for which a budget of INR 75 Lakhs is proposed to be spent in 5 years.
	ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened, shall be prescribed as a condition.	- The existing roads inside the industrial area are of sufficient carrying capacity for the proposed project and also the carrying capacity of approach road will not be exceeded due to the proposed expansion and therefore widening of roads is not proposed. The vehicle movement area is on paved surface to avoid dusting. - A budget of INR 15 lakhs is proposed for mechanized cleaning of roads. - A budget of INR 25 lakhs is proposed for Water Sprinklers to be provided on roads to reduce fugitive emissions.
2	**Water**	
	Stipulation of conditions such as: i. Reuse/recycle of treated wastewater, wherever feasible.	- Existing effluent of 15 KLD is generated from Boiler & Cooling Tower, is being treated in ETP (30 KLD Capacity) & 13.5 KLD treated effluent is reused in Boiler & Cooling Tower makeup. - After proposed expansion, **<u>During Non Monsoon season:</u>** Effluent of 315 KLD will be generated (200 KLD from process & 115 KLD from Boiler & Cooling Tower), will be treated in proposed ETP (350 KLD capacity), followed by RO (350 KLD Capacity) followed by MEE (40 KLD capacity) for treatment. - Treated effluent 302.5 KLD will be reused in Boiler & Cooling Tower makeup. **<u>During Monsoon season:</u>** - Treated effluent 302.5 KLD will be reused in Boiler & Cooling Tower makeup. - 332 KLD rainwater will be reused - 199.5 KLD in Process and remaining 132.5 KLD in Boiler & Cooling Tower makeup.
	ii. Continuous monitoring of effluent quality/ quantity in large and medium Red Category Industries (water polluting).	- Our unit operates under a Zero Liquid Discharge (ZLD) system, wherein the entire quantity of treated effluent is recycled and reused within the plant premises and there is no final discharge to the environment. - We continue to maintain records of our treatment performance, flow data, and water quality, which are readily available for review by regulatory authorities. - Our unit remains fully aligned with the objectives of the CEPI Action Plan and is committed to maintaining environmental compliance. - Further we assure to install necessary systems for continuous monitoring of effluent quality / quantity and shall be connected to the TNPCB server.
	iii. A detailed water harvesting plan may be submitted by the project proponent	- After the proposed expansion, for rooftop rainwater collection, 04 Nos. of rainwater collection tanks with dimensions 12m x 12m x 7.3m each, having a total capacity of about 4200 cum are proposed for collection of rooftop rainwater and storage of 2 days. - Stormwater will be collected in a proposed rainwater collection pond with a total capacity of about 2100 cum and storage of 2 days of stormwater.. Afterward 2nd rainfall excess runoff will be channelised to the storm water drainage of the area. - 332 KLD rainwater harvested will be reused during monsoon season.
	iv. Zero liquid discharge wherever techno-economically	- The unit is maintaining Zero liquid discharge and in the existing unit 15 KLD of effluent is sent to ETP & treated effluent of 13.5 KLD is reused in Boiler & Cooling Tower makeup. - After the proposed expansion, 315 KLD of effluent will be sent to ETP of 350 KLD followed by RO (350 KLD) and MEE (40 KLD) and treated effluent of 302.5 KLD will be reused in Boiler &

	feasible.	Cooling Tower makeup, thus maintaining ZLD.
	v. In case, domestic waste water generation is more than 10 KLD, the industry may install STP.	- In the existing unit, domestic waste water generation projected is 4 KLD and is treated in the existing STP of capacity 100 KLD and 3.2 KLD treated sewage is reused in greenbelt development. - After Expansion, sewage of 44 KLD will be generated from plant & 45 KLD (from housing colony) will be treated in existing STP of 100 KLD & 80 KLD treated sewage will be reused in greenbelt development.
	Land	
3.	**Stipulation of conditions such as:** i. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible for new projects.	An existing green area of 1.48 ha (33.01%) has been developed within the site which is 33.01% of the existing plant area.with 1437 No. of trees. - In the proposed expansion, the green belt will increase from 1.48 ha to 8.43 ha (40.14%), with a total of 21,075 No. of trees of 17 different species.
	ii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	- PP commits for Plantation of about 1,00,000 no. of trees in the nearby villages & common areas as part of CER activity for which a budget of INR 75 Lakhs is proposed to be spent in 5 years.
	iii. Dumping of waste (fly ash, slag, red mud, etc.) may be permitted only at designated locations approved by SPCBs/ PCCs.	Type of waste, source of generation, category, schedule and mode of disposal as under: **(a) Hazardous Waste:**

