

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

Dated: 26.02.2023

MINUTES OF THE 47th EXPERT APPRAISAL COMMITTEE (INDUSTRY-3 SECTOR) MEETING HELD ON 15th - 17th February 2023

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

(iii) Confirmation of Minutes of the 46th Meeting of the EAC (Industry-3 Sector) held during 30th-31st, January & 1st February, 2023, through VC.

The EAC noted that the final minutes of the above meeting were issued after incorporating the comments offered by the members and approved by the Chairman. The EAC confirmed the MoM.

Agenda No. 47.1

Expansion of Synthetic Organic Chemicals manufacturing plant at Plot No. 195, 195/3 Phase II, Notified Industrial Area, GIDC, Vapi, Tal. Pardi, Dist. Valsad, Gujarat by M/s Nitin Dye Chem Pvt. Ltd. - Consideration of Amendment in EC

[Proposal No. IA/GJ/IND3/286824/2022; File No. IA-J-11011/335/2022-IA-II(I)]

1. The proposal is for amendment in the Environmental Clearance (EC) granted by the SEIAA, Gujarat vide letter No. SEIAA/GUJ/EC/5(f)/712/2019 dated 04th May 2019 for the project of expansion of Synthetic Organic Chemicals manufacturing plant at Plot No: 195, 195/3 Phase II, Notified Industrial Area, GIDC, Vapi, Tal. Pardi, Dist. Valsad, Gujarat.
2. The project proponent has requested for amendment in the EC with the details as under:

S. No.	Condition no. in which changes proposed.	Details as per the EC	To be revised/read as	Justification/ reasons
1.	A2 (9)	Total water requirement for the project shall not exceed 352.5 KLD, Unit shall reuse 278.5 KLD (Condensate from MEE- 168.5 KLD & RO Permeate- 110 KLD for process within premises. Hence, fresh water requirement shall not exceed 74 KLD and it shall be met through GIDC water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	Total Water requirement will be 352.5 KLD, Unit shall reuse 276 KLD (Condensate from MEE & ATFD – 267.5 KLD and STP treated water 5 KLD and 3.5 KLD from blowdown and cooling tower) Hence, fresh water requirement will not exceed 76.5 KLD and it shall be met through GIDC Water supply department.	Due to change in wastewater treatment technology, minor reduction will result in the quantity of recycled water. Remark: Due to proposed amendment, there will be no change in overall water requirement, it will remain same as 352.5 KLD. 2.5 KLD recycled water will decrease and 2.5 KLD fresh water will increase. Unit has also obtained water permission from GIDC.
2.	A2 (10)	The industrial effluent generation from the project shall not exceed 327 KLD.	The industrial effluent generation from the project will be 320.5 KLD	After the proposed EC amendment, there will be no change in CETP discharge quantity. It will remain same as 7.0 KLD due to change in the effluent

				treatment scheme from RO to MEE-II
3.	A2 (13)	200 KLD Effluent generated from Boiler Blow Down, Cooling Tower Blow Down generated shall be treated in RO, RO permeate 110 KLD shall be reused while RO - Reject 90 KLD shall in treated in in-house MEE	Industrial Effluent will be treated in in-house MEE I and II followed by ATFD & Spray Dryer and MEE & ATFD Condensate i.e 267.5 KLD will be reused in plant.	
4.	A2 (14)	Process effluent 120 KLD shall be subjected to MEE along with RO-Reject 90 KLD, MEE Condensate 168.5 KLD shall be reused back in process while Reject Salt shall be disposed at approved TSDF.	Process effluent 120 KLD will be treated in MEE followed by ATFD & Spray Dryer and MEE & ATFD condensate will be reused and ATFD/Spray dryer Salt will be disposed at approved TSDF.	--
5.	A2 (15)	Unit shall provide adequate effluent treatment plant (ETP), RO & MEE system for treatment of industrial effluent and it shall be operated regularly and efficiently so as to achieve the GPCB/CPCB/MoEF&CC norms at the inlet to the CETP.	Unit shall provide adequate effluent treatment plant (ETP), MEE: I and II system followed by ATFD & Spray Dryer for treatment of industrial effluent and it shall be operated regularly and efficiently so as to achieve the GPCB/CPCB/MoEF&CC norms at the inlet to the CETP.	Unit will provide MEE-II followed by ATFD & Spray dryer for treatment of industrial effluent.
6.	A2 (16)	Domestic wastewater generation shall not exceed 5.0 KL/day and it shall be treated in soak pit/septic tank.	Domestic wastewater generation will be 5.0 KLD and it shall be treated in STP and treated water will be reused for gardening and floor washing purpose.	Unit will provide package STP Plant for treatment of domestic effluent and treated sewage will be reused.

7.	A2 (18)	Proper logbooks of ETP, Chemical consumption, quantities and qualities of effluent discharge to RO, MEE, CETP power Consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Proper logbooks of ETP, Chemical consumption, quantities and qualities of effluent discharge to MEE followed by ATFD & Spray dryer, CETP power Consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	--
8.	A3 (19)	<p>In Existing Scenario, Unit has installed NG fired 600 Kg/h capacity of Steam boiler, 70000 K Cal capacity of Thermopack and 3 Nos. of white coal fired 1 Lakhs K Cal capacity of Hot Air Generator: I, II,III. Dust collector has installed to Hot Air Generator. 11 m stack height has provided to Steam Boiler, Thermopack and Hot Air Generator.</p> <p>In Proposed Scenario, NG fired 2000 Kg/h capacity of Steam boiler and 2 Lakhs K Cal capacity of Thermopack will be installed along with 11 m stack height. 3 Nos. of White coal fired 1 Lakhs k cal capacity of Hot air generator: IV, V, VI will be installed. Bag filter and 11 m stack height will be provided. NG fired spray dryer will be installed. Cyclone separator & water scrubber along with 15 m</p>	<p>Additional, imported coal fired 10 Lakhs K Cal/hr capacity of Hot Air generator will be installed. MDC & Wet Scrubber along with 30 m stack height will be provided. 2400 kg/h capacity of spray dryer will be provided. Cyclone separator & water scrubber along with 30 m stack height will be provided. 2 Nos. of Imported coal fired 2000 kg/h capacity of steam boiler will be provided. MDC, Bag filter & Wet Scrubber along with 30 m stack height will be provided. Other utilities will remain same as per granted EC and only change in fuel in Hot Air Generator-III, IV. Wood is also used as a fuel and/or of white coal in hot air generators.</p>	<p>Due to change in treatment scheme, unit will install additional one number of hot air generator of 10 lakhs k cal/hr capacity and two numbers of steam boilers with 2000 kgs/hr capacity of steam boilers and spray dryer of 2400 kgs/hr capacity.</p> <p>Other Utilities will remain same</p>

		stack height will be provided. HSD fired DG Set will be installed along with 11 m of stack height.		
9.	A4 (28)	Waste containing metals from the process – 353.40 TPA- Disposed off into TSDF Vapi. Used Oil – 0.024 TPA – Sell to registered recycler. Discarded Containers – 20 TPA – Sell to Authorized recycler. Waste from ETP – 300 TPA – Disposed off into TSDF Vapi. Salt from MEE – 5110 TPA – Disposed off into TSDF Vapi.	Waste containing metals from the process – 353.40 TPA- Disposed off into TSDF Vapi. Used Oil – 0.024 TPA – Sell to registered re-refiner. Discarded Containers – 20 TPA – Sell to Authorized recycler. Waste from ETP – 300 TPA – Disposed off into TSDF Vapi. Salt from ATFD/Spray Dryer – 8190 TPA – Disposed off into TSDF Vapi.	Due to change in the treatment technologies, there will be increase in the quantity of Salt generated from MEE, ATFD and Spray dryer. There will be change in the quantity of Salt from ATFD/Spray Dryer from 5110 to 8190 TPA
10.	A5 (32)	The project-proponent shall allocate the separate fund of Rs. 2.51 Lakhs i.e. 1 % of the capital investment for activities under Corporate Environment Responsibility (CER) in accordance to the MoEFCC's Office Memorandum No. F. No. 22-65/2017-IA.III dated 01/05/2018. The entire activities proposed under CER shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to district collector. The	As proposed by the PP, Unit will spend Rs. 7.21 Lakhs i.e. 1 % of the additional capital investment for the proposed activities under Corporate Environment Responsibility (CER).	Due to increase in the project cost, there will be increase in the cost of CER.

		monitoring report shall be posted on the website of the project proponent.		
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3. The proposal was earlier considered in the 42nd EAC meeting held on 14th & 15th November, 2022 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 . N o .	Querie s Rai sed by EAC	Reply by PP	Obse rvati on of EAC
	Being an amendment case, the PP shall submit the revised the capital cost and recurring cost for EMP	Unit has revised the capital cost and recurring cost for EMP and Bifurcation of EMP cost and recurring cost has been submitted.	The EAC found the reply submitted by the PP satisfactory.
	The PP shall submit the separate column for the usage of Briquette and their merits and	Industry carried out Air Modelling study as usage of Imported coal, Briquette and Natural gas in proposed amendment. Comparison of Maximum Incremental Concentration result for Imported coal, Briquette and Natural gas.	The EAC found the reply submitted by the PP satisfactory.

demerits regarding the cost of environmental load.																																																									
The PP shall submit the details of carbon footprint and carbon sequestration study w.r.t. proposed project and based on natural gas and agro based briquettes. Proposed mitigation measures also needs to be submitted for further	<p>The PP has submitted that Agro Briquettes will be used as fuel and CO₂ Emission (tco₂ e/Annum), Transportation sector, estimated Carbon Sequestration from Proposed Greenbelt has been submitted.</p> <table border="1" data-bbox="371 658 1287 1856"> <thead> <tr> <th>S. No</th> <th>Species</th> <th>Green Weight of Tree above ground level</th> <th>Green weight (including root)</th> <th>Dry Weight of tree</th> <th>Weight of carbon in the tree</th> <th>Weight of CO₂</th> <th>Weight of CO₂ Sequestered in tree per year</th> <th>No of tree planted in existing green belt</th> <th>CO₂ Sequestered kg/year</th> <th>CO₂ Sequestered Ton/Year</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Azadirachta indica</td> <td>38.57</td> <td>46.29</td> <td>33.56</td> <td>16.78</td> <td>123.03</td> <td>41.01</td> <td>80</td> <td>3280.8</td> <td>3.2808</td> </tr> <tr> <td>2</td> <td>Aegle marmelos</td> <td>33.33</td> <td>6.67</td> <td>29</td> <td>14.50</td> <td>106.32</td> <td>35.44</td> <td>80</td> <td>2835.2</td> <td>2.8352</td> </tr> <tr> <td>3</td> <td>Albizia lebbek</td> <td>30.0</td> <td>36</td> <td>26.10</td> <td>13.05</td> <td>95.69</td> <td>31.90</td> <td>100</td> <td>3190</td> <td>3.19</td> </tr> <tr> <td>4</td> <td>Bougainvillea</td> <td>11.90</td> <td>14.29</td> <td>10.36</td> <td>5.18</td> <td>37.97</td> <td>12.66</td> <td>140</td> <td>1772.4</td> <td>1.7724</td> </tr> </tbody> </table>	S. No	Species	Green Weight of Tree above ground level	Green weight (including root)	Dry Weight of tree	Weight of carbon in the tree	Weight of CO ₂	Weight of CO ₂ Sequestered in tree per year	No of tree planted in existing green belt	CO ₂ Sequestered kg/year	CO ₂ Sequestered Ton/Year	1	Azadirachta indica	38.57	46.29	33.56	16.78	123.03	41.01	80	3280.8	3.2808	2	Aegle marmelos	33.33	6.67	29	14.50	106.32	35.44	80	2835.2	2.8352	3	Albizia lebbek	30.0	36	26.10	13.05	95.69	31.90	100	3190	3.19	4	Bougainvillea	11.90	14.29	10.36	5.18	37.97	12.66	140	1772.4	1.7724	The EAC found the reply submitted by the PP satisfactory
S. No	Species	Green Weight of Tree above ground level	Green weight (including root)	Dry Weight of tree	Weight of carbon in the tree	Weight of CO ₂	Weight of CO ₂ Sequestered in tree per year	No of tree planted in existing green belt	CO ₂ Sequestered kg/year	CO ₂ Sequestered Ton/Year																																															
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appraisal of the EAC		spectabilis										
	5	Cassia fistulosa	43.54	52.24	37.88	18.97	138.87	46.29	96	4443.84	4.44384	
	6	Dalbergia latifolia	39.18	47.02	34.09	17.04	124.98	41.66	85	3541.1	3.5411	
	7	Manilkara zapotota	23.33	28.0	20.30	10.15	74.43	24.81	85	2108.85	2.10885	
	8	Mangifera indica	26.94	32.33	23.44	11.72	85.93	28.64	120	3436.8	3.4368	
	9	Syzygium cumini	24.49	29.39	21.31	78.11	78.11	26.01	120	3121.2	3.1212	
	10	Terminalia Catappa	29.39	35.27	25.57	12.78	93.74	31.25	74	2312.5	2.3125	
	11	Tamarindus Indica	81.63	97.96	71.02	35.51	260.38	86.79	120	10414.8	10.4148	
	12	Plumeria rubra	33.33	40.00	29.00	14.50	106.32	35.44	100	3544	3.544	
		Total								1200	44001.49	44.0149
The PP shall submit revised and detailed water balance	Detailed Water balance diagram has been submitted.											

<p>The PP needs to submit details of energy conservation measures proposed in the Unit.</p>	<p>Use of energy efficient appliances like LED lighting, Use of roof top wind extractors, VFD on pump and motors and Solar Panels and Solar light, etc.</p> <ul style="list-style-type: none"> ➤ Use of Automatic Power Factor Correction. ➤ Inclusion of passive architecture in building design for natural light in admin blocks ➤ Efficient use of cooling tower (multiple cells) and placing them at height to reduce pumping energy. ➤ Biomass will be used as per guidelines issued by Government. ➤ Major initiatives including installation of VFD's ➤ Regular energy conservation initiatives are/will be taken to reduce energy consumption 	
<p>The PP shall submit the compliance/action plan w.r.t each of the mitigation measure for CPA mentioned in the Ministry's O.M. dated 31.10.2019</p>	<p>Compliance of CPA conditioned mentioned in the Ministry's O.M. dated 31.10.2019 has been submitted.</p>	
<p>The PP needs to submit the details</p>	<p>Onsite/Offsite emergency plan has been submitted.</p>	

of Onsite/ Offsite emerg ncy plan and mitigati on measur es to be propos ed during implem entatio n of the project.		
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4. **Deliberations by the EAC:**

The EAC constituted under the provisions of the EIA Notification, 2006 and comprising of expert members/domain experts in various fields, examined the proposal submitted by the Project Proponent in desired form.

The EAC inter-alia, deliberated on the existing and proposed compliance to the O.M. dated 31.10.2019 reg. CPAs/SPAs, compliance status of the existing EC, compliance to the latest obseravtions of GPCB. The PP submitted the revised/updated information/documents of the same and the EAC found it to be satisfactory.

5. After detailed deliberations, the EAC **recommended** the amendment in EC, as detailed in above-mentioned table subject to the following additional conditions:

- (i). Adequate stack height as per CPCB/SPCB guidelines shall be provided. Stack emission levels shall be stringent than the existing standards in terms of the identified critical pollutants.
- (ii). CEMS shall be installed and connected to SPCB/CPCB Server.
- (iii). Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
- (iv). The transportation of raw materials by road shall be done with adequate control measures. The transportation of materials by rail/belt conveyer shall also be explored.
- (v). Natural Gas/Agro Briquettes shall be used for additional utilities.

- (vi). The best available technology shall be used.
- (vii). The PP shall develop/maintain the greenbelt over an area of at least 3647.00 m² by planting approx. 1200 numbers of saplings within a year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP should 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). The unit shall continue to develop greenbelt outside the plant premises, such as avenue plantations, plantations in vacant space, social forestry, etc. and maintain the same.
- (ix). The transportation load on roads shall be within their carrying capacity and adequate width of roads shall be maintained inside the industrial premises.
- (x). Out of the total industrial effluent generated (320.50 KLD), 267.50 KLD shall be recycled within the premises by installing MEE/ATFD units, and wastewater from boiler blowdown (2.50 KLD) and cooling tower blowdown (1.00 KLD) shall be recycled for floor/container washing. Sewage (5.00 KLD) shall be recycled for gardening (1.50 KLD) and floor washing (3.50 KLD). The total recycle quantity shall be 276.00 KLD.
- (xi). The PP shall provide an in-house rainwater harvesting structure (tank capacity: 10 KL), and collected rainwater shall be reused within the premises.
- (xii). Treated effluent shall be disposed to the CETP, Vapi and there shall be no additional quantity discharged outside the premises. A total of 271.00 KLD of industrial effluent shall be recycled within the premises through MEE/ATFD units.
- (xiii). Domestic effluent (5.00 KLD) shall be treated in-house in a STP, and the treated effluent shall be reutilized for gardening and floor washing.
- (xiv). Fly ash shall be sold to the brick / cement manufacturers in an environmentally sound manner.
- (xv). Hazardous wastes shall be managed and disposed of as per the HWM-2016 rules.
- (xvi). Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.
- (xvii). As proposed, the CER activities should include Sustainable Livelihood options & Women Empowerment and Education & Health Initiatives in nearby villages.

- (xviii). All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The Project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
- (xix). The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.

Agenda No. 47.2

Setting up of pesticides and pesticide specific intermediates & Synthetic Organic Chemicals manufacturing plant with total production capacity 431161 TPA, Co product 10480 TPA and CPP of 4.9 MW capacity located at Plot no. 41/1 & 41/2, GIDC Notified Industrial Estate, Jhagadia, District Bharuch, Gujarat by M/s Aarti Industries Limited - Mergers of two Environmental Clearances

[Proposal No. IA/GJ/IND3/291239/2022; File No. IA-J-11011/458/2021-IA-II(I)]

1. The proposal is for amalgamation of two Environmental Clearances of adjacent units of Aarti Industries Limited i.e. Aarti Industries Limited (Unit-IV) at Plot No: 41/2 and Aarti Industries Limited at Plot No: 41/1 located in Notified Industrial Estate of Jhagadia, Gujarat.
2. The PP reported that Aarti Industries Limited (Unit IV) has obtained EC from SEIAA vide EC No. SEIAA/GUJ/EC/5(f)/1204/2022 dated 17th May 2022 for setting up manufacturing plant of “Synthetic Organic Chemicals” at Plot no. 41/2, GIDC Notified Industrial Estate, Jhagadia. Ta-Jhagadia, Dist- Bharuch. Aarti Industries Limited has obtained EC from MoEFCC vide Identification No. EC22A017GJ128773 dated 08th June 2022 for Setting up of pesticides and pesticide specific intermediates & Synthetic Organic Chemicals of capacity 201480 TPA located at Plot no. 41/1, GIDC Notified Industrial Estate, Jhagadia, District Bharuch, Gujarat.
3. The project/activity is covered under Category ‘A’ of item 5(b) and 5(f) of Schedule of Environment Impact Assessment (EIA) Notification and requires appraisal at Central Level by Expert Appraisal Committee (EAC).
4. The proposal was placed in 43rd EAC Meeting held on 30th November- 1st- 2nd December 2022 wherein the proposal was referred back to the PP for requisite information. Now, the proposal is placed in 47th EAC Meeting held on 15th-17th February,2023 wherein the Project Proponent and an accredited Consultant, M/s Eco Chem Sales and Services [Accreditation number NABET/EIA/2023/RA0181 validity till 3.2.2023], made a detailed presentation on the amalgamated project and informed the following:
5. The details of products and capacity are as under:

Sr. No.	Name of the Products	CAS No.	Capacity in MT/Annum			End Use of the Product
			Aarti Industries Limited (U-IV)	Aarti Industries Limited	Total after EC amalgamation	
Aarti Industries Limited (U-IV) – Product List						
A	Halogenated benzene and toluene intermediates (Other derivatives and same pollution load)					
1	2,4 Dichloro fluorobenzene (DCFB)	1435-48-9	5600 (either/or) *2,3 dichloro toluene (2,3 DCT) not more than 500 TPA	0	5600 (either/or) *2,3 dichloro toluene (2,3 DCT) not more than 500 TPA	Pharma Intermediate
2	2,6 Dichloro fluorobenzene (DCFB)	05-05-2268				Pharma Intermediate
3	p-chloro fluoro benzene (PCFB)	352-33-0				Pharma Intermediate
4	o-chloro fluoro benzene (OCFB)	348-51-6				Pharma Intermediate
5	2,4 dichloro toluene (2,4 DCT)	95-73-8				Dyes & Dye Intermediates, Basic Pharma Intermediates
6	2,6 dichloro toluene (2,6 DCT)	118-69-4				Pharma Intermediates
7	2,3 dichloro toluene (2,3 DCT)*	32768-54-0				Pharma Intermediates
8	Ortho chloro Toluene (OCT)	95-49-8	30000 (either/or)	0	30000 (either/or)	Dyes & Dye Intermediates, Basic Pharma Intermediates, Pigments, Polymer
9	Para chloro Toluene (PCT)	106-43-4				Dyes & Dye Intermediates, Basic Pharma Intermediates, Pigments, Polymer
10	Meta chloro Toluene (MCT)	108-41-8				Pharma Intermediates
11	Dichloro toluenes (DCT mixture)	Multiple				Pharma Intermediates, Dyes & Dye Intermediates
B	Fluorinated Specialty Chemicals (Other derivatives and same pollution load)					
1	2-chloro-4-fluorotoluene (2C4FT)*	452-73-3.	1200 (either/or) *2-	0	1200 (either/or) *2-chloro-	Pharma Intermediate

2	3-fluorotoluene (3FT)	352-70-5	chloro-4-fluorotoluene (2C4FT) not more than 700 TPA		4-fluorotoluene (2C4FT) not more than 700 TPA	Pharma Intermediate
3	4-fluorotoluene (4FT)	352-32-9				Pharma Intermediate
4	Fluorobenzene (FB)	462-06-6				Pharma
5	1,4 difluorobenzene (1,4 DFB)	540-36-3				Pharma Intermediate
6	1,2,4 trifluorobenzene (1,2,4 TFB)	367-23-7				
7	Benzotrifluoride (BTF)	98-08-8	8000 (either/or)	0	8000 (either/or)	Pharma Intermediate
8	Para chloro benzotrifluoride (PCBTF)	98-08-8				Pharma Intermediate , Veterinary drug intermediate
9	2,4 dichloro benzotrifluoride (2,4 DCBTF)	98-56-6				1200 (either/or)
10	3-fluoro benzotrifluoride (3 FBTF)	320-60-5	Speciality chemicals intermediate			
C	Halex Derivatives (Other derivatives and same pollution load)					
1	3-chloro-4-fluoro nitro benzene (3,4 CFNB)	350-30-1	5000 (either/or)	0	5000 (either/or)	Pharma Intermediates
2	2-fluoro-5 chloro nitro benzene (2,5 FCNB)	345-18-6				Pharma Intermediate , Veterinary drug intermediate
D	Other Halex Derivatives (Other derivatives and same pollution load)					
1	2-fluoro - 3-chloro nitro benzene (2,3 FCNB)	2106-49-2	5000 (either/or)	0	5000 (either/or)	Pharma Intermediates
2	2,3,4-trifluoro nitrobenzene (2,3,4 TFNB)	771-69-7				Pharma Intermediates
3	4-fluoro benzaldehyde (PFBAD)	459-57-4				Pharma Intermediates
4	2,6-difluoro benzonitrile (2, 6 DFBN)	1897-52-5				Pharma Intermediates
5	2-fluoro nitrobenzene (OFNB)	1493-27-2				Pharma Intermediates

6	Para-fluoro nitro benzene (PFNB)	350-46-9				Pharma Intermediates
7	2,4 di fluoro nitro benzene (2,4 DFNB)	446-35-5				Pharma Intermediates
E Nitrated Intermediates (Other derivatives and same pollution load)						
1	4-nitro-N-methyl phthalimide (4 NPI)	1663-84-7	12000	0	12000	Polymer
F Other Nitrated Intermediates (Other derivatives and same pollution load)						
1	2,4-dichloro-3-fluoro nitro benzene (2,4,3 DCFNB)	393-79-3	5000 (either/or)	0	5000 (either/or)	Pharma Intermediate
2	3-nitro benzotrifluoride (MNBTF)	98-46-4				Pharma Intermediate , Veterinary drug intermediate
3	3-nitro-4-chloro benzotrifluoride (CNBTF)	121-17-5				Pharma Intermediates
4	3,5-dinitro-4-chloro benzotrifluoride (CDNBTF)	393-75-9				Pharma Intermediates
5	1-(3-nitrophenyl) ethanone (3-NAP)	121-89-1				Speciality chemicals intermediate
6	2,4-dichloro-3,5-dinitro benzotrifluoride (DCDNBTF)	29091-09-6				
G Chlorinated Intermediates (Other derivatives and same pollution load)						
1	6-chloro-2-nitro toluene (6 CONT)	83-42-1	5000 (either/or)	0	5000 (either/or)	Veterinary drug intermediate & Speciality chemical intermediate
2	4-chloro-2-nitro toluene (4 CONT)	89-59-8				Veterinary drug intermediate & Speciality chemical intermediate
3	3,5 dichloro benzoyl chloride (35 DCBoC)	2905-62-6	2000 (either/or)	0	2000 (either/or)	Pharma Intermediates
4	3,4 dichloro benzotrifluoride (3, 4 DCBTF)	328-84-7				Plastics intermediate

