GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(IA DIVISION-INDUSTRY-3 SECTOR)
*****

Dated:8.1.2024

MINUTES OF THE 72nd EXPERT APPRAISAL COMMITTEE (INDUSTRY-3 SECTOR) MEETING HELD ON 2nd JANUARY, 2024

Venue: Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003 through Video Conferencing (VC)

Time: 10:30 AM onwards

(i) Opening Remarks by the Chairman

Prof. (Dr.) A.B. Pandit, Chairman welcomed the Committee members and opened the EAC meeting for further deliberations.

(ii) Details of Agenda items by the Member Secretary

The Member Secretary then apprised the Committee about the details of Agenda items to be discussed during this Expert Appraisal Committee (EAC) meeting.

Agenda Items as per Parivesh 2.0 Portal

Agenda No. 72.1

Proposed expansion for manufacturing of Synthetic Organic Chemicals and Resins and Formaldehyde with production capacity from 833.33 MTPM to 16000 MTPM located at block no. 634/7/1 & 637, Lamdapura Road, Manjusar, Taluka: Savli, District: Vadodara, Gujarat by M/s. Rajsha Chemicals Pvt. Ltd. Consideration of Environmental Clearance

[Proposal No. IA/GJ/IND3/447188/2023, File No. J-11011/607/2009-IA-II(I)]

1. The proposal is for Environmental Clearance to the Proposed expansion for manufacturing of Synthetic Organic Chemicals and Resins and Formaldehyde with production capacity from 833.33 MTPM to 16000 MTPM located at block no. 634/7/1 & 637, Lamdapura Road, Manjusar, Taluka: Savli, Dist.: Vadodara, Gujarat by M/s. Rajsha Chemicals Pvt. Ltd.

2. The project/activity is covered under Category 'A' of Item 5 (f)-Synthetic organic chemicals of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by the Expert Appraisal Committee (EAC) as the project is located outside the notified industrial area.

3. The ToR was issued by the Ministry, vide letter no. J-11011/607/2009-IA II (I) dated 24.8.2022. The PP applied for the Environment Clearance in the Common Application Form and submitted the EIA/EMP Report and other documents. The PP in the CAF reported that it is an **Expansion case.** The proposal is placed in 72nd EAC Meeting held on 2nd January, 2024 wherein the PP and an accredited Consultant, M/s nd Tech House Consult [NABET accreditation till NABET/EIA/2124/IRA 0219 valid up to Jan 26, 2024], made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the total area of the project site is 29575 m^2 will be used for the proposed expansion and no R& R is involved in the Project. The details of various products are as follows:

Sr. No.	Product	CAS Number	Quantity (MT/Month)			End-use of products
			Existing	Proposed	Total	
1.	Amino Resins	9003-08-1	250	2250	2500	In rubber, Tyre, Adhesive, Paint, Automobile ancillary industries , Ink industries etc.
2.	Phenolic Resins	9003-35-4	83.333	916.667	1000	
3.	Specialty Rubber Chemicals	--	500	-500	0	
4.	Alkyl Phenolic Resins	9003-35-4	0	1000	1000	
5.	Terpen Resins	9003-74-1	0	1000	1000	
6.	AMS Resins	98-83-9	0	1000	1000	
7.	Tackifier Resins	68527-25-3	0	2000	2000	
8.	Resorcinol Resins	24969-11-7	0	500	500	
9.	DCPD Resins	77-73-6	0	500	500	
10	Formaldehyde	50-00-0	0	6500	6500	

11	**Total**				**16000**	

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

6. The PP reported that earlier EC has been granted by the Ministry vide letter dated 23.2.2011 for expansion of Resin manufacturing unit at Sy no. Village Lamdapura, lamdapura road, Taluka Savli, District vadodaraGujarat by Ms Rajsha Chemicals Pvt . Ltd.

7. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Mahisagar River 10.66 km in (S) direction. No Schedule-I species were found in the study area.

8. The PP reported that PM_{10} levels were ranging from 51.2 to 96.8 µg/m3. The highest PM_{10} level was found at T-point Village & and lowest PM_{10} level were observed at Sokhda. The main contribution to PM_{10} at all locations, was mainly due to local activities such as vehicular movement, prevailing wind etc. PM_{10} concentration was within the NAAQS level (i.e.100 µg/m^3) at all locations. $PM_{2.5}$ levels were ranging from 21.4 to 45.5 µg/m^3. The highest $PM_{2.5}$ level was found at T Point and lowest $PM_{2.5}$ level was observed at Sakarda. The main contribution to $PM_{2.5}$ at all locations, was mainly due to local activities such as vehicular movement, natural dust prevailing wind etc. $PM_{2.5}$ concentrations was found within the NAAQS level (i.e.60 µg/m^3) at all the locations. SO_2 levels were ranging from 4.1 to 12.6 µg/m^3. The highest SO_2 level was found at T-Point lowest SO_2 level was observed at Sakarda. The SO_2 level in all the monitoring locations is within permissible limit i.e. NAAQS level 80 µg/m^3. NO_2 levels were found ranging from 9.3 to 21.0 µg/m^3. The highest NO_2 level were found at Bhadarva Village and lowest NO_2 level were observed at Sakarda. The NO_2 level in all monitoring locations was under permissible limit i.e. NAAQS level 80 µg/m^3

9. The PP reported that the total water requirement will be 441.3 KLD which will be fulfilled by Borewell. Total fresh water requirement for the proposed expansion project will be 218.3 KLD, out of which 25 KLD will be used for domestic use, 8 KLD for gardening & 185.3 KLD for industrial purposes. Total wastewater generation from the project will be 225 KLD, out of which 17 KLD will be generated from domestic use & 208 KLD from industrial activities.

10. The PP reported that the total power requirement for the expansion project will be about 3000 KVA which will be procured from Madhya Gujarat Vij Corporation Limited (MGVCL).

11. **Details of process emissions generation and its management:** In this proposed expansion project, there will be flue gas emission from Steam boiler, TFH & D.G Set. There will be chances of fugitive emission due to raw material handling and transportation and manufacturing activity.

Sr. no.	Source ofemission (Capacity)	Stack Height (meter)	Type of emissions i.e. Air Pollutants	PermissibleLimit	Air Pollution Control Measures (APCM)
Existing					
1.	Thermic Fluid Heater (10 Lakh Kcal)	30.5	Particulate matter SO_2 NO_x	150 mg/NM^3 100 ppm 50 ppm	Multi cyclone with MDC & bag filter
2.	Thermic Fluid Heater (20 Lakh Kcal)	30.5			
3.	Baby Boiler (50 kg/hr)	11			Adequate stack height will be provided
4.	DG set (125 kVA)	8			
5.	DG set (250 kVA)	11			
6.	DG set (500 kVA)	11			

Sr. no.	Source of emission (Capacity)	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	Permissible Limit	Air Pollution Control Measures (APCM)
Proposed							
1.	Thermic Fluid Heater Total Capacity 132 Lakh Kcal/h	30.5	Agro waste briquette	4000 kg/h	Particulate matter SO2 NOx	150 mg/NM^3 100 ppm 50 ppm	Multi cyclone with MDC & bag filter
2.	Steam Boiler (Total Capacity 32 MT/h)	30.5	Agro waste briquette	5900 kg/h			Multi cyclone with MDC & bag filter
3.	DG Set (Total Capacity 3000KVA)	11	HSD	636 lit/h			Adequate stack height will be provided

12. **Details of Solid Waste/ Hazardous Waste Generation and Its Management**:

S. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)		Management of HW
				Existing	Proposed	
1.	Spent Oil/ Used Oil	Lubrication of Plant	5.1	1	4	Generation, Collection, Storage,
2.	Discarded containers (Drum, HDPE Bags, Paper Bags, Liner, waste paper)	Production/ Raw Material Section	33.1	340	2525	Collection, storage, decontamination within factory premises or selling to registered recycler.
3.	Spent Solvent (Crude Methanol mixture)- (Schedule-I)	Process	20.2	9125	70875	In-house distillation, captive consumptionor selling to authorized recyclersunder Rule-9.
4.	Process Salt	From Manufacturing process	26.1	408	4272	Generation, Collection, Storage, Transportation at Disposal by sendingto approved authorized TSDF or sold to end users.
5.	Resin from DM/ Softening plant	From DM/Softening Plant	35.2	4.6	-	Generation, Collection, Storage, Transportation at Disposal by sendingto approved

						authorized TSDF having valid CCA of GPCB by use of GPS enable vehicle and XGN generated manifest
6.	ETP sludge/ MEE		35.3	9	180	Generation, Collection, Storage, Transportation and Disposal by sending to approved authorized TSDF having valid CCA of GPCB by use of GPS enable vehicle and XGN generated manifest.

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 4.92 Crore (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 1.547 Crore per Annum. Industry proposes to allocate ₹ 65 Lakhs towards CER.

14. The PP reported that Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 26.6.2022 which was presided by the Sub- Divisional Magistrate. The main issues raised during the public hearing are related to wastewater, Health related issues, gas leakage.

Sr. No.	**Name and address of person who presented the issue of**	**The issues presented**	**Reply**
1.	Shri Prafulbhai Haribhai Patel, Vil: Lamdapura Tal: Savli	• How wastewater will be disposed of, explain in simple Gujarati language.	• The environmental consultant stated that no wastewater will come out. Zero liquid discharge means that the water will be reused in the unit itself by treatment. The way water is used in the unit by treating it in the existing plant, the same will be done in the new plant.

		• He asked that treated water can be used for drinking purposes and assurance shall be given that wastewater will not be discharged into borewell.	• The Regional Officer of Gujarat Pollution Control Board informed that the wastewater will be treated in RO treatment and multi-effect evaporator and treated water will be reused not for drinking but in processes or cooling towers. • If there is any complaint of water being drained by the borewell, inform the Board and action will be taken by the Board. • Asked to inform the Gujarat Pollution Control Board in writing about the submission of another company.
		• If there are trucks on the road even at present, if a new plant comes, then if more trucks come, then where will stand, justify.	• The environmental consultant said that sufficient parking space has been provided for the truck, but we will arrange more parking spaces if required.
		• Prafulbhai stated that the wind direction shown in the presentation is wrong and it is from west to east.	• Regional Officer of Gujarat Pollution Control Board asked the representatives of the company to respond by showing wind rose diagram. Environmental consultant showed wind rose diagram and this wind rose diagram throughout the year, it is only from west to east direction.
		• Whether the employment opportunities will be given to the local people and if it will be given then the same should be • guaranteed by the company.	• The environmental consultant states that it is guaranteed that skilled and unskilled local people will be recruited as per the requirement.

2.	Shri Vinod N. Parmar Vil: Lamdapura Tal: Savli	• Explain what the project is and how the project will be carried out and its production and its uses should be explained and informed.	• The environmental consultant stated that the chemicals and resins produced by the company are used to make tires. The raw material, which is currently imported from China, its requirement will be met from here. • Next year CSR plan is attached here.
		• If in future we want to share our problems & complaints regarding the company, to whom do we need to contact?	• Environment Consultant stated that currently if you have any complaint or any problem related to the company, you can give it in writing, and we will respond to it and for this you can contact the HR department. • Name:- Mr. Devang Shah, HR Manager, Mobile Number:- 9825642910

Sr. No.	**Name and address of person who presented the issue of**	**The issues presented**	**Reply**
		• Prafulbhai stated that the wind direction shown in the presentation is wrong and it is from west to east.	• Regional Officer of Gujarat Pollution Control Board asked the representatives of the company to respond by showing wind rose diagram. Environmental consultant showed wind rose diagram and this wind rose diagram throughout the year, it is only from west to east direction.

		• Whether the employment opportunities will be given to the local people and if it will be given then the same should be guaranteed by the company.	• The environmental consultant states that it is guaranteed that skilled and unskilled local people will be recruited as per the requirement.
2.	Shri Vinod N. Parmar Vil: Lamdapura Tal: Savli	• Explain what the project is and how the project will be carried out and its production and its uses should be explained and informed.	• The environmental consultant stated that the chemicals and resins produced by the company are used to make tires. The raw material, which is currently imported from China, its requirement will be met from here. • Next year CSR plan is attached here.
		• If in future we want to share our problems & complaints regarding the company, to whom do we need to contact?	• Environment Consultant stated that currently if you have any complaint or any problem related to the company, you can give it in writing, and we will respond to it and for this you can contact the HR department. • Name:- Mr. Devang Shah, HR Manager, Mobile Number:- 9825642910

Sr. No.	**Name and address of person who presented the issue of**	**The issues presented**	**Reply**

		• At present, when we come to the village in the evening, we have to face problems like cough and eye irritation, then who should we represent this?	• Regional Officer of Gujarat Pollution Control Board said that if there is any kind of problem or complaint regarding pollution after the commencement of the project, you can report it to GPCB in writing and adequate steps will be taken to resolve it. • The Chairman stated that you can make any representation to the Gujarat Pollution Control Board regarding pollution.
3.	Shri Bimal Patel, Majhi Sarpanch, Vil: Lamdapura Tal: Savli	• We are facing problems like cough & eyes irritation due to other companies/factories.	• Regional Officer of Gujarat Pollution Control Board stated villagers can report it to GPCB in writing and adequate steps will be taken to resolve it.
4.	Shri Sulemanbhai Pathan Vil: Paldi, Tal: Savli	• I propose that the local people get employment instead of being recruited in the company of outsiders and those who are educated should be given work according to their qualifications and those who are uneducated should get employment and livelihood in such a way.	• Environment Consultant assured that local skilled and unskilled people will be recruited as per requirement.

5.	Shri Rameshchandra Melabhai Solanki Vil: Paldi, Tal: Savli	• Gas leaks out of all these companies damages the crop. • On this question, Prafulbhai further submitted that the gas released from other companies causes a lot of damage to the crop.	• Regional Officer of Gujarat Pollution Control Board stated that if you have any complaint for other companies/factories, give your application in writing, adequate steps will be taken on that.

15. The Total Capital Cost of EMP budget will be 4.92 Crore & Recurring Cost will be 1.547 Crore Industry will provide 1.0% of the proposed expansion project cost (i.e. Rs. 65 Lakhs) towards the Corporate Environment Responsibility.

16. The PP proposed to set up an Environment Management Cell (EMC) by engaging Executive Director- COO- GM production- Manager (Personal & Adminstrative) – EHS Manager- Approved Environental consultant, lab, shift in charge- safety officer- lab in charge- chemist- helpers for the functioning of EMC.

17. Total 9759.75 m2 (33%) area will be develop into greenbelt area outside the plant premises. Unit will develop greenbelt area and for this activity demands expert advice and guidance is taken. A total of 2440 trees will be planted.

18. The PP submitted the Disaster and Onsite and Offsite Emergency Plans in the EIA report.

19. Total costs of the project will Rs. 65 Crores. Total manpower requirement is 400 during the construction phase and 300 during the operational phase. Skilled, Semi-skilled and unskilled employees will be hired according to the requirement.

20. **Deliberations by the EAC:**

During deliberations, EAC discussed the following issues:

1. The Committee noted that PP has not submitted certified compliance report as per OM dated 8.6.2022. The Committee suggested to submit the certified compliance report of the existing unit issued by the IRO, MoEF&CC.
2. Fly ash shall be stored in the silo and PP shall submit the action plan for disposal of flyash.

3. PP has to segregate the solid waste into dry and wet waste. Wet waste to be converted into compost. Accordingly, PP shall submit the action plan for the same. Filter press shall be used in place of sludge drying bed.
4. Action plan to address the issues raised during public hearing alongwith timeframe and budgetary provision.
5. PP shall install/ make provision for solar power to off set carbon footprint inside plant premises of suitable panel capacity.
6. Revised capital and Recurring cost of EMP.
7. Revised water balance.
8. Month wise action plan to achieve 33% greenbelt within 6 months alongwith budget earmark.
9. Emergency response plan to handle chemical spills and leakages.

Accordingly, proposal was deferred for want of above additional information. Above all additional information shall be submitted online to the PARIVESH portal for further consideration by EAC.

Agenda No. 72.2

Proposed Expansion Project of Pesticides & Intermediates and Synthetic Organic Chemicals & Intermediates Manufacturing Unit with production capacity of 20,100 TPA located at Plot No. D-3/16, GIDC Industrial Estate, Dahej-III, Village Sambheti, Taluka Vagra, District Bharuch, Gujarat by M/s. Shivalik Rasayan Limited - Consideration of Environmental Clearance

[Proposal No. IA/GJ/IND3/454541/2023, File No. IA-J-11011/111/2020-IA-II(I)]

1. The proposal is for the grant of Environmental Clearance to the Proposed Expansion Project of Pesticides & Intermediates and Synthetic Organic Chemicals & Intermediates Manufacturing Unit with production capacity of 20,100 TPA located at Plot No. D-3/16, GIDC Industrial Estate, Dahej-III, Village Sambheti, Taluka Vagra, District Bharuch, Gujarat by M/s. Shivalik Rasayan Limited.

2. The project/activity is covered under Category 'A' of Item 5(b) and 5(f), Pesticide industry, Synthetic organic chemicals industry of Schedule of EIA Notification, 2006 (as amended).

3. The ToR has been granted by the Ministry vide letter File No.: IA-J-11011/111/2020-IA-II(I) dated 23.7.2023. The PP applied for Environment Clearance in Common Application Form and submitted EIA/EMP Report and other documents. The PP reported that it is an **Expansion case.** The proposal is placed in 72nd EAC Meeting held on, 2nd January, 2024 wherein the Project Proponent and an accredited Consultant M/s. Eco Chem Sales & Services (ECSS) – Surat, (NABET Accreditation Number - NABET/EIA/2326/RA 0292, valid 15th March, 2026], made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the Existing land area is 49,244.70 sq. m., there will be no additional land required for the proposed expansion project and the proposed expansion project will be accommodated within the existing plant premises only and no R& R is involved in the Project. The details of products and by–products are as follows:

S. No.	Name of Product	EP/ PP	CAS No.	*QUANTITY (TPA)*			End use
				Existing	**Proposed**	**Total**	
A	**Pesticides**		**-**	**12,000**	**0**	**12,000**	**-**
1	Dimethoate Technical	EP	60-51-5				Insecticide
2	Malathion Technical	EP	121-75-5				Insecticide
3	Acetamiprid Technical	EP	135410-20-7				Insecticide
4	Thiamethoxam Technical	EP	153719-23-4				Insecticide
5	Thiacloprid Technical	EP	111988-49-9				Insecticide
6	Chlorfluazuron Technical	EP	71422-67-8				Insecticide
7	Cyantraniliprole Technical	EP	736994-63-1				Insecticide
8	Triclopyr Technical	EP	57213-69-1				Herbicide
9	Triclopyrbutoxy ethyl ester	EP	64700-56-7				Herbicide
10	Clodinafop Propargyl	EP	105512-06-9				Herbicide
11	Azoxystrobin Technical	EP	131860-33-8				Fungicide
12	Difanoconazole	EP	119446-68-3				Fungicide
13	Epoxiconazole	EP	133855-98-8				Fungicide
14	Hexaconazole	EP	79983-71-4				Fungicide
15	Propiconazole	EP	60207-90-1				Fungicide
16	Prothioconazole	EP	178928-70-6				Fungicide
17	Pretilachlor	EP	51218-49-6				Herbicide
18	Pendimethalin	EP	40487-42-1				Herbicide
19	Atrazine	EP	1912-24-9				Herbicide

S. No.	Name of Product	EP/ PP	CAS No.	*QUANTITY (TPA)*			End use
				Existing	**Proposed**	**Total**	
20	Metribuzin	EP	21087-64-9				Herbicide
21	Tricyclazole	EP	41814-78-2				Fungicide
22	Tebuconazole	EP	107534-96-3				Fungicide
23	Fipronil	EP	120068-37-3				Insecticide
24	Emamectin Benzoate Technical	EP	155569-91-8				Insecticide
25	Abamectin Banzoate Technical	EP	71751-41-2				Insecticide
26	Spinosad	EP	131929-60-7				Insecticide
27	Indoxacarb	EP	144171-61-9				Insecticide
28	Propargite	EP	2312-35-8				Insecticide
29	Paraquat	EP	1910-42-5				Herbicide
30	Amitraz	EP	33089-61-1				Insecticide
31	Intermediates	EP	-				-
32	Imazethapyr Technical	PP	81335-77-5				Herbicide
33	Glufosinate Ammonium 50% Technical	PP	77182-82-2				Herbicide
34	Pymetrozine Technical	PP	123312-89-0				Insecticide
35	Bifenthrin Technical	PP	82657-04-3				Insecticide
36	Sulfentrazone Technical	PP	122836-35-5				Herbicide
37	Bispyribac Sodium	PP	125401-92-5				Herbicide
38	Dinotefuran Technical 97%	PP	165252-70-0				Insecticide
39	Kresoxim-methyl Technical 94%	PP	143390-89-0				Fungicide
40	Chlorantraniliprole Technical 93%	PP	500008-45-7				Insecticide

S. No.	Name of Product	EP/ PP	CAS No.	*QUANTITY (TPA)*			End use
				Existing	**Proposed**	**Total**	
41	Boscalid Technical 96% Min	PP	188425-85-6				Fungicide
42	Clomazone Technical 90% Min	PP	81777-89-1				Herbicide
43	Flonicamid Technical 96% Min	PP	158062-67-0				Insecticide
44	Paclobutrazol Technical 95% Min	PP	76738-62-0				Fungicide
45	Picoxystrobin Technical 93% Min	PP	117428-22-5				Fungicide
46	Pyraclostrobin Technical 97% Min	PP	175013-18-0				Fungicide
47	Tembotrione Technical 94% Min	PP	335104-84-2				Herbicide
48	Trifloxystrobin Technical 96% Min	PP	141517-21-7				Fungicide
49	Novaluron Technical 96% Min.	PP	116714-46-6				Insecticide
50	Penoxsulam Technical 98%	PP	219714-96-2				Herbicide
51	Quizalofop ethyl Technical 98% Min.	PP	76578-14-8				Insecticide
52	Flubendamide Technical 95% w/w min.	PP	272451-65-7				Insecticide
53	Chlorfenapyr Technical 94.0% Min.	PP	122453-73-0				Insecticide
54	Metconazole Technical	PP	125116-23-6				Fungicide
55	Endothall	PP	145-73-3				Herbicide
56	Pyroxasulfone	PP	447399-55-5				Herbicide
57	Metalaxyl-M	PP	70630-17-0				Fungicide
58	Metamitron technical	PP	41394-05-2				Herbicide

S. No.	Name of Product	EP/ PP	CAS No.	*QUANTITY (TPA)*			End use
				Existing	**Proposed**	**Total**	
59	Bixafen	PP	581809-46-3				Fungicide
60	Fluxapyroxad	PP	907204-31-3				Fungicide
61	Pinoxaden	PP	243973-20-8				Herbicide
62	Saflufenacil	PP	372137-35-4				Herbicide
63	Propaquizafop	PP	111479-05-1				Herbicide
64	Indaziaflam	PP	950782-86-2				Herbicide
65	Dimethanamid P	PP	163515-14-8				Herbicide
B	**Synthetic Organic Chemical**						
B1	**Speciality Chemicals**			**8000**	**0**	**8000**	
1	Methyl cis-1-[2-(2,5-Dimethyl phenyl)-Acetyl amino]-4-Methoxy-Cyclohexane (ETMD)	EP	203313-47-7				Miscellaneous use in different industries
2	1,1,1,3,3,3-Hexafluoro Isopropyl Methyl Ether (HFMOP)	EP	13171-18-1				
3	2,2-Dimethyl-4-Methylene-1,3-Dioxalane (MDO)	EP	19358-05-5				
4	Chloromethyl 2-Methyl Proponoate (CMIBA)	EP	61644-18-6				
5	2-Chloro-4-(Methyl sulfonyl)-3-[(2,2,2-trifluoro ethoxy)methyl] Benzoic Acid (CMTB)	EP	120100-77-8				
B2	**Performance Chemicals**						

S. No.	Name of Product	EP/ PP	CAS No.	*QUANTITY (TPA)*			End use
				Existing	**Proposed**	**Total**	
1	1-(4-Chlorophenyl)-2-methyl-2-(morpholin-4-yl) propan-1-one (PCBM)	EP	88324-57-6				
2	Titanium Biscatecholate Monopyrogallate Sodium Potassium Salt (Negolyte)	EP	1550156-02-9				
B3	**Intermediates**	EP	-				
C	**New R&D Products for Pilot Scale**	EP	-	**100**	**0**	**100**	**-**
Total				**20100**	**0**	**20100**	**-**

EP-Existing Products, PP-Proposed Products
Note: The production of individual Product may vary but the production capacity will not exceed the approved quantity.

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

6. The PP repoted that Ministry had issued EC earlier vide F. No. IA-J-11011/111/2020-IA-II(I) dated 01/02/2021 to the existing project for setting up Pesticides and Intermediates and Synthetic Organic Chemicals & Intermediates manufacturing unit of capacity 20,100 TPA at Plot No. D-3/16, GIDC Industrial Estate, Dahej-III, Village Sambheti, Taluka Vagra, District Bharuch, Gujarat in favour of M/s. Shivalik Rasayan Limited.

7. PP obtained EC from MoEF&CC. As per the comments from IRO, Gandhinagar "Unit is still under development phase and the project proponent has assured that all the commitments/undertakings given to the EAC during the appraisal process for the purpose of environment protection and management will be strictly adhered to by the unit. Unit will be complying with the specific condition as well as conditions mentioned under air, water and hazardous waste management by adhering to all the stipulations made by Gujarat Pollution Control Board, State Government and any statutory authority." During EAC meeting, PP informed that construction of plant is completed.

8. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger / Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River Narmada

is flowing at a distance of 10.84 km in SSE direction. Five Numbers of Faunal Species falls under Schedule–I species, namely Indian peafowl (*Pavo cristatus*), Indian Cobra (*Naja naja*), Common rat snake (*Ptyas Mucosus*), Common Mongoose (*Herpestes edwardsii*) and Jungle cat (*Felis chaus*). Conservation Plan for the Schedule–I species has been submitted to the Deputy Conservator of Forest on 21.11.2023.

9. The PP reported that Ambient air quality monitoring was carried out at 08 locations during 01st March 2023 to 31st May 2023 and the baseline data indicates the ranges of concentrations as: PM_{10} (73.61-84.61 µg/m^3), $PM_{2.5}$ (40.61-45.30 µg/m^3), SO_2 (14.53 -16.16 µg/m^3) and NO_X (18.52 -20.43 µg/m^3). During the monitoring, HCl, Cl_2, HBr, Br_2, NH_3 and H_2S were found below the detection limit and the same is well within the limit as per NAAQS. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.183 µg/m_3, 0.097 µg/m_3, 1.85 µg/m_3 , 0.0026 µg/m_3, 0.0010 µg/m_3 and 0.0018 µg/m_3 with respect to PM_{10}, NO_X, SO_X, HCl, HBr & H_2S. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

10. The PP reported that total water requirement after expansion will be 1597.50 KLD (Existing: 1308.10 KLD, proposed: 289.40 KLD), out of which fresh water requirement of 770.50 KLD will be met from GIDC water supply department, Vapi and 827.0 KLD will be recycled water. After proposed expansion, total Industrial effluent generation will be 940.25 KLD out of which 420 KLD of effluent from process from which 200.0 KLD High TDS/COD stream will be treated in stripper followed by MEE & ATFD, 220.0 KLD Low TDS/COD stream will be sent to in-house ETP followed by RO plant along with Boiler blowdown (84.0 KLD), Cooling tower blowdown (431.25 KLD), Miscellaneous wastewater (5.0 KLD) and MEE & ATFD condensate (304.0 KLD). RO permeate i.e. 815.0 KLD will be reuse within plant premises. RO Reject (130.0 KLD) will be sent to MEE along with High TDS/COD effluent. Domestic wastewater (12.0 KLD) will be treated in STP and STP treated water will be reused for gardening purpose/toilet flushing.

11. Power requirement after proposed expansion will be 4000 kVA (Existing: 1500 kVA + Proposed: 2500 kVA) and it will be met from Gujarat State Petroleum Corporation (GSPC). Unit has proposed DG sets for emergency power back up in case of power failure with the same power load i.e. 4000 kVA to operate the plant facility in power failure

12. Existing unit has Natural Gas based steam boilers having capacities of 4 TPH & 10 TPH. As natural gas is used as a fuel for existing boilers, 30 m stack height has been provided to steam boilers. In the proposed scenario, unit has proposed additional two numbers of natural gas fired steam boilers having capacities of 10 TPH & 16 TPH and the unit will discontinue the existing 4 TPH steam boiler. As natural gas is used as a fuel for boilers, 30 m stack height will be provided.

13. **Details of fuel: Existing & Proposed**

Name of the fuel	Existing	Proposed	Total
Natural Gas for steam boilers	1255 SCM/hr	1945 SCM/hr	3200 SCM/hr
HSD for D.G. Set	214 Lit/hr	642 Lit/hr	856 Lit/hr

14. **Details of Process Emissions Generation and their Management:**

- In the existing scenario, process gas emission of HCl, H_2S, HBr, Br_2 and SO_2 are generated from process vents. Two stage alkali scrubber is provided for each process vents.
- In the proposed expansion, process gases like SO_2, HCl, H_2S, HBr & Br_2 will be generated from process vents. Two stage alkali scrubber will be provided for each process vents.

15. **Details of Solid Waste/Hazardous Waste Generation and its Management.**

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
Hazardous Waste							
1	ETP Sludge	35.3 (Sch. I)	Effluent Treatment Plant	100	0	100	Collection, Storage, Transportation and Disposal to TSDF site for landfilling
2	Distillation Residue/ Organic Residue	29.1 (Sch. I)	Distillation Process	6000	0	6000	Collection, Storage, Transportation and Disposal to CHWIF for Incineration / Co-processing
3	Discarded Drums/Barrels	33.1 (Sch. I)	Raw material & Finished product packing material	200	100	300	Collection, Storage, Transportation & Disposal to authorized decontamination facility
4	Used Oil	5.1 (Sch. I)	Machineries / D. G Set	250	50	300	Collection, Storage, Transportation and Disposal by selling

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
							to authorized recycler.
5	Spent Solvent	29.4 (Sch. I)	Stripper / Process	2800	0	2800	Collection, Storage, Transportation & Disposal to authorized Recycler.
6	Aqueous waste containing trace pesticide from Reactor washing, drum washing etc.	29.2 (Sch. I)	Reactor/Drum washing	4000	0	4000	Collection, Storage, Transportation and Disposal to CHWIF for Incineration
7	Spent Resin From DM Plant	35.2 (Sch. I)	D M Plant regeneration	14	0	14	Collection, Storage, Transportation and Disposal to CHWIF for Incineration
8	Date-expired/ Off-Specification Products	29.3 (Sch. I)	Manufacturing Process	100	0	100	Collection, Storage, Transportation and Disposal to CHWIF for Incineration
9	MEE Salt	35.3 (Sch. I)	MEE	2500	0	2500	Collection, Storage, Transportation and Disposal to TSDF site for landfilling.
10	Spent Carbon	36.2 (Sch. I)	Manufacturing Process	30	0	30	Collection, Storage, Transportation and Disposal to CHWIF for Incineration/ co-processing.
11	Sodium Hydrosulfide	C2 (Sch. II)	Scrubber	3000	0	3000	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
12	Hydrochloric Acid	C2 (Sch. II)	Manufacturing Process	4000	7400	11400	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
13	Acetic Acid	C2 (Sch. II)	Manufacturing Process	400	0	400	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
14	Distilled Solvent	-	Manufacturing Process	2500	35500	38000	Collection, Storage and reuse within premises
15	Sodium Chloride	C2 (Sch. II)	Manufacturing Process	1200	2376	3576	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
16	Sodium Bromide	C2 (Sch. II)	Manufacturing Process	20000	0	20000	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
17	Hydrogen Bromide	C2 (Sch. II)	Manufacturing Process	300	14784	15084	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
18	Ammonium chloride	C2 (Sch. II)	Manufacturing Process	150	6570	6720	Collection, Storage, Transportation and Disposal to authorized end user

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
							under Rule-9 permission
19	Spent Catalyst	29.5 (Sch. I)	Manufacturing Process	0	720	720	Collection, Storage, Transportation and Disposal to TSDF/CHWIF or sent to co-processing.
20	Sodium Hydroxide Solution	C2 (Sch. II)	Scrubber	0	17664	17664	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
21	Spent Acid	29.6 (Sch. I)	Manufacturing Process	0	15492	15492	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
22	Sodium Bi Sulphate	C2 (Sch. II)	Manufacturing Process	0	4956	4956	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
23	Sodium Carbonate	--	Manufacturing Process	0	7800	7800	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
24	Potassium Chloride	--	Manufacturing Process	0	2676	2676	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
25	Sodium Tugstate	--	Manufacturing Process	0	960	960	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
26	Sodium Sulphite Solution	--	Manufacturing Process	0	6480	6480	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
Solid Waste							
1	STP Sludge	--	STP	5	0	5	Used as a manure within plant premises

Municipal Solid Waste Management Plan

Sr. No.	Zone	Waste generation rate (kg/cap/day)	Total persons	Waste generated (kg/day)
1	Industrial	0.25	530	132.5

- 60% waste i.e. 80 kg/day will be wet waste and 40% waste i.e. 52.5 kg/day will be dry waste. Organic waste converter machine will be installed for the treatment and same will be used as manure within plant premises.

16. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 7.24 Crore (capital) and the Recurring cost (operation and maintenance) will be about ₹ 5.35 Cr. per Annum Industry proposes to allocate Rs 4.0 Lakhs towards CER.

17. The unit is developing 16,370.15 m^2 existing greenbelt area within the plant premises and along the periphery of project site to meet the criteria of 33.00 % greenbelt area of total plot area. Considering 80% of Survival rate, Approx. 4500 Nos. of trees and 10,000 Nos. of Shrubs will be planted within the next 3 years.

18. The PP proposed to set up an Environment Management Cell (EMC) to engage EHS/SH&E officials for the functioning of EMC.

19. The PP reported that the Public hearing is exempted as as per clause 7(ii)(a) as per OM dated 11th April 2022 & the unit lies in the notified industrial area i.e. GIDC Estate, Within PCPIR Dahej Industrial Estate Zone III which declared as on vide notification no. GHU-17/SIR/112009/ 10149/I dated 9.6.2009 (as per clause 7 (i) (iii) stage (3)(i)(b) of EIA notification 2006 (as per OM J-11011/321/2016-IA. II(I) dated 27th April 2018)

20. The PP submitted the Onsite and Offsite disaster management plan in their EIA report.

21. The estimated project cost after proposed expansion is Rs. 74.0 Crores including existing investment of Rs. 70.00 Crores. Total Employment will be 530 persons as direct & indirect after the proposed expansion

22. **Deliberations by the EAC**

During deliberations, EAC discussed the following issues:

- PP submitted the justification regarding the need of additional backup power requirement from 1000 KVA to 4000 KVA.
- PP submitted justification regarding stack height of the DG sets as per CPCB guidelines
- PP submitted the undertaking regarding the implementation of the project
- **PP submitted justification regarding cooling tower blow down** (The majority of the cooling water will be required for controlling the process heat and due to the higher evaporation ratio, the TDS concentration in the cooling increases. As the TDS concentration increases and considering the worst case scenario for the cooling tower blow down, we have calculated the wastewater generation from the cooling tower based on the 40% blow down ratio, which also includes the load of cooling tower cleaning chemicals as well)
- PP submitted the water balance diagram during monsoon season and non-monsoon season.

- PP submitted the green belt development plan along with budgetary within 6 months (Unit has allocated the total capital budget of Rs. 20 Lacs for development of 4500 nos. of trees. Till now, unit has developed 2900 nos. of trees and unit will develop remaining 1600 nos. of trees within the next six months)
- **PP submitted the revised action plan for hazardous waste management:**

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
Hazardous Waste							

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
1	ETP Sludge	35.3 (Sch. I)	Effluent Treatment Plant	100	0	100	Collection, Storage, Transportation and Disposal to TSDF site for landfilling
2	Distillation Residue/ Organic Residue	29.1 (Sch. I)	Distillation Process	6000	0	6000	Collection, Storage, Transportation and Disposal to CHWIF for Incineration / Co-processing
3	Discarded Drums/Barrels	33.1 (Sch. I)	RM & FG packing material	200	100	300	Collection, Storage, Transportation & Disposal to authorized decontamination facility
4	Used Oil	5.1 (Sch. I)	Machineries / D. G Set	250	50	300	Collection, Storage, Transportation and Disposal by selling to authorized recycler.
5	Spent Solvent	29.4 (Sch. I)	Stripper / Process	2800	0	2800	Collection, Storage, Transportation & Disposal to authorized Recycler.
6	Aqueous waste containing trace pesticide from Reactor washing, drum washing etc.	29.2 (Sch. I)	Reactor/Drum washing	4000	0	4000	Collection, Storage, Transportation and Disposal to CHWIF for Incineration
7	Spent Resin From DM Plant	35.2 (Sch. I)	D M Plant regeneration	14	0	14	Collection, Storage, Transportation and Disposal to CHWIF for Incineration

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
8	Date-expired/ Off-Specification Products	29.3 (Sch. I)	Manufacturing Process	100	0	100	Collection, Storage, Transportation and Disposal to CHWIF for Incineration
9	MEE Salt	35.3 (Sch. I)	MEE	2500	0	2500	Collection, Storage, Transportation and Disposal to TSDF site for landfilling.
10	Spent Carbon	36.2 (Sch. I)	Manufacturing Process	30	0	30	Collection, Storage, Transportation and Disposal to CHWIF for Incineration/ co-processing.
11	Sodium Hydrosulfide	C2 (Sch. II)	Scrubber	3000	0	3000	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
12	Hydrochloric Acid	C2 (Sch. II)	Manufacturing Process	4000	7400	11400	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
13	Acetic Acid	C2 (Sch. II)	Manufacturing Process	400	0	400	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
14	Distilled Solvent	-	Manufacturing Process	2500	35500	38000	Collection, Storage and reuse within premises
15	Sodium Chloride	C2 (Sch. II)	Manufacturing Process	1200	2376	3576	Collection, Storage, Transportation and Disposal to authorized

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
							end user under Rule-9 permission
16	Sodium Bromide	C2 (Sch. II)	Manufacturing Process	20000	0	20000	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
17	Hydrogen Bromide	C2 (Sch. II)	Manufacturing Process	300	14784	15084	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
18	Ammonium chloride	C2 (Sch. II)	Manufacturing Process	150	6570	6720	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
19	Spent Catalyst	29.5 (Sch. I)	Manufacturing Process	0	720	720	Collection, Storage, Transportation and Disposal to TSDF/CHWIF or sent to co-processing.
20	Sodium Hydroxide Solution	C2 (Sch. II)	Scrubber	0	17664	17664	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
21	Spent Acid	29.6 (Sch. I)	Manufacturing Process	0	15492	15492	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
22	Sodium Bi Sulphate	C2 (Sch. II)	Manufacturing Process	0	4956	4956	Collection, Storage, Transportation and

S. No.	Type of Hazardous Waste	Schedule/ Category	Source of Generation	Quantity, TPA			Disposal
				Existing	Proposed	Total	
							Disposal to authorized end user under Rule-9 permission
23	Sodium Carbonate	--	Manufacturing Process	0	7800	7800	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
24	Potassium Chloride	--	Manufacturing Process	0	2676	2676	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
25	Sodium Tugstate	--	Manufacturing Process	0	960	960	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
26	Sodium Sulphite Solution	--	Manufacturing Process	0	6480	6480	Collection, Storage, Transportation and Disposal to authorized end user under Rule-9 permission
Solid Waste							
1	STP Sludge	--	STP	5	0	5	Used as a manure within plant premises

- **Municipal Solid Waste Management Plan**

Sr. No.	Zone	Waste generation rate (kg/cap/day)	Total persons	Waste generated (kg/day)
1	Industrial	0.25	530	132.5

- 60% waste i.e. 80 kg/day will be wet waste and 40% waste i.e. 52.5 kg/day will be dry waste. Organic waste converter machine will be installed for the treatment and same will be used as manure within plant premises.

  - **PP submitted justification regarding stack height of the process vents (**As the process vent connected with the scrubber is present at the distance beyond 30 m from the process area and the process vent provided with the vent height of 10 meters, which is above the rooftop of the process area.)

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

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

The EAC noted that the PP has given an undertaking to the effect that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the PP.

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

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

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The expert members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

13. The EAC, after detailed deliberations, <u>recommended</u> the expansion project for the grant of environmental clearance, <u>subject to the compliance of the terms and conditions</u> as under, and general terms and conditions in Annexure-I:

(i) 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.

(ii) Two stage alkali scrubber shall be provided to control process emissions viz. HCl, H_2S, HBr, Br_2 and SO_2 etc. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.

(iii) Natural Gas based steam boilers having capacities of 4 TPH & 10 TPH. Natural gas shall be used as a fuel for existing boilers, 30 m stack height shall be provided to steam boilers. Unit shall discontinue the existing 4 TPH steam boiler.

(iv) The continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.

(v) Total fresh water requirement from GIDC water supply shall not exceed 770.50 KLD.

(vi) NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from GIDC water supply. State Pollution Control Board 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.

(vii) Total Industrial effluent generation shall not exceed 940.25 KLD out of which 420 KLD of effluent from process from which 200.0 KLD High TDS/COD stream shall be treated in stripper followed by MEE & ATFD, 220.0 KLD Low TDS/COD stream shall be sent to in-house ETP followed by

RO plant along with Boiler blowdown (84.0 KLD), Cooling tower blowdown (431.25 KLD), Miscellaneous wastewater (5.0 KLD) and MEE & ATFD condensate (304.0 KLD). RO permeate i.e. 815.0 KLD shall be reused within plant premises. RO Reject (130.0 KLD) shall be sent to MEE along with High TDS/COD effluent. Domestic wastewater (12.0 KLD) shall be treated in STP and STP treated water will be reused for gardening purpose/toilet flushing. No effluent/treated water shall be discharged outside the plant area and zero liquid discharge shall be maintained.

(viii) 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.

(ix) The green belt of at least 10 m-15m width shall be developed over an area of 33%, mainly along the plant periphery. 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. Till now, unit has developed 2900 nos. of trees and unit shall develop remaining 1600 nos. of trees within the six months from the grant of EC. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. Greenbelt development shall be completed before commissioning of the plant. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(x) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions by engaging EHS/SH&E 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.

(xi) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP [₹ 7.24 Crore (Capital cost) and ₹ 5.35 Crore 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.

(xii) No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.

(xiii) Unit shall have a disaster management plan in place, where in all the potential risk and mitigation measures shall be inplaced for Bromine and pesticide manufacturing unit. Plant shall be equipped with Bromine, H2S, HCl sensors. Reactor shall be triped in case of any emergency situation. Interlock system shall be provided in the field as well as in DCS. Every year safety audit shall be conducted in the process and chemicals handling area.

(xiv) 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.

(xv) All the hazardous waste shall be managed and disposed as per the HWM Rules 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or 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 waste shall be converted into compost and used as manure for greenbelt development.

(xvi) 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.

(xvii) 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.

(xviii) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.

(xix) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.

(xx) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.

(xxi) The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.

(xxii) 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.

(xxiii) 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.

(xxiv) The project proponent shall comply with the environment norms for 'synthetic organic chemicals' as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21st July, 2010 and Pesticide Industry vide GSR 446 (E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.

(xxv) 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.

(xxvi) 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. Biomass/coal 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. Industrial vacuum cleaner shall be provided to sweep the internal roads. The Air Pollution Control System shall be

interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.

(xxvii) 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.

Agenda No. 72.3

Proposed Expansion of Resins (Solid) manufacturing from 5,520 TPA to 17503 TPA; Paint (Solvent and Water Based) from 47520 TPA to 87120 TPA in two Phases located at J.L. No. 01, Village Tulsiberia, R.S. Dag No. 2188 to 2194, 2196, 2297 to 2299, District Howrah, West Bengal by M/s Almega Paints Pvt. Limited- Consideration of Environmental Clearance

[Proposal No. IA/WB/IND3/455716/2023; File No. J-11011/221/2011-IA. II(I)]

1. The proposal is for Environmental Clearance for the Proposed Expansion of Resins (Solid) manufacturing from 5,520 TPA to 17503 TPA; Paint (Solvent and Water Based) from 47520 TPA to 87120 TPA in two Phases located at J.L. No. 01, Village Tulsiberia, R.S. Dag No. 2188 to 2194, 2196, 2297 to 2299, District Howrah, West Bengal by M/s Almega Paints Pvt. Limited.

2. The project/activity is covered under Category 'A' of Item 5(f) **Synthetic Organic Chemicals (excluding formulations**) of Schedule of EIA Notification, 2006 (as amended) as the project is located outside the notified industrial area.

3. The Standard ToR was issued by the Ministry vide letter No J-11011/221/2011-IA. II(I); dated 02.11.2022. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a **Expansion EC case.** The proposal is placed in this 72nd EAC meeting on 2nd January, 2024 wherein the PP along with accredited Consultant, M/s. Parivesh Environmental Engineering Services., Lucknow. (NABET/EIA/2124/IA0092- Rev 02) Valid till 11.11.2024 made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported that the total land area is 35,248.12 m^2 (3.5248 ha) no additional land is required for the proposed expansion and no R& R is involved in the Project. The details of products and capacity are as follows:

S.No	Product Details (complete name)	CAS NO.	Existing Quantity (TPA)	Proposed Quantity (TPA)		Total Quantity (TPA)	Uses
				Phase-I	Phase-II		
1.	Resins (Solid)	63148-69-6	5520	6513	5470	17503	Used in paint manufacturing. It acts as a binder & vehicle of the pigment.
2.	Paint (Solvent and water based)	-	47520	19800	19800	87120	It is protective coating of the building/Machine and it increase the aesthetic look of the objects.

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

6. Ministry had issued EC earlier vide letter no. J-11011/221/2011-IA. II(I); dated 22.03. 2013 to the existing project for Manufacture of Resins (5,520 TPA) at J.L. No. 01, Village Tulsiberia, R.S. Dag No. 2188 to 2194, 2196, 2297 to 2299, District Howrah, West Bengal by M/s Almega Paints Pvt. Limited.

7. The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no. 102-451/12/EPE/159 dated 01.05.2023 in the name of M/s. Almega Paints Pvt Ltd. The Action taken report regarding the partially/non-complied condition was submitted to regional officer MoEF&CC, dated 25.05.2023. MoEF&CC (RO), Bhubaneshwar evaluated the same and has issued letter dated 16.10.2023.

8. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. The Damodar River, Damodar Kata Nadi is flowing at a distance of 4.1 Km (West) & 9.0 Km in North West Direction respectively. Bansbati Khal, Kendua Khal & Madari Khal is flowing at a distance of 2.0 Km (West),4.0 km (E) & 8.0 (NW) direction respectively.

9. The PP reported that the **Ambient air quality** monitoring was carried out at 9 locations during March 2022 to May 2022 and the baseline data indicates the ranges of concentrations as: PM_{10} (42.66-86.30

µg/m3), $PM_{2.5}$ (18.73-38.26 µg/m^3), SO_2 (7.69-18.16µg/$m^{3)}$ and NO_2 (15.37-28.67 µg/m^3). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 1.03 µg/m^3, with respect to PM. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). The maximum noise level measured in the study area was 36.65 to 73.45 dB(A) in day time and 31.22 to 64.16 dB (A) in night time, which were below the stipulated standards.

10. The PP reported that the total water requirement is after expansion (including Phase- I & Phase-II) is 107 m^3/day of which fresh water requirement of 87 m^3/day will be met from Ground Water Source. and balanced 20 KLD is recycled water. Permission for extraction of Ground Water has been taken under Permit No. P06140010208200000001TLE dated 21/06/2011. Industrial Effluent after expansion will be 21 KLD will be treated in ETP followed by RO & MEE. The RO permeate will be recycled and the reject will be sent to MEE. The MEE salt will be sent TSDF for disposal. ZLD system will be adopted.

11. The Power requirement after expansion will be 400 kVA including existing 200 KVA and will be met from West Bengal State electricity distribution corporation limited (WBSEDCL). Existing unit has DG sets of 160 KVA capacity, and another two DG Set of 160 KVA will be installed for 1st Phase & 2nd Phase expansion respectively. Stack (height) will be provided as per CPCB norms to the proposed DG sets.

12. Details of fuel: Existing and Proposed

S.No	**Particulars**		**Fuel**	**Fuel consumption**	**Mode of Transportation**	**Distance from Site**
Existing						
1	Thermic fluid heater (6lac kcal/hr) 2 No.		LPG	45 Kg/hr	Truck	Within 10 Km
2	DG set (160 kVA)		Diesel	18 lt/hr	By Truck	Within 10 Km
Proposed expansion						
1	Thermic fluid heater	(15lac kcal/hr) Ph-I	LPG	60 Kg/hr	Truck	Within 10 Km
		(10lac kcal/hr)	LPG	55 Kg/hr	Truck	

		Ph-II				Within 10 Km
2	DG set (160 kVA)	160 kVA (Phase-I)	Diesel	18 lt/hr	By Truck	Within 10 Km
		160 kVA (Phase-II)	Diesel	18 lt/hr	By Truck	Within 10 Km

13. **Details of Process Emissions Generation and its Management:**

Sr. No	**Stack attached to**	**Fuel Type**	**Stack height(m)**	**APC**	**Probable Pollutant**
Existing					
1	Thermic Fluid Heater (2 Nos -6 lakh kCal/h)	LPG	30 m common	-	PM, SO_2 & NO_x
3	DG Set (1x 160 KVA)	HSD	7	-	PM, SO_2 & NO_x
Additional due to Proposed expansion					
1	Thermic Fluid Heater (1 No -15 lakhs Kl.cal/h & 1 No 10 Lakhs kl.cal/h)	LPG	Common stack, 30	-	PM, SO_2 & NO_x
3	DG Set (2 x160 KVA)	HSD	7 m each	-	PM, SO_2 & NO_x

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

Solid waste (Non-hazardous)					
Description (Name of waste)	**Quantity of Existing solid waste Ton**	**Proposed quantity**		**Quantity After expansion (Ton/Annum)**	**Mode of disposal**
		Ph-I	**Ph-II**		

Damage carton/bag/plastic	250	200	200	650	By truck to authorized recycler
STP Sludge	-	17		17	Used as manure for greenbelt development

E-waste details

Sr. No.	**Particulars**	**E-Waste Category**	**Proposed (Kg/A)**	**Method of Disposal**
1.	Personal Computers (Central Processing Unit with input and output devices)	ITEW2	5	Sale to WBPCB authorized recycler / return to manufacturer/supplier
2.	Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)	ITEW3	5	
3.	Printers including cartridges	ITEW6	5	

Hazardous solid waste						
Description	**Category of hazardous waste as per the sch I, II, III**	**Quantity of Existing hazardous waste (TPA)**	**Proposed (TPA)**		**Quantity After expansion (Ton/Annum)**	**Mode of disposal**
			Ph-I	**Ph-II**		

MEE Salt	35.3	-	70	80	150	Collection, Storage, transportation, disposal by CHWTSDF
Chemical sludge from ETP	35.3	20	35	35	90	Disposal to CHWTSDF
Spent solvent	21.2	10	11	10	31	Disposal to CHWTSDF
Contaminated aromatic, aliphatic or napthenic solvents may or may not be fit for reuse	20.1	5	6	5	16	Disposal to CHWTSDF
Contaminated aromatic, aliphatic or napthenic solvents may or may not be fit for reuse	21.1	1500	4000	2000	7500*	Disposal to CHWTSDF
Discarded Plastic Bags /Barrels	33.1	40	47	40	127	Recycling through authorized recyclers or Disposal to CHWTSDF

It is decided by the company that finish products damage during transportation and unloading at the depot will be returned back to the factory for reprocessing. It is observed that only 25 to 30 % material would be recovered as good material and balance material would go to Ram key & co processors as waste. It is included here.