S. No.	Type of Waste	HW Category*	Existing	Proposed	Total After Expansion	Method of Collection/ Storage	Treatment / Disposal
			TPA				
1	Used or spent oil	5.1	10	52	62	MS Drums	Recover and Reuse / CPCB Authorized recyclers
2	Wastes or residues containing oil	5.2	1	50.5	51.5	MS Drums	Recover and Reuse / CPCB Authorized recyclers/ Coprocessing
3	Empty barrels/containers/ liners contaminated with hazardous chemicals/ wastes	33.1	25	105	130	Stored under roof	Recover and Reuse / CPCB Authorized

							recyclers
4	Chemical sludge from wastewater treatment	35.3	25	1000	1025	Plastic Drums	Common Landfill / TSDF
5	Any process or distillation residue	36.1	50	105	155	MS Tanks	Incineration – Captive & CHWTSDF

*As per HWM Rule 2016

(b) Solid Waste:

Category	Type of Waste	Existing	Proposed	After Expansion	Treatment Method
		Quantity (TPA)			
Domestic Waste	Solid Waste (Biodegradable)	3.03	9.75	12.78	Treatment in inhouse organic waste convertor (OWC) and use manure for horticulture development purposes in the premises
Office and related Operations	Recyclable Waste (Plastic, paper, wood, glass, etc.)	4.54	14.62	19.16	Given to authorized recycler

(c) Biomedical Waste:

Name of the Waste	Source	Qty (TPA)	Mode of Disposal	Mode of Transport
Soiled Waste	Occupational Health Center	0.05	Common Biomedical Waste Treatment Facilities (CBWTFs)	By road
Expired or discarded medicine	Occupational Health Center	0.05		By road
Microbiology & Biotechnology &other clinical waste	From Microbiology Lab	0.05		By road
Waste Sharps	From Microbiology Lab	0.05		By road
Contaminated Waste (Recyclable)	OHC Medical Check up	0.05		By road
Glassware	OHC Medical Check up	0.05		By road

(c) Other Waste:

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of transport
E-Waste	Office electronics items	0.01	Through authorized vendor	By road
Battery waste	Used battery	0.6	Through authorized vendor	By road
Plastic Waste	Site office and Admin Office	1.0	Will be handled through authorized recycler	By road

	iv. More stringent norms for management of hazardous waste. The waste	Wastes or residues containing oil (51.5 TPA) shall be disposed off with co-processing and reduce the load on landfill and incineration at TSDF.

	generated should be preferably utilized in co-processing.	
4.	**Other Condition (Additional):**	
	i. Monitoring of compliance of EC conditions may be submitted with a third party audit every year.	The unit will hire a third party to monitor the compliance of the condition and will submit EC Compliance every year.
	ii. The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.	A total amount of INR. 5.40 Crores would be utilized for Corporate Environment Responsibility (CER), which is 0.5% of proposed project cost i.e., INR 1000 Crores.

S. No.	Activity	Action Plan	Capital Expenditure to be done in 5 years	Recurring Expenditure /year
1	Skill development	Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village.	45	5
2	Infrastructure Development	Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur village.	50	5
3		Upgradation of primary healthcare centers	90	15
4		Upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village	50	10
5		Infrastructure development at nearby villages in School including P N Patti and Kavipuram village.	50	15
6		Improvement of Sanitation Facilities in in nearby villages including karumalai Koodal & Kavipuram village	60	12
7	Environment	Plantation (1,00,000 No) in the nearby villages & open Areas. (fast growing local and medicinal species)	75	20
8		Conducting annual medical camps for the general public	50	10
9		Water Sprinkler will be provided on roads to reduce fugitive emissions	25	5
10		Mechanized cleaning of road	15	7
11		Provision of Solar light/street lights in nearby Villages	30	5
Total			**540**	**109**

26. **Deliberations by the EAC:**

The following points were discussed in the meeting:

1. PP submitted an undertaking stating that the production capacity has never exceeded the consented capacity since the plant's commissioning in 1987 and has been always in line with the Consent to Operate obtained prior to the EIA Notification, 2006.

2. PP clarified that the Public Works (Irrigation) Department, Government of Madras Province vide Government Order (MS) No. 990 dated 17.05.1937 alienated 72.4 acres of land to Mettur Chemicals and Industrial Corporation Limited for setting up the industrial facility. Mettur Chemicals and Industrial Corporation Limited amalgamated with M/s. Chemplast Sanmar Limited (formerly known as Chemicals and Plastics India Limited). This scheme of amalgamation was approved by the Hon'ble High Court of Madras vide its order dated 27.11.1989 in C.P No.13/1989 and the above said lands stood vested in the name of Chemplast Sanmar Limited along with "all the undertakings, properties, rights and powers, investments, inventories and all assets". Copies of G.O. by the Public Works Irrigation Department dated 17.05.1937 and the Hon'ble High Court Order dated 27.11.1989.

3. PP informed that Stanley Reservoir is located within 400 m from the project site, hence proposed a five-layer protection system as environmental safeguards for nearby schools & water bodies, which is as follows:

1st Layer Protection: Active Safeguard

Design control:

· Storage tanks for chemicals like R32, AHF etc. will be installed with redundancy. In case of any leak, one empty tank will always be ready to receive material from tanks that are in service.