						& Pharma intermediate
H	Advanced Intermediates (Other derivatives and same pollution load)					
1	2-nitro-4-methyl sulfonyl benzoic acid (NMSBA)	110964-79-9	1500	0	1500	Speciality chemicals intermediate
2	(2,6-Diisopropyl-4-Phenoxy-Phenyl)Thiourea (DIPPT)	135252-10-7	800	0	800	Speciality chemicals intermediate
3	7-fluoro-1,1,3-trimethyl-2,3-dihydro-1H-inden-4-amine (IDA)	1383809-95-7	400 (either/or)	0	400 (either/or)	Speciality chemicals intermediate
4	2,4,5-Trifluorophenylacetic acid (TFPAA)	209995-38-0				Pharma Intermediates
5	10,11-Dihydro-5H-dibenz[b,f]azepine (IDB)	494-19-9	1000 (either/or)	0	1000 (either/or)	Pharma
6	5H-Dibenz[b,f]azepine (ISB)	256-96-2				Pharma
7	10-Methoxy-5H-dibenzo[b,f]azepine (10MISB)	07-11-4698				Pharma
I	Oxidation Intermediates (Other derivatives and same pollution load)					
1	4-methyl benzoic acid (PTA)	99-94-5	1500 (either/or)	0	1500 (either/or)	Pharma Intermediate
2	2-methyl benzoic acid (OTA)	118-90-1				Pharma Intermediate
3	3-methyl benzoic acid (MTA)	99-04-7				Pharma Intermediate
4	4-nitro benzoic acid (PNBA)	62-23-7				Pharma Intermediate
5	2-chloro benzoic acid (OCBA)	118-91-2				Pharma Intermediate
6	4-chloro benzoic acid (PCBA)	74-11-3				Plastics intermediate & Pharma intermediate
7	2-chloro-4-fluoro benzoic acid (OCPFBA)	2252-51-9				Pharma Intermediates
J	Condensation Products (Other derivatives and same pollution load)					
1	4,4'-dinitro diphenyl ether (4,4 DNDPE)	101-63-3	3500 (either/or)	0	3500 (either/or)	Polymer Intermediates
2	3,4'-dinitro diphenyl ether (3,4 DNDPE)	101-63-3				Polymer Intermediates
K	Hydrogenated Intermediates (Other derivatives and same pollution load)					

1	2,3,4 trifluoro aniline (2,3,4 TFA)	3862-73-5				Pharma intermediate
2	3-(Trifluoromethyl)aniline (MABTF)	98-16-8	6000 (either/or) *1-(3-aminophenyl) ethanone (3-AAP) not more than 500 TPA	0	6000 (either/or) *1-(3-aminophenyl) ethanone (3-AAP) not more than 500 TPA	Pharma Intermediate , veterinary drug intermediate
3	3-chloro-2-methylaniline (3 COT)	87-60-5				Food chemicals & Pharma intermediates
4	2-Chloro-4-methylaniline (OCPT)	615-65-6				Dye & Pigment intermediate
5	1-(3-aminophenyl) ethanone (3-AAP)	99-03-6				Pharma
6	4,4'-diamino diphenyl ether (4,4 DADPE)	101-80-4	2500 (Either/or)	0	2500 (Either/or)	Polymer
7	3,4'-diamino diphenyl ether (3,4' DADPE)	2657-87-6				Polymer
L	Sulfonated Intermediates (Other derivatives and same pollution load)					
1	2-Sulfobenzaldehyde, sodium salt (BOSA)	1008-72-6	2500 (either/or)	0	2500 (either/or)	Pharma Intermediate
2	4-Sulfobenzaldehyde, sodium salt (BPSA)	5363-54-2				Pharma Intermediate
3	4-Aminotoluene-3-sulfonic acid (4B Acid)	88-44-8				Pharma Intermediate
4	2-Amino-4-chloro-5-methylbenzenesulfonic acid (2B Acid)	88-51-7				Pharma Intermediate
5	3,4-Diaminobenzenesulfonic acid (Orthaminic Acid)	7474-78-4	5000	0	5000	Battery Chemicals
M	Diazotization Intermediates (Other derivatives and same pollution load)					
1	3-methylphenol (MC)	108-39-4	1200	0	1200	Pharma Intermediate
2	3,4-dimethylphenol (3,4 Xylenol)	95-65-8	800 (either/or) *2-fluorophenol (OFP) not more than 400 TPA	0	800 (either/or) *2-fluorophenol (OFP) not more than 400 TPA	Pharma Intermediate
3	2,3-dichlorophenol (2,3 DCP)	576-24-9				Pharma Intermediate
4	2-fluorophenol (OFP)*	0367-12-4				Pharma Intermediate
5	1,2,3-trifluorobenzene (1,2,3 TFB)	1489-53-8				Pharma Intermediate

6	4-fluorophenol (PFP)	371-41-5				Pharma Intermediate
7	1-(3-hydroxyphenyl) ethanone (3 HAP)	121-71-1				Pharma
N	Photochlorinated Intermediates (Other derivatives and same pollution load)					
1	Benzyl chloride (BC)	100-44-7	10000 (either/ or)	0	10000 (either/ or)	Pharma Intermediate
2	Benzalchloride (BDC)	98-87-3				Pharma Intermediate
3	Benzotrichloride (BTC)	98-07-7				Pharma Intermediate
4	Para chloro benzyl chloride (PCBC)	104-83-6	9000 (either/ or)	0	9000 (either/ or)	Pharma Intermediate
5	Para chloro benzal chloride (PCBDC)	13940-94-8				Pharma Intermediate
6	Para chloro benzotrichloride (PCBTC)	5216-25-1				Pharma Intermediate
7	Ortho chloro benzyl chloride (OCBC)	611-19-8	13000 (either/ or)	0	13000 (either/ or)	Cosmetics additives and Pharma intermediate
8	Ortho chloro benzal chloride (OCBDC)	88-66-4				Pharma Intermediate
9	Ortho chloro benzotrichloride (OCBTC)	2136-89-2				Pharma Intermediate
10	2,4 dichloro benzotrichloride (2,4 DCBTC)	13014-18-1	3600 (either/ or)	0	3600 (either/ or)	Pharma Intermediate
11	Para fluoro benzotrichloride (PFBTC)	402-42-6				Speciality chemicals intermediate
12	Meta fluoro benzotrichloride (MFBTC)	401-77-4				Speciality chemicals intermediate
O	Hydrolysis Intermediates (Other derivatives and same pollution load)					
1	Ortho chloro benzaldehyde (OCBAD)	89-98-5	4500 (either/ or)	0	4500 (either/ or)	Cosmetics additives and Pharma intermediate
2	Para chloro benzaldehyde (PCBAD)	104-88-1				Pharma Intermediate

3	2,4 dichloro benzaldehyde (24 DCBAD)	874-42-0				Pharma Intermediate
4	Benzoyl chloride (BoC)	98-88-4	2400 (either/or)	0	2400 (either/or)	Pharma Intermediate
5	Para chloro benzoyl chloride (PCBoC)	122-01-0				Pharma Intermediate
6	Para fluoro benzoyl chloride (PFBoC)	403-43-0				Pharma Intermediate
P	Amoxidation Intermediates (Other derivatives and same pollution load)					
1	Ortho chloro benzonitrile (OCBN)	873-32-5	7000 (either/or)	0	7000 (either/or)	Food chemicals, Veterinary intermediate & Pharma intermediates
2	Para chloro benzonitrile (PCBN)	623-03-0				Food chemicals, Veterinary intermediate & Pharma intermediates
3	2,6 dichloro benzonitrile (26 DCBN)	1194-65-6				Pharma intermediate
Q	Miscellaneous Products (Other derivatives and same pollution load)					
1	Potassium Fluoride (KF)	7789-23-3	9000	0	9000	Pharma Intermediates
R	Calcium Chloride Solid (CaCl₂)	10043-52-4	74711	0	74711	Oil exploration & used for brine solution
S	Developmental Products for synthetic organic chemicals (e.g. Dye & dyes intermediate, bulk drugs and intermediate, synthetic rubber, basic organic chemicals, other synthetic organic chemical and chemical intermediates, Specialty chemicals, API and its formulations and other new R&D product)	Multi products Pilot Plant	250	0	250	R&D activity

Total Aarti Industries Limited (U-IV) Products			240161	0	240161	-
Aarti Industries Limited – Product List						
1.	Pesticides and pesticide specific intermediate (excluding formulations) – 60,100 TPA					
1	Fomesafen	72178-02-0	0	1000	1000	Pesticides
2	Prodiamine	29091-21-2	0	3000 (either/or)	3000 (either/or)	Pesticides
3	Diflufenican	83164-33-4				Pesticides
4	Oxyfluorfen	42874-03-3				Pesticides
5	Triflumuron*	64628-44-0				Pesticides
6	Metolachlor	51218-45-2	0	16000	16000	Pesticides
7	Mesotrione	104206-82-8	0	3000 (either/or)	3000 (either/or)	Pesticides
8	Diafenthiuron	80060-09-9				Pesticides
9	Aclonifen	74070-46-5				Pesticides
10	Chlorothalonil	1897-45-6				Pesticides
11	Dicamba	1918-00-9	0	16000	16000	Pesticides
12	Diquat dibromide	85-00-7	0	4000	4000	Pesticides
13	Diuron	330-54-1	0	8000	8000	Pesticides
14	Bromoxynil	1689-84-5	0	2000 (either/or)	2000 (either/or)	Pesticides
15	Bromoxynil Octanoate	1689-99-2				Pesticides
16	Bromoxynil Heptanoate	56634-95-8				Pesticides
17	Mecoprop-P (MCP)	16484-77-8	0	2100 (either/or)	2100 (either/or)	Pesticides
18	4-Chloro-2-methylphenoxyacetic acid (MCPA)	94-74-6				Pesticides
19	Salicyl –aldehyde	90-02-8				Pesticides
20	4- methyl -2 hydrazino benzothiazole (HMBT)	20174-68-9		3000	3000	Pesticides
21	1,3 –dissopropyl 2-isothiocyanato-5 phenoxybenzene (DIPPI)	80058-93-1	0	2000	2000	Pesticides

2. Synthetic organic chemicals – 130900 TPA						
1	Anthraquinone	84-65-1	0	3000	3000	Pharma intermediate, Colorant intermediate
2	1- Nitro Anthraquinone	82-34-8	0	2000	2000	Colorant intermediate
3	1- amino anthraquinone	82-45-1	0	1500	1500	Colorant intermediate
4	Bromamine Acid	116-81-4	0	4000	4000	Colorant intermediate
5	1,4 dihydroxy anthraquinone	81-64-1	0	1000 (either/or)	1000 (either/or)	Colorant intermediate
6	1,8 dinitro -4,5 dihydroxy anthraquinone	39003-36-6				Colorant intermediate
7	Beta naphthol	135-19-3	0	25000	25000	Pharma intermediate, Colorant intermediate
8	BON Acid	92-70-6	0	4000	4000	Pharma intermediate, Colorant intermediate
9	Tobias Acid	81-16-3	0	4000	4000	Colorant intermediate
10	Alpha Naphthol	90-15-3	0	1000	1000	Pharma intermediate
11	Cyclohexanone*	108-94-1	0	20000	20000	Pharma intermediate, Colorant intermediate
12	6 hydroxy 2 naphthoic acid	16712-64-4	0	2000	2000	Pharma intermediate
13	Benzoic acid	65-85-0	0	10000	10000	Pharma intermediate, Colorant intermediate
14	Sodiumbenzoate	119-61-9	0	15000	15000	Pharma intermediate
15	Benzoylchloride	98-88-4	0	3000	3000	Pharma intermediate, Colorant intermediate
16	N-Tertiarybutyl-2-benzothiazole sulfenamide (TBBS)	95-31-8	0	10000 (either/or)	10000 (either/or)	Rubber Intermediate, Food

						Chemical Intermediate
17	N-cyclohexyl-2-benzothiazolesulfenamide (CBS)	95-33-0				Rubber Intermediate, Food Chemical Intermediate
18	2,2,4-Trimethyl-1,2-dihydroquinoline (TMQ)	26780-96-1	0	2400	2400	Rubber Intermediate, Food Chemical Intermediate
19	N-1,3-Dimethylbutyl-N - phenyl-pphenylenediamine (6 PPD)	793-24-8	0	8000	8000	Rubber Intermediate
20	O-tolyl benzonitrile	114772-53-1	0	3000 (either/or)	3000 (either/or)	Pharma intermediate
21	2 cyano-4-bromo methyl biphenyl	114772-54-2				Pharma intermediate
22	2,4,5 trifluorobromobenzene	327-52-6	0	1000 (either/or)	1000 (either/or)	Pharma intermediate
23	3,4,5 trifluorobromobenzene	138526-69-9				Pharma intermediate
24	dibromo - tri-fluoromethoxy aniline	88149-49-9				Pharma intermediate
25	L-Menthol*	2216-51-5				0
26	Vitamin E	59-02-9	Pharma intermediate			
27	Thymol	89-83-8	Pharma intermediate			
28	1,4-Dihydroxy-2,3,5-trimethylbenzene (2,3,5-TMHQ)	700-13-0	Pharma intermediate			
29	M-hydroxy benzoic acid	99-06-9	Pharma intermediate			
30	DL-Menthol*	89-78-1	Pharma intermediate			
31	2,6-Diisopropylaniline	24544-04-05	0	2000 (either/or)	2000 (either/or)	Specialty Chemical intermediate
32	2-Isopropylaniline*	643-28-7				Pharma intermediate
* Indicates have co products						

List of Co-Products – 10,480 TPA						
1	1H-imidazole	288-32-4	0	1680	1680	Pesticides
2	Cyclohexanol	108-93-0	0	700	700	Polymers
3	D-Menthol	15356-60-2	0	3780	3780	Pharma intermediate
4	Isomenthol	3623-52-7	0	1620	1620	Pharma intermediate
5	Neomenthol	2216-52-6	0	2700	2700	Pharma intermediate
Total Aarti Industries Limited Products			0	201480	201480	-
Co-Generation Power Plant (1 No.)			0	4.9 MW	4.9 MW	Captive use
Total Product After EC Amalgamation			240161	191000	431161	-
Total Co Products after EC Amalgamation			0	10480	10480	-
Total Co-Generation Power Plant after EC Amalgamation			0	4.9 MW	4.9 MW	

6. The PP reported that after proposed amalgamation, the total project area is 327490.34 m². Industry will develop greenbelt in an area of 33.57% i.e. 109793.4 m² out of total area of the project. The estimated project cost is reducing from Rs. 3083.8 Crore to Rs. 3071.8 Crore. Total capital cost earmarked towards environmental pollution control measures is Rs. 190 Crore and the Recurring cost (operation and maintenance) will be about Rs. 229.23 Crore/Annum. Total direct employment will be 105 persons. Industry proposes to allocate Rs. 17.22 Crore towards CER which includes Health & Hygiene Project, Environment & Water Conservation Project, Education etc.
7. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017, no direction issued under E(P) Act/Air Act/Water Act and no litigation is pending against both the projects.
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/ water body Amravati river, Kaveri River, KondhkiKhaadi & Kim Nadi is flowing at a distance of 2.64 kms to S, 6.04 kms to NNE, 6.89 kms to SW & 9.02 kms to SSE in direction respectively. The PP reported that there is one of Schedule-I species i.e. Peacock (Indian peafowl) and the conservation plan with budgetary provision of Rs. 2 Lakh has been prepared and submitted to Deputy Conservator of Forests, Bharuch on 21.03.2022. The PP committed to implement the plan in five years.
9. The PP reported that total fresh water requirement after amalgamation will reduce from 10607.1 m³/day to 10558 m³/day, and will be met from GIDC. After amalgamation, the effluent quantity will reduce from 9140 m³/day to 9077 m³/day, which will be treated through ETP+ATFD+ETP+RO+STP.
10. The PP reported that the power requirement after amalgamation will reduce from 50000 kVA to 48000 KVA and will be met from DGVCL, Gujarat. The DG sets will reduce from 14 nos.

to 12 nos. with a capacity of 2000 kVA each. Stack will be provided as per CPCB norms to the proposed DG sets.

11. The amalgamated Unit will not exceed fuel consumption for boilers, Thermopack, TFH & DG Sets as mentioned below:

S. No.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Air Pollution Control Measures (APCM)
AS per EC of Aarti Industries Limited (U-IV)					
1	Boilers (2 nos. x 50TPH)	60	Imported Coal/ coal & Biomass	533 (for 2 Boilers)	ESP + Lime dosing system with coal + OCEMS
2	Boiler (1 no. x 50 TPH)	30	Natural gas	4450 SCM/hr	--
3	Thermopack (2 no. x 20 lakh K cal/hr)	30	Imported Coal / coal & Bio mass	40	Bag Filter + Lime dosing system
4	DG Set (8 nos. x 2000 kVA)	11	HSD	600 lit/hr (for each D.G.Set)	--
AS per EC of Aarti Industries Limited					
5	Coal Fired Boiler (2nos. x 50 TPH)	60	Coal/ Coal & Biomass	900	ESP and Lime addition along with coal (Dry Scrubber) & OCEMS
6	CPP Boiler (50 TPH)	60			
7	TFH (1 x 25 lakh Kcal/hr)	20	Natural gas	750 Nm ³ / hr	--
8	DG Set (6 nos.) (2000 kVA)	11	HSD	3600 Liters/ hr	--

Note: Due to proposed amalgamation D. G. Set will reduce from 14 nos to 12 nos.

12. The amalgamated Unit shall provide adequate APCM with process gas generation sources as mentioned below:

S. No.	Product Name	Stack attached to	Stack height (m)	APCM
AS per EC of Aarti Industries Limited (U-IV)				
1	Group A products	Scrubber of Denitro Chlorination	15	3 stage scrubber H ₂ SO ₄ , Water, Caustic scrubber
2	Group B products	Scrubber of Fluorinator	12	Water scrubber
3	Group M products	Scrubber of Fluorinator	12	Aq HF solution scrubber

4	Group A products	Scrubber of Chlorinator	15	Water scrubber
5	--	Nitration products storage facility	12	2 stage H2O2 + caustic solution & Water scrubber
6	Group G products	Scrubber of Chlorinator	15	2 stage Water Caustic scrubber
7	--	Bromination products storage facility	12	Caustic scrubber
8	Group B products	Scrubber of Fluorinator	12	Aq. HF solution scrubber
9	Group N products	Scrubber of PhotoChlorinator	15	2 stage Water , Caustic scrubber
10	CaCl2	CaCl2 dryer vent	20	Cyclone separator & wet Scrubber
11	Pilot Plant	Scrubber of Pilot plant (Acidic gas)	11	Caustic scrubber
12	Pilot Plant	Scrubber of Pilot plant (Alkaline gas)	11	Caustic scrubber
AS per EC of Aarti Industries Limited				
13	Fomasafen	Reactor	15	2 stage water scrubber followed by caustic
14		Reactor	15	2 stage Sulphuric acid scrubber followed by Caustic
15	Prodiamine	Amidation reactor	15	Water Scrubber
16	Diflufenican	Reactor	15	2 stage water scrubber followed by caustic
17	Diafenthion	Reactor	15	2 stage water scrubber followed by caustic
18	Aclonifen	Reactor	15	Caustic Scrubber
19	Aclonifen & Chlorothalonil		15	Water Scrubber
20	Chlorothalonil	Reactor	15	Water Scrubber
21	Diuron	Reactor	15	Water Scrubber
22	Bromoxynil	Reactor	15	2 stage water scrubber followed by caustic
23	Bromoxynil Octanoate & Bromoxynil Heptanoate	Reactor	15	Water Scrubber
24	N-Tertiarybutyl-2-benzothiazole sulfenamide (TBBS) & N-cyclohexyl-2-benzothiazolesulfenamide (CBS)	Reactor	15	400
25	Benzoic acid	Hydrolysis Reactor	15	900
26	Tobias Acid	Sulfonation	15	400

27	1,4-Dihydroxy-2,3,5-trimethylbenzene (2,3,5-TMHQ)	Reactor	15	200
28	2,6-Diisopropylaniline & 2-Isopropylaniline	Reactor	15	400
29	dibromo - tri-fluoromethoxy aniline	Reactor	15	400
30	Anthraquinone	Reactor	15	350
31	1-Nitro anthraquinone, 1-amino anthraquinone & 1,8 dinitro-4,5 dihydroxy anthraquinone	Reactor	15	400
32	1,4 dihydroxy anthraquinone	Friedel craft acylation	15	350
33	1,8 dinitro-4,5 dihydroxy anthraquinone	Hydrolysis	15	450
34	Dibromo-trifluoromethoxy aniline	Reactor	15	400
35	4-Methyl-2-hydrazino benzothiazole (HMBT)	Reactor	15	400
36	2,6-Diisopropylaniline & 2-Isopropylaniline	Reactor (Natural gas consumption 5 Kg/Hr for Flare stack)	18	--

13. Details of solid waste/hazardous waste disposal and its management:

S. No.	Name of Waste	Source of generation	Schedule & Category	Aarti Industries Limited (U-IV)	Aarti Industries Limited	Total after EC amalgamation	Mode of Disposal
1	ETP Waste	ETP	I-35.3	12350	20000	32350	Collection, Storage, Transportation, disposal to TSDF/Pre/Co processing.
2	Discarded containers/Plastic waste/ Truck/drums/ carboy	Packing material	I-33.1	500	500	1000	Collection, Storage, Decontamination, and Disposal by sold to authorize recyclers/ Contaminated waste sent to TSDF site/Pre/Co processing.
3	Used oil	Maintenance of Machineries and equipment	I-5.1	70	50	120	Collection, Storage, Transportation, Disposal by selling to registered re-processors.

4	Distillation Residue	Process	I-26.1	29376	92665	122041	Collection, Storage, transportation, disposal at CHWIF/Pre/ Co-processing/incineration
5	MEE + ATFD salt	Waste water treatment	I-35.3	23700	42630	66330	Collection, Storage, transportation, disposal to TSDF
6	Concentrated/High TDS Effluent	Process	--	0	200 (KLD)	200 (KLD)	Collection, Storage, transportation, disposal to CMEE
7	Process Solid waste	Process	I-26.1	11618	0	11618	Collection, Storage, transportation, disposal to TSDF/Co processing
8	CaCl ₂ Sludge	Process	I-35.3	6214	0	6214	Collection, Storage, Transportation, disposal to TSDF/Co processing.
9	CaCl ₂ Brine Sol.	Process	II- C2	188997	0	188997	Collection, storage, transportation & sold to authorized actual end users having Rule 9 permission
10	Off-specification product	Process	I-26.1	25	100	125	Collection, Storage, transportation, disposal to disposal by Pre/Co-processing/Incineration
11	Non- recyclable plastic waste & PPE's	Process waste	I-33.1	200	200	400	Collection, Storage, Transportation, disposal to Pre/ co-processing/TSDF.
12	Spent Catalyst	Process	I-26.5	25	1080	1105	Collection, Storage, Decontamination, Disposal by sold to authorize vendor/Recycle/TSDF
13	Spent Carbon	ETP & Process	I-36.2	70	15	85	Collection, Storage, transportation sent for Pre/co-processing /incineration
14	Spent Solvent	Process	I-26.4	2802	500	3302	Collection, Storage, transportation, disposal to disposal by Pre/Co-processing/Incineration
15	Hydrochloric Acid	Process	B15 of Schedule II	159345	88906	248251	Collection, storage, transportation & sold

16	Nitrosyl Sulfuric Acid	Process	B15 of Schedule II	13196	0	13196	to market as per Rule 9 of Hazardous and Other wastes (Management & Transboundary Movement) Rule 2016	
17	Sulphuric acid	Process	B15 of Schedule II	28043	19567	47610		
18	Sodium Hypochloride	Process	B15 of Schedule II	19733	0	19733		
19	Potassium Chloride	Process	B2 of Schedule II	8130	0	8130		
20	Tetra Fluoroboric Acid	Process	B15 of Schedule II	11417	0	11417		
21	Acetaldehyde	Process	B15 of Schedule II	380	0	380		
22	NaCl solution	Process	B15 of Schedule II	7252	0	7252		
23	Ammonium dihydrogen phosphate (NH ₄ H ₂ PO ₄)	Process	B35 of Schedule II	740	0	740		
24	5,5-Dimethylhydantoin	Process	B10 of Schedule II	685	0	685		Collection, storage, transportation & sold to market as per Rule 9 of Hazardous and Other wastes (Management & Transboundary Movement) Rule 2016
25	Triethylamine hydrobromide (Et ₃ N.HBr)	Process	B10 of Schedule II	2240	0	2240		
26	Ammonium hydroxide	Process	B15 of Schedule II	0	390	390		
27	Sodium Bromide (NaBr)	Process	B15 of Schedule II	0	1213	1213		
28	Acetic Acid	Process	B15 of Schedule II	1143	1530	2673		
29	Ammonia Solution	Process	B15 of Schedule II	0	4362	4362		
30	Chromium Sulphate	Process	I-26.5	0	25020	25020		
31	Sodium Hypochloride Solution	Process	B15 of Schedule II	0	9800	9800		
32	Process Salt	Process	I-35.3	0	342	342	Collection, Storage, Transportation, disposal to TSDF	

Note: Due to proposed amalgamation MEE salt generation will be reduced from 66300 Mt/Annum to 66000 MT/Annum, Discarded container and liners generation will be reduced from 1000 MT/Annum to 950 MT/Annum. Non-recyclable plastic waste and PPE waste reduce from 400 MT/Annum to 390 MT/Annum

NON-HAZARDOUS WASTES

1	Office Waste	Admin/ Office	--	30	30	60	Collection, Storage, Transportation Registered recyclers/ Co-Processing
2	Insulation Waste/ Thermocol	Plant and machinery	--	150	150	300	Collection, Storage, Transportation disposal by at TSDF Site.
3	E-waste/ Electrical waste	Plant and machinery	--	25	25	50	Collection, Storage, Transportation, Disposal by selling to authorized recyclers
4	Battery waste	Plant and machinery	--	100 Nos.	200 Nos.	300 Nos.	selling to authorized recyclers
5	Bio-medical waste	Occupational health center	--	1	1	2	Collection, Storage, Transportation , Disposal to CBWTF-Incineration
6	Glass	Plant/lab/ Buildings	--	15	15	30	Collection, Storage, Transportation , disposal/sold to scrap processors
7	STP Waste (Sludge)	STP	--	100	50	150	Collection, Storage, Transportation disposal as manure.
8	Fly ash	Boiler	--	49200	27000	76200	Collection, Storage, Transportation disposal to Brick manufacturer/Road construction/Co-processing
9	RO Membrane	RO	--	5	0	5	Collection, Storage, Transportation disposal by at TSDF Site
10	Construction & Demolition waste	Construction	--	0	What so ever	What so ever	Collection, Storage, Transportation and Disposal to Low Lying Area, or for Road Construction etc
11	Canteen waste	Canteen	--	0	What so ever	What so ever	Collection, Storage, Transportation disposal as manure, food digester or Send to municipal facility

14. The public hearing was not applicable for both the ECs as the project sites are located in Notified Industrial Estate, Jhagadia.
15. The proposal was earlier considered in the 43rd EAC meeting held on 30th November, 1st & 2nd December, 2022 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	Observation of EAC
1.	The PP shall submit the undertaking committing that PP shall use Biomass as primary fuel	Undertaking on the use of biomass as primary fuel in all boilers has been submitted.	The EAC found the reply submitted by the PP satisfactory.
2.	The PP shall also submit the details of amalgamation. i.e physical changes, fuel. Water, additional interventions etc.	Unit has re-evaluated various aspects after amalgamation has been submitted.	The EAC found the reply submitted by the PP satisfactory.
3.	The PP shall submit the reduction in the environmental parameters (emission, fuel, water, carbon footprint) due to the amalgamation.	<p>Unit has re-evaluated the water balance after amalgamation of both units and decreased the fresh water consumption, reduction from 10607.1 KLD to 10558 KLD i.e 49.1 KLD and waste water generation decreased from 9140 KLD to 9077 KLD i.e 63 KLD.</p> <p>Fuel & energy Consumption Unit has re-evaluated the fuel and power consumption, after amalgamation of both unit's HSD consumptions reduced from 8400 Lit/Hr to 7200 Lit/Hr i.e 1200 Lit/Hr due to reduction in numbers of DG sets from 14 Nos to 12 Nos. This has been reduced due to usage of Captive power plant for both units. Due to this emission will get reduced.</p> <p>Also Power consumption reduced from 50000 KVA to 48000 KVA i.e 2000 KVA. This</p>	The EAC found the reply submitted by the PP satisfactory.

		reduction due to developing common infrastructure facilities i.e administration office, Lab, OHC, Canteen, Security cabin, fire hydrant system Reduction in Environmental parameters after amalgamation has been submitted.	
4.	The PP shall submit the details of carbon foot print and carbon sequestration study w.r.t. proposed project and based on natural gas and agro based briquettes. Proposed mitigation measures also needs to be submitted for further appraisal of the EAC	Detailed carbon footprints and carbon sequestration study w.r.t. proposed project has been submitted.	The EAC found the reply submitted by the PP satisfactory.
5.	The PP shall submit revised and detailed water balance	Industry have re-evaluated water consumption and wastewater generation after the proposed merger. There will be reduction in water consumption and wastewater generation. Revised water balance has been submitted.	The EAC found the reply submitted by the PP satisfactory.
6.	The PP needs to submit details of energy conservation measures proposed in the Unit.	<ul style="list-style-type: none"> ● Use of energy efficient appliances like LED lighting, Solar panels/Lighting, VFD on pump and motors, etc. ● Energy efficient machinery, fixtures and equipment will be used during the construction and operation phase as far as possible. ● Use of Automatic Power Factor Correction. ● Inclusion of passive architecture (Green Building) in building design for natural light in admin blocks 	The EAC found the reply submitted by the PP satisfactory.