15. The Budget earmarked towards the Environment Management Plan (EMP) is ₹ 1.26 Crores (capital) and the Recurring Cost (operation and maintenance) will be about ₹24 lac/per annum. Industry proposes to allocate Rs. 16 lacs towards Corporate Social Responsibility.

16. Industry has already developed greenbelt in an area of 35.43 % i.e., 12488 m^2 out of total area of the project. Strengthening of greenbelt by planting additional 1500 nos of tree over an area of 6000 sq.m (gap filing to achieve density of 2500 trees/ha) inside the premises within one year will be done. The budget earmarked for the plantation is Rs 7.5 lakhs (Capital) & 1.5 lakhs/year (recurring cost)

17. The PP reported that the Public Hearing for the proposed expansion project has been conducted by the West Bengal State Pollution Control Board on 26.09.2023 at 12.00 Hrs at Ashirbad Banquet (Beside Ideal Public School), Shirampur, Tulsberia Road, Kulgachia,PS-Rajapur,District -Howrah, West Bengal .The main issues raised during the public hearing are related to employment , environmental pollution.

S. No.	Issue raised	Response/commitment from Project Proponent	Budget Allocated and Timeline	Action Plan in Brief
	Mr. Achintya Dolui of Tulsiberia enquired about the scope of employment generation in the proposed expansion project and the application procedure.	The project proponent stated that there was scope for employment of about 90 people in the upcoming project, of which a large number would be employed locally. It was further mentioned that the job notices and the proforma for application shall be displayed at the existing unit as well as at the local gram panchayat offices for information dissemination to the public.	-----	As per West Bengal employment norms, manpower will be hired from nearby village. local peoples will be given preference for jobs in the industry
	Mr. Surajit Roy of Tulsiberia enquired about the scope of skilled	Project proponent stated that both skilled and unskilled workers will be required for the upcoming project.	--	Unskilled labor will be recruited from local area while skilled labor will be recruited from outside

	employment generation in the proposed expansion project.			if not available at local level
	Mrs Baby Singha of Khanpur enquired about the scope of employment for women in the proposed expansion project	Project proponent stated that there is scope for employment of women workers in the upcoming project, especially in the packing section	-	As per West Bengal employment norms, manpower will be hired from nearby village. local peoples will be given preference for jobs in the industry
	Mr. Rabin Pal of Mahishrekha enquired about the scope of local employment	Project Proponent reiterated that local employment will be prioritized, especially for unskilled workers, as it had been observed that it was more convenient for local people to work closer to their homes during the pandemic period.	-	-
5	Shri . Najir Ali of Tulsiberia enquired whether the proposed expansion project will cause environmental pollution	Project Proponent stated that the we shall take necessary measures for prevention of environmental pollution. He emphasized that the existing ETP will be enhanced in capacity and an additional STP shall be installed. Treated water shall be used for greenbelt development. LPG shall be used as fuel for Thermic Fluid Heaters.	Budget for controlling Air Pollution (under EMP): 40 lakhs Timeline: Before commissioning of the unit Budget for controlling Water Pollution (under EMP): 50 lakhs	To reduce and control the air emission, Company proposed to provide combined stack for two proposed TFH LPG is used as a fuel in thermic fluid heaters & same will used in Proposed thermic fluid heater. Proposed thermic fluid heater will be attached with single Existing Stack. All reactor vents will be equipped with the

			Timeline: Before commissioning of the unit Budget for greenbelt development within industry (Under EMP): 5.0 lakhs Timeline: Before commissioning of the unit or within 1 year	condensers to trap emissions To achieve avoid/eliminate chances of soil and water pollution company will establish ZLD system. DMP will be approved and implemented whenever necessary
6.	Mr. Achintya Dolui of Tulsiberia enquired further whether there will be noise pollution from the proposed expansion project.	PP stated that the noise level of the operations at the existing unit were within acceptable limits, and that the project proponent shall take necessary measures to prevent noise pollution both during construction and operation phases of the upcoming project.	Budget for controlling Noise Pollution (under EMP): 7.0 lakhs Timeline: Before commissioning of the unit	Proper maintenance of the machine/equipment for construction/ Installation will be carried out and the machines will be equipped with vibration isolators Sufficient oiling and lubrication will be done to all the parts of the machineries to ensure that minimal noise is generated.
7	Mr.Manju Shi of Kamina Social Welfare Society , a local NGO	Thanked the project proponent for their CSR activities undertaken in the past and suggested that further activities in health sector be taken up in the future	-	CSR activities will be done as per company Govt norms
8	Mr. Tarun Pal of Mahishrekha	Thanked the project Proponent for local	-	As per West Bengal employment norms,

		employment generation and welcomed further employment in the proposed expansion project		manpower will be hired from nearby village. local peoples will be given preference for jobs in the industry

18. The PP proposed to set up an Environment Management Cell (EMC) by engaging Managing Director- GM-EHS- Environmental Engineer- Safety officer- HR admin officer for the functioning of EMC.

19. The PP reported that reported that for various conditions the Carbon sequestration are as:

Sources of CO_2	**Quantity (Tons/ Annum)**
CO_2 Emission from Fuel	51.4132
CO_2 Emission from process	9315.698
CO_2 Emission from transportation	298.6875
CO_2 Emissions from electricity	310.4
Total Emissions	**9976.199**
CO_2 sequestration	
Greenbelt	1162.5
CO_2 generation avoided,	1993
Net contribution	**3155.5**
Reduction %	**31.63%**

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

21. The estimated project cost is Rs. 15.64 Crores including existing investment of Rs. 4.5 crores. Total Employment after expansion will be 300 persons as direct & indirect after expansion

22. **Deliberations by the EAC:**

During deliberations, EAC discussed the following issues:

- PP submitted the Month wise action plan for additional greenbelt of 1500 trees (gap filing) to achieve density of 2500 trees/ha along with budget earmark.

Sr. No	Ref. No in greenbelt layout diagram	Area (m^2)	Nos of tree to be planted	Capital cost (Lakhs)	Recurring cost (Lakhs/year)	Time line
1.	A	1450	363	7.5	1.5	July 2024
2.	B	645	161			
3.	C	750.48	188			August 2024
4.	D	810.52	202			
5.	E	704	176			September 2024
6.	F	1640	410			
	Total	**6000**	**1500**	**7.5**	**1.5**	

Capital and recurring expenses for greenbelt development

Sr. No.	Activity or work	July 2024 to September 2024	Budget (Lakhs)	
			Capital cost	Recurring cost/year (considering 20% mortality rate)
1	Plantation within the Project Site will be carried in 1 years (July 2024 to September 2024). Totally 1500 saplings will be planted (Approx. Cost @ Rs. 500 per plant including labour cost)			
		1500	**7.5**	**1.5**

- PP submitted the Revised layout plan with the requisite green belt. PP informed that 1600 tree already exists and additional 1500 trees will be planted within 6 months time to achieve 33% greenbelt.
- PP submitted the Quantified and specific details w.r.t. hazardous waste, and solid waste management. Solid waste has to be segregated into wet and dry waste. Wet waste shall be treated in situ and compost shall be used as manure.

  Generated municipal solid waste will be segregated at source into dry waste & wet waste and then it will be disposed as per the municipal solid waste rules. Revised details of non-hazardous waste.

Solid waste (Non-hazardous)				
Description (Name of waste)	**Quantity of Existing**	**Proposed quantity**	**Quantity After expansion**	**Mode of disposal**

	solid waste Ton	Ph-I	Ph-II	(Ton/Annum)	
Damage carton/bag/plastic	250	200	200	650	By truck to authorized recycler
STP Sludge	-	109		109	Collection, Storage & use as manure in gardening
Solid Waste	6.19	4.7		10.89	Collection, Storage, Segregation of waste into dry waste & wet waste, Transportation and disposal as per Municipal Solid Waste Rules.

E-waste details

Sr. No.	Particulars	E-Waste Category	Proposed (Kg/A)	Method of Disposal
1.	Personal Computers (Central Processing Unit with input and Output devices)	ITEW2	5	Sale to WBPCB authorized recycler / return to manufacturer/supplier
2.	Personal	ITEW3	5	

	Computing: Laptop Computers (Central			

Hazardous Waste Generation and Disposal

Hazardous solid waste						
Description	**Category of hazardous waste as per the sch I, II, III**	**Quantity of Existing hazardous waste (TPA)**	**Proposed (TPA)**		**Quantity After expansion (Ton/Annum)**	**Mode of disposal**
			Ph-I	**Ph-II**		
MEE Salt	35.3	-	70	80	150	Collection, Storage, transportation, disposal by CHWTSDF
Chemical sludge from ETP	35.3	20	35	35	90	Disposal to CHWTSDF
Spent solvent	21.2	10	11	10	31	Disposal to CHWTSDF
Contaminated aromatic, aliphatic or napthenic solvents may or may not be fit for reuse	20.1	5	6	5	16	Disposal to CHWTSDF

Contaminated aromatic, aliphatic o r napthenic solvents may or may not be fit for reuse	21.1	1500	4000	2000	7500*	Disposal t o CHWTSDF
Discarded Plastic Bag s /Barrels	33.1	40	47	40	127	Recycling through authorized

*It is decided by the company that finish products damage during transportation and unloading at the depot will be returned back to the factory for reprocessing. It is observed that only 25 to 30 % material would be recovered as good material and balance material would go to Ram key & co processors as waste. It is included here.

- PP submitted the Revised EMP cost (capital and Recurring)

Sr. No	**Component**	**Description**	**Existing**		**Proposed**		**After expansion**	
			Capital cost (Lakh)	**Recurring cost (Lakh /yr.)**	**Capital cost (Lakh)**	**Recurring cost (Lakh /yr.)**	**Capital cost (Lakh)**	**Recurring cost (Lakh /yr.)**
1	Air Pollution Control	Installation and maintenance of, stacks for Thermic Fluid Heater, D.G. sets. Installation and maintenance of online emission monitoring system.	22	1.3	40	3	62	4.3
2	Water Pollution Control	Full-fledged ETP with primary, secondary and tertiary treatment	15	5	75	15	90	20

		followed by R.O treatment, Installation of STP						
3	Noise Pollution Control	Acoustic enclosures to DG Sets and control measures for noise generating equipment 's	4	1.0	5.0	1.5	9	2.5
4	Occupational Health and Safety	PPEs to employees and health check-ups of employees	-	5.0	-	5.0	-	10.0
5	Green Belt development	Greenbelt development for 1500 trees at the rate of Rs. 500 per sapling for capital and maintenan ce.	7.0	1.0	7.5	1.0	14.5	2.0
6	Environment al monitoring	Monitoring of workplace for air monitoring, ambient air, noise, stack ETP inlet and outlet.	-	3	-	3	-	6
7	Solid waste management	Providing separate storage area for storage area for storage of solid waste/Hazardou s waste. Purchase of	2.0	64	2.5	125	4.5	189

		solid waste storage bags, containers and its disposal						
8	Cost for CER activates	Tree plantation, Rainwater harvesting and LED, Solar Lighting	-	-	16	-	16	-
	Total		**50**	**80.3**	**146**	**153.5**	**196**	**233.8**

- PP submitted the Revised water balance diagram for monsoon and non-monsoon season and treatment scheme (During **Non- Monsoon Period** -Total water consumption after expansion in our premises will be 107 KLD. And recycle quantity will be 20 KLD. Hence, fresh water will be only 87 KLD and **During Monsoon Period-** Total water consumption after expansion in our premises will be 107 KLD. and recycle quantity will be 20 KLD. Additionally, 15 KLD rain water will be used in process. Hence, fresh water will be only 72 KLD.)
- PP submitted the Revised noise pollution control measures (Approx 0.25 MW rooftop solar plant will be installed within the premises)
- PP submitted the Installation of solar power.
- PP submitted the Details of carbon foot print and carbon sequestration study w.r.t. existing and proposed expansion project

CO_2 Emission from Project Process

CO2 Emission from Fuel							
SN	**Fuel**	**Consumption L/Day**		**Emission Factor**	**CO2 emission (TPA)**		**Total**
		Existing	**proposed**		**Existing**	**After Expansion**	
1	Diesel	18	36	2.65	14.31	28.62	**42.93**
2	LPG	45	115	53.02	2.3859	6.0973	**8.4832**
CO2 Emission from process							
		TPA		**Emission Factor**	**CO2 emission (TPA)**		**Total**
		Existing	**After Expansion**		**Existing**	**After Expansion**	
3	Resin	5520	11983	0.0899	496.248	1077.27	**1573.51**
4	Paint	47520	38600	0.0899	4272.048	3470.14	**7742.188**

CO2 Emission from transportation									
SN	**Phase**	**Material Transport by Trucks**	**No of 10t Truck / Day**	**Running km / day (to & fro)**	**Total km Run per day**	**Total km Run per year**	**CO2 Emission Factor kg/km by Heavy Duty Vehicles (HDV)[$]**	**CO2 Emission (kg CO2/year)**	**t-CO2 / yr**
5	Existing	495	15	50	750	225000	0.7375	165937.5	**165.9375**
6	After Expansion	355	12	50	600	180000	0.7375	132750	**132.750**

CO2 Emissions from electricity							
SN		**Consumption**		**Emission Factor**	**CO_2 emission (TPA)**		**Total**
		Existing (KVA)	**After Expansion (KVA)**		**Existing**	**After Expansion**	
7	**Electricity**	200	200	0.97	155.2	155.2	**310.4**

$ India GHG Programm (2015). India Specific Road Transport Emission Factors. Version 1. India GHG Program.

The total estimated CO_2 emission from the project is about **9976.199 t/annum.**

Action Plan for Green Belt / Green Cover Development and CO2 Sequestration

Year of Plantation	**Location**	**No. of Tree Saplings Planted**	**CO2 Sequestration (t-CO2)**
Existing & Proposed Green Belt	Project Premises	3100	1162.5
Total			

To achieve 35% CO_2 emission cut Almega paints Pvt Ltd is working continuously. In current green belt 1162.5 **t-CO2** is allocated. However, 1500 tree species in next 1 years will be planted by industry which will be strengthen existing green belt and contribute in carbon neutralisation. Industry will install Roof

top solar panels of 0.25 MW in industrial premises. Street light and work zone lights will be replaced by solar lights. Previously, Industry has reduced their CO_2 emission to change Fuel by LPG.

Installation of Roof top solar

S.N.	Details	Specific CO_2 T of CO_2/ Tonne of production & T of CO_2 /MWhr	CO_2 generation avoided, TPA
1	Roof top solar 0.25 MW	0.91	1993

Sources of CO2	Quantity (Tons/ Annum)
CO_2 Emission from Fuel	51.4132
CO_2 Emission from process	9315.698
CO_2 Emission from transportation	298.6875
CO_2 Emissions from electricity	310.4
Total Emissions	**9976.199**
CO_2 sequestration	
Greenbelt & Afforestation	1162.5
CO_2 generation avoided,	1993
Net contribution	**3155.5**
Reduction %	**31.63%**

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

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 necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

23. The EAC, after detailed deliberations, **recommended the project for the grant of environmental clearance, subject to the compliance of the terms and conditions as under, and general terms and conditions in Annexure-I**:

(i) 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.

(ii) NOC from the Central Ground Water Authority shall be obtained before start of the construction of plant and drawing water from ground water source. State Pollution Control Board 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.

(iii) Approx 0.25 MW rooftop solar plant shall be installed within the premises

(iv) Adequate stack height shall be provided to LPG fired Fluid Heater as per norms of CPCB/SPCB. Stack height of 7 m above rooftop and acoustic enslodure as per CPCB norms shall be provided with DG set. Position the DG set so that impact on receptor is minimal.

(v) 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.

(vi) Total fresh water requirement from ground water source shall not exceed 87 m^3/day.

(vii) Industrial Effluent after expansion shall not exceed 22 KLD and shall be treated in ETP followed by RO & MEE. The RO permeate (20.5 KLD) shall be recycled and the reject (0.5 KLD) shall be sent to MEE further, MEE salt shall be sent TSDF for disposal. ZLD system shall be

maintained. 8 KLD Domestic wastewater shall be treated in the STP and treated wastewater shall be recycled/reused for horticulture purpose.

(viii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Safety and visual reality training shall be provided to employees.

(ix) The green belt of at least 5 m-10m width shall be developed 33% with tree density @ 2500 trees per hectares, mainly along the plant periphery. 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. Additional 1500 number of Saplings 6 feet high shall be planted within 6 months from data of issue of EC. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. PP shall develop thich greenbelt around ball mill as well as other noise pollution source to reduce noise pollution. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(x) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions by engaging Managing Director- GM-EHS- Environmental Engineer-Safety officer- HR admin officer. 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.

(xi) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP Rs. 146 lakhs (Capital cost) and ₹ 153.5 Lakhs 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.

(xii) All the hazardous waste shall be managed and disposed as per the HWM Rules 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or 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 waste shall be converted into compost and used as manure for greenbelt development.

(xiii) 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.

(xiv) The project proponent shall comply with the environment norms for 'synthetic organic chemicals' as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21st July, 2010 under the provisions of the Environment (Protection) Rules, 1986.

(xv) 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.

(xvi) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.

(xvii) 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.

(xviii) 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.

(xix) 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.

(xx) 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.

(xxi) 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.

(xxii) 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.

(xxiii) 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.

(xxiv) 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.

(xxv) PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority

(xxvi) The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.

Agenda No. 72.4

Proposed Project for Manufacturing of Speciality Chemicals, Pesticide Technical and Pesticide Intermediates with Production capacity of 3200 TPM located at Plot No. T-108, T-109, Notified Industrial Area, GIDC Saykha, Taluka: Vagra, District – Bharuch, Gujarat by M/s. Heranba Industries limited (Unit:VI) - Reconsideration of Environmental Clearance

[Proposal No. IA/GJ/IND3/419469/2023; File No- IA-J-11011/193/2022-IA-II(I)]

1. The proposal is for the environmental clearance Proposed Project for Manufacturing of Speciality Chemicals, Pesticide Technical and Pesticide Intermediates with Production capacity of 3200 TPM located at Plot No. T-108, T-109, Notified Industrial Area, GIDC Saykha, Tal: Vagra, District – Bharuch, Gujarat by M/s. Heranba Industries limited (Unit:VI)

2. The project/activity is covered under Category 'A' of Item 5(b)& 5(f) **Pesticides industry and pesticide specific intermediates, synthetic organic chemical (excluding formulations** of Schedule of EIA Notification, 2006 (as amended).

3. The ToR was issued by the Ministry, vide letter no .IA-J-11011/193/2022-IA-II(I), dated 24.6.2022 The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a **Fresh EC case.** The proposal was placed in 60th EAC meeting held on 10th August, 2023, wherein the EAC deferred the proposal now the proposal is placed in this 72nd EAC meeting held on 2.1.2024 wherein the PP along with accredited Consultant, M/s. Eco Chem Sales & Services (ECSS) – Surat, made a detailed presentation on the salient features of the project and informed that: (NABET Accreditation Number is NABET/EIA/2023/SA 0156 and it is valid up to 11th September 2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported that the total 57248.29 m^2 land area will be used for proposed project and no R& R is involved in the Project. The details of products to be manufactured are as follows:

23.

S. No.	Name of the Product	CAS Number	Capacity, TPM	End use of product
Insecticides Compounds				
Group-1 Synthetic Pyrethroids Insecticides -1				
1	Cypermethrin (T) & Beta, Zeta, Theta etc Isomers(T)	52315-07-8	100	Used to control a broad spectrum of chewing, sucking and flying insects

2	Alphacypermethrin Technical	67375-30-8		Used to control a wide range of chewing and sucking insects
3	Deltamethrin Technical	52918-63-5		Use on areas such as golf courses, ornamental gardens, lawns, outdoor perimeter treatments, indoors as spot and crack and crevice treatments, and pet collars
4	Lambda Cyhalothric Technical	91465-08-6		Used to control a wide range of pests
5	Permethrin Technical	52645-53-1		Can Use to kill a broad range of pests, such as fleas, ticks, cockroaches, flies, and mosquitoes.
Group-2 Synthetic Pyrethroids Insecticides-2				
6	Cypermethrin (T) & Beta, Zeta, Theta etc Isomers(T)	118712-89-3	500	Used to control a broad spectrum, ofchewing, sucking and flying insects
7	Allethrin Technical	584-79-2		Use for control of flies and mosquitoes, and in combination with other pesticides to control flying or crawling insects
8	D-Allethrin Technical	231937-89-6		Household insecticide that kills flies, mosquitoes, garden insects, etc
9	Bifenthrin Technical	82657-4-3		Used against malaria and filarial vector mosquitoes

10	Prallethrin Technical	23031-36-9		Used for the control of mosquitoes in the household.
11	Cyphenothrin (T) & its [1R-Trans-isomer]	39515-40-7		Is a synthetic pyrotheroids insecticide and is effective against cockroaches
12	Etofenprox Technical	80844-07-1		Use as mosquitocide
13	Fenpropathrin Technical	39515-41-8		Widely used Pyrethroids insecticide in agriculture and household
14	Cyfluthrin & Beta Isomers (T)	68359-37-5		used in agriculture to control insects that feed on cotton, turf, ornamentals, hops, cereal, corn, fruit, and potatoes
15	Dimefluthrin (T)	271241-14-6		Used as mosquito control agent
16	Cycloprothrin (T)	63935-38-6		Used for controlling insect pests on rice plants and vegetables
17	Flumethrin (T)	69770-45-2		Flumethrin has been widely used as an acaricide for the control of Varroa mites
18	Acrinathrin (T)	101007-06-1		Use for the Plant protection
19	Flucythrinate (T)	70124-77-5		Use for the Plant protection
20	Tefluthrin	79538-32-2		Used primarily in the control of soil insect pests on corn plants
21	Metofluthrin	240494-70-6		Used as an insect repellent.
Group-3				

Neo Nicotiods Insecticides (G-1)				
22	Thiamethoxam Technical	153719-23-4	150	Protects plant against listed chewing and sucking insects through contact and ingestion
23	Imidacloprid Technical	138261-41-3		used for pest control in agriculture
24	Acetamiprid Technical	135410-20-7		Used to control insects such as aphids, which have been known to attack and damage leafy plants
25	Fipronil Technical	120068-37-3		Fipronil is used to control ants, beetles, cockroaches and Other Insects
26	Buprofezin Technical	69327-76-0		Used for control of insect pests such as mealybugs, leafhoppers and whitefly on vegetable crops
27	Thiacloprid Technical	111988-49-9		Used as insecticide to protect cotton, pome fruit, vegetables, and potatoes.
28	Ethiprole Technical	181587-01-9		Used to kill or remove insects from crops and grains during its storage
29	Dinotefuran Technical	165252-70-0		A Broad-Spectrum Insecticides for leafy vegetables (except Brassica) (Group-4) and for Professional Turf management, professional Ornamental Production &

				Residential Indoor, Pet Lawn & Garden Market. It controls of insect pests Such as Aphids, whiteflies, thrips, leafhoppers, Leafminers, sawflies. etc.
30	Nitenpyram Technical	150824-47-8		Used to treat flea infestationsin cats and dogs
31	Chlorantraniliprole	500008-45-7		Insecticide, Ryanodine Receptor Activator is used to control a wide variety of crops including Corn, Cotton, Grapes, Rise & Potatoes.
32	Cyantraniliprole	736994-63-1		Insecticides for controlling insects with mandibulate as well as piercing-sucking mouthparts. Specially use in Vegetables, Bush Berries, Turf & Oilseeds Crops.
33	Tetraniliprole	1229654-66-3		Can be Use for Pest Control
34	Indoxacarb	144171-61-9		Used to control sucking insects like bollworm, pink bollworms, spotted bollworms, cutworms
35	Flonicamide	158062-67-0		Used as an insecticide on aphids, whiteflies, and thrips
36	Flubendiamide	272451-65-7		Insecticides for controlling insects in Corn, Tobacco, Pome