· Adequate Dyke systems for containment of liquid.

· 2-levels of water curtain for AHF storage.

Emission Control: As the primary line of defense, the system is fully automated. It includes adequately designed scrubbers to effectively control and minimize the impact of potential hazardous emissions.

Automated Systems and Sensors:

· Activation of water curtains in AHF storage through automated valves in case of any detection by sensors.

· The plant is equipped with a Distributed Control System (DCS), interlocking systems, and sensors to detect the presence of AHF, $CHCl_3$, $CHClF_2$, and CH_2F_2. A Leak Detection and Repair (LDAR) Standard Operating Procedure (SOP) will be strictly enforced.

2nd Layer Protection: Secondary Detection

Automated Systems and Sensors: A secondary array of sensors and alarms, designed to detect the same chemicals (AHF, $CHCl_3$, $CHClF_2$, and CH_2F_2), will be installed along the project's boundary wall.

Early Warning System: These secondary systems provide redundant detection and serve as an early warning system for the surrounding environment.

3rd Layer Protection: Passive Safeguard

Green Belt/Vegetation Barrier: A dense green belt, acting as a passive protection barrier, will be established at the site's periphery. The green belt will range in width from **38 m to 94 m (comprising 10 to 25 tree rows) on the northeast side**, adjacent to Kavipuram village; approximately **50 m to 110 m (12 - 28 tree rows) on the west-southwest side**, adjacent to the school; and approximately **50 m to 100 m (12 to 25 tree rows) on the north side**, adjacent to worship places. This green belt will help mitigate the spread of hazardous emissions through natural absorption and filtration. It will also create a natural boundary, providing an additional layer of protection for surrounding areas, including Kavipuram village, P.N. Patti village, the school, and other sensitive locations.

Strategic Location of Bulk Storage: Bulk chemical storage is strategically located at a safe distance from sensitive areas, including P.N. Patti village, Kavipuram Village, schools, and hospitals.

4th Layer Protection: Emergency Response and Evacuation

Emergency Response Team: Comprehensive on-site and off-site emergency response plans will be implemented, and a dedicated emergency response team will be maintained to effectively manage incidents. Regular training and audits will be conducted to ensure preparedness.

Evacuation Plans: Established protocols will ensure the timely evacuation of personnel to designated assembly points in the event of an emergency.

Mock Drills and Trainings: To enhance community preparedness, regular mock drills and training exercises, conducted at least annually, will involve nearby schools, hospitals, and the surrounding community, including P.N. Patti village.

5th Layer Protection: Power Backup and Contingency

Power Failure Contingencies: In the event of a power failure during an emergency, automated diesel generator (DG) sets

will ensure the safe shutdown of plant operations. Uninterruptible power supply (UPS) systems will provide backup power for critical systems.

4. PP informed that as per MSIHC rules, 1989, Hydrogen fluoride (HF) falls under Schedule III, Part 1, Group 2-Toxic Substances (Sl. No. 115) and the proposed storage quantity is 48 Tons, which falls under threshold quantity (for application of Rules 5, 7-9 and 13-15) i.e., 5 Ton and Quantity for application under Rule of 10-12, i.e., 50 Tons. Hence, Rules 5, 7-9 and 13-15 is applicable.

5. PP also clarified that the Hon'ble NGT OA No. 673/2018 emphasizes on abatement of Pollution of River stretches across India. The said order is not applicable to this project as this unit has adopted Zero Liquid Discharge and no Waste water from the site is being discharged into the drain or any water body. The treated wastewater is being reused within plant premises.

6. PP reported that the gypsum from the process will be stored in a closed carbon steel silos to protect it from environmental factors such as moisture and direct sunlight, ensuring its long-term integrity. Further, gypsum storage area will be provided with covered shed with concrete floor and leachate collection and treatment system.
PP submitted a NOC obtained vide letter 14.05.2025 dated from the Water Resource Department regarding Expansion of the Unit.
7. PP submitted revised CER and EMP budget.

8. PP submitted the Action Plan to comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area (CPA).

9. PP submitted the revised process & utility stack details with updated worst case GLC.

10. PP proposed for discontinuation of the existing 1 TPH Boiler running on Furnace Oil.

11. The proposed 25 TPH Boiler will be designed in such a way that it can work on both LSHS and Natural Gas as a fuel. PP committed to transitioning to a natural gas fuel whenever it becomes available.

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

The EAC deliberated the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during the implementation 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, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, as amended from time to time.

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 Experts Members of the EAC found the proposal in order and recommended for the 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 n ecessary 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.