		<ul style="list-style-type: none"> ● Use of roof top wind extractors to eliminate trapped stale warm air. ● Efficient use of cooling tower (multiple cells) and placing them at height to reduce pumping energy. ● Biomass will be used as per guidelines issued by Government. ● Installation of CPP Boiler ● Major initiatives including installation of VFD's ● Regular energy conservation initiatives are/will be taken to reduce energy consumption ● Rain water harvesting 	
7.	The PP needs to submit the details of Onsite/Offsite emergency plan and mitigation measures to be proposed during implementation of the project.	<p>PP applied for amalgamation of both units. We have not started construction activities in both plots based on EC. This is a new project (Greenfield project)</p> <p>Onsite/offsite emergency plan/mock drill etc. and mitigation measures are adequately described as per Schedule-11 under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 in Ch. 7 of EIA report. Which will be followed after commissioning of project.</p> <p>Also, on-site emergency plan will be prepared and submitted as per rules on starting of operation. We have an Onsite emergency plan for Existing units located at Jhagadia and the same has been submitted to DISH. Similar</p>	The EAC found the reply submitted by the PP satisfactory.

		process will be followed for these projects.	
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16. **Deliberations by the EAC:**

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/accredited consultant in desired format along with the amalgamated PFR and EMP.

The EAC inter-alia, deliberated on the fuel consumption in boilers, greenbelt development plan and advised the PP to submit the following:

- Undertaking for use of natural gas/biomass as a primary fuel and coal as a secondary fuel, only upon non-availability of natural gas/biomass or rainy season.
- Greenbelt development plan @ 2500 trees/Ha considering the survival rate. The plant species shall be selected as per CPCB guidelines and in consultation with the state forest department.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

17. After detailed deliberations, the EAC **recommended for amalgamation of the said ECs**, as detailed above subject to the compliance of the terms and conditions as under, and general terms and conditions in **Annexure-I**:

- (i). Natural gas/biomass shall be used as a primary fuel and coal as a secondary fuel, only upon non-availability of natural gas/biomass or rainy season.
- (ii). 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 and other Reports in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- (iii). The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (iv). No banned dyes/chemicals/pesticides shall be manufactured by the project proponent. No banned raw materials/chemicals shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (v). The PP shall conduct the life cycle study within six months and the finding of the reports shall be communicated to the MoEF&CC/IRO, MoEF&CC Gandhinagar and the outcome of the study shall be implemented.

- (vi). The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (vii). The project proponent shall comply with the environment norms for 'Pesticide Industry' as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 446 (E), dated 13th June 2011 under the provisions of the Environment (Protection) Rules, 1986.
- (viii). Necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The Project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
- (ix). 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. 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.
- (x). 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 Integrated Regional Office of Ministry and SPCB along with the compliance report.
- (xi). The treated waste water of 393 KLD shall be discharged into NCT for deep sea discharge. Effluent of 8940 KLD quantity shall be treated through ETP+ATFD+ETP+RO+STP.
- (xii). Total fresh water requirement shall not exceed 10607.1m³/day will be met from GIDC, Necessary permission obtained in this regard shall be renewed from time to time.
- (xiii). 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.
- (xiv). 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.
- (xv). The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xvi). Necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents.
- (xvii). Process organic residue and spent carbon, if any, shall be sent to Cement and other suitable industries for its incinerations. ETP sludge, process inorganic & evaporation salt shall be disposed of to the TSDF.
- (xviii). The Solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

- (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xix). The Volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97% with effective chillers/modern technology.
- (xx). 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.
- (xxi). The green belt of at least 5-10 m width shall be developed in nearly 33 % of the total project area, mainly along the plant periphery considering a density of 2500 trees per ha. and 80% survival rate. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Records of tree canopy shall be monitored through remote sensing map. Trees have to be planted with spacing of 2m x 2m and number of trees has to be increased accordingly. The plant species can be selected that will give better carbon sequestration and plantation shall be completed in first year itself.
- (xxii). The activities and the action plan proposed by the project proponent to address the socio-economic issues in the study area, shall be completed as per the schedule presented before the Committee and as described in the EIA/EMP report in letter and spirit.
- (xxiii). A separate Environmental Management Cell (having qualified person 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.

Agenda No. 47.3

Proposed Expansion in the capacity of Pesticides Technical, Pesticide Intermediate and Specialty Chemicals Plant from 528.35 MTPM to 759.24 MTPM along with addition of Captive Co-Gen Power Plant from 2x1.064 MW to 3x1.064 MW located at Plot No. 3301, GIDC Industrial Estate, Ankleshwar, Dist. Bharuch, Gujarat by Rallis India Limited - Reconsideration of EC

[Proposal No. IA/GJ/IND3/400615/2022; File No. IA-J-11011/60/2022-IA-II(I)]

1. The proposal is for the environmental clearance for the Proposed Expansion of Pesticides Technical, Pesticide Intermediate and Specialty Chemicals of production capacity from 528.35 MTPM to 759.24 MTPM along with addition of Captive Co-Gen Power Plant from 2x1.064 MW to 3x1.064 MW located at Plot No. 3301, GIDC Industrial Estate, Ankleshwar, Dist. Bharuch, Gujarat.
2. The project/activity is covered under Category 'A' of item 5(b)-Pesticide Industry and pesticide specific intermediates (excluding formulations), 5 (f)-Synthetic organic chemicals and 1 (d)-Thermal Power Plants of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by the Expert

Appraisal Committee (EAC). The PP also reported that the project is located in a **critically polluted area**.

3. The standard ToR for the preparation of EIA/EMP Report was issued vide letter dated 9.3.2022. The PP submitted that as the project site is located in a Notified Industrial Area i.e., GIDC Industrial Area, Vapi (**Notification no. GHU-78-20-GID-1977-600-CH dated 1.1.1978**), the Public Hearing is exempted in accordance with Clause 7(i) (III) of EIA Notification, 2006 & O.M. No. J-11011/321/2016-IA. II(I) dated 27.04.2018. The PP applied for Environment Clearance on 6.10.2022 in Common application form and submitted EIA/EMP Report and other documents. The PP reported that it is an **Expansion EC**. The proposal was placed in the 43rd EAC Meeting held on 30th November-2nd December 2022, wherein the proposal was deferred for submission of requisite information. The PP has submitted the said information/documents and accordingly, the proposal is placed in 47th EAC Meeting held on 15th-17th February, 2023 wherein the Project Proponent and an accredited Consultant, San Envirotech Pvt. Ltd. [Accreditation number NABET/EIA/2023/RA 0216 valid up to 23.12.2023], made a detailed presentation on the salient features of the project and informed the following:
4. The PP reported that the proposed land area is **69100 m²** and no R& R is involved in the Project. The details of products are as follows:

Sr. No.	Name of Products	CAS No.	Quantity in MTPM			Category as per EIA Notification
			Existing	Proposed addition	Total	
Technical Product						
1	Captafol	2425-06-1	14.17	0	14.17	5(b)
2	Metribuzin	21087-64-9	5.00	0	5.00	5(b)
3	Thiophanate-M	23564-05-8	5.00	36.67	41.67	5(b)
4	Bromuconazole	116255-48-2	10.00	0	10.00	5(b)
5	Propiconazole	60207-90-1	8.33	0	8.33	5(b)
6	Bromadiolone	28772-56-7	0.01	0	0.01	5(b)
7	Metconazole/KRM and its intermediates	125116-23-6	41.67	0	41.67	5(b)
8	Tebuconazole	107534-96-3	16.67	0	16.67	5(b)
9	Hexacoanzole and its intermediates	79983-71-4	125.00	25	150.00	5(b)
10	Metalaxyl	57837-19-1	25.00	0	25.00	5(b)
11	Acetamiprid	135410-20-7	12.50	0	12.50	5(b)
12	Lamdacyhalothrin	91465-08-6	12.50	0	12.50	5(b)
13	Kersoxim Methyl	143390-89-0	25.00	0	25.00	5(b)
14	Ipconazole	125225-28-7	16.67	0	16.67	5(b)
15	Azoxystrobin	131860-33-8	16.67	0	16.67	5(b)
16	Imidacloprid	138261-41-3	8.33	0	8.33	5(b)
17	PEKK	29658-26-2	25.00	0	25.00	5(f)

18	Tetra Chloro Vinylphos (TCVP)	22248-79-9	20.83	0	20.83	5(b)
19	Amitrol (3-Amino- 1,2,4-triazole)	61-82-5	16.67	0	16.67	5(b)
20	Difenoconazole	119446-68-3	16.67	0	16.67	5(b)
21	Meta Phenoxy Benzaldehyde (MPBA)	39515-51-0	12.50	0	12.50	5(b)
22	Thiomethoxam	153719-23-4	8.33	0	8.33	5(b)
23	Tricyclazole	41814-78-2	8.33	0	8.33	5(b)
24	Oxirane	106-89-8	35.83	0	35.83	5(b)
25	4-Fluoro-meta- Phenoxy Benzaldehyde (FPBD)	68359-57-9	29.17	0	29.17	5(b)
26	Flumethrin	69770-45-2	4.17	0	4.17	5(b)
27	Trifloxystrobin	141517-21-7	8.33	0	8.33	5(b)
28	1,2,4 Triazole	288-88-0	0.00	33.33	33.33	5(b)
29	Metalaxyl-M	70630-17-0	0.00	8.33	8.33	5(b)
30	Prothioconazole	178928-70-6	0.00	6.67	6.67	5(b)
31	Bixafen	581809-46-3	0.00	4.17	4.17	5(b)
32	Flupyradifurone	951659-40-8	0.00	4.17	4.17	5(b)
33	Benzovindiflupyr	1072957-71-1	0.00	4.17	4.17	5(b)
34	Mandipropamid	374726-62-2	0.00	4.17	4.17	5(b)
35	Penflufen	494793-67-8	0.00	4.17	4.17	5(b)
36	Penthiopyrad	183675-82-3	0.00	4.17	4.17	5(b)
37	Spirotetramat	203313-25-1	0.00	4.17	4.17	5(b)
38	Cyantraniliprole	736994-63-1	0.00	4.17	4.17	5(b)
39	Spirodiclofen	148477-71-8	0.00	4.17	4.17	5(b)
40	Pyriproxyfen	95737-68-1	0.00	4.17	4.17	5(b)
41	Picoxystrobin	117428-22-5	0.00	4.17	4.17	5(b)
42	Fluxapyroxad	907204-31-3	0.00	4.17	4.17	5(b)
43	Pyraclostrobin	175013-18-0	0.00	4.17	4.17	5(b)
44	Boscalid	188425-85-6	0.00	4.17	4.17	5(b)
45	Fenamistrobin	366815-39-6	0.00	4.17	4.17	5(b)
46	Pencycuron	66063-05-6	0.00	4.17	4.17	5(b)
47	O-Methyl Hydroxylamine Hydrochloride (OMAH)	593-56-6	0.00	12.50	12.50	5(b)
48	Chlorpyrifos	2921-88-2	0.00	16.67	16.67	5(b)
49	Pendimethylene	40487-42-1	0.00	25.00	25.00	5(b)
Total			528.35	230.89	759.24	
Co-Product Generation						

1	Poly Aluminium Chloride (PAC) Liquid/Solid	1327-41-9	0.00	820.00	820.00	--
2	Potassium Sulphate	7778-80-5	0.00	120.00	120.00	--
3	Bromine	7726-95-6	0.00	83.33	83.33	--
Total			0.0	1023.33	1023.33	
Formulation Products						
1	Pesticide formulation (Solid)	--	4000	0.0	4000	--
2	Pesticide formulation (Liquid)	--	5000	0.0	5000	--
Total			9000	00	9000	
CPP (Captive Power Plant)						
1	Captive Power Plant 1	--	1.064 MW	0	1.064 MW	--
2	Captive Power Plant 2	--	1.064 MW	0	1.064 MW	--
3	Captive Power Plant 3	--	0	1.064 MW	1.064 MW	--

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 the Rallis India Limited has set up this unit in 1983 for manufacturing Pesticides Technical, Pesticide Intermediate and Specialty Chemicals in GIDC, Ankleshwar.
7. The PP reported that the Certified Compliance Report of existing CTO was issued by GPCB vide letter dated 07.10.2022. All the conditions of CTO are compiled by unit as per the CCR.
8. The PP reported that there are no National Parks, Wildlife Sanctuaries, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance of the project site. Narmada River flows at a distance of 7.85 km in N direction from the project site.
9. The PP reported that the Ambient air quality monitoring was carried out at 8 locations during December, 2021 to February, 2022 and the baseline data indicates the range of concentration as: PM₁₀ (70.2 - 74.6 µg/m³), PM_{2.5} (35.2 – 39.6 µg/m³), SO₂ (15.0 – 19.1 µg/m³), NO_x (20.4 – 22.6 µg/m³). AAQ modelling study for point source emission indicated that the maximum incremental GLCs after the proposed project would be 5.957 µg/m³, 3.148 µg/m³, 4.097 µg/m³, 1.341 µg/m³, 0.391 µg/m³, 0.040 µg/m³, 1.016 µg/m³ and 0.004 µg/m³ with respect to PM₁₀, SO₂, NO_x, HCl, Cl₂, H₂S, Ammonia and Bromine. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

Noise- The monitored noise level in the day time Leq (Ld) varies from 47.2 to 55.6 dB(A) and the night time Leq (Ln) varies from 37.6 to 48.4 dB(A) within the study area. Higher noise value of 55.6 dB(A) was recorded during day time at 100 m West from the site & lower noise value of 37.6 dB(A) was recorded during night time at Village Motali.

10. **Ground water-** The results have been compared with the drinking water quality standards specified in IS: 10500-2012. It is found that, all the samples meet the permissible limit authority (BIS). **Surface water-** The results have been compared with the drinking water quality standards specified in IS: 10500-2012. It was observed that all the physico-chemical parameters and heavy metals from surface water samples are within stipulated drinking water standards and are suitable for domestic purposes. **Soil** - In the study area, variations in the pH value ranging from 7.35 to 7.82. which shows that the soil is slightly alkaline in nature. Organic Matter ranges from 1.78 to 3.56 mg/kg in the soil samples. Soil of the study area is known to be moderate for cultivation because high salinity. Generally, soils with low bulk density have favourable physical conditions (porosity and permeability) whereas those with high bulk density exhibit poor physical conditions for agriculture crops.
11. The PP reported that the total water requirement is 711.66 KLD of which fresh water requirement of 505.66 KLD will be met from GIDC water supply. 206 KLD will be recycled/treated water. Total effluent generation will be 456.17 KLD including domestic. High COD process effluent (12 KLD) and MEE Slurry (18.17 KLD) will be Incinerated In-house/ CHWIF/ External pre-processing/Co processing. Low COD process effluent, effluent from scrubber, washing, utilities, MEE condensate and domestic sewage 522.17 KLD will be treated in ETP; out of which 220 KLD treated effluent, after achieving desired norms, will be discharged to FETP of M/s. Narmada Clean Tech (NCT), Ankleshwar. 302.17 KLD will be treated in RO followed by MEE. RO Permeate, 206 KLD will be reused/recycled within premises.
12. The PP reported that the power requirement after expansion will be 4050 KVA including existing 2550 KVA will be partially met from DGVCL (Dhaksin Gujarat Vij Company Limited) including open access solar/hybrid power and partially by captive Co-gen Power Plant. Existing unit has DG sets of 125 kVA x 2 capacity, 1000 kVA x 2 and 500 kVA x 1 capacity. After expansion, unit proposed to add DG Sets of 1500 kVA x 2 nos. DG sets are used as standby during power failure. Stack (height 15 m) will be provided as per CPCB norms to the proposed DG sets.
13. Existing unit has one common stack of NG and HSD/LSHSD fired Boilers (3 TPH x 2 nos.), one stack of NG fired Boiler (5 TPH x 1 no.), one stack of NG fired Thermic Fluid Heater (4.0 Lakhs Kcal/hr. x 1 no.), 2 stacks of NG fired CPP 1 & 2 (1.064 MW/hr. x 2 nos.). After expansion, one stack of NG and HSD/LDO/LSHSD fired Boiler (12 TPH x 1 no.), one stack of Briquette fired stand by Boiler (12 TPH x 1 no.), one stack of NG and HSD/LDO/LSHSD/Briquette fired Boiler (5 TPH x 1 no.), 1 common stack of NG and HSD/LSHSD fired Thermic Fluid Heaters (4.0 Lakhs Kcal/hr. x 2 nos.), 1 common stack of NG and HSD/LSHSD fired Thermic Fluid Heaters (1.0 Lakhs Kcal/hr. x 4 nos.), one stack of CPP (1.064 MW/hr. x 1 no.) will be added. No APCM will be required as NG and HSD/LDO/LSHSD will be used as fuel. Total flue gas stacks after expansion will be 18

nos. (Existing: 10 nos. + Additional: 8 nos.) Stack with stack height of 30 m will be installed for controlling the particulate emissions within the statutory limit of 150 mg/Nm³ for the proposed utilities. Details of flue gas stacks are given below.

Flue Gas Stacks

Sr. No.	Stack attached to	Stack Height (m)	Fuel Used	Fuel consumption Rate	APC measure	Pollutants
Flue gas Stack-Existing						
1	Boiler-1(3 TPH) & Boiler-2 (3 TPH)	30 (Common Stack)	NG and HSD/LS HSD	29792 Nm ³ /day and 3000 lit/Day	Adequate Stack Height	PM<150 mg/NM ³ SO ₂ <100 ppm NO _x <50 ppm
2	Boiler-3 (5 TPH)(Stand by)	30	NG	29792 Nm ³ /day	Adequate Stack Height	
3	Thermic Fluid Heater (4.0 Lakhs Kcal/hr.)	30	NG	29792 Nm ³ /day	Adequate Stack Height	
4	CPP Plant-1 (Cap. 1.064 MWHr)	30	NG	29792 Nm ³ /day	Adequate Stack Height	
5	CPP Plant-2 (Cap. 1.064 MWHr)	30	NG	29792 Nm ³ /day	Adequate Stack Height	
6	D.G. Sets (Cap. 125 KVA x 1 No.)	15	Diesel	30 lit/hr.	Adequate Stack Height	
7	D.G. Sets (Cap. 125 KVA x 1 No.)	15	Diesel	30 lit/hr.	Adequate Stack Height	
8	D.G. Sets (Cap.1000 KVA x 1 No.)	15	Diesel	150 lit/hr.	Adequate Stack Height	
9	D.G. Sets (Cap. 1000 KVA x 1 No.)	15	Diesel	150 lit/hr.	Adequate Stack Height	
10	D.G. Set (Cap. 500 KVA)	15	Diesel	80 lit/hr.	Adequate Stack Height	
Flue gas Stack- Proposed addition						
1	Boiler-12 TPH	30	NG and HSD/L DO//LS HSD	22000 Nm ³ /day	Adequate Stack Height	PM<150 mg/NM ³ SO ₂ <100 ppm

2	Boiler-12 TPH (Standby)	30	Briquette	72000 Kg/day	Water scrubber, ESP	NO _x <50 ppm
3	Boiler-5 TPH	30	NG and HSD/L DO/LS HSD/ Briquette	8000 Nm ³ /day/ 8000 lit/day/ 13000 Kg/day	Adequate Stack Height	
4	Thermic Fluid Heater (4.0 Lakh Kcal/hr.)	30 (Common Stack)	NG and HSD/ LSHSD	1000 Nm ³ /day and 1000 lit/hr.	Adequate Stack Height	
	Thermic Fluid Heater (4.0 Lakh Kcal/hr.)		NG and HSD/ LSHSD	1000 Nm ³ /day and 1000 lit/hr.	Adequate Stack Height	
5	Thermic Fluid Heater (1.0 Lakh Kcal/hr.)	30 (Common Stack)	NG and HSD/ LSHSD	400 Nm ³ /day and 500 lit/hr.	Adequate Stack Height	
	Thermic Fluid Heater (1.0 Lakh Kcal/hr.)		NG and HSD/ LSHSD	400 Nm ³ /day and 500 lit/hr.		
	Thermic Fluid Heater (1.0 Lakh Kcal/hr.)		NG and HSD/ LSHSD	400 Nm ³ /day and 500 lit/day		
	Thermic Fluid Heater (1.0 Lakh Kcal/hr.)		NG and HS D/L SH SD	400 Nm ³ /day and 500 lit/day		
6	CPP Plant-3 (Cap. 1.064 MWHr)	30	NG	5000 Nm ³ /day	Adequate Stack Height	
7	D.G. Set (1500 KVA)	15	Diesel	225 lit/hr.	Adequate Stack Height	
8	D.G. Set (1500 KVA)	15	Diesel	225 lit/hr.	Adequate Stack Height	

14. Details of process emissions generation and its management:

At present, process gas emission is from 5 separate process vents attached with MPP1-1 (Hexaconazole Plant), MPP1-2 (Tetra Chloro Venyl Phos & Krisoxim plant), MPP2-1 (Captan & Metconazole Plant), MPP2-2 (Phosalone Plant), MPP2-3 (Triazoleconazole Plant), 2 separate vents of Incinerator - 1 & 2. Process Stack of MPP1-1 and MPP1-2 is

equipped with Water + Caustic scrubber followed by Central (Water + Caustic) Scrubber, Caustic scrubber is installed on stack of MPP2-1, MPP2-2, MPP2-3, Cyclone/Multi Cyclone + Caustic Scrubber are installed as APCM on stack of Incinerator-1 & 2. After expansion, 9 process vents will be added. Vent attached to MPP3, MPP4-1, MPP4-2, MPP5-1, MPP5-2, MPP6-1, MPP6-2, MPP6-3 and Pilot Plant. Water + Acid Scrubber will be installed as APCM on stack of MPP3, MPP4-2 Plant. Vent of MPP4-1 Plant will be equipped with Water+ Acid Scrubber & Water + Caustic scrubber. Water + Caustic Scrubber will be installed as APCM on stack of MPP5-1, MPP5-2, MPP6-1, MPP6-2, MPP6-3 plant and stack of Pilot Plant. **Total process stacks after expansion will be 16 nos. (Existing: 7 nos. + Additional: 9 nos.).**

Process Gas Stacks

Sr. No.	Stack attached to	Stack Height (m)	Fuel Used	Fuel consumption Rate	APC measure	Pollutants
Process gas stacks – Existing						
1	Attached to MPP1-1 (Hexaconazole plant)	11	--	--	Water + Caustic scrubber followed by Central (Water + Caustic) Scrubber	HCl<20 mg/Nm ³ SO ₂ <40 mg/Nm ³ Cl ₂ <5 mg/Nm ³
2	Attached to MPP1-2 (Tetra Chloro Venyl Phos & Krisoxim plant)	11	--	--	Water + Caustic scrubber followed by Central (Water + Caustic) Scrubber	HCl<20 mg/Nm ³
3	Attached to MPP2-1 (Captan & Metconazole Plant)	11	--	--	Caustic scrubber	HCl<20 mg/Nm ³ Cl ₂ <5 mg/Nm ³ Br ₂ <2 mg/Nm ³
4	Attached to MPP2-2 (Phosalone Plant)	11	--	--	Caustic scrubber	H ₂ S<5 mg/Nm ³
5	Attached to MPP2-3 (Triazole Conazole Plant)	11	--	--	Caustic scrubber	NH ₃ <30 mg/Nm ³