				& Stone Fruit. Tree NutCrops, Grapes & Vegetable Crops (Including Cucurbit Vegetables, Fruiting.)
37	Tolfenpyrad	129558-76-5		Used for the control of several orders of insects
Group-4 **Neo Nicotiods Insecticides (G-2)**				
38	Cyclaniliprole	1031756-98-5	50	Used as insecticide for fruit, greenhouse.
39	Sulfoxaflor	946578-00-3		Use to control piercing/sucking insects such as aphids, stink bugs, plant bugs, and thrips on a variety of row crops
40	Clothianidin Technical	210880-92-5		Used mainly to control sucking pests, such as aphids and stink bugs, and insect
41	Pymetrozine Technical	123312-89-0		Control of aphids and whiteflies in vegetables, ornamentals, cotton, field crops, deciduous and citrus fruit; control of Plant hoppers in rice, Insecticide
Group-5 **Organo Phosphorus Insecticides/ Azaspiro/Aromatic Ethers, Carbamate, Benzoyl Urea, Oxadiazine, Pyrazole & Other Miscellaneous Insecticides/ Acaricides Cpds / Benzoylurea/ Other IGRs/ Natural Products Inhibitor/Quinazolin/Halogenated Pyrroles**				
42	Profenofos Technical	41198-08-7	200	used on a variety of crops including cotton and vegetables such as maize, potato,

				soybean, and sugar beet, Insecticide
43	Chlorpyrifose Ethyl Technical	5598-13-0		Used to kill number of Pests
44	Chlorpyriphos Methyl Technical	5598-13-0		Used to control insect pests on a range of crops, also used to treat stored cereal grain and empty warehouses
45	Temephos Technical	3383-96-8		Used as a larvicide to control mosquitoes
46	Malathion Technical	121-75-5		Used on fruits and vegetables, and to control mosquitoes, flies, and animal parasites
47	Ethion Technical	563-12-2		Used to control insects on citrus trees, but also on cotton, fruit and nut trees, and some vegetables
48	Acephate Technical	30560-19-1		Currently registered for use on a variety of field, fruit, and vegetable crops
49	Dimethoate Technical	60-51-5		Used against a variety of sucking insect pests on citrus, grapes, cotton, corn, sorghum.
50	Phenthoate Technical	07-03-2597		Used as insecticide and acaricide for rice, vegetables, fruits, and tea.
51	Spirotetramat Technical	203313-25-1		Use for control of sucking insects in their juvenile, immature stages, including aphids,

				scale insects, and whitefly
52	Triflumezopyrim	1263133-33-0		Used to control both leafhopper and planthopper
53	Fenazaquin	120928-09-8		Use to control mites and insects (especially whiteflies)
54	Chlorfenapyr	122453-73-0		Used as insecticide and acaricide as a foliar spray to ornamental crops in greenhouses.
55	Diafenthiuron Technical	80060-09-9		Control of insects and mites resistant to major chemical classes such as ops or Pyrotheroids, Insecticide
56	Fenobucarb Technical	3766-81-2		Used as an agricultural insecticide, especially for control of Hemipteran pests, on rice and cotton
57	Propargite	2312-35-8		Used to control mites on ornamentals and various field, fruit, and vegetable crops
58	Diflubenzuron	35367-38-5		used to control many leaf eating larvae of insects feeding on agricultural, forest and ornamental plants
59	Thiocyclam Oxalate	31895-22-4		used to control the sucking and chewing pets on a variety of crops
60	Fenpyroximate	134098-61-6		used for the control of leafhoppers,

				mealybugs, mites, psylla, psyllids, and whiteflies
61	Etoxazole	153233-91-1		Used to control mites and aphids on fruits, vegetables, and ornamentals
62	Hexythiazox	78587-05-0		used to control eggs and larvae of many phytophagous mites
63	Pyriproxyfen	95737-68-1		Use as insect growth regulator that affects mostly young insects and eggs
64	Thiodicarb	59669-26-0		Insecticide against major Lepidopterous, and suppresses Coleopterous and some Hemipterous insect pests.
65	Spirodiclofen	148477-71-8		used in agriculture to control mites and San Jose scale
66	Pyrithiobac	123343-16-8		Use for control of broad-leaved weeds in cotton and other crops
67	Novaluron	116714-46-6		Use to disrupting the normal growth and development of immature insects
68	Fenoxycarb (T)	72490-01-8		used as an effective control agent against fire ants (as bait), fleas, mosquitos, cockroaches, scale insects, and sucking insects
69	Pyridaben	96489-71-3		Used as insecticide and acaricide to protect field crops,

				fruit trees, and vegetables
70	Spiromesifen	283594-90-1		For use on cotton, field corn, ornamentals, pome fruit, strawberries, and vegetables
71	Tebufenpyrad	119168-77-3		Use to control of spider and rust mites' species on a large number of crops
72	Lufenuron	103055-07-8		used to control flea infestations by preventing hatching of eggs
73	Methoxyfenozide	16150-58-4		Exhibits high insecticidal efficacy against a wide range of important caterpillar pests
74	Spinetoram	187166-40-1		used to control pest insects in stored grain and on domestic cats.
75	Thiocyclam	31895-21-3		used to control sucking and chewing pests on a variety of crops
Fungicides Compounds				
Group-6 **SBI-Triazole Fungicides /Conazole Fungicides/Triazolopyrimidines Fungicide**				
76	Hexaconazole Technical	79983-71-4	200	Can be used on fruit trees, Fungicide
77	Tebuconazole Technical	105734-96-3		Used agriculturally to Treat plant pathogenic fungicide.
78	Difenoconazole Technical	119446-68-3		Controls a broad spectrum of foliar, seed and soil-borne diseases caused by Ascomycetes,

				Basidiomycetes and Deuteromycetes in cereals, soya, rice, grapes, pome fruit, stone fruit, potatoes, sugar beet and several vegetables and Ornamental crops.
79	Propiconazole Technical	60207-90-1		Used agriculturally as a systemic fungicide on turf grasses
80	Metconazole Technical	125116-23-6		Use as Plant Growth Regulators
81	Cyproconazole Technical	94361-06-5		Use on greenhouse- and field-grown roses and as a wood preservative.
82	Epoxiconazole Technical	135319-73-2		Control of Black Sigatoka (Mycosphaerella fijiensis) and Yellow Sigatoka (Mycosphaerella musicola) in bananas and Coffee Rus
83	Fenbuconazole Technical	114369-43-6		A fungicide used to control a range of diseases including powdery mildew, black rot and scab
84	Ipconazole Technical	125225-28-7		Used for seed treatment, highly effective against seed-borne and soil-borne diseases.
85	Tetraconazole Technical	112281-77-3		Inhibits the metabolic pathway of fungal ergosterol production
86	Prothioconazole Technical	178928-70-6		Use for the control of diseases caused by

				ascomycetes, basidiomycetes, and deuteromycetes
87	Fluquinconazole Technical	136426-54-5		Used to control various endophytic diseases mainly on cereals
88	Triticonazole Technical	131983-72-7		Use as a seed treatment in wheat
89	Azaconazole Technical	60207-31-0		Used mainly in ornamental crops to control canker and other diseases
90	Bromuconazole Technical	116255-48-2		Used on a range of crops including cereals, fruit and vegetables
91	Etaconazole Technical	60207-93-4		Used to control powdery mildew on fruit and other crops
92	Penconazole Technical	66246-88-6		Mainly applied on apples, grapes, and vegetables to control powdery mildew
93	Tricyclazole Technical	41814-78-2		Use as fungicide for the preservation of fruits, that can cause several health issues
94	Bupirimate	41483-43-6		Used as a fungicide to kill powdery mildew
95	Imazalil Technical	35554-44-0		Fungicide used to control a wide range of fungal diseases on fruit, vegetables, and ornamentals
96	Triadimenol Technical	55219-65-3		Fungicide used as seed treatment for barley, corn, cotton, oats, rye, sorghum, and wheat

97	Triadimefol Technical	43121-43-3		Used in agriculture to control various fungal diseases in fruits. As a seed treatment
98	Metrafenone	220899-03-6		Used for the control of powdery mildew in cereals and grape vines
99	Flusilazole	85509-19-9		Used to control fungal infections on a variety of fruit and vegetable crops
100	Prochloraz	67747-09-5		Used on wheat, barley, mushrooms, cherries, turf on golf courses, and in flower production
101	Myclobutanil Technical	88671-89-0		Used as broad spectrum Triazole fungicide
102	Ametoctradin	865318-97-4		Used to control major plant pathogens from the Oomycete class of fungi, specifically downy mildews and Phytophthora species
Group-7 Strobilurins/ Methoxyacrylate/Carbanilate Fungicides/Mono Carboxylic Acid Amide/Hydroxy Aniline				
103	Pyraclostrobin Technical	175013-18-0	150	Use on the Residential and recreation al turfgrass sites and golf course turf.
104	Azoxystrobin Technical	131860-33		Used for the protection of plants and crops from harmful fungal diseases
105	Pyroxystrobin Technical	131860-33-8		Used to control a variety of diseases on

				rice, vegetables and teas.
106	Picoxystrobin Technical	117428-22-5		Use for control of various fungal diseases including leaf rust, stripe rust, powdery mildew, net blotch, scald and speckled leaf Blotch.
107	Flufenoxystrobin Technical	918162-02-4		Active against various fungal infections including downy mildew, blight, powdery mildew and rice blast
108	Metominostrobin Technical	133408-50-1		Use to control the fungal diseases in rice, wheat, soya bean, cotton, kidney beans, and corn.
109	Orysastrobin Technical	248593-16-0		Used in the treatment of blast and sheath blight in transplanted rice inhibiting the mitochondrial respiration chain
110	Kresoxim Methyl Technical	143390-89-0		To control powdery mildew on the greenhouse-grown ornamental crops
111	Triclopyricarb Technical	902760-40-1		can be used in crops disease control
112	Fenoxanil Technical	115852-48-7		Used to control rice blast caused by the fungus Pyricularia oryzae
113	Cymoxanil Technical	57966-95-7		Used as agricultural fungicide (Potato)

114	Flutolanil Technical	66332-96-5		Used for controlling Rhizoctonia solani (black scurf) and some other Basidiomycete fungi in rice, turf, potato, vegetables and peanuts
115	Tiadinil	223580-51-6		Used particularly for the control of fungal diseases in rice
116	Dodine	03-10-2439		Used primarily on fruits and nuts
117	Captan	133-06-2		Used primarily to control Scrab, Brown Rot, Downey Mildew, Early & Late Blight, and other fungal diseases in fruits and vegetables
Group-8 Strobilurins/Acid Amide				
118	Dimoxystrobin Technical	149961-52-4	50	Used for disease control in cereals and some other crops
119	Trifloxystrobin Technical	141517-21-7		Used as agricultural fungicide
120	Fluoxastrobin Technical	361377-29-9		Used as broad-spectrum fungicide for cereals, fruits, vegetables, and ornamentals
121	Fenhexamide	126833-17-8		Used primarily to controlgrey mold (Botrytis Cinereal), Monilinia Fructigena, Monilinia Laxa and other fungal diseases in fruits and vegetables
Group-9				

Multicite / SBI-Other Dmis / Phenyl Amides / Sulfonyl Ureas/ Ethyl Mercaptan/Pyrazole Fungicides/ SDHIs / Others-Cont Fungicides				
122	Thiophanate Methyl	23564-05-8	200	Is a systemic fungicide used on a variety of tree, vine, and root crops, as well as on Canola and wheat.
123	Chlorothalonil	1897-45-6		Used as a fungicide and preservative in paints, adhesives, and wood.
124	Isoprothiolane	50512-35-1		Used to control a range of diseases including Pyricularia oryzae, Helminthosporium sigmoideum and Fusarium nivale
125	Validamycin	37248-47-8		Used to control plant sheath blight caused by Rhizoctonia solani
126	Quinoxyfen	124495-18-7		Used as agricultural fungicide
127	Fluazinam	79622-59-6		Used as agricultural fungicide
128	Famoxadone	131807-57-3		Used as agricultural fungicide
129	Benalaxyl	71626-11-4		Used as an active substance in plant protection
130	Carboxin	5234-68-4		Used as a systemic fungicide
131	Iprobenfos (Kitazin)	26087-47-8		Used to control the rice blast fungus.
132	Bixafen	581809-46-3		Used in cereals for key stem and leaf disease control including Strobilurins-resistant Septoria

133	Isopyrazam	881685-58-1		Use on cereals
134	Fluopicolide	239110-15-7		Used for the control of a range of diseases including downy mildew and blight
135	Fluopyram	658066-35-4		Used to control banana leaf spot, anthracnose, and scab in tropical agricultural areas
136	Boscalid	188425-85-6		Used on food crops.
137	Fluxapyroxad	907204-31-3		Helps prevent many wilts and other fungal infections from taking hold
138	Carpropamid	104030-54-8		Use for control of rice blast caused by Magnaporthe grisea
139	Cyazofamid	120116-88-3		Used as agricultural fungicide
140	Mandipropamid	374726-62-2		Effective against spore germination, mycelial growth and sporulation
141	Penflufen	494793-67-8		Used as an in-furrow treatment on potato seed pieces and as seed treatment fungicide on alfalfa, cereal grains, vegetables, legume, and oil seeds
Herbicides Compounds				
Group-10 Als-Imidazolinone/Ureas/Als-Sulfonylurea-Cont/Als-Others/Amino Acids / Ureas/ Cyclohexandiones/Dinitro Anilinees /Acetamides /Amide/ Nitro Phenyl Ether Herbicides/Monothiocarbamic Ester/ Triazinone Herbicides / Cyclohexane Oxime				
142	Imazamox	114311-32-9	200	Used as broad-spectrum post-

				emergence herbicide for soybeans
143	Imazamethabenz	100728-84-5		Used to control grasses and other weeds in winter cereal crops
144	Imazapyr	81334-34-1		Used as non-selective, pre- and post-emergent herbicide
145	Penoxsulam	219714-96-2		Used as A Foliar Spray on Dry-Seeded Rice Crops
146	Metsulfuron Methyl	74223-64-6		Used as kills broadleaf weeds and some annual grasses
147	Mesosulfuron Methyl	208465-21-8		Used to control annual grasses, brush, woody plants and broadleaf weeds
148	Chlorimuron Ethyl	90982-32-4		Used as herbicide for the control of broad-leaved weeds in peanuts, soya beans, and other crops
149	Bispyribac Sodium	125401-92-5		For the control of wide range of weeds, Herbicide
150	Pyrazosulfuron Ethyl	93697-74-6		Used to control weed growth in commercial cereal, soybean, and vegetable fields
151	Florasulam	145701-23-1		Used as control or suppression of a wide spectrum of annual and perennial broadleaf weeds
152	Thiencarbazone Methyl	317815-83-1		Used as rights-of-ways and pipeline facilities

153	Bensulfuron Methyl	83055-99-6		Used as a herbicide for the control of a variety of both annual and perennial weeds in crops, particularly wheat and rice
154	Nicosulfuron	111991-09-4		Used for control of weeds such as Johnson grass, quack grass, foxtails
155	Sulfosulfuron	141776-32-1		Used to treat annual and perennial grassy weeds and broadleaf weeds
156	Trifloxysulfuron	199119-58-9		used as an early post-emergent spray for the treatment of broadleaved weeds and nutgrass in cotton
157	Diclosulam	145701-21-9		Used to grassy and broad leaf weeds
158	Pyroxsulam	422556-08-9		Used to for the control of wild oats and certain broadleaved weeds
159	Glyphosate	1071-83-6		Is widely used herbicide that controls broadleaf weeds and grasses
160	Glufosinate Ammonium	77182-82-2		Used as broad-spectrum post-emergence herbicide for grapes, orchards, plantations, ornamentals, and non-cropland
161	Pendimethalin	40487-42-1		Used to Control Annual Grasses and Certain Broadleaf Weeds

162	Pretilachlor	51218-49-6		Used to control the most common weeds found in paddy rice crops
163	Dicamba	1918-00-9		Used as a herbicide applied to leaves or soil to control broadleaf weeds
164	Napropamide	15299-99-7		Used to control a number of annual grasses and broad-leaved weeds
165	Dimethenamid	87674-68-8		Used to destroy unwanted vegetation, especially various types of weeds, grasses, and woody plants
166	Topramezone	210631-68-8		Used to weed control on grain com, popcorn, seed corn, and sweet corn
167	Propaxycarbazone	145026-81-9		Used to destroy unwanted vegetation, especially various types of weeds, grasses (POACEAE), and woody plants
168	Fomesafen (T)	72178-02-0		Used to control or partial control of broadleaf weeds, grasses and sedges in soybeans
169	Halosafen (T)	77227-69-1		Use as antiparasitic agent
170	Clethodim (T)	99129-21-2		Used to control of grassy weeds on a variety of broadleaved crops

171	Benoxacor	93730-04-2		Used for crops such as corn, soybean, and sorghum.
172	Phenmedipham	13684-63-4		Used for weed control in beet crops
173	Desmedipham	13684-56-5		Used to control various annual weeds
174	Bromobutide	74712-19-9		Used to control weeds
175	Butachlor	23184-66-9		Used to control weeds
176	Metachlor	51218-45-2		Used to control weeds in crops of corn, soybeans, peanuts, sorghum, potatoes, peas, cotton, safflower, stone fruits, nut trees, and ornamentals
177	Prosulfocarb	52888-80-9		Used to kill broad-leafed weeds in wheat.
Group-11 Cyclohexandiones/Nitro Phenyl Ether Herbicides/Monothiocarbamic Ester/ Triazinone Herbicides / Cyclohexane Oxime				
178	Quinclorac	84087-01-4	50	Used as various types of turf grasses to kill a variety of hard-to-control weeds
179	Benfuresate	68505-69-1		Used for post-emergence control of grass and broad-leaved weeds
180	Metamitron	41394-05-2		Widely used in Italy for weed control in sugar beets.
181	Metribuzin	21087-64-9		Used to Selectively Control Certain Broadleaf Weeds and Grassy Weed Species
182	Atrazine	1912-24-9		Used as an herbicide to control weeds in corn, asparagus,

				tomato, potato, and ornamental plantings
183	Imazethapyr	81335-77-5		For control of wide variety of broad leaf weed species
Group-12 Aryloxyphenoxypropionates/ Aryloxyphenoxypropionic/ Aniline /Pyridine/Ppo- Diphenyl Ethers / Phenyl Ether /Phenoxy Carboxylic Acid / Pyridine / Nitro Phenyl Ether-15 /Aromatic Ketone				
184	Clodinofop Propargyl	105512-06-9	200	Widely used as an herbicide for the control of annual grass weeds in cereal crops
185	Quizalofop (T) & Quizalofop Ethyl (T)	76578-12-6 & 76578-14-8		Used to control annual and perennial grass weeds in potatoes, soybeans, sugar beets, peanuts vegetables, cotton and flax, Herbicides
186	Cyhalofop & Cyhalofop Butyl (T)	122008-78-0 & 122008-85-9		Used for post emergence grass weed control in rice
187	Chlorazifop (T) & Chlorazifop Propargyl (T)	60074-25-1 & 72880-52-5		Used as the propargyl variant
188	Fenoxaprop (T) & Fenoxaprop P Ethyl (T)	95617-09-7 & 71283-80-2		An herbicide which is selective against Perennial and annual grass weeds in many crops.
189	Fluazifop (T) & Fluazifop P Butyl	69335-91-7 & 79241-46-6		Used as A Post-Emergence Herbicide for The Control Grass Weeds in Various Broad-Leaved Crops
190	Haloxyfop (T) & Haloxyfop Methyl	69806-34-4 & 72619-32-0		Use for the control of a wide range of grasses and broadleaf weeds as per Directions for Use

191	Quizalofop-P-Tefuryl	119738-06-6		Use for the control of annual grass and broad-leaved weeds in a variety of crops
192	Haloxyfop Ethoxy Ethyl (Etotyl)	87237-48-7		Use to control annual and perennial grasses in sugar beet, oilseed, potatoes, leaf vegetables, onions, sunflowers, strawberries, and other crops.
193	Oxadiargyl	39807-15-3		Very effective for control of grasses, sedges, and some broad leaf weeds in Rice.
194	Propanil	709-98-8		Used as an Herbicide to control numerous grasses and Broad-Leaved weeds in Rice, Potatoes and Wheat.
195	Isoproturon	34123-59-6		Herbicide for Control of Annual Grasses and Broad-Leaved Weeds
196	Metamifop (T)	256412-89-2		Used for preventing and treating almost broadleaf weeds, grassy weeds and nutgrass flats edge
197	Picolinafen (T)	137641-05-5		Used as an herbicide for the control of broad-leaved weeds in cereal crops
198	Sulfentrazone	122836-35-5		Herbicide to control broadleaf and grass weed species in soybeans, sugarcane,

				tobacco, and several species of turfgrass.
199	Flufenacet	142459-58-3		Use for control of many annual grasses and certain broadleaf weeds in field corn, white corn, corn grown for silage, field corn grown for seed, sweet corn, and soybeans.
200	Cloransulam-Methyl	220899-03-6		Herbicide to control broadleaf weeds in soy beans
201	Diflufenican	83164-33-4		Used for The Control of Broadleaf Weeds And A Few Annual Grasses in Winter Cereals
202	Aclonifen	74070-46-5		Herbicide to control broadleaf and grass weed species in Carrot.
203	2,4-D Amine Salt	217-915-8 & 2008-39-1		Used to Regulate the Growth of Citrus Plants
204	Acifluorfen (T)	50594-66-6		Used for control of broadleaf weeds in soybeans, peanuts, rice, ornamentals
205	Chlomethoxyfen (T)	32861-85-1		Use in Agrochemicals
206	Fluoroglycofen (T)	77501-90-7		Herbicide used in vineyards to eradicate weeds
207	Lactofen (T)	77501-63-4		Used as A Post emergence Herbicide for The Control of Broadleaf Weeds in Soybean (Glycine Max) Fields

208	Oxyfluorfen (T)	42874-03-3		Used for broad spectrum pre- and post-emergent control of annual broadleaf and grassy weeds in a variety of tree fruit, nut, vine, and field crops
209	Fluoroxypyr-Meptyl	81406-37-3		Used to destroy unwanted vegetation, especially various types of weeds, grasses (POACEAE), and woody plants
210	Picloram	1918-02—1		Used in the control of broad-leaf weeds
211	Triclopyr – Butotyl	64700-56-7		Used to control a wide variety of woody plants as a foliar spray
Group-13 Aryloxyphenoxypropionates/ Aryloxyphenoxypropionic/ Aniline /Pyridine/Ppo- Diphenyl Ethers / Phenyl Ether /Phenoxy Carboxylic Acid / Pyridine / Nitro Phenyl Ether 15/Aromatic Ketone				
212	Sulcotrione	99105-77-8	100	Herbicide Commonly used in com production as well as on Maize cultivar wax.
213	Tefuryltrione	473278-76-1		Used in paddy of killing weeds
214	Mecoprop	93-65-2		Used to Control Broad-Leaved Weeds
215	2,4-D Acid	94-75-7		Used to Kill Any Dicot Plant Tissue
216	2,4-D Ethyl Ester	533-23-3		Widely used in northern India against broad-leaf weeds in cereal crops, lawns and parks
217	2,4-D Sodium Salt	2702-72-9		Used to selective systemic herbicide for

				the control of broad-leaved weeds
218	Cloquintocet Mexyl (T)	99607-70-2		Used to prevent damage to target crops due to phytotoxic effects
219	Propaquizafop	111479-05-1		Used as Systemic Herbicide for Annual and Perennial Grasses
220	Carfentrazone	128639-02-1		Used in agricultural settings to control broadleaf and sedge weeds in various grains and crops.
Group- 14 Plant Growth Regulators & Rodenticides/HPPD Inhibitors/ OTHERS/ Triazines / PGR/Pyrazoles				
221	Chlormequate Chloride	999-81-5	200	Used as Plant Growth Retardant to Produce Plants with Sturdier, Thicker Stalks, Facilitating the Harvesting of Ornamental Flowers and Cereal Crops.
222	Ethephone	16672-87-0		Used to Promote Fruit Ripening, Abscission, Flower Induction, And Other Responses
223	Forchlorfenuron	68157-60-8		Plant Growth Regulator
224	Mepiquate Chloride	24307-26-4		Used in Agriculture to Reduce Vegetative Growth Including Sprout Suppression in Garlic, Leeks and Onions
225	Bromadiolon	28772-56-7		Used widely for control of commensal

				and field rodents in many countries
226	Paclobutrazol	76738-62-0		Plant Growth Regulator
227	Tembotrione	335104-84-2		Used as a Post-Emergence Herbicide to Control wide range of Broad Leaved and Grassy Weeds in Corn and other Crops.
228	Mesotrione	104206-82-8		Used as a Selective Herbicide specially in Maize, also used to control broadleaf weeds.
229	Pinoxaden	243973-20-8		Herbicide to control Grass weeds in Cereal crops.
230	Clomazone	81777-89-1		Herbicide to control broadleaf and annual grass in cotton, peas, pumpkins, soybeans, sweet potatoes, tobacco, winter Squash and fallow wheat fields.
231	Bentazone	25057-89-0		Used for Selective Control of Broadleaf Weeds
232	Ametryn	834-12-8		Used to destroy unwanted vegetation, especially various types of weeds, grasses (POACEAE), and woody plants
233	Halosulfuron	100784-20-1		Used continuously in sugarcane fields

234	Iodosulfuron Methyl	185119-76-0		Used to control weeds in cereals and other crops
Group- 15 **Advance Specific Pesticide Intermediates (G-1)**				
235	Meta Phenoxy Benzaldehyde (MPBAD)	39515-51-0	500	Intermediate for Fenpropathrin, Cycloprothrin, Acrinathrin, Flucythrinate
236	Meta Phenoxy Benzyl Alcohol (MPBAL)	13826-35-2		Used as Intermediate
237	Cypermethric Acid Chloride & it's all Isomers	7726-95-6		Used in the manufacture of Parathyroid class of Pesticides like Cypermethrin, Alphamethrin, Permethrin and Deltamethrin.
238	CCMP (2- Chloro 5- Chloromethyl Pyridine)	70258-18-3		Used as Intermediate
239	CCMT (2- Chloro 5- Chloromethyl Thiazol)	105827-91-6		Used as Intermediate
240	NII (2- Nitro Imino Imidazolidine)	5465-96-3		Used as Intermediate
241	MNIO (2- Methyl 5- Nitro 1,3,5 Oxidiazine)	696-23-1		Used as Intermediate
242	Transfluthrin Acid Chloride	52314-67-7		Used as Intermediate
243	Para Choro Phenyl Iso Valeric Acid Chloride	51631-50-6		Used as Intermediate
244	Propargyl Chloride	624-65-7		Used as an intermediate in organic synthesis
245	1,2,4-Triazol	288-88-0		Intermediate for Fluquinconazole, Triticonazole, Myclobutanil
246	3- Methyl 1,2,4 Triazole	06-01-7170		Used as Intermediate
247	4- Bromo 2- Chlorophenol	3964-56-5		Used as Intermediate