26. Based on the proposal submitted by the PP and recommendations of the EAC, in its 100th EAC held on 13-14 May,

2025 (Industry-3 Sector), the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance for **"Proposed Expansion of Refrigerant Gases Manufacturing Unit located at Ward-D, Block-2, TS-2A, 2B, Block-3, TS-1, Block-5, TS-1 of Village and Taluk Mettur, Salem District, Tamil Nadu - 636001 by M/s. Chemplast Sanmar Limited"** under the provisions of the EIA Notification 2006 and its subsequent amendments therein, subject to compliance of the Specific and General terms and conditions as mentioned at **Annexure-1**. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. 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.

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

This issues with the approval of the Competent Authority.

Copy To
N/A

Annexure 1

Specific EC Conditions for (Synthetic Organic Chemicals Industry)

1. Specific Conditions

S. No	EC Conditions
1.1	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
1.2	Bag Filter followed by 35 m Stack Height shall be provided to Gypsum storage. 2 - Stage Water Scrubber, 1 - Stage Caustic Scrubber followed by 35 m Stack Height shall be provided to AHF Plant. Online analyser shall be installed for monitoring HF emissions. Scrubber followed by 35m Stack Height to R 32 plant. venturi scrubber followed by 2 stage water scrubber followed by 25m Stack Height shall be provided to R23 Gas Incinerator. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.
1.3	Stack height of 45 m shall be provided to the proposed HSD fired Boiler (1x25 TPH) as per CPCB /SPCB norms. Stack height of 40 m shall be provided to the proposed HSD fired Fluorspar Dryer (1x20 Lacs Kcal/ Day) as per CPCB /SPCB norms. Stack height of 40 m shall be provided to the proposed HSD fired HF Reactor Heating Chamber Vent (50 Lacs Kcal/ Day) as per CPCB /SPCB norms. Stack height of 30 m each shall be provided to DG set (2x1500 KVA) as per CPCB/SPCB norms. PP shall replace LSHS with cleaner fuel such as natural gas/ HSD in time bound manner in the existing unit. No furnace oil shall be used as fuel.
1.4	As proposed, a five-layer protection system as environmental safeguards for nearby schools & water bodies, etc shall be provided by the project proponent.
1.5	Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by SPCB.
1.6	Total fresh water requirement from Mettur Stanley Water Reservoir shall not exceed 786 KLD.
1.7	NOC from the concerned Authority shall be obtained before start of the expansion of plant for surface water supply 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 Control of Pollution) Act till the project proponent shall obtain such permission.
1.8	Industrial effluent generation shall not exceed 315 KLD. Industrial Effluent shall be treated in the ETP comprising primary, secondary and tertiary treatment facility followed by RO. RO rejects shall be evaporated in the MEE. The treated effluent of 302.5 KLD shall be reused in the Boiler and Cooling Tower. The plant will maintain the Zero Liquid discharge (ZLD) system. Sewage shall be treated in the STP. The treated sewage of 80.0 KLD will be reused within the plant premises for

S. No	EC Conditions
	greenbelt development. Industrial unit shall maintain ZLD.
1.9	The unit shall make necessary arrangement along the periphery of the plant area to channelize the storm water to collection pit. Storm water after treatment shall be recycled /reused for cooling make up/in process. pH meter, ToC analyzer, Ammonical Nitrogen analyzer & Flow meter shall be installed to check the quality of storm water and records shall be maintained
1.10	The green belt of adequate width shall be developed in an area of 84300 sq m (40.14%) within plant premises. The industry will plant 21075 nos. of trees/saplings/plants within premises. The green belt will range in width from 38 m to 94 m (comprising 10 to 25 tree rows) on the northeast side, adjacent to Kavipuram village; approximately 50 m to 110 m (12 - 28 tree rows) on the west-southwest side, adjacent to the school; and approximately 50 m to 100 m (12 to 25 tree rows) on the north side, adjacent to worship places. Tree saplings selected for the plantation should be of sufficient height, preferably 6-ft shall be planted in greenbelt area. Indigenous species shall only be developed as part of greenbelt and non-indigenous / alien species shall be replaced with native species. No invasive or alien or non-native tree species shall be selected for plantation. PP shall develop at least 20 variety of species as a part of greenbelt. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. 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.
1.11	Plantation of saplings shall be carried out as a part of tree plantation campaign "EK PED MAA ke NAAM" and details of the same to be uploaded in the Meri LiFE portal (https://merilife.nic.in) in respect to this Ministry's OM No. IA3-22/3/2024-IA.III(E-241594) dated 24th July 2024.
1.12	Roof top rain water shall be collected in 4 x 12mx 12mx 7.3m underground RCC storage tank. The rain water collected shall be reused within the plant after filtration as per requirement. Storm water from the open area shall be collected separately and stored in an underground RCC storage tank, which shall be recycled/reused within the plant premises.
1.13	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 Rs. 870 Lakh (Capital cost) and Rs. 263.5 Lakh per annum (Recurring cost)] shall be kept in a 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 the previous year.
1.14	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.
1.15	No banned chemicals shall be manufactured by the project proponent. No banned raw materials

S. No	EC Conditions
	shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
1.16	The project proponent shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986.
1.17	PP shall not produce or consume Ozone Depleting Substances without registration under Ozone Depleting Substances (Regulation and Control) Rules 2000 as amended from time to time.
1.18	Captive hazardous waste incinerator shall be designed according to the guidelines provided by the Central Pollution Control Board (CPCB). The incinerator shall meet specific performance standards and pollution control norms. Incinerated ash shall be sent to treatment storage disposal facility (TSDF).
1.19	All the hazardous waste shall be managed and disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or send for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet garbage shall be converted into compost and used as manure for greenbelt development.
1.20	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 by engaging Environment Officials. 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. The 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 the previous year.
1.21	The PP 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.
1.22	All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP 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 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.
1.23	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.