6	Incinerator-1	45	--	--	Cyclone/ Multi Cyclone + Caustic Scrubber	PM<50 mg/Nm ³ SO ₂ <200 mg/Nm ³ CO<100 mg/Nm ³
7	Incinerator-2	45	--	--	Cyclone/ Multi Cyclone + Caustic Scrubber	mg/Nm ³ NO _x <400 mg/Nm ³
Process Gas Stack-Proposed Addition						
1	Attached to MPP3 Plant	11	--	--	Water+ Acid scrubber	HCl<20 mg/Nm ³
2	Attached to MPP4-1 Plant	11	--	--	Water+ Acid Scrubber & Water + Caustic scrubber	NH ₃ <30 mg/Nm ³ HCl<20 mg/Nm ³
3	Attached to MPP4-2 Plant	11	--	--	Water+ Acid Scrubber	NH ₃ <30 mg/Nm ³
4	Attached to MPP5-1 Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³
5	Attached to MPP5-2 Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³
6	Attached to MPP6-1 Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³ Cl ₂ <5 mg/Nm ³ SO ₂ <40 mg/Nm ³ Br ₂ <2 mg/Nm ³
7	Attached to MPP6-2 Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³ Cl ₂ <5 mg/Nm ³ SO ₂ <40 mg/Nm ³
8	Attached to MPP6-3 Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³

						Cl ₂ <5 mg/Nm ³ SO ₂ <40 mg/Nm ³ Br ₂ <2 mg/Nm ³
9	Attached to Pilot Plant	11	--	--	Water + caustic scrubber	HCl<20 mg/Nm ³ SO ₂ <40 mg/Nm ³

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

Sr. No.	Name of waste	Category as per HWM Rule, 2016	Quantity (MT/Annum)			Mode of Disposal
			Existing	Proposed	Total	
1	Process waste or Residue	I-29.1	1575	1158.66	2733.66	Collection, Storage, Transportation and Disposal Incineration at CHWIF of BEIL/SEPPL or Incineration within unit or external pre-processing/co-processing unit
2	High COD/HTDS Aqueous waste	I-29.1	0	4380	4380	Collection, Storage, Transportation and Disposal Incineration at CHWIF of BEIL/SEPPL or Incineration within unit or external pre-processing/co-processing unit
3	Date expired & off specification pesticide	I-29.3	10.2	20	30.2	Collection, Storage, Transportation and Disposal Incineration at CHWIF of BEIL/SEPPL or Incineration within unit or external pre-processing/co-processing unit
4	Spent Solvent	I-29.4	120	89.62	209.62	Collection, Storage, Transportation and Disposal Incineration at CHWIF of BEIL/SEPPL or Incineration within unit

						or external pre-processing/co-Processing unit
5	Spent Acids (Sulphuric Acid 50%)	I-29.6	500	0	500	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 Permission to receive this waste after making MoU.
6	Spent Acids (Sulphuric Acid 70%)	I-29.6	223	0	223	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU.
7	Empty barrels/containers/Liners contaminate with Haz. Wastes	I-33.1	96.6	495	591.6	Collection, storage, Decontamination, Transportation and Disposal by reuse after in-house decontamination or send it to authorized decontamination facility/recycler or send back to supplier.
8	Sludge from treatment of waste water arising out of cleaning/disposal of barrels/containers	I-34.2	0.6	15	15.6	Collection, Storage, Transportation and Disposal at CHWIF of BEIL/SEPPL or co-processing unit or Incineration within unit.
9	Chemical sludge from waste water treatment	I-35.3	4200	4200	8400	Collection, Storage, Transportation and Disposal at approved TSDF of BEIL/Detox/SEPL/Authorized Common TSDF
10	Ash from incinerator or flue gas cleaning residues	I-37.2	120	240	360	Collection, Storage, Transportation and Disposal at TSDF of BEIL/Detox/SEPL/Authorized

						Common TSDF
11	Lube or Spent Oil	I-5.1	1.2	5	6.2	Collection, storage, transportation and disposal by Reuse in plant & machinery as lubricant or sell it to authorized re-refiners/recycler or incineration within unit
12	Liq. Ammonia	II-A10	682	522.84	1204.84	Collection, Storage, Transportation and Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
13	Halogen containing compounds which produce acidic vapors on contact with humid air or water e.g. silicon tetrachloride, aluminum chloride, titanium tetrachloride	II-B10	6667	1843	8510	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
14	Inorganic Acids (Spent Acids)	II-B15	1189	0	1189	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
15	Oxides & Hydroxides except those of Hydrogen, carbon, silicone, iron, aluminum titanium, manganese, magnesium,	II-B32	107	0	107	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU

	calcium					
16	Salt of per Acids	II-B36	1918	269	2187	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
17	Sulphur	II-B37	27	0	27	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
18	Aq. NaBr-20%	II-B6	5201	0	5201	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
19	KBr Powder	II-B6	428	0	428	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
20	N-succinimide	II-B6	36	0	36	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
21	Acetic Acid	II-B10	0	345.6	345.6	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid

						CCA and rule 9 permission to receive this waste after making MoU
22	5% Palladium /Carbon	29.5	0	11.0	11.0	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
23	Sodium Carbonate	II-B36	0	32.50	32.5	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
24	Potassium Chloride	II-B36	0	11.16	11.16	Collection, Storage, Transportation Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
25	Hydrogen Chloride	II-B36	0	5.00	5.00	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
27	Spent Acid (Nitric Acid + Sulphuric Acid mixture)	I-29.6	0	519.30	519.30	Collection, Storage, Transportation, Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MoU
Solid Waste						
1	Ash from Briquette Boiler	--	0	3600	3600	Collection, Storage, Transportation and

						Disposal to selling Brick manufacturer working within 25 km radius.
--	--	--	--	--	--	---

16. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 1000 Lakhs (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 1200 Lakhs. Industry proposes to allocate 3.0 Crore towards CER for Education, Skill development, Health, Infrastructure development of villages, Environment & sustainability.
17. The PP reported that the greenbelt was already developed in an area of 27735.7 m² i.e. 44.0% of the total project area.
18. The PP proposed to set up an Environment Management Cell (EMC) by engaging Head EHS - AGM EHS and other officials for the functioning of EMC.
19. The PP submitted the Disaster Management Plan and Onsite and Offsite Emergency Plans in the EIA report.
20. The estimated project cost is Rs. 467.79 Crore including existing investment of Rs. 67.79 Crore. Total Employment will be 969 persons after expansion.
21. The proposal was earlier considered in the 43rd EAC meeting held on 30th November, 1st & 2nd December, 2022 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	Observation of EAC
1.	The PP shall submit the revised wind rose dominating the wind direction	Wind rose diagram along with wind frequency analysis table in terms of speed and direction has been submitted.	The EAC found the reply submitted by the PP satisfactory.

2.	<p>The PP needs to first comply the greenbelt condition (@2500 per hectare) and submit the details of green belt developed/number of trees along with aerial photographs and video and with time bound action plan for proposed greenbelt in consultation with forest department.</p>	<p>Rallis India Limited, Ankleshwar is having total area of 69100 m² (6.91 Ha) and 40.13% of the total plot area earmarked for greenbelt i.e. 27735.7 m²</p> <table border="1" data-bbox="488 304 1214 831"> <thead> <tr> <th>Area</th> <th>Existing greenbelt</th> </tr> </thead> <tbody> <tr> <td>Total plot area (m²)</td> <td>69100</td> </tr> <tr> <td>Required greenbelt area (40% of total area)</td> <td>27640</td> </tr> <tr> <td>Provided Greenbelt area (m²)</td> <td>27735.7</td> </tr> <tr> <td>% of greenbelt</td> <td>40.13</td> </tr> <tr> <td>Nos. of trees required (@2500 per hectare)</td> <td>6934</td> </tr> <tr> <td>Currently Planted trees</td> <td>3962</td> </tr> <tr> <td>Trees plantation within 1 year within premises at lawn area</td> <td>2972</td> </tr> </tbody> </table> <p>We will dense the existing greenbelt area within the one year by planting 2972 nos. of trees in lawn area and open pockets available in surrounding of the plant premises. In addition to this, we have make other arrangement for development of additional greenbelt on the land available at the Kosamdi gram Panchayat which is ~5 km away from the project site having land area of 18616 m², where we are planned to plant ~4660 nos. of trees within 1 year.</p> <table border="1" data-bbox="488 1128 1214 1899"> <thead> <tr> <th>Sr No.</th> <th>Name of trees</th> <th>Existing trees</th> <th>Proposed trees plantation (within premises within one year)</th> <th>Total tree plantation after dense of existing greenbelt</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Limdo- Azadirachta indica</td> <td>595</td> <td>271</td> <td>866</td> </tr> <tr> <td>2.</td> <td>Sharu- Casuarina equisetifolia</td> <td>495</td> <td>560</td> <td>1055</td> </tr> <tr> <td>3.</td> <td>Arduso- Ailanthus excelsa</td> <td>470</td> <td>432</td> <td>902</td> </tr> <tr> <td>4.</td> <td>Asopalav- Polyalthia longifolia</td> <td>743</td> <td>452</td> <td>1195</td> </tr> <tr> <td>5.</td> <td>Karanj- Pongamia pinnata</td> <td>490</td> <td>125</td> <td>615</td> </tr> <tr> <td>6.</td> <td>Bottle Palm</td> <td>30</td> <td>42</td> <td>72</td> </tr> </tbody> </table>	Area	Existing greenbelt	Total plot area (m ²)	69100	Required greenbelt area (40% of total area)	27640	Provided Greenbelt area (m ²)	27735.7	% of greenbelt	40.13	Nos. of trees required (@2500 per hectare)	6934	Currently Planted trees	3962	Trees plantation within 1 year within premises at lawn area	2972	Sr No.	Name of trees	Existing trees	Proposed trees plantation (within premises within one year)	Total tree plantation after dense of existing greenbelt	1.	Limdo- Azadirachta indica	595	271	866	2.	Sharu- Casuarina equisetifolia	495	560	1055	3.	Arduso- Ailanthus excelsa	470	432	902	4.	Asopalav- Polyalthia longifolia	743	452	1195	5.	Karanj- Pongamia pinnata	490	125	615	6.	Bottle Palm	30	42	72	<p>The EAC found the reply submitted by the PP satisfactory.</p>
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7.	Garmaro- Cassia fistula	421	431	852
8.	Deshi Buch- Millingtonia sp.	223	186	409
9.	Nariyer- Coccus nucifera	25	23	48
10.	Sirish- Albizia lebback	271	289	560
11.	Vad – Ficus bengalensis	25	17	42
12.	Pipal - Ficus religiosa	124	94	218
13.	Peltoforum	50	50	100
Total		3962	2972	6934
Time bound action plan for Greenbelt				
Plantation details	Required	Additional Trees proposed to plant	Allocated budget	
			Capital	Recurring cost
Trees proposed to be planted (within 1 year)	6934	2972	Rs. 300/- x 2972 trees = 8.91 Lakhs	12 Lakhs /Annum
To considering 75% survival rate	--	743	Rs. 200/- x 743 trees = 1.48	
<p>Additionally, we have planned to develop the Green belt on the land available at the Kosamdi gram Panchayat which is 5 km away from the site. This activity is additional to care of Environmental.</p> <p>Kosamdi Gram Panchayat accepted our request and issued letter wherein we have allotted 18616 Sq. M (1.86 Ha) land of survey number 362 of Kosamdi gram Panchayat area.</p> <p>We have planned to plant total 4660 numbers of the trees with species like Gulmohar, Pipal, Vad, Ashoka, Saru, Neem, Belpatra and Nilgiri etc. with 75% survival rate basis</p>				

Sr. No.	Name of trees	Required tree plantation in Nos.
1.	Gulmohar	1015
2.	Pipal	609
3.	Vad	609
4.	Asopalav	812
5.	Saru	609
6.	Belpatra	406
7.	Nilgiri	201
8.	Limdo	199
9.	Garmaro	200
Total		4660

Total cost for the Green Belt Development will be approximate Rs. 15 Lakhs. We will maintain the Green belt for the next five years till it gets self-sustainable.

Tentative action plan is as below:

Sr. No.	Activity	Time line	Remarks
1	Land Cleaning	Jan-23	Before Monsoon, As a part of immediate action
2	Land levelling	Feb-23	
3	Laying of water line with drip irrigation	Mar-23	
4	Fencing for green belt area	Feb to Mar-23	
5	Land preparation & creating planting pits	Apr-23	
6	Plantation 4660 nos. saplings	during rainy days	

3.	Being a project is located in the Critically Polluted Area, PP shall explore the alternate site analysis for the proposed project.	<p>It is to be appreciated that we are expanding/adding the new products in the existing plant premises the option of site alternative analysis is limited which can be done considering environmental advantages and disadvantages basis only which is presented below:</p> <p><u>Existing site scenario:</u></p> <p>The site is in the notified industrial area and land is already developed for chemical industries. Necessary infrastructure essential for operating such plant is available. Construction activities are limited. The existing utilities with some addition will be utilised more efficiently The stringent measures for emission and etc. as applicable for such area are being met in existing plant and same are proposed in the expansion as well. We are also making provision for 40% equivalent green belt development; hence, issue of critical area management will lead to lesser environment issue than developing all together new project. Also the site is predominately fungicide with few insecticide and speciality product which are compatible with each other in terms of raw material, operations, solvents, specialty chemicals etc. and therefore resource optimization is envisaged to its fullest.</p> <p>New project site will require identification and development of new site from scratch. The new land parcel is not easily available in industrial area in nearby area to enable us to manage two units at the same time (existing and this new one). Also it will require arranging new utilities, larger construction stage environmental impacts, 33% green belt only. Financial viability also an issue due to requirement of additional fund for land, building, utilities etc. The above submission shows that existing site option is the most suitable option for the proposed expansion.</p>	The EAC found the reply submitted by the PP satisfactory.
4.	The PP shall submit revised and detailed water balance	STP treated water merging with ETP (Secondary treatment), committee has suggested to bifurcate STP and ETP treated water and directly use for recycling gardening etc. We have revised the water balance as suggested and its details with water balance diagram has been submitted.	The EAC found the reply submitted by the PP satisfactory.
5.	The PP could not explain the life cycle	Life cycle analysis study and Specific adverse and harmful impacts of Pesticide on flora and fauna of microbiota has been submitted.	The EAC found the reply

	<p>analysis study though it was a part of instructions issued by the EAC in agenda. PP needs to submit details reflecting specific adverse and harmful impacts of Pesticide on flora and fauna of microbiota. PP needs to submit all the details on the subject.</p>		<p>submitted by the PP satisfactor y.</p>
6.	<p>The PP shall submit the details of carbon foot print and carbon sequestration study w.r.t. proposed project and based on natural gas and agro based briquettes. Proposed mitigation measures also needs to be submitted for further appraisal of the EAC</p>	<p>Total CO₂ emission from project will be 43178 tCO₂/Annum. As per the Tata Group level initiative of reducing 30% CO₂ emission by 2030, Unit will save/capture/reduce approx. 4850 tons carbon dioxide (considering direct & Indirect Source of CO₂ emission) through various mitigation measures. Detailed carbon foot print and carbon sequestration calculation has been submitted</p>	<p>The EAC found the reply submitted by the PP satisfactor y.</p>
7.	<p>The PP needs to submit</p>	<p>Details of existing & proposed energy conservation measures in the unit has been submitted</p>	<p>The EAC found the</p>

	details of energy conservation measures proposed in the Unit.		reply submitted by the PP satisfactory.
8.	The PP shall submit the quantified and specified compliance/action plan w.r.t each of the mitigation measure for CPA mentioned in the Ministry's O.M. dated 31.10.2019.	Quantified compliance/action plan w.r.t each of the mitigation measures for CPA mentioned in the Ministry's O.M. dated 31.10.2019 has been updated and same has been submitted	The EAC found the reply submitted by the PP satisfactory.
9.	The PP needs to submit the details of Onsite/Offsite emergency plan and mitigation measures to be proposed during implementation of the project.	Onsite/Offsite emergency plan in EIA report. Conclusion of Onsite/Offsite emergency plan has been submitted	The EAC found the reply submitted by the PP satisfactory.

22. **Deliberations by the EAC:**

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

The EAC noted that the PP has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information

submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the PP.

The EAC noted that the EIA reports are in compliance of 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 inter-alia, deliberated on the data of half-life and toxicity of existing and proposed products, carbon sequestration, CER activities, greenbelt development plan, Compliance to OM dated 31.10.2019 for projects falling within CPA, and advised the PP to submit the following:

- List of technical products with toxicity details.
- Year wise and % wise carbon reduction in tabular form (upto 2030)
- Environment improvement related activities for CER.
- Greenbelt development plan inside and outside the premises.
- Revised Compliance to OM dated 31.10.2019 for projects falling within CPA.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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.

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) Adequate stack height as per CPCB/SPCB guidelines shall be provided. Stack emission levels shall be stringent than the existing standards. The PP shall provide pollution control measures including ESP and water scrubber for Briquette fired boiler and adequate water + caustic/acid scrubber for proposed process vents.
- (ii) CEMS shall be installed and connected to SPCB/CPCB Server.
- (iii) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
- (iv) As committed by the PP, Industry shall store all raw materials, products and hazardous chemicals and transported in closed containers by road. Transportation of materials by rail/conveyor belt, wherever feasible, shall be explored.
- (v) Agro Briquettes shall be proposed as a primary fuel in addition to the Natural gas and ESP shall also be installed to control the PM.
- (vi) The PP shall implement new eco-friendly technologies for process improvement by continuous working in R&D
- (vii) The PP shall develop an additional greenbelt over an area of at least 9000 m² (*inside the premises by planting 2972 number of saplings*), and 18616 m² area (*outside the factory premises by planting 4660 number of saplings*) within one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP should 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) The transportation load on roads shall be within their carrying capacity and adequate width of roads shall be maintained inside the industrial premises.
- (ix) Treated waste water shall be discharge to FETP (NCT) and partially recycled for greenbelt, utilities to minimize fresh water consumption.
- (x) Continuous monitoring system for effluent quality/ quantity is being/shall be and connected to CPCB server.
- (xi) The rain water from the building roofs (Admin building & Engineering work shop) shall be connected to rain water harvesting tank.
- (xii) Treated water shall be sent to FETP (NCT) and partially recycle for utilities.
- (xiii) STP shall be installed to treat domestic wastewater.

- (xiv) The PP shall dispose the waste at TSDF and common hazardous waste disposal facilities approved by the SPCB.
- (xv) The hazardous waste generated should be preferably utilized in co-processing.
- (xvi) Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.
- (xvii) The CER activities shall include installation of Solar Panels on Rooftop of Primary School, Motali and Jitali Villages (10 KW), installation of Solar street lights in Kosamdi, Motali and Uchhali Villages (20 W), Maintenance Cost with replacement of parts, Watershed programs in nearby areas to conserve water, Development of check dam @Uchhali Village for water harvesting purpose, Water harvesting structure after need assessment, maintenance cost, ree Plantation (2000 trees) @ GIDC internal road with tree guard (Rs. 1500/- per tree, Tree Plantation in Villages Jitali, Motali and Uchhali Villages near primary school and Gram Panchayat office (around 3000 trees), Maintenance Cost including security, water supply, gardener, Water harvesting structure including check dam, reen belt development in Kosamdi village, Green Belt development around Devmogara village.
- (xviii) 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. PP shall engage Head EHS-AGM-EHS - further 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. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (xix) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is ₹ 10 Crores (Capital cost) and ₹ 12 Crores per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (xx) The total water requirement shall not exceed 711.66 KLD of which fresh water requirement of 505.66 KLD will be met from GIDC water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter

and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.

- (xxi) Total effluent generation will be 456.17 KLD including domestic. High COD process effluent (12 KLD) and MEE Slurry (18.17 KLD) shall be Incinerated In-house/ CHWIF/ External pre-processing/Co processing. Low COD process effluent, effluent from scrubber, washing, utilities, MEE condensate and domestic sewage 522.17 KLD shall be treated in ETP; out of which 220 KLD treated effluent, after achieving desired norms, will be discharged to FETP of M/s. Narmada Clean Tech (NCT), Ankleshwar. 302.17 KLD shall be treated in RO followed by MEE. RO Permeate 206 KLD will be reused/recycled within premises.
- (xxii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (xxiii) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (xxiv) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 446(E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.
- (xxv) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) 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.

- (xxix) 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.
- (xxx) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xxxii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xxxiii) 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.

Agenda No. 47.4

Expansion of Antibiotic Bulk Drugs (API) Manufacturing Unit of production capacity from 742.50 TPA & 363.05 TPA of By-Product to the total capacity 990 TPA & By-products: 435.66 TPA located at Village Joniawas, Tehsil & District Rewari, Haryana by M/s Penam Laboratories Ltd. - Reconsideration of EC

[Proposal No. IA/HR/IND3/248488/2021 File No IA-J-11011/5/2023-IA-II(I)]

The PP vide letter dated 11.2.2023 requested to postpone the proposal due to some unforeseen circumstances. Further, vide letter dated 22.2.2023, the PP has informed that, due to some unforeseen circumstances at their end, they are still not able to attend the EAC meeting. It was requested to return and delist the project for the upcoming EAC meetings. The PP shall submit a fresh request for enlistment in case the issue is resolved at their end.

In view of above, the EAC recommended to **return the proposal in the present form.**

Agenda No. 47.5

Proposed Expansion of synthetic organic chemical upto production capacity of 100 TPM and total Inorganic Chemical Products (Non EC product) from 600 TPM to 350 TPM located at Plot No. 155/3 & 4, GIDC Nandesari, Dist. Vadodara, Gujarat by M/s. Shakti Ammonia Supply Co. - Reconsideration of ToR

[Proposal No. IA/GJ/IND3/407002/2022 File No. IA-J-11011/520/2022-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for the Proposed Expansion of synthetic organic chemical upto production capacity of 100 TPM and total Inorganic Chemical Products (Non EC product) from 600 TPM to 350 TPM located at Plot No. 155/3 & 4, GIDC Nandesari, Dist. Vadodara Gujarat by M/s. Shakti Ammonia Supply Co. **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 'B' of item 5(f), Synthetic organic chemicals industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/407002/2022** dated 5.12.2022. Due to the shortcomings the proposal was referred back to PP on 11.12.2022 and reply for the same has been submitted to PP on 28.12.2022. The proposal is now placed in 45th EAC Meeting held on 11th – 13th January, 2023, wherein the PP 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 are as follows:

Sr. No.	Name of the Product	CAS No.	Quantity (MT/Month)			End-use of Products
			Existing	Proposed	Total	
1	1 Phenyl 3- Methyl 5- Pyrazolone (PMP)	89-25-8	NIL	100	100	Used in Dyes and Dyes intermediate
2	Para Toly 3- Methyl 5- Pyrazolone (PTPMP)	86-92-0				Used in Dyes and Dyes intermediate
3	1 -(M-Chloro Phenyl) 3- Methyl 5- Pyrazolone (MCPMP)	90-31-3				Used in Dyes and Dyes intermediate
4	1 -(O-Chloro Phenyl 3- Methyl 5 -Pyrazolone (OCPMP)	14580-22-4				Used in Dyes and Dyes intermediate
5	1-(3-Sulpho Amido) Phenyl 3- Methyl 5- Pyrazolone (1:3 SAPMP)	59-29-2				Used in Dyes and Dyes intermediate
6	1-(4-Sulpho Amido) Phenyl 3- Methyl 5-	13269-73-3				Used in Dyes and Dyes intermediate

	Pyrazolone (1:4 SAPMP)					
7	1-(2,5 Dichloro 4 Sulpho) Phenyl 3- Methyl 5-Pyrazolone (DCSPMP)	84-57-1				Used in Dyes and Dyes intermediate
8	1-(2 Methyl 4-Sulpho) Phenyl 3- Methyl 5-Pyrazolone	118-07-0				Used in Dyes and Dyes intermediate
9	1 (3 Sulpho Phenyl) 3 Methyl 5 Pyrazolone (1:3 SPMP)	119-17-5				Used in Dyes and Dyes intermediate
10	Vinyl Sulpho Phenyl 3-Methyl 5-Pyrazolone (V.S. SPMP)	21951-34-8				Used in Dyes and Dyes intermediate
11	1-(2-Chloro 5 Sulpho) Phenyl 3- Methyl 5-Pyrazolone (OCSPMP)	88-76-6				Used in Dyes and Dyes intermediate
Total Proposed Organic Chemical Products (EC Applicable Products)			NIL	100	100	--
12	Liquor Ammonia	7664-41-7	100	NIL	100	Used in Pharmaceutical, dye and dye intermediate, textiles
13	Filling of Ammonia gas in cylinders	7664-41-7	100	NIL	100	
14	Nickel Sulphate	10101-97-0	25	-25	NIL	Dyes and dye intermediate, electroplating industry
15	Cobalt Sulphate	10026-24-1	25	-25	NIL	Electroplating industry, drying agent
16	Copper Sulphate	7758-99-8	50	-50	NIL	Electroplating industry, drying industry
17	Zinc Sulphate	7733-02-0	100	-100	NIL	Pharmaceutical industry
18	Magnesium Sulphate	7487-88-9	50	NIL	50	Pharmaceutical industry
19	Ferrous Sulphate	7720-78-7	50	-50	NIL	Pharmaceutical Industry, waste water treatment
20	Purification of G-Salt	842-18-2	50	NIL	50	Dye intermediate
21	Ammonia Sulphate	7783-20-2	50	NIL	50	Agricultural use

Total Existing Inorganic Chemical Products (Non EC Products)	600	-250	350	--
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5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that Existing land area is 1855 m², no additional land will be used for proposed expansion.
7. 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 is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. Mahi River is flowing at a distance of 2.50 km in West direction
8. The PP reported that total water requirement is 109.8 m³/day, of which fresh water requirement of 63.8 m³/day will be met from GIDC Water Supply, and 46 KLD of recycled water will be used within plant activities. Effluent of 85.5 quantity will be treated through ETP, from that 30 KLD of treated effluent will be sent to CETP, Nandesari & 55.2 KLD will be treated in MEE from which 46 KLD wastewater will be recycled and reuse within plant.
9. The PP reported that Power requirement after expansion will be 100 kVA (no additional power is required) including existing 100 kVA and will be met from Madhya Gujarat Vij Company Limited (MGVCL). Existing unit has DG set of 250 KVA capacity, DG set are used as standby during power failure. Stack (height) will be provided as per CPCB norms to the existing DG sets.
10. The PP reported that the project, being located in **notified industrial area (Notification No.GHU/75/36/GID 1974/4084 (I) CH dated 06.05.1975)**, 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. Industry will develop greenbelt in an area of 40 % i.e., 750 m² out of total area of the project.
12. The estimated project cost is Rs 4.27 Cr. Total Employment will be 26 persons as direct & 16 persons indirect after expansion. Industry proposes to allocate Rs 35 lakhs towards CER.
13. The proposal was earlier considered in the 45th EAC meeting held on 11th-13th January, 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 (@2500 per hectare), in	M/s. Shakti Ammonia Supply Company is having total area of 1855 sq.m. and 51.4% of total plot area enmarked for greenbelt i.e. 954 Sq.m. Details are given below.