248	5- Chloro 2,3- Difluoro Pyridine (CDFP)	89402-43-7		Used as Intermediate
249	4-4’ Bi Pyridine	553-26-4		Formed as a pyrolysis product in tobacco smoke and also from the degradation of the herbicide Paraquat
250	2, 6 Diethyl - N-(Propoxy) Aniline	87-62-7		Used as Intermediate
251	PMIDA/ (Phosphono Methyl Imino) Diacetic Acid	5994-61-6		Used as Intermediate
252	2-Chloro-4-(4-Chlorophenoxy) Phenacyl Bromide	112110-16-4		Used as Intermediate
253	2,4 Dichloro Velerophenone	61023-66-3		Used as Intermediate
254	1-(4-Chloro Benzyl) Methyl-3,3-Methyl-2-Oxo Cyclopentane Carboxylate	80969-68-2		Used as Intermediate
255	Tebu- Ketal / 2-[2-(4-Chlorophenyl) Ethyl]-2-(1,1-DiMethyl Ethyl) Oxirane	80443-63-6		Used as Intermediate
256	Methyl-2- [2-(6-Chloro Pyrimidine-4-yl) Oxyphenyl-3-Methoxyprop-2-Enoate	131860-97-4		Used as Intermediate
257	1,1-Di Chloro Pinacolin	22591-21-5		Used as Intermediate
258	Thiocarbo Hydrazine	2231-57-4		Used to make pesticides and other agricultural chemicals
259	2- Hydroxy 4- Methyl Benzotioate (HMBT)	20174-68-9		Used as Intermediate
260	4-Nitro -O-xylene/3-Nitro O-Xylene	99-51-4		Used as Intermediate
Group- 16 **Advance Specific Pesticide Intermediates (G-2)**				
261	Lambda Cyhalothric Acid Chloride	72748-35-7	50	Used to control a wide range of pests
262	4-HPPA- 4- (Hydroxy phenoxy) Propionic Acid	67648-61-7		Pesticide Intermediate
263	PEG Ester	1603-79-8		Used as Intermediate

264	Triazinone - 4- Amino 3-Mecapto- 6-t-Butyl -1,2,4-triazine-5-one (AMBT)	33509-43-2		Used as Intermediate
265	DETCL	01-04-2524		Used in the preparation of various organo phosphorus insecticide
Specialty Chemicals				
Group- 17 **Amino Diphenyl Ether / Phenoxy Compounds/ Specialty Phenols/ Specialty Chloro Phenol/ Amino Benzoic Esters / Aliphatic Esters/ Amino Compounds / Hydrogenation Compounds**				
266	2-Amino Di Phenyl Ether (Ortho Amino Di Phenyl Ether	2688-84-8	300	--
267	4-Amino 4'- Methyl Di Phenyl Ether	41295-20-9		--
268	2- Amino 2', 4, 4'- Tri Chloro Di Phenyl Ether (Benzinamide, 5-Chloro-2-2 (2,4-Dichloro Phenoxy)	56966-52-0		--
269	2- Amino -4'- Chloro -4 - Trifluoromethyl Di Phenyl Ether	349-20-2		--
270	2-Chloro-4-(4-Chlorophenoxy) Acetophenone/4-Acetyl-3,4'-Dichloro Diphenyl Ether	119851-28-4		--
271	2-Acetyl-2',4,4'-Trichloro Diphenyl Ether	211125-94-9		--
272	5 Chloro-6-(2,3 Dichloro Phenoxy)-2-Methyl Thio -1H Benzimidazole/Triclabendazole	68786-66-3		Pharma Intermediate, veterinary drug intermediate
273	2, 4-Dichloro Phenol	576-24-9		Pharma Intermediate
274	2, 5-Dichloro Phenol	583-78-8		Chemical Intermediate
275	3-Mehtyl Phenol (m-Cresol)	108-39-4		Pharma Intermediate
276	3-Nitro Phenol	554-84-7		Chemical Intermediate; Chemical Indicator for Slightly Basic Soln; Chem Intermediate for Other Org Cmpd
277	4-Bromo 2, 5 Dichloro Phenol	1940-42-7		--

278	4-Fluoro Phenol	371-41-5		Pharma Intermediate
279	O-Cyano Phenol	611-20-1		Intermediate for Pesticide and synthetic Organic Chemicals
280	Ortho Nitro Phenol	88-75-5		Drug & Dyes intermediate
281	Para Fluoro Anisole	459-60-9		Drug intermediate
282	2- Chloro 4-Fluoro Phenol	1996-41-4		--
283	3-Amino 4-Methyl Benzoic Acid Isopropyl Ester (AMBI)	21447-47-2		--
284	3-Amino 4-Methyl Benzoic Acid (2' - Chloro Ethyl Ester) (AMBC)	2458-12-0		--
285	3-Amino Benzotrifluoride	98-16-8		Pharma Intermediate, veterinary drug intermediate
286	2, 5-Dichloro Aniline	95-82-9		Dyes Intermediate
287	Ortho Phenylene Diamine/ Meta Phenylene Diamine/ Para Phenylene Diamine	95-54-5/108-45-2/106-50-3		Intermediate, Used as a chemical intermediate, analytical reagent, and photographic developer
288	Benzaldehyde	100-52-7		Used as a flavouring agent in food and perfume additive
Group-18 Research & Development Based Products				
289	Research & Development Based Products		100	
	TOTAL		**3200**	

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

6. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River Narmada is flowing at a distance of 12.96 km in SSE direction from the project site. There is no forest land involved in the proposed project. Schedule-I species i.e., *Herpestes edwardsii* - Grey Mongoose, *Ptyas mucosus*- Rat snake, *Falis chaus*- Jungle Cat, *Pavo cristatus*-Indian Peafowl, were observed in

the 10 km radius from the proposed project for which conservation plan has been prepared and submitted to Deputy Conservator of Forests dated 5.1.2023

7. The PP reported that **Ambient air quality monitoring** was carried out at 08 locations during 01st March 2022 to 31st May 2022 and the baseline data indicate the ranges of concentrations as: PM_{10} (55.4 – 73.4 µg/m^3), $PM_{2.5}$ (27.1 – 38.8 µg/m^3), SO_2 (6.0 – 12.1 µg/m^3) and NO_X (10.0 – 21.3 µg/m^3). During the monitoring CO, NH_3, H_2S, HCl, Cl_2, Br_2 & HBr were found in the below the detection limit and the same is well within the limit as per NAAQS. AAQ modeling study for point source emissions indicate that the maximum incremental GLCs after the proposed project would be 3.137 µg/m^3, 0.614 µg/m^3, 0.123 µg/m^3 with respect to PM_{10}, SO_X, NO_X. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

8. The PP reported that the total water requirement is 1476.00 KLD of which fresh water requirement of 1033 KLD will be met from GIDC water supply department, Saykha. From the proposed plant, total 650 KLD of industrial wastewater will be generated. Out of which 35 KLD Cooling Tower blowdown & 20 KLD Boiler blowdown will be treated RO Plant. RO permeate (45 KLD) will be used in Cooling tower. Remaining, 585 KLD wastewater from process & product washing (515 KLD), scrubber (35 KLD), floor/vessel washing (25 KLD) and RO reject (10 KLD) will be treated in primary & Fenton treatment, 575 KLD of effluent will be taken to MEE & ATFD. About 125 KLD of steam will be used for MEE & ATFD. Thus, total 627 KLD of condensate will be generated, which will be treated in secondary & tertiary ETP and discharge into CETP Saykha for further treatment and disposal. Domestic sewage (18.0 KLD) will be treated in STP and STP treated will be utilized for plantation.

9. The Power requirement will be 4000 kVA and will be met from Dakshin Gujarat Vij Co. Ltd. (DGVCL). Unit has proposed 02 D.G sets which will have capacity of 1000 kVA each and it will be kept as standby and used during power failure or during emergency. Stack (height 11.00 m) is proposed as per CPCB norms for the D. G. Set. For the proposed plant, 1 no. of 20 TPH capacity of coal/briquettes fired steam boiler, 1 no. of 15 lakhs kcal/hr. capacity of coal/briquettes fired thermic fluid heater will be installed. Adequate capacity of ESP followed by wet scrubber with 55 meters height of chimney will be provided to coal/briquettes fired steam boiler and adequate capacity of Multi Cyclone Separator followed by bag filter and wet scrubber with 33 meters height of chimney will be provided to coal/briquettes fired thermic fluid heater for controlling the particulate emissions within the statutory limit of 115 mg/Nm^3

10. **Details of fuel**: The agro briquettes consumption for 20 TPH steam boiler will be 85 TPD and for 15 Lakhs kCal/Hr. Thermic Fluid Heater will be 28 TPD. In case of unavailability of agro briquettes, coal consumption for 20 TPH steam boiler will be 65.5 TPD and for 15 Lakhs kCal/Hr. Thermic Fluid Heater will be 22 TPD. For D.G Sets, HSD of 400 Kg/hr. will be used.

11. **Details of Process Emissions Generation and its Management:** From the proposed manufacturing process HCl, Cl_2, SO_2, H_2S, Br_2, HBr and Ammonia gas will be generated. For the scrubbing of HCl, Cl_2, HBr & Br_2 two stage water followed by alkali scrubber will be provided. To scrub Ammonia gas, two stage water followed by acid scrubber will be installed. To scrub H_2S and SO_2 gas two stage alkali scrubber will be installed. Acid mist from acid storage tanks will be scrubbed in two stage alkali scrubber. 11 meters height will be provided to each process stack.

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

S. No.	Type of hazardous waste	Schedule & Category	Quantity, TPA	Source of generation Proposed	Disposal
1.	Discarded Containers / Bags / Liners	Sch-I/33.1	200	Storage & handling of Raw Materials	Collection, Storage, Transportation, Decontamination & Disposal by selling to registered recycler.
2.	Used / Spent Oil	Sch-I/ 5.1	0.5	Equipment & Machineries	Collection, Storage, Transportation, Decontamination & Disposal by selling to registered recycler.
3.	ETP Sludge	Sch-I/35.3	3,240.0	In-house ETP	Collection, Storage, Transportation and disposal at common nearest TSDF site
4.	MEE Salt	Sch-I/ 28.1	25,200.0	Process	Collection, Storage, Transportation and disposal at common nearest TSDF site
5.	Recovered Solvent	Sch-I/ 28.6	1059967.8	Process	Collection, Storage, Management & Recovery within the premises and reuse in plant premises.
6.	30% Hydrochloric Acid Solution	Sch-I/ 28.1	62,435.4	Process (Metofluthrin, Nitenpyram,	Collection, Storage, Transportation & Disposal by selling to

				Imazalil Pymetrozine, Prothioconazole, Tiadinil, Dimoxystrobin, Benalaxyl, Imazapyr, Desmedipham, Picloram, Mecoprop, Iodosulfuron-Methyl, Cypermethric Acid Chloride, Triazinone, Benzaldehyde, Cycloprothrin, Flumethrin, Acrinathrin, Tefluthrin, Ethiprole, Dinotefuran, Nitenpyram, Azaconazole, Bromuconazole, Etazonazole, Penconazole,)	authorized end user registered under Rule-9.
7.	Sodium Bromide Salt	Sch-I/ 28.1	4,344	Process (Etofenprox, Etoxazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
8.	20% Sodium Sulphite Soln	Sch-II-Class B(15)	1,56,708	Process (Fenpropathrin, Flonicamid, Tebufenpyrad, Metrafenone,	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users

				Tiadinil, Bixafen, Imazamox, Diflufenican, Carfentrazone, Cypermethric Acid Chloride, Lambda Acid Chloride, O-Cyano Phenol)	having Rule 9 Permission.
9.	Sodium Chloride Salt	Sch-I/ 28.1	9,705	Process (Flucythrinate, Nitenpyram, Pymetrozine, Pyrithiobac Sodium, Etoxazole, Kresoxim Methyl, Trifloxystrobin, Isoprothiolane, Imazapyr, Fenoxaprop P Ethyl, Methyl-2- [2-(6-Chloro Pyrimidine-4-yl) Oxyphenyl-3-Methoxyprop-2-Enoate, DETCI, 4-Amino-4'- Methyl Diphenyl Ether)	Collection, Storage, Transportation and disposal at common nearest TSDF site.
10.	Liq. Ammonia	Sch-II-Class B(15)	23,142.0	Process (Etofenprox ,1,2,4 Triazole)	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
11.	Distillation Residue/tarry waste/organic Residue	Sch-I/ 36.1	18,055.2	Process (Etofenprox, Cyantraniliprole, Pyrithiobac Sodium, Tebuconazole,	Collection, Storage, Transportation and sent for co-processing in cement industries or

				Tiadinil, Fenhexamide, Ametryn, Mandipropamid, Metribuzine, Tefuryltrione, 4-Nitro O-Xylene/3-Nitro O-Xylene, Triazinone,3-Methyl Phenol (Meta- Cresol))	common incineration facility.
12.	Mix Salt/Inorganic Salt	Sch-I/28.1	15,710.4	Process (Thiocloprid, Glufosinate Ammonium, Picloram, Cloquintocet Mexyl, Pinoxaden, Chloro Difluoro Pyridine)	Collection, Storage, Transportation and disposal at common nearest TSDF site
13.	Sodium Bromide Solution	Sch-II-Class B(15)	35,618.4	Process (CyantraniliproleEthion, Chlomethoxyfen, Paclobutrazol, P-Chloro Isoveralic Chloride, 4-Fluoro Anisole)	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
14.	Recovered Catalyst	Sch-I/ 28.6	1,150.8	Process (Deltamethrin, Indoxacarb,Pymetrozine, Cyproconazole, Metominostrobin, Fenhexamid, Glyphosate, Sulfentrazone, Carfentrazone, m-	Collection, Storage, Transportation and sent for co-processing in cement industries or common incineration facility.

				Phenoxy Benzyl Alcohol, 4-Fluoro Anisole)	
15.	Ammonium Chloride Soln	Sch-I/28.1	5,507.4	Process (Flonicamid, Pymetrozine, Kresoxim Methyl, Dimoxystrobin, Fomesafen, Metamitron, 3-Methyl 1,2,4 Triazole)	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
16.	Ammonium Chloride Solid	Sch-I/28.1	276.0	Process (PEG / PMG Ester)	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
17.	Sodium Sulfate Soln	Sch-I/28.1	33,145.8	Process (Flonicamid, Triclopyricarb, Trifloxystrobin, Napropamide, Metribuzine, 2–Nitro Imino Imidazolidine (NII), Triclabendazole)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
18.	N, N-Bis (Dichloromethyl) Methyl Amine	Sch-I/28.1	309.0	Process (Clothianidin)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
19.	Methyl Acetate	Sch-I/28.1	207.0	Process (Pymetrozine)	Collection, Storage, Transportation &

					Disposal by selling to authorized end user registered under Rule-9.
20.	Sodium Hydrosulfide Solution (20%)	Sch-I/28.1	1,867.2	Process (Malathion, Triazinone)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
21.	Ammonium Acetate	Sch-I/28.1	211.2	Process (Acephate)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
22.	30% Hydrobromic Acid Solution	Sch-II-Class B(15)	21.031.2	Process (Phenthoate, Triadimefol, Napropamide, Haloxyfop, 4-Bromo 2- Chloro Phenol,4-Bromo-2,5-Dichloro Phenol)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
23.	Sodium Ethoxide	Sch-I/28.1	532.8	Process (Pyrithiobac Sodium)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
24.	Ethyl Alcohol	Sch-I/28.3	324.0	Process (Spiromesifen)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end

					users having Rule 9 Permission.
25.	Sodium Methyl Sulfate	Sch-I/28.1	1,334.4	Process (Tebufenpyrad)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
26.	Spent Sulphuric Acid	Sch-I/28.1	65,398.2	Process (Lufenuron,Captan, Quinclorac, Carfentrazone, Cypermethric Acid Chloride, 3-Methyl Phenol (Meta-Cresol))	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
27.	20 % Aluminium Chloride Soln	Sch-I/28.1	90,480	Process (Hexaconazole, Clethodim, m-Phenoxy Benzaldehyde, 2-Chloro-4-(4-Chlorophenoxy) Acetophenone)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
28.	Potassium Bromide Soln. (27%)	Sch-II-Class B(15)	3,774.0	Process (Hexaconazole, Triclopyricarb, 2, -Chloro-4-(4-Chlorophenoxy) Phenacyl Bromide)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
29.	Pottasium Methyl Mercaptide	Sch-I/28.1	720.0	Process (Cyproconazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

30.	Potassium Chloride salt	Sch-I/ 28.1	4,140.0	Process (Epoxiconazole, Picoxystrobin, Fluoxastrobin, Cyazofamid, Toprammezone, Methyl-2- [2-(6-Chloro Pyrimidine-4-yl) Oxyphenyl-3-Methoxyprop-2-Enoate)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
31.	Potassium Bisulphate	Sch-I/ 28.1	571.2	Process (Epoxiconazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
32.	Methane Soln.	Sch-I/ 28.2	624.0	Process (Tetraconazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
33.	Magnesium Bromide	Sch-I/ 28.3	715.2	Process (Bromuconazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
34.	Potassium BI Carbonate	Sch-I/ 28.4	1,368.0	Process (Bromuconazole, Cyazofamid**)**	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

35.	Methane Sulfonic Acid Sodium Salt	Sch-I/ 28.5	2,517.6	Process (Penconazole, Mandipropamid)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
36.	Sodium Carbonate	Sch-I/ 28.6	3,150.0	Process (Picoxystrobin, Methyl-2- [2-(6-Chloro Pyrimidine-4-yl) Oxyphenyl-3-Methoxyprop-2-Enoate)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
37.	Sodium Bi Sulphate	Sch-I/ 28.7	2,425.2	Process (Kresoxim Methyl, Dimoxystrobin, Halosafen, Fenoxaprop P Ethyl)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
38.	Succinamide	Sch-I/ 28.8	504.0	Process (Triclopyricarb)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
39.	Methyl Bisulfate	Sch-I/ 28.9	180.0	Process (Trifloxystrobin)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
40.	Acetic Acid	Sch-I/ 28.1	458.4	Process (Fluopyram)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

41.	Potassium Phenolate	Sch-I/ 28.1	648.0	Process (Sulfosulfuron)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
42.	Ammonium Sulphate	Sch-I/ 28.1	4,776.0	Process (Prosulfocarb, 2-Hydroxy-4-Methyl Benzotioate (HMBT))	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
43.	Sodium Fluoride	Sch-I/28.1	314.4	Process (Cyhalofop-Butyl)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
44.	Sodium Hydroxide Solution	Sch-I/ 28.1	12,721.2	Process (Sulfentrazone, Carfentrazone, 3-Methyl 1,2,4 Triazole)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
45.	Methylene Chloride	Sch-I/ 28.1	4,646.4	Process (Sulcotrione)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
46.	Sodium salt of Formic Acid	Sch-I/ 28.1	1,089.6	Process (Mepiquate Chloride)	Collection, Storage, Transportation & Disposal by selling to authorized end user

					registered under Rule-9.
47.	Phosphoric Acid (35%)	Sch-I/28.1	15,660.0	Process (CCMP)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
48.	8 – 10 % Sodium Hypochlorite Solution	Sch-II-Class B(15)	1,044.0	Process (1,1-Dichloro Pinacolin, 2-Chloro-4-Fluorophenol)	Collection, Storage & reuse in manufacturing Plant & excess quantity will be sold to end users having Rule 9 Permission.
49.	Spent Nitric Acid	Sch-I/28.1	9,720.0	Process (4-Nitro O-Xylene/3-Nitro O-Xylene)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
50.	30% Sodium Bi Sulfide Solution	Sch-I/28.1	2,340.0	Process (Triclabendazole)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
51.	Iron Hydroxide	Sch-I/28.1	6,264.0	Process (2,5-Dichloro Aniline)	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
52.	Sodium Benzoate (10% Soln)	Sch-I/28.1	1,800.0	Process (Benzaldehyde)	Collection, Storage, Transportation & Disposal by selling to authorized end user

					registered under Rule-9.
53.	Off specification products	Sch-I/ 36.1	250.0	Storage & handling of Products	Collection, Storage, Transportation and sent for co-processing in cement industries or nearest incineration site.
54.	Date expired products	Sch-I/ 36.1	250.0	Storage & handling of Raw Materials and Products	Collection, Storage, Transportation and sent for co-processing in cement industries or nearest incineration site.
NON HAZARDOUS WASTE					
55.	STP sludge	-	10	STP	Collection, storage and use as manure within the premises.
56.	Fly ash (coal consumption/ agro briquettes consumption)	-	2,205/ 1,306	Boiler house	Collection, storage, transportation and sell to brick manufacturer.

Quantity and management of fly ash generation during coal consumption

S. No.	Type of hazardous waste	Schedule & Category	Quantity, TPA	Source of generation Proposed	Disposal
1.	Fly ash	-	2205	Boiler house	Collection, storage, transportation and sell to brick manufacturer.

Quantity and management of fly ash generation during agro briquettes consumption

S. No.	Type of hazardous waste	Schedule & Category	Quantity, TPA	Source of generation Proposed	Disposal
1.	Fly ash	-	1306	Boiler house	Collection, storage, transportation and sell to brick manufacturer.

Municipal Solid Waste Management Plan

Sr. No.	Zone	Waste generation rate (kg/cap/day)	Total persons	Waste generated (kg/day)
1.	Industrial	0.25	200	50.00

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 2199.00 Lakhs (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 439.75 Lakhs per annum. Industry proposes to allocate Rs. 375.00 Lakhs towards CER.

14. Industry will develop greenbelt over an area of 34.94 % i.e., 20,000.00 m^2 area out of total area of the project.

15. The PP reported that the Public Hearing is exempted as per the Para 7.III. Stage (3) (i) (b) of the EIA Notification, 2006 as the project site is located within Saykha Industrial Estate of PCPIR, which was granted EC by the Minstry vide letter dated 14.9.2017.

16. The PP proposed to set up an Environment Management Cell (EMC) by engaging EHS manager- Deputy Manager- Technical manager- Engineer-Supervisior- Assistant for the functioning of EMC.

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

18. The estimated project cost is Rs. 250.00 Crores Total Employment will be 150 persons as direct & 50 persons indirect persons

19. The proposal was earlier considered in the 60th EAC meeting held on 10th August, 2023, wherein the EAC deferred the proposal for want of requisite information. Reply to the same was submitted by the PP, which is as follows:

<table>
<tr><th>S. No.</th><th>Queries Raised by EAC</th><th>Reply by PP</th></tr>
<tr><td>i.</td><td>The PP apprised that the Carbon footprint & sequestration study and LCA (cradle to grave) are under preparation. The EAC noted that these are mandatory studies required for the consideration of the proposal. Hence, the same needs to be submitted. Further, the PP may explore the use of agro briquettes as a primary fuel and coal as a secondary fuel during the unavailability of agro briquettes. The phasing out of coal may also be explored. In view of above, the EAC deferred the proposal.</td><td>Carbon footprint & sequestration study and LCA (cradle to grave)

<table>
<tr><td>Scope</td><td>Gross Emissions (t CO_2 eq./year)</td></tr>
<tr><td>1</td><td>74584.84</td></tr>
<tr><td>2</td><td>22705.92</td></tr>
<tr><td>3</td><td>57203.226</td></tr>
<tr><td>Total emissions (t CO_2 eq./year)</td><td>154493.98</td></tr>
</table>

Case B Considering Briquettes
<table>
<tr><td>Scope</td><td>Gross Emissions (t CO_2 eq./year)</td></tr>
<tr><td>1</td><td>2371.212</td></tr>
<tr><td>2</td><td>22705.92</td></tr>
<tr><td>3</td><td>57203.226</td></tr>
<tr><td>Total emissions (t CO_2 eq./year)</td><td>82280.358</td></tr>
</table>

Mitigation measures
<table>
<tr><td>Category</td><td>Quantity</td><td>Emissions(t CO_2 eq./year)</td></tr>
<tr><td>Tree plantation</td><td>6000 numbers</td><td>7590.5 t CO_2 eq. /year</td></tr>
<tr><td colspan="2">Total Avoided Emissions (t CO_2 eq./year)</td><td>7590.5 t CO_2 eq. /year</td></tr>
</table>

Conclusion Case –A
<table>
<tr><td>Total Gross emissions</td><td>154493.98 t CO_2 eq./year</td></tr>
</table>
</td></tr>
</table>

Total emissions reduction	7590.5 t CO_2 eq. /year
Net emissions (gross emissions – emission reduction)	146903.48 t CO_2 eq. /year
The emission reduction percentage	**4.91%**

Conclusion Case –B

Total Gross emissions	**82280.358 t CO_2 eq./year**
Total emissions reduction	7590.5 t CO_2 eq. /year
Net emissions (gross emissions – emission reduction)	74689.858 t CO_2 eq. /year
The emission reduction percentage	**9.22 %**

- Ecoinvent v 3.8 database and ReCiPe 2016 Midpoint (E) V1.06 / World (2010) E method has been used for the study.
- The global warming impact calculated using midpoint method for base case is 3975028700 Kg CO2 eq. (3975028.700 t CO2 eq.) and for proposed case is 3354490720 Kg CO2 eq. (3354490.720 t CO2 eq.).