S. No	EC Conditions
1.24	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.
1.25	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.
1.26	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.
1.27	The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
1.28	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.
1.29	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.
1.30	There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products and no parking to be allowed outside on public places.
1.31	Storage of raw materials shall be either in silos or in covered areas to prevent dust pollution and other fugitive emissions. All stockpiles should be constructed over impervious soil and garland drains with catch pits to trap runoff material shall be provided. Chemicals shall be stored in covered sheds and wind breaking walls/curtains shall be provided around biomass storage area to prevent its suspension during high wind speed. All Internal roads shall be paved. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.
1.32	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.
1.33	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

S. No	EC Conditions
	letter and spirit.
1.34	As proposed, PP shall comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area. (As per annexure-3).

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.

S. No	EC Conditions
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 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.

Additional EC Conditions

N/A

Annexure 2

Details of the Project

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>a.</td><td>Details of the Project</td><td>Expansion of Refrigerant Gases Manufacturing Unit</td></tr>
<tr><td>b.</td><td>Latitude and Longitude of the project site</td><td>11.80360002265718,77.81716431234149
11.80870458658413,77.8228667475318</td></tr>
<tr><td>c.</td><td>Land Requirement (in Ha) of the project or activity</td><td><table><tr><th>Nature of Land involved</th><th>Area in Ha</th></tr><tr><td>Non-Forest Land (A)</td><td>4.48</td></tr></table></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><th>Nature of Land involved</th><th>Area in Ha</th></tr>
<tr><td>Forest Land (B)</td><td>0</td></tr>
<tr><td>Total Land (A+B)</td><td>4.48</td></tr>
</table>
</td></tr>
<tr><td>d.</td><td>Date of Public Consultation</td><td>Public consultation for the project was held on</td></tr>
<tr><td>e.</td><td>Rehabilitation and Resettlement (R&R) involvement</td><td>NO</td></tr>
<tr><td>f.</td><td>Project Cost (in lacs)</td><td>120646</td></tr>
<tr><td>g.</td><td>EMP Cost (in lacs)</td><td>307.12</td></tr>
<tr><td>h.</td><td>Employment Details</td><td></td></tr>
</table>

Annexure-3

As proposed, PP shall comply with the following mitigation measures as Per Ministry's Office Memorandum 31st October, 2019 regarding Projects located in Critically Polluted Area.

<table>
<tr><th>S. No.</th><th>Mitigation Measures as per MoEF &CC OM dated 31.10.2019</th><th>Compliance</th></tr>
<tr><td colspan="3">Air Act</td></tr>
<tr><td>1.</td><td>Stipulation of conditions such as:
i. Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.</td><td>
<u>Details of Utility Stacks:</u>
<table>
<tr><th>S. No.</th><th>Stack attached to</th><th>No. of Stack</th><th>Fuel Name & its Quantity</th><th>Stack Height (m)</th><th>APCM</th><th>Emission Norms</th><th>Frequency of Monitoring</th></tr>
<tr><td colspan="8">Existing Stacks</td></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Boiler 1x 1 TPH (Shall be dismantled)</td><td rowspan="3">1</td><td rowspan="3">Furnace Oil, 0.9 TPD</td><td rowspan="3">30</td><td rowspan="3">Adequate Stack Height</td><td>PM - 500 mg/Nm^3</td><td rowspan="3">CEMS shall be installed on Boiler stack and Monthly manual sampling, through NABL Accredited Laboratory</td></tr>
<tr><td>SO_2 - 600 mg/Nm^3</td></tr>
<tr><td>NOx - 300 mg/Nm^3</td></tr>
<tr><td>2</td><td>DG Set 1x 125 kVA</td><td>1</td><td>HSD: 0.3 TPD</td><td>15</td><td>Adequate Stack Height</td><td>PM - 30 mg/Nm^3
SO_2 - 100 ppm</td></tr>
</table>
</td></tr>
</table>