<p>consultation with forest department and accordingly, submit the details of green belt developed, number of trees and aerial photographs and video.</p>	Total Plot Area	1855.00 Sq. m. (0.1855 ha)	
	Provided Greenbelt inside plant premises	150 Sq. m. (0.0150 ha)	8.1 %
	Provided Greenbelt at road side area	54 Sq. m. (0.0054 ha)	2.9 %
	Provided Greenbelt outside plant premises (At Damapura Village)	750 Sq. m. (0.0750 ha)	40.4 %
	Total provided greenbelt area	954 Sq. m. (0.0954 ha)	51.4 %
	Nos. of trees required (@2500 per hectare)	239 Nos.	
	Additional trees considering Mortality rate	48 Nos.	
	Total No. of trees to be planted	287 Nos.	
	Currently Planted trees	106 Nos.	
	Trees to be planted within 1 year	181 Nos.	
	<ul style="list-style-type: none"> • Although this is the first EC application of Unit, company has developed greenbelt in 35% of total company area (650 m²) of the total plot area at Damapura Village recently in December, 2022. • M/s. Nandesari Industries Association (NIA), Nandesari has allotted 750 m² area (~ 40% of total area) to M/s. Shakti Ammonia Supply Co. at Damapura village for additional Greenbelt Development. Allotment letter by M/s. Nandesari Industries Association (NIA), Nandesari at Damapura village is attached. Photographs of existing greenbelt at damapura village has been submitted. Details of planted trees has been submitted. • Allotment letter by M/s. Nandesari Industries Association (NIA), Nandesari has been submitted. 		

2.	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 / action plan w.r.t. each of mitigation measures for CPA mentioned in the Ministry's O.M. dated 31.10.2019 has been submitted.
3.	Detailed justification/trend w.r.t the CEPI score of the CPA since the declaration as CPA.	Nandesari Industrial Area was classified under Critically Polluted Area (CPA) with the CEPI score of 89.09 as per NGT order vide Original Application No. 1038/2018 dated 10/07/2019. Since then multiple efforts have been taken by the GPCB by effective monitoring of the industries and imposing stringent norms like use of cleaner fuel, zero liquid discharge wherever feasible etc. to the polluting industries. Also, Strengthening of air pollution control measures and monitoring system. Note: To control Air Emission, Unit has already installed Cyclone Separator + Bag Filter and after expansion Alkali Scrubber will be installed as per solid fuel guideline. For wastewater generation, 30 KLD effluent will be sent to CETP of M/s. NIA, Nandesari for further treatment and disposal. Remaining 55.2 KLD effluent will be treated and MEE and recycled water will be reused back into utilities.

14. **Deliberations by the EAC:**

The EAC noted that the PP did not comply with the earlier recommendation, i.e. *“Compliance to green belt development of minimum 40% of the total area of the existing unit (@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”*.

Hence, the proposal was **deferred** for the said compliance as per the Ministry's O.M. dated 27.10.2020 w.r.t green belt requirement in the industrial estates/areas.

Agenda No. 47.6

Expansion of formaldehyde manufacturing capacity in existing facility from 2100 MTPM to 7500 MTPM located at Village Goyala, Mohana, Deva Road, Lucknow, Uttar Pradesh by M/s. Subham Polychem Pvt. Ltd. - Consideration of EC

[Proposal No. IA/UP/IND3/246935/2021; File No. IA-J-11011/43/2021-IA-II(I)]

1. The proposal is for environmental clearance for the Expansion of formaldehyde manufacturing capacity in existing facility from 2100 MTPM to 7500 MTPM located at Village Goyala, Mohana, Deva Road, Lucknow, Uttar Pradesh by M/s. Subham Polychem 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. Therefore, the project requires appraisal at Central Level.
3. The PP applied for the ToR vide proposal number. IA/UP/IND3/194754/2021 dated 3.1.2021 and the standard ToR was issued by the Ministry, vide letter no. No. IA-J-11011/43/2021-IA-II(I) dated 9.2.2021. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on **20.08.2021** which was presided by the Additional District Magistrate. The issues raised during the public hearing are w.r.t when & where the CSR amount will be spent, request for CSR activities in Goyala & nearby villages, benefits to the youth from the proposed expansion, request for employment to locals, socio economic status of the nearby villages should improve, what kind of pollution will spread from the plant, request to operate the industry following PCB norms & without adverse impact on the environment, details of fire safety and occupational health. Action plan for the issues raised during the PH has been submitted with budget and timelines.
4. The PP applied for Environment Clearance on 10.1.2022 in Form-2 and submitted the EIA/EMP Report and other documents. The PP in the Form-2 reported that it is an **Expansion case**. Due to some shortcomings, the Project was referred back to the PP on 15.1.2022, 23.5.2022, 17.1.2023 and reply to the same was submitted on 5.5.2022, 23.5.2022, 17.1.2023 respectively. The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023, wherein the Project Proponent and an accredited Consultant, M/s SD ENGINEERING SERVICES PVT. LTD. (NABET Accreditation Number QCI/NABET/ENV/ACO/22/2341 valid till 12.08.2023), made a detailed presentation on the salient features of the project and informed the following:
5. The PP reported that the Existing land area is 2708.65 m² and additional 79.35 m² land will be used for the proposed expansion, totalling to 2788 m². The details of products and by-products are as follows:

Product Details (complete name)	CAS NO.	Existing Quantity	Proposed Quantity	Total Quantity	Uses
Formaldehyde	50-00-0	2100 TPM	5400 TPM	7500 TPM	Urea Resin, Melamine Resin

6. 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 issued under E (P) Act/Air Act/Water Act.
7. The PP reported that EC was not required for the existing unit as it was installed before EIA Notification, 2006. The PP has obtained CTO with ref. No.: **70285/UPPCB/LUCKNOW (UPPCBRO)/CTO/water/LUCKNOW/2019** obtained for the production capacity of Formaldehyde of 2100 MT/Month. Certified CTO Compliance was issued by UPPCB vide letter dated 03.12.2022. All the conditions are complied.
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. Indira Canal is flowing at a distance of 0.30 KM in East direction. The PP reported that no forest area is involved in the proposed project and no Schedule-I species exist within 10 km study area of the project.
9. The PP reported that **Ambient air** quality monitoring was carried out at **08** locations during December 2020 to February 2021 and the baseline data indicates the range of concentrations as: PM₁₀ (31.7 – 60.8 µg/m³), PM_{2.5} (20.0 – 38.3 µg/m³), SO₂ (5.0 – 7.4 µg/m³) and NO₂ (9.2- 15.9 µg/m³). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be **0.04569 µg/m³**, **3.39381µg/m³** and **0.38217 µg/m³** with respect to PM₁₀, So_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS) **Noise** - Ambient noise levels were measured at 08 locations in the study area. Equivalent noise level varies from 39.5 to 62.3 dB (A) during day time and 39.8 to 59.9 dB (A) during night time. Thus noise levels at all locations were within the prescribed limits. Ambient noise levels were measured at 08 locations in the study area. Equivalent noise level varies from 39.5 to 62.3 dB (A) during day time and 39.8 to 59.9 dB (A) during night time. Thus noise levels at all locations were within the prescribed limits. **Ground Water** - On the basis of test results obtained it is interpreted that results of all village meet with the standard, while the results of Goyala village are having high Iron value. The reason of high concentration of Iron in ground water may be due to high content of Iron in nearby surface water resources. **Surface Water**- Based on test result data comparison study, it is interpreted that River water quality does not meet with drinking water norms as per IS 10500:2012. Results of COD, BOD and Iron have been found more than expected value which indicates that water has been contaminated with organic matter and Iron. It may be due to directly or indirectly contamination of sewage and effluent. These waters should not be directly used in drinking purpose but it can be used in drinking after conventional treatment followed by disinfection. These waters can be used in irrigation and other domestic purposes. Water qualities of pond waters are comparatively better than river water. **Soil**- The soil analysis result shows that, the pH of the soil samples collected is moderately alkaline. Texture of the soil varies from silt loam to sandy clay loam. Electrical conductivity ranges from 121 to 189 µm/cm. Nitrogen content of soil varies from 28.4 to 37.5 kg/ha., Phosphorus content varies from 5.8 to 10.9 kg/ha., and Potassium content 46.6 to 75.2 kg/ha. Total organic carbon of the soil varies from 0.58 to 1.95 %. From the soil analysis result it can be concluded that the soil of the area is highly fertile and suitable for agricultural purpose.

10. The PP reported that the total water requirement is 250 m³/day (Industrial (Process, cooling tower, Floor wash, Boiler etc.): 248.36 KLD, Domestic: 0.225 KLD and Gardening: 1.415 KLD) of which fresh water requirement of 247.78 m³/day will be met from Bore well. Domestic wastewater generated (0.5 KLD) will be disposed through Soak Pit/STP. The waste water generated from the process will be reused in Cooling tower and other process. The final waste water generated through saturation at cooling tower shall be treated through ETP. Treated water shall be used for washing and cooling tower. The project is based on Zero Liquid Discharge.
11. The PP reported Power requirement after expansion will be **225 KVA** including existing KVA and will be met from State power distribution corporation limited (Uttar Pradesh Power Corporation Limited). Existing unit has DG sets of 450 KVA capacity, additionally 1 Nos. DG of 180 KVA sets are used as stand by during power failure. Stack(11 m and 6 m) will be provided as per CPCB norms to the proposed DG sets. Existing unit has **0.5 TPH** HSD fired boiler. Additionally, 0 TPH fired boiler will be installed. Multi cyclone separator/ bag filter with a stack of height of **11 m** will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm³ for the proposed boilers.
12. **Details of Process Emissions Generation and their Management:** CO₂, and CO will be released during the manufacturing process. To control emissions, Scrubber will be installed for scrubbing the gases, Online Air monitoring system for stack emission (for Particulate Matter) will be provided as per UPPCB and guidelines. Green belt will be maintained in the plant premises.
13. **Details of Solid/ Hazardous Waste Generation and its Management:**

Type of Waste	Cat.	Source of Waste	Quantity (MT)/Month	Method of storage	Method of Disposal
Empty Barrels/ Containers	33.1	Storage godown	1.0	Stored in covered area with platform	Send to vendor/ Sell to approved UPPCB approved scrap dealer
Used Oils	5.1	Utilities	0.01	Stored in covered area with platform	Authorized recyclers identified by UPPCB.

ETP Sludge	35.3	Sludge Drying Bed	0.001	Sludge Drying Bed	TSDf
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14. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ **Rs .0.50 crores** (capital) and the Recurring cost (operation and maintenance) will be about ₹ **0.10 crores** per annum. Industry proposes to allocate ₹11.6 Lakh towards corporate Environmental responsibility (CER).
15. The PP reported that the green belt was developed in 980 m² (33 % area) and 135.2 m² will be developed as greenbelt in the project area totalling to 40% the project area.
16. The PP proposed to set up an Environment Management Cell (EMC) to engage General manager- Product manager- Site manager- for the functioning of EMC.
17. The PP reported the carbon footprint as follows:

Parameter	Quantity	Emission Factor	Carbon Footprint/day (Ton/day CO ₂)	Carbon Footprint/year (T/Annum CO ₂)
			(Aspect Quantity Data*Emission factor)	
Emissions Generated from the Manufacturing Process				
Formaldehyde Production	250 Ton per day	0.089 Ton CO ₂	22.25	8121.25
Emissions Generated from the Estimated Electricity Consumption				
Electricity	225 kW/day (0.225 MW/ day or 0.009375MWhr)	0.92 Ton/MW h CO ₂	0.008625	3.15
From Indirect Emissions including Transportation and Use of Products				
Fuel (HSD)	62 Ltr/day) (Considering 62 Ltr/hr consumption of fuel and max. 1 Hr/day run of 630 KVA DG set (2 nos.))	0.00268 Ton/Ltr CO ₂	1.7688	645.612

Transportation of RM and FP	3 ltr/10 km/day = 51ltr/per km for 15 trucks (Considering 15 trucks per day i.e., 5 methanol truck and 10 formaldehyde truck)	0.00268 Ton/Ltr CO ₂	0.0402	14.673
Employee Travel	10 No. of people (Within 10 Km of project site)	0.0000417 Ton/Km CO ₂	0.000417	0.152
Total				8784.84 (Tones/Annum CO₂)

18. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
19. The estimated project cost is Rs **4.5 Cr** including existing investment of Rs 0.98 crores. Total Employment will be 10 persons as direct & 04 persons indirect after expansion.
20. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance of 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 inter-alia, deliberated on the water balance, air modelling, greenbelt development plan, carbon sequestration and advised the PP to submit the following:

- Corrected water balance and Soak Pit Supernatant should be used in greenbelt development.
- Navigation mark for isopleth (air modelling).
- Number of trees planted as per new guideline as 2500 trees per hectare.
- Quantify the Electrical Consumption and Carbon emission.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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.

21. 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 PP shall develop Greenbelt over an area of at least, 135.2 m² by planting 100 number of species within a period of one year of grant of EC. Further 2500 trees shall be planted in nearby areas connecting road, primary school, panchayat bhawan, government hospital. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the 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 the previous year.
- (ii) 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. PP shall engage General manager- Product manager- Site manager. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the

Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

- (iii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 0.50 crores (Capital cost) and ₹ 0.10 Crores (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (iv) The total water requirement shall not exceed 250 m³/day of which fresh water requirement shall not exceed 247.78 m³/day will be met from Bore well. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (v) As committed by the PP, zero liquid discharge shall be ensured, Domestic sewage generated (0.5 KLD) shall be disposed through Soak Pit/STP. The waste water generated from the process shall be reused in Cooling tower and other process. Effluent Treatment Plant (Aerobic type) capacity – 5 KLD shall be proposed to treat wastewater generated from Cooling Tower, Boiler, and Washing area.
- (vi) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (vii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (ix) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of

Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

- (x) 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.
- (xi) 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.
- (xii) 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.
- (xiii) 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.
- (xiv) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xv) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xvi) 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.
- (xvii) 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. 47.7

Expansion in the production capacity of existing thermosetting Moulding Powder Manufacturing Unit from 2100 MT/annum to 4500 MT/annum located at Plot No. F-1041, RIICO Industrial Area, Bhiwadi, Tehsil Tijara, District Alwar (Rajasthan) by Chawla Polychem - Consideration of ToR (under violation category)

[Proposal No. IA/RJ/IND3/415867/2023; File No. IA-J-11011/32/2023-IA-II(I)]

1. The proposal is for the ToR for preparation of EIA/EMP for the Expansion in the production capacity of existing thermosetting Moulding Powder Manufacturing Unit from 2100 MT/annum to 4500 MT/annum located at Plot No. F-1041 RIICO Industrial Area, Bhiwadi, Tehsil Tijara District Alwar, Rajasthan by Chawla Polychem.
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 within critically polluted area. Therefore, the project requires appraisal at Central Level.
3. The PP applied for the ToR vide proposal number No. **IA/RJ/IND3/415867/2023** dated 27.1.2023. The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023 wherein the PP made an accredited Consultant, Gaurang Environmental Solutions Private Ltd. [Accreditation number – NABET/EIA/2023/RA 0192 (Rev.02), Valid up to 7.12.2023] 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:

Product	Existing	Proposed	Total
Thermosetting Moulding Powder	2100	2400	4500
Melamine Formaldehyde (MF) Moulding Powder	MT/Annum	MT/Annum	MT/Annum
Urea Formaldehyde (UF)Moulding Powder			

5. The PP reported that the unit is existing since 2010. Consent to Operate was issued by Rajasthan State Pollution Control Board for the production of 2100 MT/Annum and is valid till 30.11.2023.
6. In the matter of O.A. 298/2021, Vineet Nagar vs. CGWA & Ors., Hon^{ble} NGT vide its order passed on 21.12.2021 directed that all the units manufacturing formaldehyde and its different resins (including melamine formaldehyde, urea formaldehyde & phenol formaldehyde) without requisite Environmental Clearance (EC) as per EIA Notification dated 14.09.2006 will be governed by the requirement of such EC. **Therefore, we understand that the project is in violation of EIA Notification, 2006.**
7. The PP reported that the total land required for the proposed project is 792.5 m² and no R&R is involved in the Project.

8. 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 is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. Indori Nala 6.0 km towards NE.
9. The PP reported that the total water requirement for the project is 10 KLD out of which fresh water requirement is approx. 8 KLD which will be sourced from RIICO water supply. 2 KLD water is being/will be required for the domestic purpose and 4 KLD will be used for landscaping, scrubbing and cooling purpose. No wastewater generation from cooling section as the process is completely closed conduit, Waste water generated from the wet scrubber is concentrated in 4-5 months and used in the process and the dried cake is also reused in the process after drying. and no waste water is generated in the process and hence no waste water will be drained out of the plant premises. Approx. 1.6 KLD domestic waste water is being/will be generated from the project and the same is being/will be routed to septic tank followed by soak pit.
10. The PP reported that the Power requirement after expansion will be 900 KW including existing 448 KW and will be met from State Power Distribution Corporation limited (JVVNL). Existing unit has DG sets of 125 KVA & 200 KVA capacity, additionally 180 KVA & 500 KVA DG sets are used as standby during power failure. Stack (height) will be provided as per CPCB norms to the proposed D.G sets.
11. The PP reported that the project, being in notified industrial area vide notification no. **Va.4 (80) udhyog/189 dated 16.04.1999**, is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA. II(I) dated 27.04.2018.
12. Industry will develop greenbelt over an area of 792.65 sq. m (40% of the total area). The plant has been operating since year 2010 & since the plant/machinery already covers the plant premises, greenbelt will be provided within the industrial area also (in addition to the project site).
13. The project cost is Rs.114.34 lacs (Existing: Rs.64.34 lacs+Proposed: Rs.50.00 lacs) and the total employment will be 37 persons as direct.
14. **Deliberations by the EAC:**

The Member Secretary informed that the Ministry has issued a Standard Operating Procedure dated 7th July 2021 bearing the file no. 22-21/2020-IA.II, for identification and handling of violation cases under EIA Notification, 2006 in compliance to order of the Hon'ble National Green Tribunal in Appeal No. 34/2020 (WZ) titled Tanaji B. Gambhire Vs Chief Secretary, Government of Maharashtra. This SOP was challenged in the Madurai Bench of the Hon'ble High Court of Madras in the matter W.P.(MD) No. 11757 of 2021 titled Fatima Vs Union of India and was interim stayed vide order dated 15th July 2021. Recently, in the Order dated 09th December 2021 in the matter of Civil Appeal Nos. 7576-7577 of 2021 in Electrosteel

Steels Limited Vs. Union of India and Ors., the Hon'ble Supreme Court of India has inter-alia observed the following:

"The interim order passed by the Madras High Court appears to be misconceived. However, this Court is not hearing an appeal from that interim order. The interim stay passed by the Madras High Court can have no application to operation of the Standard Operating Procedure to projects in territories beyond the territorial jurisdiction of Madras High Court. Moreover, final decision may have been taken in accordance with the Orders/ Rules prevailing prior to 7th July, 2021."

The EAC observed that the Ministry issued OM No. 22-21/2020- IA.III dated 28.1.2022 in this regard. Further, the instant proposal is of State of Haryana and should be dealt as per the provision of SOP dated 7.7.2021 for handling violation cases. PP submitted the The unit is existing since 2010. Consent to operate from Rajasthan State Pollution Control Board, Jaipur (Rajasthan) for the production 2100 MT/Annum and valid till 30.11.2023. In the matter of O.A. 298/2021, Vineet Nagar vs. CGWA & Ors., Hon'ble NGT vide its order passed on 21.12.2021 directed that all units manufacturing formaldehyde and its different resins (including melamine formaldehyde, urea formaldehyde & phenol formaldehyde) without requisite Environmental Clearance (EC) as per EIA Notification dated 14.09.2006 will be governed by the requirement of such EC.

The EAC is of the view that as per para 11, Step-3 (B) of the said SOP, the project falls under permissible category. Therefore, the PP needs to carry out Damage Assessment, and prepare Natural Resource Augmentation/Remedial and Community Augmentation Plans (to restore environmental damage caused including its social aspects).

The EAC is of the view that in pursuant to the said SOP, the Ministry may take appropriate action under E(P) Act, 1986 for the violation committed by the PP.

The EAC noted that the PP reported that Industry is located in the notified RIICO industrial area. Further, as per Para 7 (i) stage III (i)(b) of EIA notification 2006 (as amended) and in pursuant to OM dated 27.4.2018, the public consultation is exempted for this category i.e. 5(f).

The Committee deliberated on the environment parameters, Greenbelt/plantation, remediation plan and EAC found it to be satisfactory.

15. The Committee, after detailed deliberations, **recommended** for issuing **Standard ToR [Annexure-II] without Public Hearing** as the project site is located in a notified RIICO 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). The PP shall follow the Standard Operating Procedure (SoP) issued by the Ministry on 07.07.2021 for handling of violation cases under EIA Notification, 2006.

- (ii). To complete the impact assessment studies & submit Environmental Impact Assessment (EIA) report & Environmental Management Plan (EMP) (Damage Assessment, Remedial Plan and Community Augmentation Plan) in a time bound manner.
- (iii). Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR).
- (iv). Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.
- (v). The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter (13) in the EIA report by the accredited consultants.
- (vi). Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to be prepared accordingly.
- (vii). The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
- (viii). Calculation of the penalty amount as per provision of SOP dated 07.07.2021 (i.e. 1% of the total project cost incurred up to the date of filing of application along with EIA/EMP report PLUS 0.25% of the total turnover during the period of violation) with supporting documents. In addition to this, actual production vis-a-vis CTO capacity financial year wise in a tabular format with supporting documents.
- (ix). The State Government/SPCB to take action against the project proponent under the provisions of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC
- (x). The status of the action plan, if any, prepared by the State Government/SPCB for the CPA needs to be provided.
- (xi). The PP needs to submit the action plan with respect to mitigation measures for CPA mentioned in the Ministry's OMs dated 31.10.2019.
- (xii). Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.

- (xiii). 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.
- (xiv). The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.
- (xv). Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.
- (xvi). Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (xvii). Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (xviii). Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xix). 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.
- (xx). The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xxi). The PP should develop Greenbelt over an area of 792.65 sq. m (40% of the total area) and that shall be completed within 1 year, accordingly plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. Approx. 239 number of plantations have to be planted considering 80% survival rate and with a spacing of 2 m x 2 m.
- (xxii). 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.
- (xxiii). Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.

- (xxiv). 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.
- (xxv). The action plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources.
- (xxvi). Detailed description of micro flora and fauna (terrestrial and aquatic) existing in the study area with special reference to rare, endemic and endangered species.
- (xxvii). The PP shall prepare a detailed rain water harvesting plan so as to ensure that unit will become water positive i.e. able to recharge the quantity equivalent to fresh water requirement of the plant or use only re-charged/restored water as a fresh water requirement.
- (xxviii). Detailed solvent recovery/solvent management plan
- (xxix). Detailed Volatile Organic Compounds (VOCs)/Fugitive emissions control plan

Agenda No. 47.8

Proposed Active Pharmaceutical Ingredient (API) and Chemical Intermediates Manufacturing Unit” located at Plot No. A-5, D7 to D10 (Block A), Gajraula Industrial area site II, Gajraula, Tehsil - Dhanaura, Dist. Amroha, Uttar Pradesh. by M/s Dykes & Dunes Enterprises Pvt. Ltd. - Consideration of ToR

[Proposal No. IA/UP/IND3/287858/2022; File No. IA-J-11011/327/2022-IA-II(I)]

The PP vide e-mail dated 13.2.2023 requested to postpone the proposal due to ill health of the promoter. Accordingly, the proposal was **deferred**.

Agenda No. 47.9

Proposed Production of Synthetic Amino Resin Manufacturing Unit of 500 MT/Annum located at RIICO Industrial Area, Chopanki, District Alwar (Raj.) by M/s. Saint Polymers - Consideration of ToR

[Proposal No. IA/RJ/IND3/416211/2023; File No. IA- IA-J-11011/33/2023-IA-II(I)]

The PP vide e-mail dated 10.2.2023 had apprised the EAC that they have submitted a request for withdrawal dated 30.01.2023 on PARIVESH as the promoter details were not showing correctly in the CAF and requested to kindly allow them to withdraw our proposal.

In view of above, the EAC recommended to **return the proposal in the present form**.