Base case	3975028.700 t CO2 eq.
Proposed case	3354490.720 t CO2 eq.
Emission reduction achieved in global warming (in %)	**15.61 %**

		Overall emission reduction achieved (in %)	**12.04 %**
		Undertaking state that, unit will use agro briquettes as a primary fuel and coal as a secondary fuel during the unavailability of agro briquettes is submitted.	

20. **Deliberations by the EAC:**

During deliberations, EAC discussed the following issues:

- PP submitted the details of quantity and management of fly ash generation during agro briquettes and coal consumptionis as:

S. No.	Type of hazardous waste	Schedule & Category	Quantity, TPA	Source of generation Proposed	Disposal
1.	Fly ash	-	2205	Boiler house	Collection, storage, transportation and sell to brick manufacturer.

Quantity and management of fly ash generation during agro briquettes consumption

S. No.	Type of hazardous waste	Schedule & Category	Quantity, TPA	Source of generation Proposed	Disposal
1.	Fly ash	-	1306	Boiler house	Collection, storage, transportation and sell to brick manufacturer.

- **PP submitted the breakup of EMP :**

S. No.	Name of the unit	Install capacity	Capital Cost Rs. Lakhs	Operating cost Rs. Lakhs/Month	Maintenance Cost Rs. Lakhs/Month	Total Recurring Cost Rs. Lakhs/Month
1.0	**Water Environment**					
	Primary & secondary ETP for normal effluent stream	627 kL	400.0	20.0	1.0	21
	MEE/ATFD	575 kL	4.0	345	4.5	349.5
	RO plant	55 kL	75.0	5.0	0.25	5.25
	CETP membership & disposal charges	-	485.0	7.5	0	7.5
	STP	20 kL	20.0	1.0	0.25	1.25
	Laboratory & Monitoring	-	20.0	0.25	0	0.25
	Total Water environment control	-	**1004.0**	**378.75**	**6.00**	**384.75**
2.0	**Air Environment**					
	Scrubber for Process	-	150.0	10.0	2.0	12
	Bag filter, ESP & Scrubber for boiler & TFH	-	200.0	5.0	1.0	6
	VOC & LDAR monitoring for solvent	-	100.0	5.0	1.0	6
	Air monitoring	-	0	4.9	0	4.9
	Total air environment		**450.0**	**24.90**	**4.0**	**28.9**

S. No.	Name of the unit	Install capacity	Capital Cost Rs. Lakhs	Operating cost Rs. Lakhs/Month	Maintenance Cost Rs. Lakhs/Month	Total Recurring Cost Rs. Lakhs/Month
3.0	**Noise Environment**					
	Provision of acoustic enclosures at D.G. Set, Anti vibrating pads will be provided. Regular maintenance will be carried out	-	10.00	0	0.50	0.50
	Noise monitoring		-	0.10	0	0.10
	Total		**10.00**	**0.10**	**0.50**	**0.60**
4.0	**Hazardous Waste**					
	Membership fees & disposal charges	-	10.0	15.0	0	15.0
	Storage facility	-	25.0	0	0	0
	Total		**35.0**	**15.0**	**0**	**15.0**
5.0	**Occupational Health and Safety**					
	OHC	50 m^2	10.0	2.0	0	2.0
	Medical kits & antidotes	-	5.0	0	0	0
	Medical check up	-	0	0.50	0	0.50
	Safety training, safety equipments like PPE's & Fire		50.0	0	0	0

S. No.	Name of the unit	Install capacity	Capital Cost Rs. Lakhs	Operating cost Rs. Lakhs/Month	Maintenance Cost Rs. Lakhs/Month	Total Recurring Cost Rs. Lakhs/Month
	equipment like fire extinguishers, fire proximity suits					
	Fire hydrant system		100.0	0	5.0	5.0
	DCS/PLC system		150	0	2.0	2.0
	Total		**315.0**	**2.5**	**7.0**	**9.5**
6.0	**Green belt Development**					
	Gardener	-	0	0.5	0	0.5
	Plants, fencing, rain water harvesting	-	5.0	0	0.5	0.5
	Total		**10.00**	**0.5**	**0.5**	**1.0**
7.0	**CER Activity**	1.5% of additional capital investment	375.0	0	0	0
	Grand Total		**2199.00**	**421.75**	**18.0**	**439.75**

- PP submitted the Municipal Solid Waste Management Plan:

Sr. No.	Zone	Waste generation rate (kg/cap/day)	Total persons	Waste generated (kg/day)
1.	Industrial	0.25	200	50.00

60% waste i.e. 30 kg/day will be wet waste and 40% waste i.e. 20 kg/day will be dry waste. Organic waste converter machine will be installed for the treatment and same will be used as manure within plant premises.

The committee was satisfied with the response provided by PP on above information. Further, Committee desired to submit the above information in writing. Accordingly, PP has submitted the desired information and EAC found the information/commitments satisfactory.

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

The EAC noted that the PP has given an undertaking to the effect that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the PP.

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

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

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The expert members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of

Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

20. The EAC, after detailed deliberations, <u>recommended</u> the expansion project for the grant of environmental clearance, <u>subject to the compliance of the terms and conditions</u> as under, and general terms and conditions in Annexure-I:

(i) 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.

(ii) ESP followed by wet scrubber along with stack of 55 m height shall be provided to coal/ Briquette fired boiler to control the particulate emission. Multicyclone separator followed by bag filter and wet scrubber alongwith stack height of 33 m shall be provided to coal/briquette fired Thermic Fluid heater to achieve emission standards as per CPCB norms.

(iii) Alkali scrubber system shall be provided to control process emissions viz. HCl, Cl_2, SO2, HBr & Br_2 etc. To scrub Ammonia gas, two stage water followed by acid scrubber shall be installed. Acid mist from acid storage tanks shall be scrubbed in two stage alkali scrubber. 11 meters height shall be provided to each process stack.

(iv) The continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server.

(v) Total fresh water requirement from GIDC water supply shall not exceed 1033 KLD.

(vi) NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing water from GIDC water supply. State Pollution Control Board 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.

(vii) Industrial effluent generation shall not exceed 650 KLD. Out of which 35 KLD Cooling Tower blowdown & 20 KLD Boiler blowdown shall be treated RO Plant. RO permeate (45 KLD) shall be used in Cooling tower. Remaining, 585 KLD wastewater from process & product washing (515 KLD), scrubber (35 KLD), floor/vessel washing (25 KLD) and RO reject (10 KLD) shall be treated in primary & Fenton treatment, 575 KLD of effluent shall be taken to MEE & ATFD. About 125 KLD of steam shall be used for MEE & ATFD. Thus, total 627 KLD of condensate

shall be generated, which shall be treated in secondary & tertiary ETP and discharge into CETP Saykha for further treatment and disposal. Domestic sewage (18.0 KLD) shall be treated in STP and treated water shall be utilized forhorticulture purpose .

(i) 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.

(ii) The green belt of at least 10 m-15m width shall be developed in nearly 20,000.00 m^2, mainly along the plant periphery. 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. Saplings 6 feet high shall be planted. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department and native species shall be developed. Greenbelt development shall be completed before commissioning of the plant. 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.

(viii) 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 EHS manager- Deputy Manager- Technical manager-Engineer-Supervisior- Assistant. 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.

(ix) 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 [₹ 2199.00 Lakhs (Capital cost) and ₹ 439.75 Lakhs 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.

(x) No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.

(xi) 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.

(xii) All the hazardous waste shall be managed and disposed as per the HWM Rules 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or 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 waste shall be converted into compost and used as manure for greenbelt development. Fly ash shall be collected in the silo and handover to brick manufacturer and cement plant.

(xiii) 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.

(xiv) 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.

(xv) 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.

(xvi) 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.

(xvii) 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.

(xviii) 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.

(xix) 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.

(xx) 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.

(xxi) The project proponent shall comply with the environment norms for 'synthetic organic chemicals' as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21st July, 2010 and Pesticide Industry vide GSR 446 (E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.

(xxii) 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.

(xxiii) 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. Biomass/coal 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. Industrial vacuum cleaner shall be provided to sweep the internal roads. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.

(xxiv) PP shall comply with the action plan presented before EAC for mitigation measures as per Ministry's Office Memorandum 31st October, 2019 regarding projects located in Critically Polluted Area.

(xxv) PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

Agenda No. 72.5

Proposed manufacturing unit of Synthetic Organic Chemical (Pharmaceuticals API & Bulk Drugs) with production capacity of 501 MT/Month, located at Survey No. 779, Village: Indrad, Taluka: Kadi, District: Mehsana, Gujarat by M/s. Patel Chem Specialities Pvt. Ltd. (Unit-Indrad) – Consideration of ToR

[Proposal No IA/GJ/IND3/444208/2023, F.NO IA-J-11011/350/2023-IA-II(I)]

1. The proposal is for the ToR for preparation of EIA/EMP for the Proposed manufacturing unit of Synthetic Organic Chemical (Pharmaceuticals API & Bulk Drugs) with production capacity of 501 MT/Month, located at Survey No. 779, Village: Indrad, Taluka: Kadi, District: Mehsana, Gujarat by M/s. Patel Chem Specialities Pvt. Ltd.

2. The project/activity is covered under Category 'A' of Item 5(f), Synthetic organic chemicals industry of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) as the project is located outside the Notified Industrial Area.

3. The PP applied for the ToR vide proposal No. **IA/GJ/IND3/444208/2023** dated 27.10.2023. The proposal was earlier considered in the 69th EAC meeting held on 17th November in which PP did not attend the meeting now the proposal is now placed in this 72nd EAC Meeting held on 29th December, 2024 wherein the PP made an accredited Consultant, M/s. Bhagwati Enviro Care Pvt. Ltd. [Accreditation number – NABET/EIA/2326/IA 0116 Valid Up to: 18/01/2026] a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported the product details as follows:

Sr. no.	Name of the Products	CAS no.	Quantity (MT/Month)	End-use of the products
1	Sodium starch glycolate	9063-38-1	500	Pharmaceuticals APIs & Bulk Drugs
2	Croscarmellose sodium	74811-65-7		

3	Calcium carboxymethyl cellulose	9050-04-8		
4	Sodium carboxymethyl cellulose	9004-32-4		
5	Calcium citrate	5785-44-4		
6	Sodium citrate	68-04-2		
7	Magnesium Stearate	557-04-0		
8	Microcrystalline cellulose	9004-34-6	1	
TOTAL			**501**	

5. The PP reported that the Proposed land area is 9409 m^2

6. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and CRZ notification, 2011 as amended. There are **no** national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Sabarmati River is flowing at a distance of 31.08 km in SE direction.

7. The PP reported that the total water requirement is 72.1 m3/day of which fresh water requirement will be 60.5 m3/day met through Water Tanker/CGWA. Total Effluent is 51.5 KLPD from that, domestic effluent 3.0 KLD will be treated in STP and reuse for gardening purpose within premises. Industrial effluent 49 KLD from that in Stream 1 low concentrated effluent 13.2 KLD will be treated in ETP-1 followed by RO. RO Permeate 9.5 KLD will be reused in industrial activity within premises & RO Rejected 3.7 KLD will be sent to Common spray drying facility at Chhatral Environment Management System Pvt. Ltd. for spray drying with GPS enable vehicle and XGN generated manifest and in Steam 2, high concentrated effluent 35.8 KLD will be treated in ETP-2 then treated effluent will be sent to Common spray drying facility at Chhatral Environment Management System Pvt. Ltd. for spray drying with GPS enable vehicle and XGN generated manifest.

8. The PP reported that the Power requirement will be 1000 KVA and will be met from Uttar Gujarat Vij Co. Limited (UGVCL). One D.G. Set (250 KVA) will be used as standby during power failure. Stack 11 m will provided as per CPCB norms to the proposed DG sets.Coal fired Boiler of capacity 6 TPH will be installed with ESP & Wet Scrubber as an APC system & stack height will be 30 m.

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Steam Boiler (6 TPH)	30	Bio Coal	10	SPM SO_2 NO_x	ESP & Wet Scrubber
2	D.G. Set (250 KVA)	11	Diesel	20 L/Hr	SO_2	Adequate Stack Height

9. Industry will develop greenbelt in an area of 33% i.e. 3105 Sq. m. out of total area of the project.

10. The estimated project cost is Rs 19.75 Crore. Total employment will be 35 persons as direct & 25 persons indirect for proposed project.

11. **Deliberations by the EAC:**

The Committee deliberated on the Greenbelt development plan, fuel, utilization of STP treated water.

12. The Committee, after detailed deliberations, **recommended** for issuing **Standard ToR [Annexure-II] with Public Hearing** as the project site is located outside the notified industrial area and the following **additional ToR**, as per the provisions of the EIA Notification, 2006 (as amended) and SOP dated 07.07.2021:

(i) Submit Public Hearing Report containing details such as (i) Details of advertisements (ii) Copy of forwarding letter of SPCB to MoEF&CC (III) Legible copy of public hearing proceedings duly signed by the presiding officer. (iv) Attendance sheets (v) Action plan to address the issues raised during public hearing along with budget allocation and time line. (vi) Copy of written grievances/submissions if any alongwith action plan to address the written grievenaces.

(ii) School/colleges are very near to project site. Action plan to address pollution issues due to project.

(iii) Details of process emissions along with proposed mitigation measures.

(iv) Action plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources.

(v) Detailed description of micro flora and fauna (terrestrial and aquatic) existing in the study area with special reference to rare, endemic and endangered species.

(vi) Greenbelt shall be developed over an area of 33% . Number of trees have to be planted with spacing of 2m x 2m and number of trees have to be calculated accordingly.

(vii) Agrobriquettes (biomass) shall be used as a primary fuel.

(viii) Detail of court cases and their present status, if any.

Agenda No. 72.6

Amendment in the environment clearance granted by the ministry vide letter no. J-11011/153/2019-IA-II (I) dated 20th May 2020 for the project M/s. Willowood Industries Private Limited located at Plot No.: D/3/5/3, GIDC Dahej, Phase III, Tal. Vagra, Dist- Bharuch (Gujarat)- Amendment in EC

[Proposal No IA/GJ/IND3/450953/2023, F.NO IA-J-11011/153/2023-IA-II(I)]

1. The proposal is for amendment in the environment clearance granted by the ministry vide letter no. J-11011/153/2019-IA-II (I) dated 20th May 2020 for the project M/s. Willowood Industries Private Limited located at Plot No.: D/3/5/3, GIDC Dahej, Phase III, Tal. Vagra, Dist- Bharuch (Gujarat).

2. M/s. Willowood Industries Private Limited have recently changed the name by EC transfer from M/s. Shreeji Pesticides Pvt. Ltd. via letter no. No. J-11011/153/2019-IA-II (I), dated 13/10/2023 to M/s Willowood Industries Private Limited.

S. No.	Para of TOR/EC issued by MoEF & CC	Details as per TOR/EC	To be revised /read as	Justification / Reasons
1	2	The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental	The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the	M/s. Willowood Industries Private Limited. have recently purchased M/s. Shreeji Pesticides Pvt. Ltd. via letter no. No. GIDC/RM/ANK/TRF/FTO/DAH6/8, dated 17/09/2020. Land possession

		clearance to the project for setting up of pesticides and intermediates manufacturing unit by **M/s Shreeji Pesticides Pvt. Ltd**. in an area of 95939.418 sqm located at Plot No. D-3/5/3, GIDC Dahej, Phase III Taluka Vagra, District Bharuch (Gujarat).	project for setting up of pesticides and intermediates manufacturing unit by **M/s. Willowood Industries Private** Limited in an area of 95939.418 sqm located at Plot No. D-3/5/3, GIDC Dahej, Phase III, Taluka Vagra, District Bharuch (Gujarat).	document. Copy for the same has been submitted. Also granted the EC Transfer application for Name change on dated 13.10.2023. Copy for the same has been submitted.
2	6	Total water requirement is **1787 m^3/day** of which fresh water requirement will be **1370 m^3/day** proposed to be met from Gujarat Industrial Development Corporation. Total wastewater generation from industrial process will be **631 cum/day** out of which **261 cum/day** will be sent to MEE & ATFD & 370 **KLD to** ETP followed by RO. Treated water of	Total water requirement is **1787 m^3/day** of which fresh water requirement will be **1370 m^3/day** proposed to be met from Gujarat Industrial Development Corporation. Total wastewater generation from industrial process will be **631 cum/day** out of which **261 cum/day** will be sent to MEE & ATFD & 370 **KLD to** ETP followed by RO. Treated water of	Whole treated wastewater cannot be used for Process since the recycled treated wastewater will impact the impurity profiles of the product, and the end product gets affected leading to rejection of the Finished products, no treated wastewater can be used in process. MEE condensate of 246 KLD will be sent to the ETP. A total of 616 KLD of effluent is treated in the ETP, of which 460 KLD is sent to the CETP of Dahej, and 150 KLD is sent to the RO. Out of the 150 KLD, 110 KLD of RO permeate will be reused in the cooling tower, and the remaining 40 KLD of RO reject will be sent to the CETP of Dahej

		417 cum/day will be recycled to meet the process requirements. There will be no discharge of treated/untreated wastewater: from the unit, and thus ensuring Zero Liquid Discharge. Power requirement for proposed project will be 7550 KWH proposed to be met from Dakshin Gujarat Vij Company Limited (DGVCL). **4 X 750 KWH** of DG sets will be provided to be used as standby during power failure. Stack **(height 20 m)** will be provided as per CPCB norms to the proposed DG sets. **Three** NG/Coal/FO fired boiler of **15 TPH** capacity	**417 cum/day** will be recycled to meet the process requirements. There will be no discharge of treated/untreated wastewater: from the unit, and thus ensuring Zero Liquid Discharge. Power requirement for proposed project will be 7550 KWH proposed to be met from Dakshin Gujarat Vij Company Limited (DGVCL). **4 X 750 KWH** of DG sets will be provided to be used as standby during power failure. Stack **(height 20 m)** will be provided as per CPCB norms to the proposed DG sets. **Three** NG/Coal/FO fired boiler of **15 TPH** capacity each will be installed. ESP+Water Scrubber + Bag Filter with a stack height of 45 m will be provided for	Thus, unit is seeking for permission of total 500 KLD send to CETP of Dahej. GIDC discharge permission letter No.: GIDC/BRH/XEN/WD/1443. Copy of the same has been submitted. Overall details of the flue gas emission will remain same.

		each will be installed. ESP+Water Scrubber + Bag Filter with a stack height of 45 m will be provided for controlling the particulate emissions within the statutory limit of 150 mg/Nm3 for the proposed boilers.	controlling the particulate emissions within the statutory limit of 150 mg/Nm3 for the proposed boilers.	
3	IX	Total Fresh water requirement shall not exceed **1370 cum/day** proposed to be met from Gujarat Industrial Development Corporation supply. Prior permission in this regard shall be obtained from the concern regulatory authority.	Total Fresh water requirement shall not exceed **1652 cum/day** proposed to be met from Gujarat Industrial Development Corporation supply. Prior permission in this regard shall be obtained from the concern regulatory authority.	Unit is seeking under discharge. So the fresh water discharge will increase.

3. Deliberations by the EAC

After detailed deliberations, EAC desired the following information:

1. Mode of transfer of effluent from project site to CETP.
2. TDS of effluent to be discharged is 8900 mg/l, which is more than acceptable standard provided by CETP. How to achieve desired standard for discharge.
3. Please provide effluent treatment process flow sheet for proposed ETP to be installed within the plant premises.

4. Please proved revised water balance chart after proposed amendment.

Accordingly, proposal was deferred for want of above additional information. Above all additional information shall be submitted online to the PARIVESH portal for further consideration by EAC.

Agenda Items as per Parivesh 1.0 Portal

Agenda No. 72.7

Proposed Expansion of Synthetic Organic Chemicals Manufacturing Unit with Production Capacity from 30 TPM to 300 TPM located at Plot No. N-33 & N-34, MIDC Tarapur, Boisar, Palghar, Maharashtra by Vardhman Dyestuff Industries Pvt. Ltd. - Reconsideration of ToR

[Proposal No. IA/MH/IND3/416691/2023; File No. IA-J-11011/59/2023-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for the Proposed Expansion of Synthetic Organic Chemicals Manufacturing Unit with production capacity from 30 TPM to 300 TPM located at Plot No. N-33 & N-34, MIDC Tarapur, Boisar, Palghar, Maharashtra.by Vardhman Dyestuff Industries Pvt. Ltd. **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**

2. The project/activity is covered under Category 'A' of Item 5 (f)-Synthetic organic chemicals of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) requires appraisal at Central Level by the Expert Appraisal Committee (EAC).

3. The PP applied for the ToR vide proposal number No. **IA/MH/IND3/416691/2023** dated 8 .2.2023. The proposal was placed in 52nd EAC Meeting held on 30th-31st May, 2023, wherein the Proposal deferred for requisite for some information now the proposal is placed in the 72nd EAC meeting held on 2nd January, 2024 wherein the PP and an accredited Consultant, Green Circle Inc. [Accreditation number: NABET/EIA/2124/RA 0219, Valid up to 26.1.2024] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported the product details as follows:

S. No.	Name of the Products	CAS no. / CI no.	Quantity MT/Month		
			Existing	Proposed	Total
1.	Pigment Green 7 (CPC Green)	14832-14-5	30	170	200
2.	Copper Phthalocyanine Blue Crude	147-14-8	0	200	
3.	Pigment Beta Blue 15:3	147-14-8	0	200	

S. No.	Name of the Products	CAS no. / CI no.	Quantity MT/Month		
			Existing	Proposed	Total
4.	Pigment Beta Blue 15:4	147-14-8	0	200	
5.	Pigment Blue 15:0/15:1[Alpha Blue]	147-14-8	0	200	
6.	Pigment Violet 23	215247-95-3	0	200	
7.	Pigment Violet 27	12237-62-6	0	200	
8.	Pigment Violet 19	1047-16-1	0	200	
9.	Pigment Orange 5	3468-63-1	0	200	
10.	Pigment Orange13	3520-72-7	0	200	
11.	Pigment Orange 34	15793-73-4	0	200	
12.	Pigment Yellow 74	6358-31-2	0	200	
13.	Pigment Yellow 83	5567-15-7	0	200	
14.	Pigment Red 122	980-26-7	0	200	
15.	Mono Sulpho Additive [Synergist]/Solosperse 12000	28901-96-4	0	200	
16.	Phthalimido Additive [Synergist]/Solosperse 5000	85-41-6	0	200	
17.	Acrylic Binders	25767-47-9	0	200	
18.	Middle Chrome	1344-37-2	0	200	
19.	Lemon Chrome	1344-37-2	0	200	
20.	Scarlet Chrome	12656-85-8	0	200	
21.	Pigment Yellow1	2512-29-0	0	200	
22.	Pigment Yellow12	6358-85-6	0	200	
23.	Pigment Yellow13	5102-83-0	0	200	
24.	Pigment Yellow 14	5468-75-7	0	200	
25.	Pigment Yellow17	4531-49-1	0	200	
26.	Pigment Yellow74	6358-31-2	0	200	
27.	Pigment Yellow 83	5567-15-7	0	200	
28.	Pigment Red 170	2786-76-7	0	200	
29.	Pigment Red 112	6535-46-2	0	200	
30.	Pigment Red 3	2425-85-6	0	200	
31.	Pigment Red 4	2814-77-9	0	200	
32.	Pigment Red 8	6410-30-6	0	200	
33.	Pigment Red 53:1	73263-40-8	0	200	
34.	Pigment Red 57:1	5281-04-9.	0	200	
35.	Pigment Red48:2	7023-61-2	0	200	
36.	Pigment Red48:3	15782-05-5	0	200	
37.	Pigment Orange 5	3468-63-1	0	200	
38.	Pigment Orange13	3520-72-7	0	200	

S. No.	Name of the Products	CAS no. / CI no.	Quantity MT/Month		
			Existing	Proposed	Total
39.	Pigment Orange34	15793-73-4	0	200	
40.	Copper Sulphate	7758-99-8	0	200	
41.	Aluminium Chloride	7446-70-0	0	200	
42.	PAC	1327-41-9	0	2200	2200
43.	HYPO	10022-70-5	0	350	350
44	30% HCL	7647-01-0	0	250	250
	TOTAL				**3000**

5. The PP reported that the total land area of the plot is 3900 m^2. No additional land will be used for proposed expansion.

6. The PP reported that Company has valid CTO vide F. No. Format1.0/AS(T)/UAN No. 0000148213/CO/2212001450 dated 21.12.2022.

7. The PP reported that there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. River Banganaga is flowing at a distance of 1.70 Km in SE direction.

8. The PP report that the proposed fresh water requirement will be 295 KLD which will be met from MIDC Tarapur in which Industrial Water consumption will be 280 KLD, Domestic 10 KLD and Gardening 5 KLD. Total waste water generated will be 405 KLD in which Strong COD/TDS stream is 30 KLD and Weak COD/TDS stream will be 375 KLD The treated effluent (10.2 KLD, at present being sent to CEPT CEPT, Tarapur for disposal) from our sister unit i.e M/s. Unilex Colours & Chemicals Ltd, located at Plot No. E 10/2, MIDC Tarapur for treatment/disposal Taluka & District Palghar, Maharashtra State, will be taken to the proposed effluent treatment of M/s. Vardhaman Dyestuff Industries Pvt. Ltd. The distance between the industries is 3 Kms only. The treated effluent will be transported through tankers or by closed pipeline. Existing effluent shall be sent to CETP for disposal. For the treatment of effluent generated from proposed expansion, the existing ETP shall be upgraded and the treated effluent shall be recycled back to process/ makeup water for cooling towers and boiler.