						NO_x - 50 ppm		
Proposed Stacks								
1	Boiler* 1x 25 TPH	1	LSHS: 11.25 TPD **(Shall be replaced with Natural Gas as fuel based on availability)**	45	Adequate Stack Height	PM - 100 mg/Nm^3	CEMS shall be installed on Boiler, Dryer and HF reactor vent and Monthly manual sampling, through NABL Accredited Laboratory	
						SO_2 - 600 mg/Nm^3		
						NOx - 300 mg/Nm^3		
2	DG Set 2x 1500 kVA	2	HSD: 0.3 TPD	30 m each	Adequate Stack Height	PM - 30 mg/Nm^3 SO_2 - 100 ppm NO_x - 50 ppm		
3	Fluorspar Dryer (20 Lacs Kcal/day) - 1 No.	1	HSD: 2.5 TPD	40	Adequate Stack Height	PM - 50 mg/Nm^3 SO_2- 100 mg/Nm^3 NO_x- 300 mg/Nm^3		
4	HF Reactor Heating Chamber Vent (50 Lacs Kcal/day) -1 No.	1	HSD: 13 KL/day	40	Adequate Stack Height			

Details of Process Stacks:

S. No.	Stack attac	No. of St	Stack Height (m)	APCM	Online Analyser	Parameter	Emission limit/Concentration of each Parameter	Frequency of Monitoring

			hed to	**ac k**						
			Existing Stack							
			1	M23 Incinerator Vent (1x 800 kg/day)	1	25	Incineration followed by venturi scrubber followed by 2-stage water scrubber followed by Adequate Stack Height	-	SOx, NOx, HCl, HF	• HF - 1 mg/Nm^3 • SO_2 - 200 mg/Nm^3 • NO_x - 45 mg/Nm^3 • HCl- 50 mg/Nm^3	CEMS and Manual monthly manual sampling through NABL Accredited Laboratory
			Proposed Stacks							
			2	Stack Attached to Gypsum Storage	1	40	Bag Filter followed by Adequate Stack Height	-	PM	• PM - 50 mg/Nm^3 • HF - 1 mg/Nm^3 • HCl- 35 mg/Nm^3	Monthly manual sampling through NABL Accredited Laboratory
			3	Stack Attached to AHF Plant	1	40	2-Stage Water Scrubber, 1 - Stage Caustic Scrubber followed by Adequate Stack Height	Online analyser for HF	HF		

		4	Stack Attached to R32 Plant	1	40	Scrubber followed by Adequate Stack Height	Online analyser for HF	HCl, HF				

ii. CEMS may be installed in all large/ medium red category industries (air pollutin g) and connected to SPCB and CPCB servers.	Existing: • The boiler stack has been fitted with CEMS to ensure monitoring of emissions and the same is connected to the SPCB & CPCB server. After Expansion: • The proposed boiler stack will be fitted with CEMS to ensure monitoring of emissions and the same will be connected to the SPCB & CPCB server.
iii. Effecti ve fugitive emissio n control measur es should be impose d in the process of transpo rtation, packing etc	Measures are taken in the existing as well as for proposed expansion are as under: **Equipment and Storage Measures** **Aspects** – **Details** Reactors – Provided with mechanical seals Condensers – Chilled water condenser to minimize evaporation losses. **Process Controls and Emission Monitoring** **Aspects** – **Details** Scrubbers – Wet scrubbers to remove harmful gases and odors from industrial emissions Instrumentation – Leakage detection and alarm system for critical equipment. Charging – Liquid & solid raw materials will be done under vacuum wherever necessary, pumps with mechanical seals to avoid leakages. Closed Loop Systems – Used to arrest fugitive emissions. Pipes – Installation of right leak proof valves. Valves and flanges preventive maintenance program will be

		<table><tr><td></td><td>followed regularly. Regular monitor of system for leaks</td></tr></table> **Dust and Fugitive Emission Control** <table><tr><th>Aspects</th><th>Details</th></tr><tr><td>Fugitive Emission Monitoring</td><td>- Monitoring in the work zone environment. - Strong ventilation and local exhaust systems.</td></tr><tr><td>Equipments</td><td>Regular inspection and maintenance.</td></tr></table> The same will be followed after expansion as well.
	iv. Transportation of materials by rail/ conveyor belt, wherever feasible.	Transportation of materials is being done via PUC compliant vehicles adhering to the safety norms. The same will be followed after expansion as well.
	v. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided).	- Current fuel being used in boiler is Furnace oil, in compliance with the CPA Norms, there will be discontinuation of the existing 1 TPH Boiler running on Furnace Oil. - The proposed 25 TPH Boiler will be designed in such a way that it can work on both LSHS and Natural Gas as a fuel. We commit to transitioning to a natural gas fuel whenever it becomes available after the expansion.
	vi. Best Available Technology may be used. For example, usage of EAF/SAF/IF	- The unit is already in compliance with the latest norms in the manufacturing industry. The R&D team of the unit works to reduce use of toxic chemicals and for low pollution load processes. - The same will be followed after expansion as well.