Agenda No. 47.10

Proposed production of Synthetic organic chemicals in a manufacturing unit having total capacity of 80TPM located at Plot No.: 702-703 & 1812-1813/2/9, GIDC Estate Panoli, Tal.: Ankleshwar, Dist.: Bharuch, Gujarat by M/s. J S Chemicals - Consideration of ToR

[Proposal No. IA/GJ/IND3/414225/2023; File No. IA-J-11011/17/2023-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for proposed production of Synthetic organic chemicals in a manufacturing unit having total capacity of 80TPM located at Plot No.: 702-703 & 1812-1813/2/9, GIDC Estate Panoli, Tal.: Ankleshwar, Dist.: Bharuch, Gujarat. by M/s. J S Chemicals. **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 'B' of item 5(f), Synthetic organic chemicals industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal no. IA/GJ/IND3/414225/2023 dated 15.1.2023 .The proposal was referred back to the PP on 20.1.2023 and its reply was submitted on 30.1.2023.The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023 , wherein the PP and an accredited Consultant, M/s. ECOGREEN ENVIRO SERVICES [Accreditation number NABET/EIA/2023/IA0070, Valid up to 22.12.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	End-use of products
Group: A_ZLD Groups				
1.	M-Bromo Phenol And/or	106-41-2	60	Speciality chemicals
2.	N-Propyl Bromide And/or	106-94-5		
3.	Iso-propyl Bromide And/or	75-26-3		
4.	Calcium Bromide And/or	7789-41-5		
5.	N-Butyl Bromide And/or	149-64-4		
6.	Ethyl Bromide And/or	74-96-4		
7.	Tetra Butyl Ammonium Bromide And/or	1643-19-2		
8.	Meta Bromo Nitrobenzene And/or	585-79-5		
9.	Para Nitro Benzyl Bromide And/or	100-11-8		
10.	Meta Nitro Benzyl Bromide And/or	3958-60-9		
11.	Para Nitro Benzyl Alcohol And/or	619-73-8		

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	End-use of products
12.	Para Bromo Benzyl Bromide And/or	3433-80-5		
13.	Para Cyano Benzyl Bromide And/or	17201-43-3		
14.	Ortho Cyano Benzyl Bromide And/or	22115-41-9		
15.	2,6 Dichloro Benzyl Bromide And/or	28188-41-2		
16.	2-Bromothiophene And/or	1003-09-4		
17.	Cyclo propyl methyl bromide And/or	7051-34-5		
18.	1,4-dibromobutane And/or	110-52-1		
19.	3 Methyl 2 Bromo Propiophenone And/or	1451-83-8		
20.	(S)-3-(dimethylamino)-1-thiophen-2-yl-propan-1-ol And/or	132335-44-5		
21.	4'-(bromomethyl)-[1,1'-biphenyl]-2- carbonitrile And/or	114772-54-2		
22.	7-Chloroquinaldine And/or	4965-33-7		
23.	Mono Sodium Phosphate (Crystal + Anhydrous) And/or	7558-80-7		
24.	P.A (Para Anicidine)/ p-Anicidine And/or	104-94-9		
25.	Di sodium phosphate (Crystal + Anhydrous) And/or	7558-80-7		
26.	Tri Sodium Phospahte (Crystal + Anhydrous) And/or	7601-54-9		
27.	3 4 Di chloro Aniline And/or	95-76-1		
28.	Tetra Butyl Ammonium Chloride And/or	1112-67-0		
29.	Tetra Propyl Ammonium Bromide And/or	1941-30-6		
30.	1-Pentyl chloride And/or	543-59-9		
31.	Tetralone And/or	529-34-0		
32.	P-bromo toluene And/or	106-38-7		
33.	Phthaloyl Amlodipine And/or	88150-62-3		
34.	o-Tolyl benzonitrile (OTBN) And/or	157366-46-6		
35.	Palmitoyl Chloride And/or	112-67-4		
36.	3-Hydroxy propiophenone And/or	13103-80-5		
Group: Speciality Chemicals Products				

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	End-use of products
37.	N-Bromo Succinamide And/or	128-08-5	20	Speciality Chemicals
38.	Pyridine Hydrobromide And/or	39416-48-3		
39.	Tetra Ethyl Ammonium Bromide And/or	71-91-0		
40.	5-Bromovaleryl chloride And/or	4509-90-4		
41.	Bromo Acid And/or	79-08-3		
42.	Bromo Ester And/or	96-32-2		
43.	2-Chloro-1-(2,4- difluorophenyl) ethenone And/or	51336-94-8		
44.	dibenzo[b,f][1,4]thiazepin-11(10H)-one And/or	3159-07-7		
45.	alpha, alpha-Diphenyl-4-piperidinomethanol And/or	115-46-8		
46.	N-methyl Amino acetaldehyde dimethylacetal And/or	122-07-6		
47.	Fluoroquinolonic Acid And/or	86393-33-1		
48.	1,1-Cyclohexane Diaceticacid monoamide And/or	99189-60-3		
49.	(2-Chloromethyl)-3,5-Dimethyl-4-methoxy pyridine HCL And/or	86604-75-3		
50.	O.A.V.S. (Ortho anisidine vinyl sulphone) And/or	10079-20-6		
51.	Sodium Naphthionate And/or	130-13-2		
52.	Cyanuric Chloride And/or	108-77-0		
53.	5 chloro 2-methoxy Aniline (Red R base) And/or	95-03-4		
54.	5 Nitro 2 methoxy Aniline (Fast Scarlet R) And/or	99-59-2		
55.	O-Anisidine And/or	90-04-0		
56.	O-Dianisidine (Fast Blue B base) And/or	20325-40-0		
57.	2 5 Di chloro Aniline And/or	95-82-9		
58.	4-methylene 2 nitro Aniline (M.N.P.T.) And/or	89-62-3		
59.	3 4 Di chloro nitro benzene And/or	99-54-7		
60.	5 nitro 1,2,4 Tri chloro benzene And/or	89-69-0		
61.	Fast yellow G. Base And/or	99-55-8		
62.	Fast Orange GC base And/or	141-85-5		
63.	2-methoxy 4-nitro Aniline (Red B base) Fast Red B. Base And/or	97-52-9		

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	End-use of products
64.	3 4 Di Chloro benzyl Chloride And/or	102-47-6		
65.	Red RC (Fast Red RC Base) And/or	93-34-5		
66.	Napthol AS (3 hydroxy-2 Napthanilide) And/or	92-77-3		
67.	Napthol ASBS (3 Hydroxy-3 Nitro-2 Napthanilide) And/or	135-65-9		
68.	Napthol ASD (3 Hydroxy-2 Naptho-O Toludine) And/or	131-61-5		
69.	Napthol ASE (4 Chloro-3 Hydroxy-2-Napthanilide) And/or	92-78-4		
70.	Napthol-ASOL (3-Hydroxy-2- Napth-o-Anisidine) And/or	135-62-6		
71.	Napthol ASBO (3-Hydroxy-N-1- Napthyl-2-Napthamide) And/or	132-68-3		
72.	Napthol ASSW (3 Hydroxy-N-2- Napthyl-2-Napthamide) And/or	90-15-3		
73.	3 Nitro 1,2,4 Tri Chloro benzene And/or	17700-09- 03		
74.	M- Dinitro Benzene (MDNB) And/or	99-65-0		
75.	Methyl Crotonate And/or	623-43-8		
76.	M-Nitro Aniline And/or	99-09-2		
77.	4-Nitro 2-Amino Phenol (4 NAP) And/or	99-57-0		
78.	Diethyl malonate And/or	105-53-3		
79.	Ethyl cyano Acetate And/or	105-56-6		
80.	Sodium Citrate And/or	68-04-2		
81.	Micro Crystalline cellulose powder And/or	9004-34-6		
82.	4-Hydroxy Benzaldehyde And/or	123-08-0		
83.	5-Chloro salicylic acid And/or	321-14-2		
84.	Bronopol And/or	52-51-7		
85.	2 5 Di chloro nitro benzene And/or	89-61-2		
86.	2 4 Di Nitro chloro benzene And/or	97-00-7		

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	End-use of products
87.	4-methoxy 2 nitro Aniline (Bourdex G.P. base) And/or	96-96-8		
88.	3-(3-chlorophenethyl) picolinonitrile And/or	31255-57-9		
89.	N-(4-Cyanophenyl) glycine And/or	42288-26-6		
90.	O-Chloro Benzoic acid And/or	118-91-2		
91.	4-Chloro 2-amino Phenol (4 CAP) And/or	95-85-2		
92.	N-N Bis (2-chloroethylamine HCL) And/or	821-48-7		
93.	2-Methyl-5 Nitro imidazole And/or	696-23-1		
94.	3-Hydroxy Acetophenone And/or	121-71-1		
95.	2-Chloromethyl-3,4-dimethoxy pyridiene HCl And/or	72830-09-2		
96.	Cis Bromo Benzoate And/or	61397-56-6		
97.	2 Amino 3,5 dibromo benzaldehyde And/or	50910-55-9		
98.	4-Chloro-4' Hydroxy Benzophenone And/or	42019-78-3		
99.	Iso Butyl Glutaric Acid And/or	75143-89-4		
100.	2,4,5 Tri Chloro Aniline And/or	636-30-6		
101.	4-Chloro benzophenone And/or	134-85-0		
Total (Grp. -A + Grp. -B)			(Grp. A: 60 + Grp. B: 20) 80.0 MT/Month	

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that total land area **2255.70 sq. m.** will be used for proposed project and no R & R is involved in the Project.
7. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries.
8. The PP reported that the total water requirement is 33.33 KLD, out of which 1.0+1.8+7.71+14.0+3.0+3.0+2.82 KLD will be used in Domestic, Gardening, Process, Boiler,

Washing, Cooling and Scrubbing respectively. Boiler condensate 12.81 KLD & MEE Condensate 10.01 will be recycled/reused within the premises. Domestic waste water will be sent to septic tank with filtration system and then treated water @ 0.8 KLD will be reused in gardening. Thus, total reuse/recycle of 23.62 KLD water within premises. Hence, total Fresh water requirement will be reduced up to 9.71 KLD (Industrial + Domestic), which will be met from GIDC water supply. Permission for water drawal was issued by GIDC vide letter dated 07.09.2022. Industrial wastewater will be 12.55 KLD. Out of which, High COD Process waste water @6.23 will be treated in solvent stripper and then treated water @ 6.14 KLD will be subjected to in-house primary + secondary ETP followed by MEE along with dilute stream @ 4.3 KLD [0.2 KLD from Boiler, 0.3 KLD from cooling, 3.0 KLD from washing and 0.80 KLD Scrubbing]. MEE condensate will be reused for the industrial activities within plant premises. 2.02 KLD Scrubbing solution will be reused within premises or sent to registered end users having Rule-9 permission. 0.8 KLD domestic wastewater will be sent to Septic tank with filtration system and then treated water will be reused for Gardening purpose within premises. Thus, the unit will achieve Zero Liquid Discharge.

9. The PP reported that the Power requirement will be 150 KVA and will be met from **Dakshin Gujarat Vij Co. Ltd. (DGVCL)**. Additionally, DG sets will be used as standby during power failure. Stack height will be provided as per CPCB norms to the proposed DG set.
10. The PP reported that the project, being located in notified industrial area i.e., GIDC Industrial Area, Panoli (**Notification no. GHU-98-GID-1098-2094-G: dated 18.11.1998**), 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. Industry will develop greenbelt in an area of **40 % i.e., 903.0 m²** out of total area of the project.
12. The estimated project cost is **Rs. 5.76 Crores**. The PP reported that the Total Employment will be 20 persons as direct & 20 persons indirect. Industry proposes to allocate Rs 0.23 Crores @ 4.00 % of Project Cost towards CER.
13. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the various environmental aspects such as emissions, Greenbelt development plan, action plan proposed by the PP being in a critically polluted area.

14. 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) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
- (iv) 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.
- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analysed the samples.
- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.
- (vii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (viii) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (ix) 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.
- (x) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xi) 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.
- (xii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiii) The PP should develop Greenbelt over an area of 903.0 m² of the total land area. The plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution.

- (xiv) 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.
- (xv) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xvi) 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. 47.11

Expansion of Caustic Soda production capacity from 150 TPD to 250 TPD by bipolar membrane cell process in the existing Heavy Chemicals Division Plant (HCD Plant) located at 266/1 (Part), 268 / 1 (Part), 267 / 2 (Part) Manali village, Ambattur Taluk, Thiruvallur District, Tamil Nadu State by M/s Tamilnadu Petroproducts Limited - Consideration of EC

[Proposal No. IA/TN/IND3/413044/2023; File No. J-11011/20/99-IA-II(I)]

1. The proposal is for the environmental clearance for the Expansion of Caustic Soda production capacity from 150 TPD to 250 TPD by bipolar membrane cell process in the existing Heavy Chemicals Division Plant (HCD Plant) located at 266/1 (Part), 268 / 1 (Part), 267 / 2 (Part) Manali village, Ambattur Taluk, Thiruvallur District, Tamil Nadu State by M/s Tamilnadu Petroproducts Limited.
2. The project/activity is covered under Category 'B' of item 4(d), chlor-alkali industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The ToR for preparation of EIA/EMP Report has been issued on 06.10.2022. The PP applied for Environment Clearance vide proposal number **IA/TN/IND3/413044/2023** on 13.1.2023 in CAF and submitted EIA /EMP Report and other documents. The PP in the CAF reported that it is an Expansion EC. Due to some shortcomings, the Project was referred back to the PP on 20.1.2023 and reply to the same was submitted on 30.1.2023 The proposal was placed in 47th EAC meeting, held on 15th-17th February, 2023, wherein the Project Proponent and an accredited Consultant, M/s. Eco Chem Sales & Services, Surat (NABET certificate no. NABET/EIA/2023/SA 0156 Validity: 15/03/2023)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 33.19 Acres (134315.16 m²). The proposed Expansion project will be carried out within the existing premises. Hence **no additional land** is required. The details of products and by-products are as follows:

S. No.	Product Details	CAS NO.	Existing Quantity (MTPA)	Proposed Quantity (MTPA)	Total Quantity (MTPA)	Uses
1	Caustic Soda	1310-73-2	49500	33000	82500	Paper & Pulp, Soap, Textiles, Aluminium Industries.
2	Liquid Chlorine	7782-50-5	49992	6108	56100	Chlorine derivatives & Disinfectant.
3	Hydrochloric acid	7647-01-0	49500	0.0	49500	Basic Inorganic Chemical
4	Bottled Hydrogen	1333-74-0	1248	0.0	1248	Fuel/Glass Industries
5	Sodium Hypochlorite	7681-52-9	4128	0.0	4128	Bleaching Agent

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and **NGT Case no: 256 of 2020 (SZ) - In progress**

- 1) The referred case is a Suo-Moto case taken up by NGT (SZ) on 15.12.2020, based on the original article of Chennai Climate Action Group (CCAG) published in News Desk magazine dated 11-11-2020.
- 2) Air Pollution and Industries, "These six Industries in North Chennai are polluting the air for more Than half the year, The North Chennai Thermal Power Station along Ennore Port." - Order dated 15.12.2020
- 3) The Hon'ble NGT appointed a Joint Committee and they carried out inspection & sampling during Feb 2021. There were no findings unfavorable to the PP.
- 4) Counter affidavit was filed before the Hon'ble NGT, with justifications for no exceedance in emissions and requested to discharge the PP from this case on 23-07-2021
- 5) No final / interim order given.
- 6) Last heard on 30.01.2023
- 7) Judgment reserved

2. TNPCB Direction - 1

- Direction received from TNPCB, imposing an interim environmental compensation of Rs 100 Lacs, based on NGT order OA 1038/2018, for non-compliance.
- PP has requested TNPCB to waive the interim environmental compensation levied and to withdraw the order.
- The above notice was issued to all industries which are present in the identified Polluted Industrial Areas (PIA).
- However, Hon'ble Supreme Court has issued order staying the compensation levied, vide Civil Appeal Diary No. 19271/2020.

- Based on the above stay order, MoEF& CC has issued an O.M. vide reference F. No. 22-23/2018-IA.III dated 28-01-2021, keeping in abeyance the two earlier issued O. Ms vide reference F. No. 22-23/2018-IA.III dated 31-10-2019 & 30-12-2019.
- Abeyance imposed vide OM dated 28.01.2021 was lifted by MOEFCC vide OM dated 05.07.2022.
- Reply yet to receive from TNPCB.

3. TNPCB Direction- 2

- Notification issued by TNPCB vide reference TNPCB/DD (L)/02151/2019 dated 20-10-2021 regarding Retrofitting of Emission Control Device in DG sets with capacity up to 800 kW, to reduce PM.
 - Retrofitting Equipment was installed in 1x500 KVA emergency DG Sets during October 2021.
 - Retrofitting Equipment will be installed in 1x437.50 KVA emergency DG sets by 2022-23.
6. The PP reported that the Ministry had issued EC earlier vide letter no. J-11011/16/97-IA.II (I) dated 10.04.1997 & J-11011/20/99-IA.II (I) dated 22.07.1999 to the existing Heavy Chemicals Division Plant project in favour of M/s. Tamilnadu Petroproducts Limited (HCD). Certified compliance report submitted by RO, MoEF&CC: F.NO. EP/12.1/2021-22/01/TN/1103 dated on 19.10.2022 and fully complied.
 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. River/ water body such as Buckingham Canal, a navigation canal, is at a distance of ~1.27 km in East direction. A surplus channel carrying surplus water from Red Hills reservoir (a major reservoir for Chennai Drinking water source) is running nearly 390 meters away from the proposed project site on the northern direction beyond the Manali Express Highway, Periyathoppu Lake is ~2.02 km in the Western Direction, Lake near Sekkadu is ~2.40km in the WSW Direction, Kadapakkam Lake is ~3.3km in the NW Direction, Kodungaiyur Canal is ~4.45km in the SSW Direction, Captain Cotton Canal is ~5.15 km in the Southern Direction, Madavaram Eri/Retteri Lake is ~6.44 km in the WSW Direction, Ennur Creek is ~7.18 km in the NE Direction, Otteri Nala is ~7.34 km in the Southern Direction, Korattur Eri Canal is ~8.06 km in the WSW Direction, Pulal/Red Hills Lake is ~8.59 km in the Western Direction. The PP also reported that no Schedule I Species was evidenced in the 10 km study area from the project site.
 8. The PP reported that Ambient air quality monitoring was carried out at 8 locations during Mid of January 2022 to March 2022 to and the baseline data indicates the ranges of minimum and maximum concentrations as: PM₁₀ (46.0-75.9µg/m³), PM_{2.5} (20.4-41.3µg/m³), SO₂ (11.4-22.5µg/m³), NO₂ (16.8-37.1µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 75.93µg/m³, 22.54 µg/m³ and 38.56µg/m³ respect to PM₁₀, SO_x and NO_x. AAQ modeling study for cumulative point and line source emissions indicates that the maximum incremental GLCs after the proposed project would be 75.97µg/m³, 22.54 µg/m³ and 40.52µg/m³ respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards

(NAAQS). Noise- In Industrial area (Project site), day time noise level was about 67.6 dB (A) and 61.8 dB(A) during night time, which is within prescribed limit by CPCB for Industrial area (75 dB(A) Day time & 70 dB(A) Night time). In Residential area day time noise levels varied from 51.8 dB (A) to 56.9 dB (A) and night time noise levels varied from 40.1 dB(A) to 44.2 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels in Residential area are within the limit prescribed by CPCB for Residential area (55 dB (A) Day time & 45 dB(A) Night time). In Commercial areas day time noise levels varied from 52.4 dB(A) to 57.3 dB(A) and night time noise levels varied from 45.9 dB(A) to 48.9 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels are within the prescribed limit by CPCB (65 dB(A) Day time & 55 dB(A) Night time). **Surface Water-** Water sampling results are compared with Surface water standards IS 2296:1992. pH in the collected surface water samples varies between 6.7 to 8.01 which is within the limit of IS 2296:1992. pH in the collected in the Marine Sample near Ondikuppam and Ennore Creek is 8.12 and 7.93 respectively. The Total Dissolved Solids (TDS) value of collected surface water sample ranges from 590 mg/l to 4425 mg/l. TDS value of the Marine Sample near Ondikuppam and Ennore Creek is 39333 and 35316 mg/l respectively. The Total hardness value of the collected surface water sample ranges between 272.70 mg/l to 1122.3 mg/l. The Total hardness value in the Marine Sample near Ondikuppam and Ennore Creek is 6563.6 and 4586.2 mg/l respectively. BOD value of surface water varies from 3.94 mg/l to 760.89 mg/l and the BOD value of Marine Sample near Ondikuppam and Ennore Creek is 29.36 and 650.45 mg/l respectively. COD value of surface water varies from 7.3 to 1249.7 mg/l and the COD value of Marine Sample near Ondikuppam and Ennore Creek is 58.7 and 1354.9 mg/l respectively. **Ground water-** The pH of the collected ground water sample ranges from 6.89 to 7.91. The concentrations of Chloride in the collected ground water sample ranges from 119.4 to 248 mg/l. Total Dissolved Solids (TDS) value of the collected ground water sample varies from 738 mg/l to 967 mg/l. Total hardness of the collected ground water sample ranges from 231 mg/l to 479 mg/l. The concentrations of Sulphate in the collected ground water sample ranges from 28.9 to 138.5 mg/l. The concentrations of Mercury in the collected ground water sample was BLQ (LOQ 0.0005). **Soil-** The pH of the soil samples ranged from 6.88 to 7.73. Conductivity of the soil samples ranged from 209 to 346 $\mu\text{mho/cm}$. Nitrogen content ranged from 114 kg/ha to 791 kg/ha. Phosphorous ranged from 17.9 kg/ha to 72.6 kg/ha. Potassium content ranges from 79.1 kg/ha to 136.4 kg/ha.

9. The PP reported the total water requirement is **1710 m³/day** (Existing 1170 m³/day & Proposed 540 m³/day) of which fresh water requirement of **1690 m³/day** (Existing 1154 m³/day & Proposed 536 m³/day) will be met from CMWSSB-City Sewage TTRO. Effluent of **185 m³/day** (Existing 125 m³/day & Proposed 60 m³/day) quantity will be treated through ETP capacity of **350 m³/day** and is being neutralised with Acid / Alkali and treated effluent will be utilised in ECH – PO Process Sewage after treatment in STP will be used for Green Belt. Sludge will be used as manure for GB. Thus by achieving zero Liquid discharge.
10. The PP reported the power requirement after expansion will be 28000KVA (28MW) including existing 18000 KVA(18 MW) and will be met from TNEB Connection (12000KVA), Wind Power (14000 KVA) & Solar Power (2000 KVA). Existing unit has DG sets of 3 X 6.2 MW capacity was not in operation from 2014 and will be removed after expansion. Existing unit

has DG sets of 1x500 & 1x 437.5 KVA capacity is being used as emergency backup, additionally Gas Engine Generator (GEG) 1X 750 KVA capacity will be installed as standby during power failure. Stack height of 8m for emergency DG Sets are provided and Stack height of 10m for GEG Set will be provided as per CPCB norms to the proposed DG sets.

11. Details of Process Emissions Generation and their Management:

Existing Stack Emission Details-Before CEPI (2018)

S.N O	Stack attached	APC	Emission (g/s)							
			PM	SO2	NO x	CO	Cl	HCl	NH3	Others
1	Fusion Plant	Stack	0.02 2	2.222	0.11 1	0.03 9	-	-	-	-
2	Ammoniu m Chloride	Wet scrubbe r	0.00 3	0	0	0	-	-	-	-
3	Boiler(4 TPH + 5TPH)	Stack	0.12	2.22	0.6	0.21	-	-	-	-
4	EMDG 500 kVA	Stack	0.01 4	0.007	0.06 9	0.01 9	-	-	-	-
5	EMDG 437 KVA	Stack	0.01 3	0.006	0.06 6	0.01 8	-	-	-	-
6	DG Set 6.6 MW	Stack	0.97 5	65	9.75	1.21 9	-	-	-	-
7	DG Set 6.6 MW	Stack	0.97 5	65	9.75	1.21 9	-	-	-	-
8	DG Set 6.6 MW	Stack	0.97 5	65	9.75	1.21 9	-	-	-	-
	Process stack									
9	WAD	Scrubbe r	-	-	-	-	0.000 6	-	-	-
10	HCl - Unit 1	Insitu Tail gas Scrubbe r	-	-	-	-	-	0.000 2	-	-
11	HCl - Unit 2	Insitu Tail gas Scrubbe r	-	-	-	-	-	0.000 2	-	-
12	HCl - Unit 3	Insitu Tail	-	-	-	-	-	0.000 2	-	-

S.N O	Stack attached	APC	Emission (g/s)							
			PM	SO2	NO x	CO	Cl	HCl	NH3	Others
		gas Scrubber								
13	Ammonium Chloride	Wet scrubber	-	-	-	-	-	-	0.001 1	-
14	Hydrogen Plant	-	-	-	-	-	-	-	-	Hydrogen
15	Fusion Plant	-	-	-	-	-	-	-	-	Steam
	Total emission, g/s		3.1	199.4 6	30.1	3.94	0.000 6	0.000 7	0.001 1	0

Existing Stack Emission Details-After CEPI (2018)

S.N O	Stack attached	APC	Emission (g/s)							
			PM	SO2	NO x	CO	Cl	HCl	NH 3	Others
1	Fusion Plant	-	0.00 3	0.011	0.11 1	0.03 9	-	-	-	-
2	Ammonium Chloride	Wet scrubber	0	0	0	0	-	-	-	-
3	Boiler 4 TPL + 5TPH	Stack	0.01 8	0.037	0.3	0.15	-	-	-	-
4	EMDG 500 kVA	Stack	0.00 4	0.007	0.06 9	0.00 6	-	-	-	-
5	EMDG 437 KVA	Stack	0.01 3	0.006	0.06 6	0.01 8	-	-	-	-
6	DG Set 6.6 MW	Stack	0	0	0	0	-	-	-	-
7	DG Set 6.6 MW	Stack	0	0	0	0	-	-	-	-
8	DG Set 6.6 MW	Stack	0	0	0	0	-	-	-	-
Process Stack										
9	WAD	Scrubber	-	-	-	-	0.000 6	-	-	-
10	HCl - Unit 1	Insitu Tail gas	-	-	-	-	-	0.000 2	-	-

S.N O	Stack attached	APC	Emission (g/s)							
			PM	SO ₂	NO _x	CO	Cl	HCl	NH ₃	Others
		Scrubber								
11	HCl - Unit 2	Insitu Tail gas Scrubber	-	-	-	-	-	0.000 2	-	-
12	HCl - Unit 3	Insitu Tail gas Scrubber	-	-	-	-	-	0.000 2	-	-
13	Ammonium Chloride	Wet scrubber	-	-	-	-	-	-	0	-
14	Hydrogen Plant	-	-	-	-	-	-	-	-	Hydrogen
15	Fusion Plant	-	-	-	-	-	-	-	-	Steam
	Total emission, g/s		0.03 8	0.061 3	0.54 7	0.21 3	0.000 6	0.000 7	0	0

Proposed Stack Emission Details

S.No .	Source	Fuel type	Fuel Quantity (TPH)	Height (m)	Flow rate(Nm ³ /h r)	Emission (g/s)			
						PM	SO ₂	NO _x	CO
1	EMGE G 750KV A	NG	0.034	10	1148.26	0.001 3	0.001 6	0.063 8	0.015 9
2	Boiler4 TPH	NG	0.091	33	5242.44	0.005 8	0.007 3	0.145 6	0.072 8
Total(g/s)						0.007 1	0.008 9	0.209 4	0.088 8

Stack Emission Details-After Expansion

S.N O	Stack attached	APC	Emission (g/s)							
			PM	SO ₂	NO _x	CO	Cl	HCl	NH ₃	Others

1	Fusion Plant	-	0.003	0.011	0.111	0.039	-	-	-	-
2	Boiler (4 TPH + 9TPH)	Stack	0.0245	0.045	0.446	0.223	-	-	-	-
3	EMDG 500 kVA	Stack	0.004	0.007	0.069	0.006	-	-	-	-
4	EMDG 437 KVA	Stack	0.013	0.006	0.066	0.018	-	-	-	-
5	EMGE G 750 KVA	Stack	0.0013	0.002	0.064	0.016	-	-	-	-
Process Stack										
6	WAD	Scrubber	-	-	-	-	0.0006	-	-	-
7	HCl - Unit 1 & 2	Insitu Tail gas Scrubber	-	-	-	-	-	0.0002	-	-
8	HCl - Unit 3	Insitu Tail gas Scrubber	-	-	-	-	-	0.0002	-	-
9	Hydrogen Plant	-	-	-	-	-	-	-	-	Hydrogen
10	Fusion Plant	-	-	-	-	-	-	-	-	Steam
	Total emission, g/s		0.045	0.0703	0.756	0.302	0.0006	0.0004	0	0

Summary of Stack Emission Details

S.No	Descriptions	Emission (g/s)							
		PM	SO2	NOx	CO	Cl	HCl	NH3	Others
1	Before CEPI (Before 2018)	3.1	199.46	30.1	3.94	0.0006	0.0007	0.0011	0
2	After CEPI (After 2018)	0.038	0.0613	0.547	0.213	0.0006	0.0007	0	0
3	Proposal	0.0071	0.0089	0.2094	0.0888	0	0	0	0

4	After Expansion	0.045	0.0703	0.756	0.302	0.0006	0.0004	0	0
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Note:

- Fuel oil based DG Sets 6.6 MW X 3 No - Not in operation from 2014. will be removed after expansion.
- Fusion Plant - Before CEPI - fuel is FO
- Fusion Plant - After CEPI - fuel is RLNG
- Existing Boiler - Before CEPI - fuel is FO / Hydrogen
- Existing Boiler - After CEPI - fuel is RLNG / Hydrogen
- After proposal - Boiler - Fuel is RLNG / Hydrogen
- HCL Plant - Unit 1 and 2 – Common scrubber will be provided additionally and vented through common stack. Hence reduction in HCl emission
- GEG - 750 KVA proposed - Fuel - RLNG
- EMDG - 500 KVA - After CEPI - Retrofit equipment installed to reduce PM and CO level.
- EMDG - 437 KVA - After expansion - Retrofit equipment will be installed to reduce PM and CO level.
- PM and CO level will be reduced further upon installation of Retrofit equipment in EMDG 437 KVA
- Ammonium Chloride unit is not in operation, and will be removed after expansion

- 12. Details of Solid Waste/ Hazardous Waste Generation and its Management:** As the proposed plant facilities would be installed within premises and the operation will be confined within plant premises.