9. The PP reported that the Power requirement after expansion will be 785 KW, including existing 355 KW and will be met from Maharashtra State Electricity Distribution Company Limited (MSEDCL). Existing unit has DG sets of 125 KVA capacity, additionally 1* 125 KVA DG sets will be used as standby during power failure. Stack (5 m height) will be provided as per CPCB norms to the proposed DG sets.

10. The PP reported that the project, being in notified industrial area i.e., MIDC Tarapur vide **Notification No. IDC -2180/102842 (2385)/ udyog-14 dated 2.7.1980**, is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA. II(I) dated 27.04.2018.

11. Total 3900 sq. meter land area is available at site; out of which 273 Sq.m. (7%) will be developed inside and outside at boundaries of the project land the premises and remaining 33% will be developed outside the premises. Proponent has been taken permission from MIDC for plantation in available 1500 sq. mtr area of CETP.

12. The total cost of the proposed expansion project will be Rs. 20 Crores. The PP reported that project shall provide employment opportunity for about 30 number of skilled, semi-skilled and unskilled people during the operation phase. And 20 number of people during construction phase. Industry proposes to allocate Rs. 40 lakhs towards CER.

13. The proposal was earlier considered in the 52nd EAC meeting held on 30th-31st May, 2023, wherein the EAC deferred the proposal for want of requisite information. Reply to the same was submitted by the PP, which is as follows:

S. No.	Queries Raised by EAC	Reply by PP
1.	Compliance to green belt development of minimum 40% of the total area of the existing unit (within the site and the industrial estate) @2500 per hectare, in consultation with forest department and accordingly, submit the details of green belt developed, number of trees and aerial photographs and video.	Total 3900 sq. meter land area is available at site; out of which 273 Sq.m. (7%) will be developed inside and outside at boundaries of the project land the premises and remaining 33% will be developed outside the premises. Proponent has been taken permission from MIDC for plantation in available 1500 sq. mtr area of CETP.
2.	Revised layout plan with the requisite green belt.	Revised layout plan with the requisite green belt is submitted.
3.	Undertaking for the use of natural gas/biomass instead of coal.	Undertaking for the use of natural gas/biomass instead of coal is submitted.
4.	Quantified and specific compliance and action plan for the additional safeguard measures prescribed in the Ministry's O.M. dated 31.10.2019 for critically and severely polluted areas.	Quantified and specific compliance and action plan for the additional safeguard measures prescribed in the Ministry's O.M. dated 31.10.2019 for critically and severely polluted areas is submitted.

5.	Detailed justification/trend w.r.t the CEPI score of the CPA since the declaration as CPA.	Ambient Air Quality Parameter considered for CEPI calculation: PM10, PM 2.5 & CO. Sub Score (A+B+C+D)= (12+40+5+15)=72.0 Water Score (Surface Water): - Surface Water Parameter considered for CEPI calculation: TN, T. Hardness & Hg - Sub Score (A+B+C+D)= (14+50+10+15)=89 Land Score (Ground Water): - Ground Water Parameter considered for CEPI calculation: Total Hardness, Hg, Iron - Sub Score (A+B+C+D)= (14+20.25+10+15)=59.25

14. **Deliberations by the EAC:**

During Deliberation EAC discussed the following issues:

- The Committee noted that PP has identified 1500 m^2 land of CETP for plantation. The Committee was not satisfied with response of PP. The Committee suggested that as CETP is separate entity and also covered as separate item in the schedule of EIA Notification, the particular land shall not be used by other entity for greenbelt. Most of the time CETP need land for upgradation/expansion of its capacity. Accordinlgy, PP shall identify other land within the industrial area for plantaion.
- CPA compliance of Ministry OM dated 31.10.2019
- Fly ash shall be stored in silo and utilize.
- Greenbelt development plan.

15. After detailed deliberations, the EAC **recommended** the project for grant of ToR (**Standard ToR [Annexure-II]** and **additional ToR as mentioned below)**, **without public hearing** as per the provisions of the EIA Notification, 2006 and as per O.M. No. 22-23/2018-IA.III dated 05.07.2022.

(i) The status of the action plan, if any, prepared by the State Government/SPCB for the CPA needs to be provided.

(ii) The PP needs to submit the action plan with respect to mitigation measures for CPA mentioned in the Ministry's O.M dated 31.10.2019.

(iii) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. the proposed project. The Action Plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources shall also be prepared and submitted.

(iv) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.

(v) The PP shall submit an undertaking to the effect that the project is not a violation proposal in pursuant to the S.O. 804(E) dated 14.03.2017 and SoP dated 07.07.2021.

(vi) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.

(vii) Provision for reuse/recycle of treated wastewater, wherever feasible shall be made. The PP shall explore the possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal. A detailed water harvesting plan also needs to be prepared and submitted. Provision for Zero Liquid Discharge whenever techno-economically feasible shall be included. The PP shall make necessary provisions for continuous monitoring of the effluent quality/quantity.

(viii) Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains in constructed reservoirs. The rain water shall not be put into groundwater strata.

(ix) Fly ash shall be stored in the silo and PP shall submit the disposal plan of the flyash.

(x) Action Plan for development of the green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted. PP shall identify the land alongwith coordinates.

(xi) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.

(xii) In addition to the above, the EIA/EMP report shall also address issues such as i) Effective fugitive emission control measures for process, transportation, packing etc. ii) use of cleaner fuels, and iii) best available technology for the plant.

Agenda No. 72.8

Proposed Expansion of Synthetic Organic Chemicals (API and Intermediates) Manufacturing Unit upto the Production Capacity of 34 MT/Month located at Plot No. B-40, MIDC Paithan, Taluka

Paithan, District Aurangabad, Maharashtra by M/s Satellite Pharmaceuticals Pvt. Ltd. - Consideration of Environmental Clearance

[Proposal No. IA/MH/IND3/419096/2023; File No. IA-J-11011/505/2021-IA-II(I)]

PP did not attend the meeting. Accordingly, the proposal was **deferred.**

Agenda No.72. 9

Proposed project to produce Light Soda Ash (LSA) of 11,00,000 TPA capacity, 5,00,000 TPA of Dense Soda Ash (DSA) and 2,00,000 TPA Sodium Bicarbonate (SBC) located at near village Bada, Taluka - Mandvi, District - Kutch in the Gujarat state by "Greenfield Chemical Complex" of GHCL Ltd- Consideration of Environmental Clearance

[Proposal no: IA/GJ/IND3/408164/2022, File No. IA-J-11011/293/2021-IA-II(I)]

1. The proposal is for Environmental Clearance to the Proposed project to produce Light Soda Ash (LSA) of 11,00,000 TPA capacity, 5,00,000 TPA of Dense Soda Ash (DSA) and 2,00,000 TPA Sodium Bicarbonate (SBC) located at near village Bada, Taluka - Mandvi, District - Kutch in the Gujarat state by "Greenfield Chemical Complex" of GHCL Ltd

2. The project/activity is covered under Category 'A' of Item 4 (e) soda ash industry of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by the Expert Appraisal Committee (EAC) as the project is located outside the notified industrial area.

3. The ToR was issued by the Ministry, vide letter no. IA-J-11011/293/2021-IA-II(I) dated 10th August, 2021. The PP applied for the Environment Clearance in the Common Application Form and submitted the EIA/EMP Report and other documents. The PP in the CAF reported that it is a **Fresh EC case.** The proposal is placed in 72nd EAC Meeting held on 2nd January, 2024 where project was wherein the PP and an accredited Consultant, CSIR NEERI [NABET accreditation till **NABET Accreditation Number: NABET/EIA/2124/RA 0227, Valid till July 01, 2024**], made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the Total land area is **5463200 m^2; no** additional land will be used for **proposed project** and no R& R is involved in the Project. The details of various products are as follows:

Sr. No.	Name of the Product	Production Capacity (MT/Month)	CAS Number	End use
1	Light Soda Ash	11,00,000 TPA	497-19-8	Manufacturing of glass, usage in chemical industry, paper and detergent manufacturing, and food industry
2	Dense Soda Ash	5,00,000 TPA	497-19-8	
3	Sodium bicarbonate	2,00,000 TPA	144-55-8	
Captive Co-generation Power plant Steam (CFBC boilers)			120 MW	
Emergency DG Set			5 MVA	
Note- The production capacities are planned in phased manner and for Phase 1 production capacity for LSA: 5,50,000 TPA, Dense Soda Ash: 2,50,000 TPA, SBC: 1,00,000 TPA and 60 MW for Captive Co-generation Power plant.				

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

6. The PP reported that There is no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. **Marine National Park and Sanctuary, Jamnagar are located at 75 km aerial distance in South direction and Narayan Sarovar Sanctuary is located at more than 100 km aerial distance in North-West directions**. Flap shell turtle, Green Sea turtle, Indian monitor lizard, Olive Ridley Sea turtle, Black shoulder kite, Eurasian Spoonbill, Indian Peafowl, Marsh Harrier, Oriental Honey Buzzard, Gugal Schedule-I species were found in the study area for which conservation plan has been preapred and submitted to PCCF and Chief wildlife warden dated 9.11.2023.

7. The PP reported that the diversion of 0.9689 ha unclass forest for laying part of sea water intake and effluent disposal pipeline and passage for related construction equipment movement in Kachchh has been obtained vide ketter dated 18. 7.2023.

8. The PP reported the Unit has received the Final recommendation letter from GZMA vide file no ENV/ 10/ 2021/184/ T- cell dated 26.12.2023. CRZ details are as:

Activities	Zone
Construction of process plant and utilities etc.	Outside CRZ area
Effluent collection	Outside CRZ area
Seawater Intake system i.e. sump and pump house	CRZ III
Intake Pipeline	CRZ IA, CRZ IB and CRZ IV
Outfall Pipeline	CRZ IA, CRZ IB and CRZ IV

Laying of Seawater Intake and effluent disposal underground pipeline through tunnel from unclassified Forest area, Sand dune area, intertidal area outside project boundary.

9. The PP reported that **Ambient air** quality monitoring was carried out at **10 locations** during **December 2019 – February 2020**. The baseline data indicates the ranges of concentrations as: PM_{10} (**19 µg/m^3 to 53 µg/m^3**), $PM_{2.5}$ (**8 µg/ m3 to 17 µg/ m3**), SO_2 (**1 µg/m^3 to 14 µg/m^3**), NOx (**5 µg/m^3 to 16 µg/m^3**), Ammonia (**6 µg/m^3 to 19 µg/m^3**), Ozone (**2 µg/m^3 to 8 µg/m^3**), Carbon Monoxide (**0.09 mg/m^3 to 0.21 mg/m^3**), Hydrocarbons [Methane hydrocarbons (**0.23 µg/m^3 to 1.27 µg/m^3**) and Non-Methane hydrocarbons (**0.11 µg/m^3 to 0.19 µg/m^3**)], Lead (Pb) (**0.05 µg/m^3 to 0.27 µg/m^3**), Arsenic (As) (**0.02 ng/m^3 to 0.11 ng/m^3**), Nickel (Ni) (**0.11 ng/m^3 to 0.18 ng/m^3**), Benzo(α)pyrene(B[a]P) (**ND to 0.03 ng/m^3**) and Benzene (**ND to 0.16 µg/m^3**). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be **3.05** µg/m^3 in case of Lignite, Coal and Petcoke with respect to PM_{10}, **10.98** µg/m^3 in case of Lignite, **2.55** µg/m^3 in case of Coal and **13.26** µg/m^3 in case of Petcoke with respect to SO_2 and **11.37** µg/m^3 in case of lignite, **7.3** µg/m^3 in case of coal and **5.62** µg/m^3 in case of Petcoke with respect to NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

10. The PP reported that the Total water requirement for project will be 15,20,060 m^3/day in case of Dry Lime process or 13,63,878 m^3/day in case of Wet Lime process which will be met from Sea water. Total Effluent of 15,88,570 m^3/day (Domestic - 160 m^3/day + Industrial – 15,88,410 m^3/day) in case of Dry Lime process or 14,48,818 m^3/day (Domestic - 160 m^3/day + Industrial – 14,48,658 m^3/day) in case of Wet Lime process. The Process effluent generated i.e. from distiller waste, brine purification reject, RO/DM rejects will be disposed off along with once through return cooling water/fresh seawater into Arabian Sea as per recommendation of NIO. The characteristics of the discharge water are within the norms prescribed by CPCB.

11. The PP reported that the Power requirement for proposed project will be 120 MW and will be met from Captive Co-generation Power plant. D. G. Set (5 MVA X 1) [Fuel: HSD (60 KL)] shall be provided and used only in case of power failure. Stack (30 meter) and Retrofit shall provide as per CPCB norms to the DG sets. Industry will provide six Steam Boiler (150 TPH) for captive power plant, six lime kilns and D G sets

12. Details of process emissions generation and its management:

SR.NO.	Stack attached to	Capacity	Height of the stack (m)	Fuel & its Consumption	Expected Pollutant	APC System	GPCB Limit
1	CPP with flue gas desulphurization CFBC Boiler (6 Nos.)	150 TPH	130 m	Imported Coal/Lignite/ Pet coke (Imported Coal: 13,14,000 TPA, Lignite :19,71,000 TPA, Pet coke: 9,12,500 TPA)	SPM SO_2 NO_2 Hg	Individual ESP with each Boiler	PM ≤ 30 mg/Nm^3 SO_2 ≤ 100 mg/Nm^3 NO_2 ≤ 100 mg/Nm^3 Hg ≤ 0.03 mg/Nm^3
2	D G Set (2/3 Nos.)	5 MVA	30 m	HSD (60 KL)	HC CO PM NO_x	Retrofitting	NOx 710 ppmv NMHC 100 mg/Nm3 PM 75 mg/Nm3 CO 150 mg/Nm3

3	Lime Kiln 1		68 m	Coke or Briquette or Anthracite (Coke - 1,30,000 TPA, Briquette- 1,55,000 TPA, Anthracite - 1,10,000 TPA)	SPM SO_2 NO_2	Scrubber and Dust Collector system	SPM ≤ 150 mg/Nm^3 SO_2 ≤ 100 ppm NO_2 ≤ 50 ppm
4	Lime Kiln 2		68 m			Scrubber and Dust Collector system	
5	Lime Kiln 3		68 m			Scrubber and Dust Collector system	
6	Lime Kiln 4		68 m			Scrubber and Dust Collector system	
7	Lime Kiln 5		68 m			Scrubber and Dust Collector system	
8	Lime Kiln 6		68 m			Scrubber and Dust Collector system	

SR.NO.	**Stack attached to**	**Height of the stack (m)**	**Expected Pollutant**	**APC System**
1	Ammonia Recovery system	42 m	Ammonia	Water scrubber
2	Lime grinding system / Slaker	65 / 20 m	PM / Water vapor	Bag filter / Adequate stack height
3	Calciner unit	37 m	PM	Scrubber, Bag filter
4	Densification	43 m	PM	Scrubber

5	Sodium Bi-Carbonate Unit	30 m	PM	Bag filter
6	Lime Kiln	Closed system	PM	Scrubber and Wet ESP

13. **Details of Solid Waste/ Hazardous Waste Generation and Its Management**:

Sr. No.	Type of Waste	Mode of Disposal
1	ETP Sludge from treatment of effluent generated from captive power plant & RO/DM Plant	The effluent from power plant, RO/DM plant will require only neutralization & it will have negligible BOD/COD. Sludge will be disposed off in nearby landfill site.
2	Used Oil / Used Cotton	It will be sold to MoEF&CC/CPCB registered recyclers only. Approx. 12 KL
3	Discarded Drums	It will be sold to approve traders. Approx. 5 MT/yr
	Discarded Bags	It will be sent back to supplier for reuse.
4	Spent Ion exchange resin	To be sold to authorized recyclers or will be incinerated at MoEF&CC/CPCB approved TSDF for which plant will obtain membership. Approx. 3000 l/yr
5	Lead acid Batteries	It will be sold to authorized agency through auction.
6	Ash (Fly ash & Bottom Ash) from Boiler	The Boiler ash will be used for cement Manufacturing/ Brick Manufacturing. Approx. 750 TPD
7	Limestone rejects	It can be used in Boiler for desulphurization and as a sweetener in cement industry, road making, pavement etc. 5% of lime stone consumption.
8	Settled sludge	Since settled sludge, non-hazardous in nature, it is proposed to be disposed off in Nearby landfill site.

14. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ **205.07 crore** (capital) and the Recurring Cost (operation and maintenance) will be about ₹ **6.98 Crore** per Annum. Industry proposes to allocate ₹ **18.04 Crore** towards CER.

15. The PP reported that Public Hearing for the Proposed project has been conducted by the State Pollution Control Board at the project site on **17.10.2022**. The main issues raised during the public hearing are related to the air pollutants, water pollutants, schedule 1 conservation plan, fishing, traffic etc.

16. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environment officals for the functioning of EMC.

17. The PP submitted the Disaster and Onsite and Offsite Emergency Plans in the EIA report.

18. The estimated total project cost is **Rs 3550 Crores**. Total Employment will be **1200** persons as direct.

19. Intake pipeline and outfall pipeline fall in CRZ 1A, 1B and IV area as per demarcation. It was reported that construction of process plant and utilities fall outside the CRZ area. SCZMA recommendation has been obtained for Laying of Seawater Intake and effluent disposal underground pipeline through tunnel from unclassified Forest area, Sand dune area, intertidal area outside project boundary.

20.

21. The Public Hearing earlier was scheduled to be held on 16-04-2022 at 11:00 Hrs, Venue: Project Site, Survey no. 432, Village: Bada, Taluka: Mandvi, District: Kutch, Public hearing was then time being postponed due to unavoidable circumstances. After that public hearing was completed on **17-10-2022 at 11.00 Hrs.** Venue: Project Site, Survey no . 432, Village: Bada, Taluka: Mandvi, District: Kutch, Gujarat. Which was presided over by Shri Chetan Mishan(GAS), Sub Divisonal Magistrate & Deputy Collector, Mundra- Kutch. Public hearing Details as given below:

S.No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
1	CSR – Fodder	4	Steps to be taken for cattle Care about Maldhari community Security regarding fodder supply for livestock.	Fodder will be provided as well as provision for veterinary doctor will be carried out by GHCL foundation under CSR activity.	• Activities for fodder supply will be carried out under CSR and CER activities for strengthening the bond between the project authorities and the local population. (refer Ch-8 and Table 10.4 in Ch-10). Fodder field will be developed on the Government/allocate land to nearby villages. • Unit will do promotion through providing support for breed improvement, animal health care, fodder improvement and providing veterinary doctor in nearby villages under CER and CSR activities for communities. • During year 2020-2021, GHCL foundation has spent INR 9.03 Crores towards CSR activities. CSR projects/activities worth INR 19.09 Cr. were implemented. GHCL wide range of CSR projects have touched and benefitted more than 90,200 lives over the years. Promoting such activities like water conservation, Animal husbandry, health care, SHG,	• As per MoEF&CC Office Memorandum F.NO. 22-67/2017-IA III, MoEF&CC, New Delhi, dated on 1st May 2018 GHCL Ltd has earmarked 0.5 % of capital investment (appro. Rs. 18.04 crore), towards the Corporate Environment Responsibility in 5 years • GHCL Ltd will spend approx. **4.35 crore*** towards Animal husbandry promotion through providing support for breed improvement, animal health care, Veterinary doctor and others as well as provides Fodder for cattle feeding nearby villages as per requirement under CER activities (* value may defer as per actual requirement)	5 years	GHCL Limited
2	Employment	5	For employment of local villagers Number of employment opportunities to be Priority must be given to nearby 10 villages Regarding priority to nearby villages	Information on employment opportunities has given by Project Proponent that there are different types of employment opportunities in the two phase of the projects i.e. construction	• The proposed project has a potential for employment of skilled, semi-skilled and unskilled employees during construction phase as well as	• GHCL Ltd will spend approx. 2.25 crore towards Promoting activities for skill building to improve	During construction and Operation phase	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
			for labor work Regarding employment for local communities.	phase and operational phase of the project. GHCL will strive to provide these employment opportunities to the local people, for which work will be done for their skill development and employment opportunities will be provided to the local people. As per requirement, training will be given to local people in coordination with HR department. Priority will be given for employment of local people. In nearby villages a group of women can be formed so that they can work in Gruhudhyogs (Home-based business) M/s	operational phase. The plant will create direct employment in phased manner for about 1200 (operational phase) skilled as well as semi-skilled staff and indirectly large number of unskilled manpower will be engaged for the project. For Employment, local people will get first priority as per suitability and requirement. People will also get employed by the contractors for various project related activities.(Refer Ch-8	employment opportunities and women empowerment in nearby villages under CER activities.		
3	CSR - Health	1	Regarding health facilities under CSR activities	Will provide mobile health van facility and upgradation of existing healthcare infrastructure	• Industry will provide Mobile Health Care, Health Camps, and Specialized Check Up Camps in nearby villages. Necessary support and help will be extended for advanced diagnosis and treatment wherever identified, Free medical health checkup under CSR and CER	• GHCL Ltd will spend approx.. 1.12 crore towards Infrastructure development Such as primary healthcare units and the fulfilment of the basic amenities in PHCs including mobile	5 years	GHCL Limited
4	CSR - Education	3	Regarding scholarship Regarding skill development of	Will build school in future as per requirement and will also upgrade the existing school	• Unit will be directed at two levels viz. school and skill building to		5 years	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
			conditions To provide educational facilities	skill development activities	school level we intend to promote quality of education and learnability, develop infrastructure of Government schools, provide vocational training as per the requirement under CSR and CER activities. • GHCL foundation will support local government and NGO to make that program more effective. • GHCL foundation will carry out skill development Programme for local youth to improve their employment opportunities, women empowerment under CSR and CER activities. • During year 2020-2021, GHCL Foundation has spent INR 9.03 Crores towards CSR activities. CSR projects/activities worth INR 19.09 Cr. were implemented. GHCL wide range of CSR projects have touched and benefitted more than 90,200 lives over the years. Promoting such activities like water conservation, Animal husbandry, health care, SHG, Infrastructure development etc.	towards Infrastructure development for quality of education, which will ultimately upgrade schools in nearby villages under CER activities.		
5	Air Pollutants (SOx, NOx, Dust)	6	Height of chimney to be installed Levels of Sox and NOx Regarding acid rain cause by Sox Emission of PM during transportation and	For minimizing Air Pollution, requisite height of the stacks will be provided as per the NAAQS norms. Besides this, Modern technology	• The best available technology-based pollution prevention and control shall used to meet the regulatory standards and these pollution control systems will be commissioned before	• Air pollution • Capital cost would include air pollution	During operation phase	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
			mercury. Regarding once through cooling for 120 MW. Regarding linkage of fuel and how they are going to use it	installed. As a result, the pollution level will be within standard limits. GHCL will continue to support development of green belt in the surrounding villages through various agencies including GHCL Foundation (AF). GHCL shall endorses AF tree plantation movement of planting trees in entire Mandvi Taluka and 50,000 trees that mentioned, GHCL shall surely nurture those plants for five years.	commencement of operation of the project. Wherever possible, the control systems shall be interlinked wit h the operational units, so that failure of the control system shall shut down the respective operational unit. • High efficiency ESPs shall be provided in the flue gas path of the CFBC boilers for control of particulate matter. • Finely ground limestone will be added to the boiler combustion zone • together with coal/lignite to arrest the SO2 formed during combustion. • Lime stone dozing system to the furnace to be designed to achieve higher than 90% capture of SO2. Monitoring system(CEMS) of air pollutants SO2, NOx, NH3, PM10 and PM2.5 will be implemented. • So, the expected pollutants will be well within standard norms. • The air quality	Stacks, Dry Fog system, Wind screen etc- 89.28 crore • recurring cost would include operation and maintenance of pollution control devices- 1.50 crore • **Environmental monitoring Programme** capital cost include OCEMS, online weather station etc- 3.4 crore • Recurring cost – 0.95 crore • Greenbelt • Capital Cost- 20 Crore • Recurring Cost- 0.5 crore		