	in place of Cupola furnace : Usage of Supercritical technology in place of sub-critical technology.	
	vii. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.	- An existing green area of 1.48 ha (33.01%) has been developed within the site which is 33.01% of the existing plant area.with 1437 No. of trees. - In the proposed expansion, the green belt will increase from 1.48 ha to 8.43 ha (40.14%), with a total of 21,075 No. of trees of 17 different species.
	viii. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in	- PP commits for Plantation of about 1,00,000 no. of trees in the nearby villages & common areas as part of CER activity for which a budget of INR 75 Lakhs is proposed to be spent in 5 years.

	vacant areas, social forestry, etc.	
	ix. Assessment of carrying capacity of transportation load on roads inside the industrial premises. If the roads required to be widened, shall be prescribed as a condition.	- The existing roads inside the industrial area are of sufficient carrying capacity for the proposed project and also the carrying capacity of approach road will not be exceeded due to the proposed expansion and therefore widening of roads is not proposed. The vehicle movement area is on paved surface to avoid dusting. - A budget of INR 15 lakhs is proposed for mechanized cleaning of roads. - A budget of INR 25 lakhs is proposed for Water Sprinklers to be provided on roads to reduce fugitive emissions.
2	**Water**	
	Stipulation of conditions such as: i. Reuse/recycle of treated wastewater, wherever	- Existing effluent of 15 KLD is generated from Boiler & Cooling Tower, is being treated in ETP (30 KLD Capacity) & 13.5 KLD treated effluent is reused in Boiler & Cooling Tower makeup. - After proposed expansion, **<u>During Non Monsoon season:</u>** Effluent of 315 KLD will be generated (200 KLD from process & 115 KLD from Boiler & Cooling Tower), will be treated in proposed ETP (350 KLD capacity), followed by RO (350 KLD Capacity) followed by MEE (40 KLD capacity) for treatment. - Treated effluent 302.5 KLD will be reused in Boiler & Cooling Tower makeup. **<u>During Monsoon season:</u>** - Treated effluent 302.5 KLD will be reused in Boiler & Cooling Tower makeup.

	feasible.	- 332 KLD rainwater will be reused - 199.5 KLD in Process and remaining 132.5 KLD in Boiler & Cooling Tower makeup.
	ii. Continuous monitoring of effluent quality/ quantity in large and medium Red Category Industries (water polluting).	- Our unit operates under a Zero Liquid Discharge (ZLD) system, wherein the entire quantity of treated effluent is recycled and reused within the plant premises and there is no final discharge to the environment. - We continue to maintain records of our treatment performance, flow data, and water quality, which are readily available for review by regulatory authorities. - Our unit remains fully aligned with the objectives of the CEPI Action Plan and is committed to maintaining environmental compliance. - Further we assure to install necessary systems for continuous monitoring of effluent quality / quantity and shall be connected to the TNPCB server.
	iii. A detailed water harvesting plan may be submitted by the project proponent	- After the proposed expansion, for rooftop rainwater collection, 04 Nos. of rainwater collection tanks with dimensions 12m x 12m x 7.3m each, having a total capacity of about 4200 cum are proposed for collection of rooftop rainwater and storage of 2 days. - Stormwater will be collected in a proposed rainwater collection pond with a total capacity of about 2100 cum and storage of 2 days of stormwater.. Afterward 2nd rainfall excess runoff will be channelised to the storm water drainage of the area. - 332 KLD rainwater harvested will be reused during monsoon season.
	iv. Zero liquid discharge wherever techno-economically feasible.	- The unit is maintaining Zero liquid discharge and in the existing unit 15 KLD of effluent is sent to ETP & treated effluent of 13.5 KLD is reused in Boiler & Cooling Tower makeup. - After the proposed expansion, 315 KLD of effluent will be sent to ETP of 350 KLD followed by RO (350 KLD) and MEE (40 KLD) and treated effluent of 302.5 KLD will be reused in Boiler & Cooling Tower makeup, thus maintaining ZLD.
	v. In case, domestic waste	- In the existing unit, domestic waste water generation projected is 4 KLD and is treated in the existing STP of capacity 100 KLD and 3.2 KLD treated sewage is reused in greenbelt development.

	water generation is more than 10 KLD, the industry may install STP.	- After Expansion, sewage of 44 KLD will be generated from plant & 45 KLD (from housing colony) will be treated in existing STP of 100 KLD & 80 KLD treated sewage will be reused in greenbelt development.
	Land	
3.	**Stipulation of conditions such as:** i. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible for new projects.	An existing green area of 1.48 ha (33.01%) has been developed within the site which is 33.01% of the existing plant area.with 1437 No. of trees. - In the proposed expansion, the green belt will increase from 1.48 ha to 8.43 ha (40.14%), with a total of 21,075 No. of trees of 17 different species.
	ii. Stipulation of greenbelt outside the	- PP commits for Plantation of about 1,00,000 no. of trees in the nearby villages & common areas as part of CER activity for which a budget of INR 75 Lakhs is proposed to be spent in 5 years.