Solid Waste Generation in Construction Phase and its Management

S. No	Description	Proposed Quantity (Ton/day)	Method of Disposal
Construction phase: 270 No's			
1	Organic	0.0972	Disposed through local bins
2	Inorganic	0.0648	Send to authorized vendors
Total		0.162	

Solid Waste Generation In Operation Phase and its Management

S. No	Description	Existing quantity (Ton/day)	Proposed Quantity (Ton/day)	After quantity (Ton/day)	Method of Disposal
Operation Phase – Existing 243 No's & Proposed -28 No's					
1	Organic	0.08748	0.01008	0.09756	Disposed through local bins
2	Inorganic	0.05832	0.00672	0.06504	Send to authorized vendors
Total		0.1458	0.0168	0.1626	

Description	Quantity (MTPA)			Disposal Methods
	Existing	Proposed	After Expansion	
Packaging material	0.5	0.5	1.0	Sold to authorized recyclers
Garden waste	1.0	10	11.0	Composting and used as manure
STP sludge	5.0	2.0	7.0	Used for horticulture

Hazardous Waste Management

Hazardous waste materials will be properly disposed as per the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2016. Hazardous Waste Authorization vide 22HRC40393194 dated 17.10.2022 valid till 31.03.2027.

Waste details	Schedule	Unit	Existing Quantity	Proposed Quantity	After expansion Quantity	Maximum Quantity Allowable as per HWA	Disposal method
Used/Spent oil*	5.1	TPA	10	0	10	10	Disposed to authorized recycler
Waste residue – oil soaked cotton waste	5.2	TPA	1	0	1	1	Disposed to TSDF
Empty container*	33.1	TPA	1.25	0	1.25	1.25	Disposed to authorized recycler
Chemical sludge from ETP plant	35.3	TPA	1	0.5	1.5	1	Disposed to TSDF
Brine Sludge***	16.3	TPA	1485	990	2475	1485	Disposed to TSDF

Note:

- Hazardous waste authorization vide 22HRC40393194 dated 17.10.2022 valid till 31.03.2027.
- *In ToR application, Used/Spent oil details provided as (Existing-30TPA, Proposed(-20TPA), After expansion- 10TPA) with reference to the previous Hazardous waste authorization.
- In ToR application, Waste residue – oil sludge details provided as (Existing-300TPA,

Proposed-(-300TPA), After expansion- 0TPA) with reference to the previous Hazardous waste authorization. Removed as per the latest HW Authorization since DG sets not in operation and the same updated in new HW Authorization.

- ***In ToR application, Empty container details provided as (Existing-390Nos, Proposed-(-340Nos), After expansion- 50Nos.) with reference to the previous Hazardous waste authorization.*
- *In ToR application, Mercury bearing Brine sludge details provided as (Existing-7000MT, Proposed-(- 7000MT), After expansion-0MT) with reference to the previous Hazardous waste authorization. Removed as per the latest HW Authorization since entire quantity was disposed to TSDf and the same updated in latest HW Authorization.*
- ****In ToR application, Brine Sludge details is categorized as non-hazardous and submitted under other solid waste from process. Presently, as per latest HW Authorization, it is listed under Hazardous waste.*
- *Hazardous waste disposal agreement to recyclers are obtained.*
- *Hazardous waste disposal agreement to TSDf are obtained.*

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹.1.65 Crores (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 0.135 Crores per annum. Industry proposes to allocate 5 Lakh towards CER.
14. The PP proposed to set up an Environment Management Cell (EMC) by engaging whole time director operations- DGM operations- Head Environment- HOD- Tech service- HOD quality Assurance or the functioning of EMC.
15. The PP reported that Public Hearing is exempted as the project is located in the industrial area notified vide notification no. **G.O. R. No. 114 dated 20th January, 1965.**
16. Industry has already developed greenbelt within the project site in an area of 20234.3 m² i.e.15.064 % of total area of the project (134315.16 m²). Additional greenbelt area of 28328 m² (21.09% of total TPL HCD project area) was developed in TPL Polymer Plant. The total greenbelt area is 36.154% of total project area. Further, additional area of 8093.71 m² (6.02% of total TPL HCD project area) was developed as greenbelt post ToR in TPL Polymer Plant. The total greenbelt area after expansion will be 42.18% of total TPL HCD project area.
17. The PP reported that M/s. Tamilnadu Petroproducts Limited, Manali was entrusted to M/s. Hubert Enviro Care Systems Pvt Ltd, Chennai to conduct the —Carbon Footprint & Carbon Sequestration in Tamilnadu Petroproducts Limited, Manali. All the calculations were performed from the secondary data collected from M/s. Tamilnadu Petroproducts Limited, Manali. Based on the present study, the following conclusion were made. The total CO₂ emission in TPL-HCD Manali after expansion will be 100092.243 Ton CO₂ per year. Existing Power consumption - Power requirement for the existing operation (151200 MPPA) is met through TNEB power and wind power and the CO₂ emission from the TNEB power is 90417.6 MTA of CO₂. Proposed Power consumption - Power requirement for the proposed expansion (84000 MPPA) is met through renewable energy of wind power and solar power and the CO₂ emission is Nil. After expansion Power consumption - The total power requirement for existing & proposed (235200 MPPA) is met through TNEB and Renewable energy of wind

power and solar power. The carbon emission from the power consumption after expansion will be 90417.6 MTA of CO₂ and No increase in carbon emission from the proposed expansion. After expansion, 125966 MTA of CO₂ emissions will be eliminated due to utilisation of renewable energy of wind power (120120 MWPA) and solar power (16800 MWPA) instead of using TNEB power. Fuel – CO₂ footprint for the existing and proposed fuel consumption is 6422.848 TPA of CO₂ and 3018.79 TPA of CO₂, respectively. The overall CO₂ footprint after expansion is 9441.638 TPA of CO₂. Transportation sources – CO₂ footprint for the existing and proposed transportation is 200.635 TPA of CO₂ and 32.37 TPA of CO₂, respectively. The overall CO₂ footprint after expansion is 233.005 TPA of CO₂. The total CO₂ footprint emission in TPL-HCD Manali existing proposed and after expansion is 97041.083, 3051.16 and 100113.765 Ton CO₂ per year respectively. The greenbelt area in TPL-HCD, Manali is 14 Acre, which is 42% of the total area. There are totally 14000 trees have been planted in recent years and 2800 plants are planned in the upcoming years for 20% survival rate. Present carbon sequestration per year is 268.37 Ton CO₂ The plant growth is considered for the carbon sequestrated by the greenbelt development. The total carbon sequestrated in MT of CO₂ per year is calculated as 68, 516.69, 1491.09, 2925.69, 5714.24, 9617.22, 15271.79, 22692.57, 30941.02, 41033.44 for the 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100% growth of all the plants in TPL-HCD, Manali.

18. The PP submitted the Disaster and Onsite and Offsite Emergency Plans in the EIA report.
19. The estimated project cost is Rs 355.87 Crores (Proposed project cost is Rs.165.17 Crores) including existing investment of Rs 190.7 Crores. Total Employment will be **151 persons** as direct & **120 persons** indirect after expansion.
20. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance of 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 inter-alia, deliberated on the energy consumption, utilisation of renewable energy, solar panels organic waste, Greenbelt development plan, budget of EMP and advised the PP to submit the following:

- Affidavit for utilisation of the renewable energy with the timeline.
- Organic waste to be utilised for the manure preparation instead of giving to municipal bins.
- Committing solar panels should be installed within the plant for the utilisation of renewable energy.
- Greenbelt within the project site should be increased to minimum 20% from existing 15% of the project area and upto maximum extent.
- Budget of EMP.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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.

21. 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) Adequate stack height as per CPCB/SPCB guidelines shall be provided. Stack emission levels shall be stringent than the existing standards in terms of the identified critical pollutants.
- (ii) CEMS shall be installed and connected to SPCB/CPCB Server.

- (iii) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
- (iv) Fuel (R - LNG) shall be transferred through pipeline from IOCL. Raw material and products shall be transported through dedicated road tankers, Raw material Common salt shall be shipped and transported by sea, Majority quantity of gaseous chlorine shall be transferred through pipeline.
- (v) Regasified Liquefied Natural Gas / Hydrogen shall be used as fuel in Boiler.
- (vi) The best available technology shall be used and as committed by the PP, Caustic soda shall be manufactured through latest energy efficient bipolar membrane cell technology.
- (vii) The PP shall develop greenbelt over an area of at least 14 acres (42.18% of total land area) by planting approx. 7000 numbers of saplings within a year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP should 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) 1400 Nos. of avenue plantation shall develop in highway median nearby plant.
- (ix) The transportation load on roads shall be within their carrying capacity and adequate width of roads shall be maintained inside the industrial premises.
- (x) Entire liquid Effluent generated shall be neutralized with Acid / Alkali and treated effluent shall be utilized in ECH – PO Process. Sludge shall be used as manure for Greenbelt.
- (xi) As committed by the PP, zero liquid discharge shall be ensured.
- (xii) Online continuous effluent monitoring system (OCEMS) shall be provided for pH, TSS and Flow for Effluent treated water shall be connected to TNPCB and CPCB
- (xiii) The roof top rain water shall be collected in the existing Rain water harvesting pits is 2 Nos and 2 Nos of water reservoir 3000 KL (72m x 25m x 1.7m) & 2000 KL (26m x 36m x 2.1m) shall be maintained and used for process purpose. Rain water percolation pit shall be provided to collect rain water from Canteen building for ground water recharge. The PP also proposed to provide roof rain water harvesting facility for 4000 sq.m which shall be collected in the existing reservoir and will be utilized for process purpose.
- (xiv) 4 KLD of sewage shall be treated in Common STP of capacity 160 KLD. Sewage after treatment in STP shall be used for Green Belt.

- (xv) As committed by the PP, no Fly ash, slag, red mud, etc., shall be generated from the plant.
- (xvi) All the hazardous wastes generated from HCD plant shall be handled and disposed, as per the Authorization obtained from TNPCB.
- (xvii) Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.
- (xviii) As proposed, an amount of ₹ 2.5 crore shall be allocated towards CER in nearby communities.
- (xix) As committed by the PP, industry shall use renewable energy of 8MW from wind energy and 2MW from solar energy within 18 months from the date of EC of the project.
- (xx) As committed by the PP, industry shall use organic waste for the manure preparation and the same shall be used for Greenbelt development.
- (xxi) As committed by the PP, industry shall install roof top solar panel and the power from the same shall be utilized for the plant to facilitate the renewable energy utilisation.
- (xxii) As committed by the PP, Industry shall proceed long term feasibility study for the green hydrogen generation.
- (xxiii) 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. PP shall engage whole time director operations- DGM operations- Head Environment- HOD- Tech service- HOD quality Assurance. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (xxiv) 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 propose under EMP is ₹ 285 Lakh (Capital cost) and ₹ 23.5laks per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

- (xxv) The total water requirement is **1710 m³/day** (Existing 1170 m³/day & Proposed 540 m³/day) of which fresh water requirement of **1690 m³/day** (Existing 1154 m³/day & Proposed 536 m³/day) will be met from CMWSSB-City Sewage TTRO. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xxvi) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (xxvii) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (xxviii) The PP shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608(E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (xxix) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
- (xxx) 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.
- (xxxii) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xxxiii) 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.
- (xxxiiii) 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.
- (xxxv) 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.

- (xxxv) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xxxvi) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xxxvii) 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.

Agenda No. 47.12

Proposal for changes in wastes and utilities of synthetic organic chemical Unit with a production capacity of 624 TPM located at Plot No. 17 A, IDA, Phase-I Patancheru, Sangareddy District in Telangana by M/s. Virchow Petrochemical Private Limited - Consideration of EC

[Proposal No. IA/TG/IND3/414428/2023; File No. IA-J-11011/42/2023-IA-II(I)]

1. The proposal is for the environmental clearance for the Proposal for changes in wastes and utilities of synthetic organic chemical Unit with a production capacity of 624 TPM located at Plot No. 17 A, IDA, Phase-I Patancheru, Sangareddy District in Telangana by M/s. Virchow Petrochemical Private Limited.
2. The project/activity is covered under Category 'A' of item 5(f), Synthetic organic chemicals industry of Schedule of EIA Notification, 2006 (as amended) and requires appraisal at Central Level by Expert Appraisal Committee (EAC). **The PP also reported that the project is located in a critically polluted area.**
3. The standard ToR has been issued by SEIAA vide letter no. SIA/TG IND3 /78202/2022 dated 16.6.2022. The PP submitted that the unit is located in the notified industrial area vide notification **G.O. Ms. No.109 dated 9.3.1998**. Thus, in accordance with Clause 7(i) (III) of EIA notification 2006 & OM J-11011/321/2016-IA. II(I) dated 27.04.2018, the Public Hearing is exempted. The PP applied for Environment Clearance on 31.1.2023 in CAF and submitted EIA/EMP Report and other documents. The PP reported in Form that it is a Fresh EC. The proposal is now placed in 47th EAC Meeting held on 15th -17th February, 2023, wherein the PP and an accredited consultant, Consultant M/s. Pridhvi Envirotech Private

Limited. [Accreditation number NABET/EIA/1922/RA/0132 valid till 13.5.2023] 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 existing land area is 45.143 Acres and there is no additional land requirement and no R& R is involved in the Project. Further, there is no change in products and production capacities. The details of products are as follows:

S. No.	Product	CAS Number	Existing Quantity TPD	Proposed Quantity TPD
1	Phthalic Anhydride	85-44-9	10.30	10.30
2	Fumaric Acid	110-17-8	0.50	0.50
3	4-Methoxy benzyl 3-chloromethyl -7 (2-phenylacetamido) -3-cephem – 4 – carboxylate (GCLE)	104146-10-3	10.00	10.00
	Total		20.80	20.80
By Products				
1	By Product: Potassium Chloride (97% purity)	7447-40-7	1.5	2.6
2	Spent HCl (20%)	7647-01-0	-	7.383
Power Generation				
1	Co Gen Power Generation capacity		-	2.6 MW
2	Solar Power Generation through panels		-	2.0 MW

This proposal is for inclusion of changes in utilities, by-products and waste generation as detailed below:

S. No	Description	As per CTO	Additional	Proposed for EC	Remarks
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1	Products	Pthalic Anhydride- 10.3 TPD Fumaric acid- 0.50 TPD 4-Methoxy benzyl 3-chloromethyl -7 (2-phenylacetamido) -3-cephem – 4 – carboxylate (GCLE)- 10 TPD Total- 20.8 TPD	No Additional products or quantities	Pthalic Anhydride- 10.3 TPD Fumaric acid- 0.50 TPD 4-Methoxy benzyl 3-chloromethyl -7 (2-phenylacetamido) -3-cephem – 4 – carboxylate (GCLE)- 10 TPD Total- 20.8 TPD	No Change
2	By products	Potassium- 1.5 TPD	Potassium Chloride (97%) Purity- 2.6 TPD Spent HCL(20%) - 7.383 TPD	Potassium Chloride (97%) Purity- 2.6 TPD Spent HCL(20%)- 7.383 TPD	Recovery of useful product Spent HCl and Potassium chloride due to process Improvements
3	Co-gen Plant Solar Power Generation	-	Co-gen Plant-2.6 MW Solar Power Generation - 2.0 MW	Co-gen Plant-2.6 MW Solar Power Generation- 2.0 MW	The unit modernized its plant by adding Zero Liquid discharge unit in 2015 and added 20 TPH boiler with 2.6 MW co-gen unit. As these activities are not covered under EC category as per SO No. 1834(E) dated 6th July,2015.

4	Boilers	8 TPH coal fired Boiler 3 TPH Stand by Boiler 6.5 K Cal/Hr Thermic fluid heater 1 x 750 KVA, 2 X 600 KVA DG Sets	20 TPH Coal fired Boiler 2 x1010 KVA, 1 x 1500 KVA DG Sets	20 TPH Coal fired Boiler 8TPH Coal fired Boiler (Stand by) 1 x 750 KVA, 2 X 600 KVA 2x1010 KVA, 1x1500 KVA DG Sets	3 TPH Stand by Boiler and 6.5 K Cal/Hr Thermic fluid heater are removed.
5	Water requirement	306.35 KLD	345.55 KLD	651.9 KLD	Water requirement increase for boiler and DM Softener 92.5 KLD, scrubbers 28 KLD, Cooling towers 210 KLD, Domestic-15 KLD There is no increase in process water requirement (71.9 KLD) or washing requirement (35 KLD) Water requirement is increased due to establishment of additional scrubbers, co-gen plant, boiler and increase in manpower.

6	Effluent	140.19 KLD	60.01 KLD	200.2 KLD	Effluent generation increase for boiler and DM Softener 15.0 KLD, scrubbers 30 KLD, Cooling towers 15 KLD, Domestic-20 KLD There is no increase in process Effluent (85.2 KLD) or washing effluent (35 KLD) Effluent generation is increased due to additional water consumption for scrubbers, co-gen plant, boiler and increase in manpower.
7	Hazardous waste	Process organic waste- 90 kg/day ETP Sludge 110 Kg/day Forced evaporation salts-5.97 TPD Used oil- 800 LPA Container and container liners- 300 Nos/year Drums-600 Nos/year	Process organic waste 13790 kg/day Mixed solvents- 6760 kg/day Stripped waste- 5400 Kg/day	Process organic waste- 13880 kg/day Mixed Solvents- 6760 Kg/day Stripped waste- 5400 Kg/day ETP Sludge 110 Kg/day Forced evaporation salts-5.97 TPD Used oil- 2000 LPA	Due to implementation of ZLD and other environmental improvement measures the quantities of Hazardous waste are changed and some wastes are added

			Used oil- 2000 LPA Ash from boiler and dust trapped in pollution control equipment- 35 TPD STP Sludge-60 Kg/day E- waste- 100 Kg/Annum	Container and container liners- 300 Nos/year Drums-600 Nos/year Ash from boiler and dust trapped in pollution control equipment-35 TPD STP Sludge-60 kg/day E- waste-100 Kg/Annum	
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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 the Certified compliance report for Consent for Operation (CFO) and Hazardous Waste Authorization (HWA) was issued by the SPCB vide letter dated 04.01.2023, which states that the Unit has complied with all the conditions.
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. River / Surface water bodies –Nakka vagu is at a distance of 3.19 Km in West direction, Pamula vagu is at a distance of 3.39 Km in North direction, ICRISAT Lake is at a distance of 3.61 Km in SW direction, Child cheruvu is at a distance of 1.66 Km in West direction from the site. There is no forest land involved in the proposed project and no Schedule-I species were observed in the 10 km radius from the proposed project.
8. The PP reported that the Ambient air quality monitoring was carried out at 8 locations during March 2022 to May 2022 and baseline data indicates the ranges of concentration of PM10 (67.2- 91.2 µg/m³), PM 2.5 (22.4-41.2 µg/m³), SO₂ (8.1-14.3 µg/m³) and NO_x (18.3-28.3 µg/m³) respectively. AAQ modeling study for point source emissions indicated that the maximum incremental GLCs from the additional sources installed would be 1.29 µg/m³, 3.77 µg/m³ and 7.92 µg/m³ with respect to PM10, SO₂ and NO_x. Ambient Noise Monitoring was carried out at 8 locations during March 2022 to May 2022 and baseline data indicates that ranges of concentration of Leq (Day) (50.8- 73.4 dB(A)), Leq (Night) (40.2- 63.7 dB(A)). Ground water Monitoring was carried out at 8 locations during March 2022 to May 2022 and baseline data indicates that ranges of concentration are pH (7.09- 8.41), TDS (55-2162 mg/l), Chlorides (15.95- 494.10 mg/l), Fluoride (0.10-1.04 mg/l), Total hardness (31.36- 813.40 mg/l). Surface water Monitoring was carried out at 8 locations during March 2022 to May 2022 and baseline data indicates that ranges of concentration are pH (7.33- 8.5), TDS (946-1355 mg/l), Chlorides (173.76- 303.31 mg/l), DO (6.1-6.5 mg/l), BOD (6-21

mg/l), COD (16-48 mg/l). Soil Monitoring was carried out at 8 locations during March 2022 to May 2022 and baseline data indicates that ranges of concentration of Nitrogen (39.69-74.88 Kg/ha), pH (7.24-8.29), Phosphorous (47.25-102.7 Kg/ha), Potassium (105.5-210.34 Kg/ha).

9. The PP reported that the total water requirement is 651.9 m³/day, out of which fresh water requirement is 495.9 m³/day and will be met from Private Tankers. The plant will be based on Zero Liquid Discharge system.
10. Total Power requirement is 5.15 MW. There is Co-gen plant with 2.6 MW Capacity in house and 2.0 MW is produced through solar panels and rest is sourced from Telangana State Power Distribution Corporation limited (TSSPDCL). The Unit has 6 DG Sets of 1 X 750 KVA and 2 x 600 KVA capacities, additionally the unit established 2 X 1010 KVA, 1 X 1500 KVA DG Sets. Stack (height 7.7 m) will be provided as per CPCB norm. The Unit has 20 TPH Coal fired boiler. ESP with a stack of height of 40 m is installed for controlling the Particulate emissions (within statutory limit of 115 mg/Nm³) for the boiler. The unit has 8 TPH Coal fired stand by boiler for which Bag filters with a stack height of 30 m is installed.
11. **Details of Process Emissions Generation and its Management:** Process emissions generation is 1797.42 kgs/day which is safely let into the atmosphere. 11 Nos of Multi stage Scrubbers are provided for control of Fugitive emissions from process.

S.No	Emissions	Qty Kgs/day	Control system
1	CO2	1797.42	Safely let into the atmosphere
	Total	1797.42	

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

S No	Description	Schedule	Quantity			Remarks	Disposal Options
			Units	Current	After changes		
1	Process (Organic Waste)	28.1	Kg/Day	90.0	13880	The organic wastes generation is increased due to implementation of ZLD system and scrubbing systems, stripper wastes and process waste generation	TSDF, Dundigal, Ranga Reddy District for incineration/Cement plants for co-processing.