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					• There is no readily available infrastructure for transportation of fuel i.e. rail or water way. So, we have to transport through road. Traffic study are shown in section 3.2.3 of chapter-3 and impact due to transportation is show in 4.1.4.3 and 4.2.3 of Chapter-4 in EIA report. In future, any alternative option available will explore.			
6	Water pollutants (BOD,COD,Ammonia, Mercury, Sea Weed, Mangroves)	7	Regarding water related question by Koli society Regarding decrease in number of phytoplanktons and disruption of food Regarding temperature and presence of ammonia Regarding presence of mangroves Regarding setup of tunnel for intake of sea water, seismic zone in which company falls, liquification of land Regarding discharge of effluents into sea containing ammonia and high temperature and Regarding quality of effluent in terms of BOD and COD	Effluent will be highly alkaline so it will be mixed with HCL and then it will be disposed off in sea. Design of structure will done according to seismic zone V. In soda ash industry impact of ammonia is very low.	• Industry will provide adequate effluent management and monitoring system for disposal of treated water • Proper seawater intake and treated effluent disposal (ensure maximum dilution) shall be done as per recommendation Marine EIA report. • The water monitoring results of (surface and groundwater and marine) should be carefully evaluated to identify significant changes, if any, adverse change from the baseline accordingly, corrective measures will be taken to ensure the sustenance of water quality. However, there	• Capital cost would	During operation phase	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					within the limit specified by CPCB for soda ash industry. ● There is no such fish kill cases due to treated effluent in existing plant. There are independent studies available which indicates there is no significant adverse impact on marine environment but there will be positive impact on environment. ● During studies, there is no such mangroves identified in sea			
7	Marine Life	1	Effect on marine life due to proposed project	No adverse impact on fish or marine animals and sea weed observed.	● Industry should be ensured that the effluent released to the sea meets the prescribed GPCB/ CPCB norms at all times. This should be verified through tracer studies after the outfall becomes operational. The effluent release scheme can then be adequately modified to ascertain necessary dilution, if required. The efficiency of the diffuser must be checked periodically and if necessary, it	● A provision of Rs. 1 crore to be earmarked for the biodiversity management plan to be implemented in the project area during construction phase and operation phase. ● For periodic monitoring of the marine area environment during project ● construction phase, a	During construction and Operation phase	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					impact on environment but there will be positive impact on environment. • Design of pipeline/tunnel will be done according to seismic zone V. In case of catastrophic failure/ liquification on land, there are no chances of flooding as water transport through gravity.			
8	Health & Hygiene(Ammonia Leakge)	2	Skin diseases due to Soda Ash Regarding the leakage of ammonia.	GHCL will take care of any such issues related to Health of local peoples and workers. All the necessary measures for handling of chemicals will be implemented to reduce its impact on health of peoples. This information is also provided in the EIA report. All the pockets will have leak detection and repair system technology. Moreover, periodical maintenance will also be carried out. GHCL will ensure that there will be no leakage and therefore, there will not be occupational health issues for workers or villagers working in the plant. Moreover, GHCL	• Ammonia tanks should have latest instrumentation provision for pressure indication, temperature indication and level indication. The provision of instrumentation should be within 100 percent redundancy. Continues recording of major parameters pertaining to the storages shall be maintained in the control room. • Unit will provide all the safety measure for ammonia storage	• Capital cost would include cost of OHS center, PPEs, fire & safety instruments, automation system for ammonia storage – 3.4 crore • Recurring cost would include maintenance charges and training, audit & health check-up etc.- 0.35	During operation phase	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					commissioned before commencement of operation of the project. Wherever possible, the control systems shall be interlinked with the operational units, so that failure of the control system shall shut down the respective operational unit. ● There is no significant impact observed in the			
9	CSR - Farmers	3	Facilities to be provided How hygenic the plant will How hygenic will be bada plant and what facility will be provided to the farmer.	GHCL Foundation is already providing subsidy for drip irrigation and GHCL will also consider to support this scheme further out of the CSR funds proposed for this project. To help agriculture, GHCL will help farmers as part of our CSR activity in consultation with villagers. The details and type of developmental work will be decided in consultation with villagers. GHCL foundation has been working for farmers through its different schemes like ground water recharge, water harvesting	● Industry will Promote environment friendly and nature-based solutions to enhance productivity of farming (Organic Farming) activities. It covers capacity building on farming techniques, provision of high-quality seeds/manure, efficient irrigation solutions, etc. under CSR and CER activities	● GHCL Ltd will spend approx.. 3.00 crore towards Promoting environment friendly and nature-based solutions to enhance productivity of farming (Organic Farming) activities. It covers capacity	5 years	GHCL Limited
10	EIA Report & PH	14	EIA report is not correct	The terrestrial EIA report	● It is requested to note that as			GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
	advertisement		Regarding the alternative of site modhwa village. Regarding the NIO accreditation to prepare marine EIA report Regarding ToR granted and Study carried out prior of ToR granted. Regarding the advertisement of the PH Regarding NABET accreditation of consultant organization Regarding Marine EIA Regarding NEERI who has prepared EIA report Regarding the correction in EIA report Regarding the monitoring data collection Regarding accreditation certificate of additional studies for ecology.	prepared by CSIR NEERI and Marine EIA report is prepared by NIO, Mumbai	per OM number J-17011/8/92-IA-III dated 8th August, 2019, there are 7 institutes/agencies authorized for preparation of CZMPS in consonance with the provision of CRZ notification, 2019 vide GSR 37(e) dated 18/01/2019. IRS anna university Chennai has prepared the CRZ map for GHCL LTD. CSIR - NIO is Expert hired to carryout the Marine EIA study. • EIA report has been prepared by CSIR-NEERI, which is reputed governmental body and QCI NABET accredited consultant.			
11	Vipassana	3	Project site is near Vipassana meditation center The meditation center will be disturbed due to industry. Ammonia used in the industry. Related to presence of Vipassana center and other religious places in 15km radius of project site	--	• Environmental Management Plan envisages the plans for the proper implementation of mitigation measures to reduce the adverse impacts. • The EMP implementation will minimize the impact of atmospheric emissions, liquid effluents, solid wastes and noise generation on the surrounding environment.	• Cost of Environment management plant including various installations for Air	--	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					ash manufacturing industry. • It is reported in CSIR NEERI report that there are no significant impact expected on man-made sensitive installations and habitations. On basis of study of present environment condition near project area and impact prediction and control measures proposed by GHCL Ltd. The proposed project will not have any significant negative impact on environment. Company operations are limited to the plant boundary and no negative impacts on	• Recurring Cost- 0.5 crore		
12	CSR - Animal Husbandry	3	Regarding arrangements for Animal Regarding distribut Regarding number of cattle present in the area	GHCL Foundation will support nearby community by providing education and livelihood support to make them self – reliant.	• Unit will do promotion through providing support for breed improvement, animal health care, fodder improvement and providing veterinary doctor in nearby villages under CER and CSR activities. • Unit will also promote development Initiatives for Fishing Communities such as Creation of infrastructure like ice plants, cold storages as well as provide operational inputs such as fishing boats, nets and engines	• GHCL Ltd will spend approx.. 4.35 crore towards Animal husbandry promotion through providing support for breed improvement, animal health care, Veterinary doctor and others as well as provides	5 years	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
13	Site Selection	2	Regarding the alternative of site modhwa village. Regarding showing presence of marshy land near coastline	--	During the site selection, the alternative sites considered for setting-up of the proposed chemical complex project are given below: : Site 1 – Village Pingleswar, Taluka – Abdasa, Dist. Kutch Site 2 – Village Suthri, Taluka – Abdasa, Dist. Kutch Site 3 – Village Bambhdai, Taluka – Mandvi, Dist. Kutch Site 4 – Village Bada, Taluka – Mandvi, Dist. Kutch Site 5 – Village Modhva, Taluka Mandvi, Dist. Kutch The site at village bada is considered favorable based on the environmental and logistic advantages over other four sites. Justification	--	--	GHCL Limited
14	Sand Dunes	2	Concern of presence of sand dunes at bada coast Regarding digging of sand dunes for preparation of tunnels for water intake	--	• There is no disturbance to existing sand dunes. • Tunnelling work (much below ground level) for laying pipeline through sand dunes will be done by adopting proven construction methodology like micro tunnelling. The detailed Studies on sand dune mapping and morphological changes near the project site was carried by National Institute of	--	--	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
15	Turtle	3	Regarding presence of turtles on the coastline of bada Regarding information on endangered species not mentioned in EIA report Regarding hatching and presence of sea turtles	--	• Study on Status Survey and Conservation Plan for Sea Turtles along Mandvi Taluka, Bhuj, Gujarat by **Zoological Survey of India, Kolkata (April,2019)** is attached with EIA report. • ZSI study report mention that they did not any encounter any sea turtle and fresh/old nests or crawl marks of turtles on the beach. Since many of the factor for selection of a suitable nesting site are not conducive. • As per additional Ecological and Biodiversity study, suggests that the coast near the proposed project site may not be	• Contribution to Forest department for Sea Turtle Conservation Activities- 0.20 crore	10 years	GHCL Ltd
16	Schedule 1 species	4	Regarding presence of greater numbers of	--	• Details of schedule -1	• the proposed	10 years	GHCL Ltd

S. No.	Issue related to	Nos. Issues	Concern in PH	G HCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
	Sandha and indian Monitor Lizard)		stated in report Presence of reptiles and amphibians not reported Related to study of presence of Indian Monitor Lizard in study area Regarding presence of gugal trees,		already incorporated in EIA report. • GHCL shall make financial allocations for taking up wildlife mitigation measures and for contribution to forest department for carrying out activities towards propagation, protection and conservation of wildlife. • GHCL Ltd have submitted Conservation Plan (Flap shell turtle, Green Sea turtle, Indian monitor lizard, Olive Ridley Sea turtle, Black shoulder kite, Eurasian Spoonbill, Indian Peafowl, Marsh Harrier, Oriental Honey Buzzard, Shikra, Short-toed Snake	allocation for conservation of Schedule 1 species for 10 years is 1.25 crore		
17	Conservation Plan	2	Regarding conservation plan for Schedule 1 species Concern regarding green sea turtles and conservation plan for them	--	• GHCL shall make financial allocations for taking up wildlife • mitigation measures and for contribution to forest department for carrying out activities towards propagation, protection and conservation of wildlife. • The unit have submitted Conservation Plan (Flap shell turtle, Green Sea turtle, Indian monitor lizard, Olive Ridley Sea turtle, Black shoulder kite, Eurasian Spoonbill, Indian Peafowl, Marsh Harrier, Oriental Honey Buzzard, Shikra, Short-toed Snake Eagle,	• the proposed budget allocation for conservation of Schedule 1 species for 10 years is 1.25 crore	10 Years	GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					department of			
18	Form 1(Water Bodies, Temples, Schedule 1 Species)	5	Regarding presence of waterbody not shown in form-1 Regarding religious places and lakes not mentioned in PFR Waterbody not mentioned in form-1 Data given in form-1 and EIA are different Waterbody not mentioned in form-1	--	• Environmental settings are given in Chapter-1 and Chapter-5 of EIA report. Approximate distance of water bodies, temples etc are given in EIA report. • Through drainage studies of the area, it was observed that there is one stream of 1st order entering the plant area from north. Although, it has small catchment area, it is proposed that this stream, will be diverted to nearby passing Vengadi River in the	• -Cost of drainage network of surface runoff, rainwater collection pond and rain water harvesting system – 53 crores (included in EMP)	--	GHCL LTD
19	Govt. Land	3	Regarding type of land to be procured by the industry Regarding status of government land to be procured Providing data for proving gauchar land	--	• There is no gauchar land within proposed project site. M/s GHCL has applied to Industries Commissioner and District Collector for allotment of aforesaid land. Industries Commissioner has granted In Principle approval for Bonafied Industrial Purpose District	--	--	GHCL LTD
20	Fishing	8	Regarding details of Pagadia fisherman not mentioned and Marine EIA is misinterpreted	--	• Proper seawater intake and treated effluent disposal (ensure maximum	• A provision of Rs. 1 crore to be earmarked for the	During construction and	GHCL LTD

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
			Regarding disturbance to fishes due to presence of pipeline Regarding status of fishing near bada and Mandvi Related to number of fisherman not incorporated in study -- Related to presence of dead fishes not reported in study, fishing carried out for commercial purpose Regarding presence of fisherman in study area		Marine EIA report prepared by NIO ● Industry should be ensured that the effluent released to the sea meets the prescribed GPCB/ CPCB norms at all times. This should be verified through tracer studies after the outfall becomes operational. ● Details of Fishery and fishermen including their family and population are given in Chapter-3 of marine EIA report. ● Other than construction phase, there will be no any impact on pagadiya fisher men. As shore line will remain undisturbed. ● It is mentioned in marine EIA report that no large-scale commercial fishing operation prevail in the study area except for minor shore based and Gill net operations. ● There are independent studies available which indicates there is no significant adverse impact on environment but there will be positive impact on environment.	implemented in the project area during construction phase and operation phase. ● For periodic monitoring of the marine area environment during project ● construction phase, a provision of Rs. 0.5 crore to earmarked. ● For operation phase, Rs. 0.3 crore per year to be kept provision for ● the monitoring. ● GHCL Ltd will spend approx.. 0.75 crore towards Development Initiatives for Fishing Communities	Operation phase	
21	Water Body (check dams)	2	Related to presence of seasonal river which passes near bada village and presence of dam over it	--	● Through drainage studies of the area, it was observed that there is one stream of 1st order	● Cost of drainage network of surface	During construction and	GHCL LTD

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
			Related to distance of river from project site		entering the plant area from north. Although, it has small catchment area, it is proposed that this stream, may be diverted to nearby passing Vengadi River in the west, which has two check dams, one for salinity ingress check and on upstream side for storing fresh water. This will not cause any adverse impact on the downstream. For channelizing the monsoon run off from the area adjacent to plant it is required to construct peripheral drain along plant boundary so that flooding is avoided and run off find its way to the natural slope towards Arabian Sea. So, the present hydrological setting of the area will remain unaffected. So, the present hydrological setting of the area will remain unaffected. • The additional water enter into the vengadi river through drainage will not impact on check dam. As	pond and rain water harvesting system – 53 crores (included in EMP)	Operation phase	
22	Traffic (RMH, Heavy Trucks, Road Usage)	4	Regarding number of trucks passing due to project for raw Related to traffic study not mentioned in ToR, impact not carried out Concern regarding public roads Regarding number of trucks passing	--	• Traffic study are shown in section 3.2.3 of chapter-3 and impact due to transportation is show in 4.1.4.3 and 4.2.3 of Chapter-4 in EIA report. • We will use existing road network as no other transportation i.e. rail/water ways are	--		GHCL Limited

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					Traffic study (Level of Service) and added on Form Part-C.			
23	CSR General	1	Regarding past data of CSR -- Regarding to dusting due to kiln and power plant,	GHCL has proposed CSR budget in the EIA report which will be utilized based on need identification and village development meetings. CSR will be implemented with CSR implementing agencies including GHCL Foundation is working in following area. 1. Agro-livelihood and animal husbandry, 2. Education and skill development, 3. Health, water, and sanitation.	• GHCL's commitment towards the development of weaker sections of society has been a continuous initiative for more than two decades. Through its "GHCL Foundation Trust", GHCL has upgraded its CSR activities to cover a larger section of the society to provide support to the downtrodden, needy and marginalized citizens and also to create a social infrastructure for their sustenance. GHCL Foundation serves as the Corporate Social Responsibility arm of GHCL Limited and represents our commitment to the holistic development of our surrounding community. During year 2020-2021	--	--	GHCL LTD

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					Infrastructure development etc.			
			Regarding pollution to be caused by industry -- Regarding to dusting due to kiln and power plant,		• Environmental Management Plan envisages the plans for the proper implementation of mitigation measures to reduce the adverse	• Cost of Environment management plant including various installations for		GHCL Limited

24	Pollution and Environment General	4	Related to disposal of effluent water	Unit will follow all the rules and regulation with their subsequent amendments as directed by concerned authorities	impacts. • The EMP implementation will minimize the impact of atmospheric emissions, liquid effluents, solid wastes and noise generation on the surrounding environment	Air Pollution, Water Pollution, Noise Control, Greenbelt Development, Occupational Health and Safety and other related activities.- 205.07 crore	--	
25	Forest area	2	Related to distance of project site from forest area Details regarding families dependent on forest	There is no classified forest area.	• There is no forest land within the boundary of proposed project site. However, some part of the unclassed forest area located south of the project site outside boundary. Sea water intake and outfall pipeline will pass through underground micro tunnel in specific corridor to cross forest area. The permission from the Forest Department is	--	--	GHCL LTD

S. No.	Issue related to	Nos. Issues	Concern in PH	GHCL LTD reply	Action Plan	Fund Required	Timeline	Responsibility
					of 0.9689 Ha. of un-class forest			
26	Supporting for Industrial Development to GHCL LTD	--	For Employment For Infrastructure development in nearby village Social upliftment towards nearby villages Health facilities Women empower ment Skill	GHCL LTD team thanked for welcoming the industries	--	--	--	--
	Total	94						

22. **Deliberations by the EAC:**

After detailed deliberations, EAC desired the following additional information:

1) **Action plan for disposal of gypsum and fly ash generated from desulphursation plant.**
2) Action plan for management and disposal of $CaCl_2$ and $CaSO_4$.
3) Details of existing natural drains within the proposed project site as well as proposal for diversion if any. Details of measures to be taken to maintain the flow.
4) Status of land acquisition including government and pvt. land as well as permission for landuse change for industrial purpose.
5) It was observed that baseline study was conducted during December 2019 – February 2020, which is more than 3 years old. As per OM, PP shall conduct fresh 3 months study.
6) It was noted that EIA -EMP report is prepared by NEERI, which is not QCI /NABET accredited consultant for soda ash. PP informed that now T R Associate has been hired for the proposed project who is a QCI /NABET accredited consultant for soda ash. The Committee suggested that new consultant shall undertake site visit and verify/check the entire data as well as EIA -EMP report. They should give undertaking that they are satisfied with data and own the data provided in the EIA-EMP report. PP shall also submit authorization letter for new Consultant.
7) Revised water balance to be submitted. STP's treatment process shall include secondary treatment.
8) PP informed that widening of approach road to project site is being carried out. PP shall submit road wideining action plan. Traffic study to be conducted.
9) Air quality modeling for line source shall also be incorporate and cumulative impact of line and point source shall provided.
10) As per point source air quality modeling, incremental levels of SO2 and NOx have been estimated to be 10.98 $\mu g/m^3$ and 11.37 $\mu g/m^3$, which are in higher side. PP shall reduce the incremental values after taking suitable pollution control measures.
11) Villages are located 500-600 m away from the project site. PP shall elaborate various measures to be taken for the surrounding villages.
12) Details representations received by SPCB/MoEF&CC agains the project, if any. Action plan to address the issues raised in writted/represntations received by SPCB /MoEF&CC.
13) Details of issues raised by local fishermen if any. Action plan to address the said issues.
14) Copy of stage I forest Clearance and SCZMA recommendations.
15) Commitment for Disaster Management Plan in case of Tsunami, earthquake and cyclone to be prepared and submitted to the respective authority.

Accordingly, proposal was deferred for want of above additional information. Above all additional information shall be submitted online to the PARIVESH portal for further consideration by EAC.

ANNEXURE-I

STANDARD TERMS OF REFERENCE

A. GENERIC TERMS OF REFERENCE

1) **Executive Summary**
2) **Introduction**
   i. Details of the EIA Consultant including NABET accreditation
   ii. Information about the PP
   iii. Importance and benefits of the project

3) **Project Description**
   i. Cost of project and time of completion.
   ii. Products with capacities for the proposed project.
   iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
   iv. Details of existing products and production, if any, along with present product/production details in tabular format, to verify the compliance of the EIA Notifications.
   v. Details of existing products and production, if any, along with present product/production details in tabular format, to verify the compliance of the EIA Notifications.
   vi. List of raw materials required and their source along with mode of transportation.
   vii. Other chemicals and materials required with quantities and storage capacities
   viii. Details of Emission, effluents, hazardous waste generation and their management.
   ix. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
   x. Details of boiler/gensets (including stacks/exhausts) and fuels to be use
   xi. Details of boiler/gensets (including stacks/exhausts) and fuels to be used
   xii. Process description along with major equipment's and machineries, process flow sheet (quantitative) from raw materials to products to be provided
   xiii. Hazard identification and details of proposed safety systems.
   xiv. Expansion/modernization proposals:
      a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Integrated Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, copy of the latest CTO and status of compliance of Consent to Operate for the ongoing/existing operation of the project from SPCB shall be attached with the EIA-EMP report.
      b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification

2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4) Site Details

i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
ii. A topo-sheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
iii. Details w.r.t. option analysis for selection of site
iv. Co-ordinates (lat-long) of all four corners of the site.
v. Google map-Earth download of the project site.
vi. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
vii. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
viii. Land-use break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
ix. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
x. Geological features and Geo-hydrological status of the study area shall be included.
xi. Details of Drainage of the project up to 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land. Documents related to conversion of land for Industrial purpose.
xiii. R&R details in respect of land in line with state Government policy

5) <u>Forest, wildlife and CRZ related issues (if applicable):</u>

i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
ii. Land-use map based on High resolution satellite imagery of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha)*
iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.

iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the PP shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
vii. Recommendations and NOC from the concerned State/UT Coastal Zone Management Authority on CRZ angle

6) Environmental Status

i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
   - AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Study should indicate minimum, maximum value of different parameters for the period (3 months) collected. Collected data should be supported by the reference data of either CPCB or SPCB. AAQ data & GLC of pollutants from stack emissions should suggest technology/ measures- Best Practiced Technology (BPT) indicating best achieved results.

ii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
iii. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
iv. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
v. Ground water monitoring at minimum at 8 locations shall be included.
vi. Noise levels monitoring at 8 locations within the study area.
vii. Soil Characteristic as per CPCB guidelines.
viii. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
ix. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
x. Socio-economic status of the study area.

7) Environment Impact and Environment Management Plan

i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
ii. Water Quality Modelling – in case of discharge in water body
iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules 1986.
v. Details of stack emission and action plan for control of emissions to meet standards.
vi. Measures for fugitive emission control
vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
xii. Action plan for post-project environmental monitoring shall be submitted.
xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8) Occupational health

i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers
ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre-placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.
iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

9) Corporate Environment Policy

i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
iv. Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
v. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

10) Corporate Environmental Responsibility (CER)

i. Adequate funds, as per the Ministry's OM/Guidelines, shall be earmarked towards the Corporate Environmental Responsibility based on Public Hearing issues/socio-economic issues and item-wise details along with time bound action plan shall be included (CER activities shall be related to environment). Socio-economic development activities need to be elaborated upon. For the projects where public hearing is not conducted, CER plan shall be provided based on socio-economic study of the area.

11) Additional studies/Measures to be considered

(i) Provide latest and ecofriendly technology for product manufacturing.
(ii) Emphasize on Green chemistry/Clean Manufacturing
(iii) Provide CAS No. of products along with product list.
(iv) Provide details of amount of carbon sequestered in their unit through greenbelt/other modes, in case of expansion project.
(v) Life structure and sustainability for carbon and water foot print.
(vi) Detailed pollution Load estimation.
(vii) Transportation of Hazardous substance, effluents etc shall be carriedout through authorized and GPS enable vehicles/Trucks only.
(viii) Category of Hazardous Wastes shall be mentioned in the EIA/EMP report and in presentation.
(ix) Details of greenhouse gases and emissions shall be provided.
(x) Greenbelt shall be developed in the first year of the project and wind breaks shall be erected.
(xi) Study area map shall be overlapped with all the associated features.
(xii) Emphasize on green fuels.
(xiii) The project from NCR shall not use Coal as fuel. Further, PP shall avoid use of Coal in the CPAs and elsewhere also if alternatives are available.
(xiv) Provide the Cost-Benefit analysis with respect to the environment due to the project.

12) Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13) A tabular chart with index for point wise compliance of above TORs and its details needs to be submitted in the EIA/EMP Report.

B. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR 5(f) CATEGORY SYNTHETIC ORGANIC CHEMICALS INDUSTRY (DYES & DYE INTERMEDIATES; BULK DRUGS AND INTERMEDIATES EXCLUDING DRUG FORMULATIONS; SYNTHETIC RUBBERS; BASIC ORGANIC CHEMICALS, OTHER SYNTHETIC ORGANIC CHEMICALS AND CHEMICAL INTERMEDIATES)

1. Details on solvents to be used, measures for solvent recovery and for emissions control.
2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, other process-specific pollutants* like NH_3*, chlorine*,HCl*,HBr*,H_2S*,HF*,*etc*.,(*-as applicable)

4. Work zone monitoring arrangements for hazardous chemicals.
5. Detailed effluent treatment scheme including segregation of effluent streams for units adopting 'Zero' liquid discharge.
6. Action plan for odour control to be submitted.
7. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
8. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
9. Action plan for utilization of MEE/dryer's salts.
10. Material Safety Data Sheet for all the Chemicals are being used/will be used.
11. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
12. Details of incinerator if to be installed.
13. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
14. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.
15. Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spelled out. Proposed mitigation measures also needs to be analysed and submitted for further appraisal of the EAC.
16. Copy of Stage – I Forest clearance and SCZMA recommendations.
17. Any issues raised by local fishermen and action plan to address the issue.

ANNEXURE-II

GENERAL EC CONDITIONS

- 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.
- The PP 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.
- The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- 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).
- 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.
- 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.
- A copy of the clearance letter shall be sent by the PP to concerned Panchayat, ZillaParishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- The PP 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.
- 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.

- The PP 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.
- 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.
- This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

***

Annexure-III

List of the Expert Appraisal Committee (Industry-3) members participated during Video Conferencing (VC) meeting

S. No.	Name of Member	Designation
1.	**Prof. (Dr.) A.B. Pandit**	Chairman
2.	**Dr. Suresh Panwar**	Member
3.	**Prof. (Dr.) Vijayanand S. Moholkar**	Member
4.	**Dr. (ER.) Dibakar Swain**	Member
5.	**Shri Dinabandhu Gouda**	Member
6.	**Dr. Kishore Malviya**	Member
7.	**Dr. P. Jagannadha Rao**	Member
8.	**Prof. (Dr.) Suneet Dwivedi**	Member
9.	**Dr. D. S. Pai**	Member
10.	**Shri Dinesh Runiwal,**	Member
11.	**A N Singh**	Member Secretary
MOEFCC		
1.	**Dr. Kanchan Puri**	Scientist-B
2.	**Dr. S. Pradeepkumar**	Scientist-B

***

MOM approved by

(Prof. Aniruddha B. Pandit)
Chairman
***