	project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.	
	iii. Dumping of waste (fly ash, slag, red mud, etc.) may be permitted only at designated locations approved by SPCBs/ PCCs.	Type of waste, source of generation, category, schedule and mode of disposal as under: **(a) Hazardous Waste:**

S. No.	Type of Waste	HW Category*	Existing	Proposed	Total After Expansion	Method of Collection/ Storage	Treatment / Disposal
			TPA				
1	Used or spent oil	5.1	10	52	62	MS Drums	Recover and Reuse / CPCB Authorized recyclers
2	Wastes or residues containing oil	5.2	1	50.5	51.5	MS Drums	Recover and Reuse / CPCB Authorized recyclers/ Coprocessing
3	Empty barrels/containers/ liners contaminated with hazardous chemicals/ wastes	33.1	25	105	130	Stored under roof	Recover and Reuse / CPCB Authorized recyclers

4	Chemical sludge from wastewater treatment	35.3	25	1000	1025	Plastic Drums	Common Landfill / TSDF
5	Any process or distillation residue	36.1	50	105	155	MS Tanks	Incineration – Captive & CHWTSDF

*As per HWM Rule 2016

(b) Solid Waste:

Category	Type of Waste	Existing	Proposed	After Expansion	Treatment Method
		Quantity (TPA)			
Domestic Waste	Solid Waste (Biodegradable)	3.03	9.75	12.78	Treatment in inhouse organic waste convertor (OWC) and use manure for horticulture development purposes in the premises
Office and related Operations	Recyclable Waste (Plastic, paper, wood, glass, etc.)	4.54	14.62	19.16	Given to authorized recycler

(c) Biomedical Waste:

Name of the Waste	Source	Qty (TPA)	Mode of Disposal	Mode of Transport
Soiled Waste	Occupational Health Center	0.05	Common Biomedical Waste Treatment Facilities	By road
Expired or discarded medicine	Occupational Health Center	0.05		By road

Microbiology & Biotechnology &other clinical waste	From Microbiology Lab	0.05	(CBWTFs)	By road
Waste Sharps	From Microbiology Lab	0.05		By road
Contaminated Waste (Recyclable)	OHC Medical Check up	0.05		By road
Glassware	OHC Medical Check up	0.05		By road

(c) Other Waste:

Name of the waste	Source	Qty (TPA)	Mode of disposal	Mode of transport
E-Waste	Office electronics items	0.01	Through authorized vendor	By road
Battery waste	Used battery	0.6	Through authorized vendor	By road
Plastic Waste	Site office and Admin Office	1.0	Will be handled through authorized recycler	By road

	iv. More stringent norms for management of hazardous waste. The waste generated should be preferably utilized in co-processing.	Wastes or residues containing oil (51.5 TPA) shall be disposed off with co-processing and reduce the load on landfill and incineration at TSDF.
4.	**Other Condition (Additional):**	

<table>
<tr><td></td><td>i. Monitoring of compliance of EC conditions may be submitted with a third party audit every year.</td><td>The unit will hire a third party to monitor the compliance of the condition and will submit EC Compliance every year.</td></tr>
<tr><td></td><td>ii. The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.</td><td>A total amount of INR. 5.40 Crores would be utilized for Corporate Environment Responsibility (CER), which is 0.5% of proposed project cost i.e., INR 1000 Crores.
<table>
<tr><th>S. No.</th><th>Activity</th><th>Action Plan</th><th>Capital Expenditure to be done in 5 years</th><th>Recurring Expenditure /year</th></tr>
<tr><td>1</td><td>Skill development</td><td>Establishment vocational training centers in nearby villages including Kavipuram & Karumalai Koodal village.</td><td>45</td><td>5</td></tr>
<tr><td>2</td><td>Infrastructure Development</td><td>Provision of Safe Drinking Water Facilities to Neighbourhood villages including Gonur village.</td><td>50</td><td>5</td></tr>
<tr><td>3</td><td></td><td>Upgradation of primary healthcare centers</td><td>90</td><td>15</td></tr>
<tr><td>4</td><td></td><td>Upgradation of primary schools in nearby villages including Tippampatti & Kaptoruti village</td><td>50</td><td>10</td></tr>
<tr><td>5</td><td></td><td>Infrastructure development at nearby villages in School including P</td><td>50</td><td>15</td></tr>
</table></td></tr>
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			N Patti and Kavipuram village.			
		6	Improvement of Sanitation Facilities in in nearby villages including karumalai Koodal & Kavipuram village	60	12	
		7	Environment	Plantation (1,00,000 No) in the nearby villages & open Areas. (fast growing local and medicinal species)	75	20
		8		Conducting annual medical camps for the general public	50	10
		9		Water Sprinkler will be provided on roads to reduce fugitive emissions	25	5
		10		Mechanized cleaning of road	15	7
		11		Provision of Solar light/street lights in nearby Villages	30	5
		Total			**540**	**109**

Signature Not Verified

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

Date: 31/05/2025