2	Mixed solvents	28.5	Kg/Day	Not specified	6760	Mixed solvents are not specified in the current CFO's	Cement industries for coprocessing/Authorised re-cyclers
3	Stripped waste	33.1	Kg/Day	Specified in CFO (Quantity Not Mentioned)	5400	Stripper Condensates are not specified in CFO	Cement industries for co-processing
4	ETP Sludge	33.2	Kgs/Day	110.0	110.0	No change	TSDF, Dundigal, Ranga Reddy District for secured land filling.
5	Forced Evaporation Salts	33.2	T/Day	5.97	5.97	No Change	To TSDF for land fill
6	Used Oil	5.1	Lts/Year	800 Lts/Year	2000 Lts/Year	Higher quantity is generated from New DG sets	To be sent to authorized reprocessors/recyclers
7	Containers & Container liners of hazardous 1. Drums 2. Container liners	33.3	Nos/Year	600 Nos/Year 300 Nos/Year	No change	No change	After detoxification, it shall be disposed to the outside agencies.
8	Ash from Boilers and Dust trapped in Pollution Control Equipment	-	T/Day	35 T/Day	35 T/Day	No change	Sold to Brick Manufacturers
9	STP Sludge	-	Kgs/Day	60	60	No change	Used as manure
10	e-waste	-	Kgs/Annum	100	100	No change	Sold to authorized Recyclers

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 9.25 Crore (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 145.8 Lakhs per annum., Industry proposes to allocate Rs. 6.5 Crore towards Corporate Social Responsibility
14. Industry has already developed Greenbelt in an area of 40% i.e 18.05 Acres out of total area of the project.
15. The PP proposed to set up an Environment Management Cell (EMC) by engaging Plant manager- plant in charge- environment officials - for the functioning of EMC.
16. The PP reported that net emission of CO₂ is 994.7 Tonnes CO₂ and Total CO₂ sequestrated per year (Tonnes) is 79.38 Tonnes. Total CO₂ sequestrated per year (Tonnes) from proposed greenbelt is 10.55 Tonnes. Total CO₂ sequestrated per year for proposed and existing greenbelt is 89.93 TCO₂e.
17. The PP submitted the Disaster and On-site and Off-site Emergency Plans in the EIA report.
18. The project cost is Rs. 176.71 crores. Total Employment is 250 persons as direct & 150 persons indirect.
19. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance of 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 noted that the PP has also submitted the compliance to O.M. dated 11.04.2022 for EC under para 7(ii) (a) of EIA Notification, 2006. However, the PP has followed the normal process for EC by obtaining ToR, collection of base line data and preparation of EIA Report.

The EAC inter-alia, deliberated on the avenue plantation, details of existing number of trees, fuel, carbon footprint, waste and advised the PP to submit the following:

- Details of Avenue Plantation taken up during the past years and proposed plan for development of Avenue Plantation.
- Details of Existing number of trees and Survival rate. Tree Density to be maintained @2500 Trees per hectare
- Undertaking for switching over the fuel for Boiler from Coal to green fuels.
- Details of Changes in Carbon foot print due to the proposed fuel.
- Composition of organic waste, stripped waste, Mixed Solvents. Undertaking for disposal of wastes to cement Industries.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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, **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) Stack emission levels shall be within the prescribed standards. Adequate stack height shall be provided for DG Sets as per CPCB Norms.
 - (ii) CEMS shall be installed and connected to TSPCB/CPCB Server.
 - (iii) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc. As committed by the PP, 11 nos. of 3 stage scrubbers shall be provided for fugitive emission control.

- (iv) As committed by the PP, liquid chemical transfer shall be done through pumping in closed system. Transportation of materials by rail/conveyor belt, wherever feasible, shall be explored.
- (v) Agro briquettes shall be used as the primary fuel.
- (vi) The best available technology shall be used.
- (vii) The PP shall develop an additional greenbelt over an area of at least 7.3 ha by planting approx. 2900 numbers of saplings within a year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP should 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) As committed by the PP, the unit shall continue development of green belt along roads and nearby villages under the Haritha Haram program of Government of Telangana.
- (ix) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be explored.
- (x) Treated wastewater of 156 KLD shall be reused thereby reducing the fresh water requirement to 495.9 KLD from 651.9 KLD. Boiler condensate shall be recycled and reused.
- (xi) Continuous Monitoring System for effluent quality and quantity shall be installed and connected to TSPCB/CPCB Server.
- (xii) The PP shall establish rain water collection sumps and such collected water shall be treated back in the ETP System.
- (xiii) High TDS effluents shall be Sent to Calendria followed by ATFD. Low TDS effluents shall be Sent to biological treatment system followed by RO (RO reject to Calendria and permeate for reuse). Zero liquid discharge shall be ensured
- (xiv) Domestic effluent of 20 KLD shall be treated in STP and outlet is connected to ZLD system.
- (xv) Unit shall send Hazardous waste to approved TSDF site only. All the waste shall be disposed off as per Solid and hazardous waste management rules. Boiler ash shall be given to brick manufacturers in the area.
- (xvi) Process organic waste shall be sent to TSDF, Dundigal, Ranga Reddy District for incineration/Cement plants for co- processing. Mixed solvents and stripped waste shall

be sent to Cement industries for coprocessing/Authorized re-cyclers and ETP Sludge and Forced Evaporation salts shall sent to TSDF for land fill

- (xvii) Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.
- (xviii) As proposed, an amount of ₹ 6.5 crores shall be allocated towards CER for social development programs under CER activities for the next 5 years.
- (xix) 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 Plant manager-plant in charge- environment officials. In addition to this, one safety & health officer as per the qualification given in Factories Act, 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xx) 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 [₹ 9.25 Crore (Capital cost) and ₹ 145.8 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.
- (xxi) The Total water requirement is 651.9 m³/day out of which fresh water requirement is 495.9 m³/day and will be met from Private Tankers. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawal only after obtaining prior permission from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year
- (xxii) 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.
- (xxiii) 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.

- (xxiv) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608 (E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (xxv) 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.
- (xxvi) 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.
- (xxvii) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xxviii) 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.
- (xxix) 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.
- (xxx) 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.
- (xxxii) 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.
- (xxxiii) 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.

(xxxiii)The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.

(xxxiv)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.

(xxxv) 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.

Agenda No. 47.13

Proposed synthetic organic chemicals of production capacity 5780 TPM located at Block No. 68 Paiki 2, Village: Mamsa & Block No. 152, Village: Malpar, Taluka: Ghogha, District: Bhavnagar, Gujarat by M/s. Panila Chem Ltd. (Unit-2) - Consideration of EC

[Proposal No. IA/GJ/IND3/413736/2023; File No. IA-J-11011/205/2022-IA-II(I)]

1. The proposal is for the environmental clearance for Proposed synthetic organic chemical of production capacity 5780 TPM located at Block No. 68 Paiki 2, Village: Mamsa & Block No. 152, Village: Malpar, Taluka: Ghogha, District: Bhavnagar, Gujarat by M/s. Panila Chem Ltd. (Unit-2).
2. The project/activity is covered under Category 'A' of item 5(f), Synthetic organic chemicals industry of Schedule of EIA Notification, 2006 (as amended) as the project is located outside the notified industrial area.
3. The standard ToR has been issued by Ministry vide letter no. IA-J-11011/205/2022-IA-II(I) dated 25.6.2022. The PP submitted that Public Hearing (PH) for the proposed project has been conducted by the Gujarat Pollution Control Board on 14th December, 2022. The main issues raised during the Public Hearing are related to benefits of the proposed project as well as wastewater disposal. Action plan regarding the issues raised during the PH has been submitted. The PP applied for Environment Clearance on 10.1.2023 in CAF and submitted EIA/EMP Report and other documents. The PP reported in Form that it is a **Fresh EC**. Due

to some shortcomings, the Project. was referred back to PP on 19 .1.2023 and the reply for the same has been submitted on 1.2.2023. The proposal is now placed in 47th EAC Meeting held on 15th -17th February, 2023, wherein the PP and an accredited consultant, Consultant M/s. Anand Environmental Consultants Pvt. Ltd. [Accreditation number NABET/EIA/2124/SA 0173, Valid up to 20.3.2024] 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 proposed total land area is 44,718 m² will be used for proposed project and no R& R is involved in the Project. The details of products are as follows:

S. No.	Name of Products	CAS No.	Total Quantity (MT/Month)	Uses
1	Sodium Ethoxide (*This will be in form of solution with Ethanol)	141-52-6	2500* (100% Dry basis)	Use as strong base, catalyst in manufacturing of plastics, textiles, glass etc.
2	Sodium Methoxide (*This will be in form of solution with Methanol)	124-41-4		In pharmaceutical industry, such as the manufacture of Vitamin A1, Vitamin BI, Sulfadiazine, trimethoprim. It can also be used as catalyst in Biodiesel Industry, etc.
3	Potassium Methoxide (*This will be in form of solution with Methanol)	865-33-8		Used in biodiesel production and in fuel additives etc.
4	Sodium Isopropoxide (#This will be in form of solution with Iso Propanol)	683-60-3	100# (100% Dry basis)	In the preparation of ibuprofen intermediate as well as a solvent and serves as an antiseptic etc.
5	Sodium Tert-butoxide	865-48-5		As a strong base and a non-nucleophilic base as well as use in agrochemicals, pharmaceuticals, colorants, aroma chemicals, detergents and biodiesel etc.

6	Potassium Tert-Butoxide	865-47-4		As a strong non-nucleophilic base in organic chemistry etc.
7	Potassium Ethoxide (#This will be in form of solution with Ethanol)	917-58-8		As a strong base as well as pharmaceutical and organic intermediates etc.
8	Magnesium Tert-butoxide	32149-57-8		As a pharmaceutical intermediate. It is also used in deprotonation reactions for organic syntheses etc.
9	N-propyl Acetate	109-60-4	1500	As a solvent for cellulose esters, resins and plastics, as a flavoring agent, and in perfumes etc.
10	Diethyl Oxalate	95-92-1	500	To prepare active pharmaceutical ingredients (API), plastics and dyestuff intermediates etc.
11	Tri ethyl Citrate	77-93-0	400	As a food additive to stabilize foams as well as used for pharmaceutical coatings and plastics etc.
12	Di ethyl Phthalate	84-66-2	400	In cosmetic products and indirectly in fragrances etc.
13	Di Ethyl Ether	60-29-7	300	As a solvent in laboratories, starting fluid for some engines and recreational drug to cause intoxication etc.
14	Ortho Tolyl Benzonitrile (OTBN)	157366-46-6	20	Common building block for the synthesis of the sartan series of drug molecules (ARBs), such as candesartan, irbesartan, losartan etc.

15	2-Butyl-4-Chloro-5-Formylimidazole (BCFI)	83857-96-9	10	As antihypertensive intermediates etc.
16	Sulfamethoxazole	723-46-6	50	An oral sulfonamide antibiotic, given in combination with trimethoprim, used to treat a variety of infections of the urinary tract, respiratory system, and gastrointestinal tract etc.
Total Production Capacity			5,780 MT/Month	

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. Maleshri River is flowing at a distance of 5.8 km in NW direction. There is no forest land involved in the proposed project. Three Schedule-I species i.e., a Peacock or Indian peafowl (*Pavo cristatus*), Indian mud or flap shell turtle (*Lissemys punctata*) and Eurasian Spoonbill (*Platalea leucorodia*) were observed in the 10 km radius from the proposed project. Conservation plan for Sch.-I species has already been submitted to Principal Chief Conservator of Forest (PCCF) (Wild Life & CWLW).
7. The PP reported that the **Ambient air** quality monitoring was carried out at 8 locations during March 2022 to May 2022 and the baseline data indicates the ranges of concentrations as: PM₁₀ (65.77 – 141.52 µg/m³), PM_{2.5} (31.74 – 67.52 µg/m³), SO₂ (6.6 – 25.15 µg/m³) and NO_x (7.95 – 29.34 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 3.19 µg/m³, 1.99 µg/m³ and 4.47 µg/m³ with respect to PM₁₀, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS) except for PM₁₀ and PM_{2.5} which is primarily attributed to cattle movement, vehicular movement, nearby construction as well as mining activities. **Ambient noise** quality monitoring was carried out at 8 locations during March 2022 to May 2022 and the baseline data indicates the ranges of noise level in day time (58.3 – 67.1 dB(A)) and in night time (47 – 64.4 dB(A)). The resultant level is slightly higher than the permissible limits as stipulated by CPCB. The major source of noise in monitoring locations at different villages were due to heavy vehicular movement as NH-51 passes through the study area, existence of mining sites, agricultural practices etc.
8. **Surface water** sampling was carried out at 6 locations during March 2022 to May 2022 and the baseline data indicates that the ranges of concentration as: pH (7.21 – 8.57), DO (7.3 – 7.4 mg/l), COD (28 – 304 mg/l), BOD (12 – 99 mg/l), TDS (315.8 – 1354 mg/l), Chlorides (38.32 – 518.17 mg/l), TSS (11.8 - 108.1 mg/l), Total Hardness (65 – 435 mg/l), Total

Coliform (up to 36 MPN/100 ml). The concentrations of surface water parameters are within permissible limit of IS 2296:1982 Class B – Outdoor bathing except for BOD. Groundwater sampling was carried out at 8 locations during March 2022 to May 2022 and the baseline data indicates that the resultant concentrations as: pH (7.10 – 8.34), TDS (686 – 1914 mg/l), Chlorides (81.64 – 608.14 mg/l), Fluoride (up to 0.38 mg/l), Total Hardness (95 – 575 mg/l). The concentrations of groundwater parameters are within permissible limit of IS 10500:2012 (Drinking Water Standards). Soil sampling was carried out at 8 locations during March 2022 to May 2022 data indicates that the resultant concentrations as: pH (7.07 – 8.28), Organic content (0.97 – 1.36 %), Available Nitrogen (283.91 – 365.09 kg/Ha), Available Phosphorus (10.64 – 16.25 kg/Ha), Available Potassium (299.32 – 3137.86 kg/Ha).

9. The PP reported that the total water requirement is 362 m³/day of which the fresh water requirement of 134 m³/day will be met either from open well or from Gujarat Water Infrastructure Limited (GWIL). The PP has applied for the same. The balance water (228 m³/day) shall be met from the recycle water. Domestic wastewater (4 m³/day) will be treated through Septic tank/soak pit while, industrial wastewater (158 m³/day) will be treated through MBBR, RO followed by MEE and ATFD. The plant will be based on Zero Liquid Discharge system.
10. The power requirement of proposed project will be 2500 KVA and will be met from Paschim Gujarat Vij Company Ltd. (PGVCL). However, in case of power failure, proposed D.G. set with capacity 1820 kVA will be used as standby during power failure/ emergency. Stack (height 10 m) will be provided as per CPCB norms to the proposed D.G. Set.
11. Details of proposed Thermic Fluid Heaters, Boilers as well as D.G. sets with adequate APCM are as below:

Sr. No.	Stack attached to	Stack Height (m)	Air Pollution Control Equipment	Type of Fuel and Quantity	Expected Pollutant	Permissible Limit
1	Thermic Fluid Heater [10 Lac. Kcal]	30	Dust Collector, Bag Filter followed by Dry Scrubber	Agro Briquettes - 180 MT/day OR Coal – 90 MT/day OR Wood chips - 160 MT/day	Particulate Matter SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm
2	Thermic Fluid Heater [20 Lac. Kcal]		Dust Collector, Bag Filter followed by Dry Scrubber			
3	Thermic Fluid Heater [25 Lac. Kcal]	30	Dust Collector, Bag Filter followed by Dry Scrubber			
4	Thermic Fluid Heater [25 Lac. Kcal]		Dust Collector, Bag Filter followed by Dry Scrubber			
5	Thermic Fluid Heater [30 Lac. Kcal]	30	Dust Collector, Bag Filter followed by Dry Scrubber			

6	Thermic Fluid Heater [30 Lac. Kcal]		Dust Collector, Bag Filter followed by Dry Scrubber		
7	Thermic Fluid Heater [30 Lac. Kcal]	30	Dust Collector, Bag Filter followed by Dry Scrubber		
8	Boiler [2 TPH capacity]		Dust Collector, Bag Filter followed by Dry Scrubber		
9	Boiler [3 TPH capacity]	30	Dust Collector, Bag Filter followed by Dry Scrubber		
10	D. G. set [320 KVA]*	10	--	Diesel - 400 Lit./hr	
11	D. G. set [500 KVA]*	10	--		
12	D. G. set [500 KVA]*	10	--		
13	D. G. set [500 KVA]*	10	--		

* For emergency power back –up only. Stacks of adequate height as per Environment Protection Rules will be provided.

12. Details of Process Emissions Generation and its Management:

Stack attached to	Stack Height (m)	Air Pollution Control Equipment	Expected Pollutant	Permissible limit
Reaction Vessel	15	Alkali Scrubber	CO ₂	--

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

Sr. No.	Type of Waste	Waste Category	Quantity (MT/Annum)	Mode of Disposal
Hazardous Waste				
1	Empty Containers/ Barrels/ contaminated with haz. chemicals/ Wastes	33.1 of Sch-1	50	Collection, Storage, Transportation and send it for Decontamination to registered recyclers.
2	Used or spent Oil	5.1 of Sch-1	05	Collection, Storage, Transportation and Reuse.
3	MBBR Sludge	35.3 of Sch-1	8.76	Collection, Storage, transportation and disposed in to TSDF.

4	MEE salt	35.3 of Sch-1	365	Collection, Storage, transportation and disposed in to TSDF.
5	Distillation residue	20.3 of Sch-1	11.57	Disposal at CHWIF / sent for co-processing.
6	Process waste			
	Inorganic residue	28.1 of Sch-1	8.93	Collection, Storage, transportation and disposed in to TSDF.
	Organic residue	28.1 of Sch-1	83.00	Disposal at CHWIF / sent for co-processing.
7	Spent Catalyst	28.2 of Sch-1	61.29	Disposal at TSDF /sent back for regeneration OR reactivation to supplier.
8	Acetic Acid	Class C-1 of Sch-II	145.04	Disposal by selling to actual end users/ sent for co-processing.
9	Diluted Hydrochloric Acid	Class B-15 of Sch-II	165.70	Disposal by selling to actual end users/ sent for co-processing.
10	Phosphoric Acid	Class B-15 of Sch-II	190.20	Disposal by selling to actual end users/ sent for co-processing.
11	Methyl Acetate	Class C-1 of Sch-II	1042.79	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
12	Toluene	Class B-5 of Sch-II	14.30	Disposal by selling to actual end users/ sent for co-processing.
13	Ethanol	--	119.70	Disposal by selling to actual end users/ sent for co-processing.
14	Methanol	--	166.58	Disposal by selling to actual end users/ sent for co-processing.
15	Magnesium Chloride	--	119.62	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
16	Salt (NaCl)	--	497.25	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
17	Sodium Oxalate	--	329.25	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
18	Sodium sulphate	--	567.72	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing..
19	Sulphate	--	250.15	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.

20	Dimethyl amine hydrochloride	--	67.00	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
21	Trisodium Citrate	--	138.64	Disposal by selling to actual end users /sent to a TSDF/ sent for co-processing.
Non-Hazardous Solid Waste				
1	Ash	--	6570	Will be sold to brick manufacturer, cement industries, and dump off at low lying areas.

Note: As per Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016

14. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 294.7 Lakhs (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 149.60 Lakhs per annum., Industry proposes to allocate Rs. 78 Lakhs towards Corporate Social Responsibility
15. Industry will develop greenbelt in an area of 41.7 % i.e. 18,675 m² out of total area of the project.
16. The PP proposed to set up an Environment Management Cell (EMC) by engaging Managing Director– Plant manager- Environment manager- safety manager- Executive (environment)- Executive (safety) for the functioning of EMC.
17. The PP reported the following w.r.t carbon sequestration:

Emission Sector	CO₂ Emission (tCO₂e/Annum)	% Contribution to Total CO₂ Emission
Chemical Reaction	268.56	0.63
Fuel Consumption	29894.4	70.58
Electricity Consumption	12182.4	28.77
Transportation	8.622	0.02
Effluent Treatment Plant*	--	--
Total CO₂ Emission per Annum	42353.98	100.00

18. The unit will develop 18,675 m² of greenbelt area within premise which is approx 41.7% of the total plot area. Calculation of Carbon to be sequestered through different tree species within the company premises.

S. No.	Common Tree Name	Scientific Name	Total Nos. of Trees	AGB (kg)	BGB (kg)	TB (kg)	Carbon (kg)	CO ₂ (kg)	CO ₂ (tons)	Total CO ₂ sequestered (tons)	
1	Ashok	Saraca asoca	100	338.61	50.79	389.4	194.7	713.9	0.71	71.00	
2	Neem	Azadirachta indica	150	784.78	117.72	902.5	451.25	1654.58	1.65	2475.00	
3	Pipal	Ficus religiosa	500	466.34	69.95	536.29	268.15	983.2	0.98	490.00	
4	Jamun	Syzygium cumini	160	296.08	44.41	340.49	170.25	624.24	0.62	99.20	
5	Mango	Mangifera indica	150	187.06	28.06	215.12	107.56	394.38	0.39	58.50	
6	Arjun	Terminalia arjuna	150	272.48	40.87	313.35	156.68	574.48	0.57	85.50	
7	Nilgiri	Eucalyptus sp.	135	1155.93	173.39	1329.32	664.66	2437.09	2.44	3294.00	
8	Bambo	Bauhinia acuminata	310	331.99	49.8	381.79	190.89	699.95	0.7	217.00	
9	Alostonia	Alstonia scholaris	250	277.69	41.65	319.34	159.67	585.46	0.59	147.50	
10	Karanj	Pongamia pinnata	200	330.83	49.62	380.45	190.23	697.53	0.7	140.00	
Total no. of Trees			4670	Total Annual CO₂ sequestered by tree species					7077.70		

19. The PP submitted the Disaster and On-site and Off-site Emergency Plans in the EIA report.
20. The total estimated cost of the proposed project is Rs. 26 Crores. Total Employment will be 100 persons as direct as well as other indirect employees for proposed project.
21. **Deliberations by the EAC:**

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

The EAC noted that the PP has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information

submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the PP.

The EAC noted that the EIA reports are in compliance of 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 inter-alia, deliberated on the Greenbelt development, fuel, wastewater, disaster management plan. and advised the PP to submit the following:

- Detailed greenbelt development plan inclusive of expected survival rate of trees as well as revised budget allocation per tree and Budgetary allocation for EMP.
- Undertaking with respect to use of fuel.
- Recycling of domestic wastewater by providing Sewage Treatment Plant (STP).
- Disaster Management Plan of proposed project.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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.

22. 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 PP shall develop Greenbelt over an area of at least, 18,675 m² by planting 5604 number of trees within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the 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 the previous year.
- (ii) 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. PP shall engage Managing Director- Plant manager- Environment manager- safety manager- Executive (environment)- Executive (safety). In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (iii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 3.33 crore (Capital cost) and ₹ 1.56 crore (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
- (iv) As committed by the PP, Agro briquette shall be used as primary fuel, during the unavailability of agro briquette wood chips shall be used in case of emergency.
- (v) The total water requirement shall not exceed 362 m³/day of which the fresh water requirement shall not exceed 134 m³/day and shall be met either from open well or from Gujarat Water Infrastructure Limited (GWIL). The balance water (228 m³/day) shall be met from the recycled water. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.

- (vi) Domestic wastewater (4 m³/day) will be treated through Septic tank/soak pit while, industrial wastewater (158 m³/day) will be treated through MBBR, RO followed by MEE and ATFD. The plant will be based on Zero Liquid Discharge system.
- (vii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (viii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (ix) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (x) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.
- (xi) 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.
- (xii) 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.
- (xiii) 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.
- (xiv) 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.
- (xv) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.

- (xvi) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xvii) 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.
- (xviii) 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. 47.14

Expansion Project for Chemical Fertilizer Unit of production capacity from 2,03,091.6 TPA to 3,48,000 TPA located at Plot No. 801/15, 16, 17, 18, 19, 21, 22, Phase-III, GIDC Notified Industrial Estate, Vapi, Tal. Pardi, Dist. Valsad, Gujarat by M/s Aarti Fertilizers (A Division of Aarti Industries Ltd.) - Consideration of ToR

[Proposal No. IA/GJ/IND3/414477/2023; File No. IA-J-11011/16/2023-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for Expansion Project for Chemical Fertilizer Unit of production capacity from 2,03,091.6 TPA to 3,48,000 TPA located at Plot No. 801/15, 16, 17, 18, 19, 21, 22, Phase-III, GIDC Notified Industrial Estate, Vapi-396195, Tal: Pardi, Dist.: Valsad, Gujarat. By M/s Aarti Fertilizers (A Division of Aarti Industries 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 'B' of item 5(f), Synthetic organic chemicals industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/414477/2023** dated 13.1.2023. The proposal was referred back to the PP on 19.1.2023 and its reply was submitted on 1.2.2023. The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023, wherein the PP and an accredited Consultant, M/s. Eco Chem Sales & Services [NABET

certificate no. NABET/EIA/2023/SA 0156 Validity: 15/03/2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported the product details are as follows:

S. No.	Product	CAS No.	Capacity, MT/Annum			End use of product
			Existing	Proposed	Total	
1.	Single super Phosphate (SSP) Granules/powder	8011-76-5	108,000	126,000	2,34,000	As Fertilizer
	And/Or					
	Zincated Single super Phosphate Granules/powder		0			
	And/Or					
	Boronated Single super Phosphate Granules/powder		0	2,34,000		
	And/Or					
	Zincated Boronated Single super Phosphate Granules/ Powder		0			
2.	Sodium Silico Fluoride(SSF)	-85-16893 9	147.6	1652.4	1800	As glass industry
3	Calcium Phosphate (C. P) (Mono/Di/Tri) And/Or	7758-87-4/ 7789-77-7/ 7758-23-8	7,200	0	7,200	As Fertilizer
4	Chemical Gypsum	13397-24-5	69,420	20,580	90,000	As filler in cement industry
	And/Or					
	Phospho Gypsum	10101-41-4	18,324	71,676		
5	Magnesium Sulfate	7877-88-9	0	15,000	15,000	As Fertilizer
	And/Or					
	Zinc Sulfate	7446-19-7	0			
Total			203,091.6	1,44,908.4	3,48,000	

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the existing land area is 28362.22 m². No additional land will be used for proposed expansion.

7. The PP reported that Environment Clearance is not applicable to existing unit, as it was started in the year of 2004, before EIA Notification 2006. Unit has obtained CCA vide order no. AWH-117689, dated: 23/03/2022 and valid up to 31/12/2026.
8. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. River Damanganga is flowing at a distance of 5.81 km in W direction.
9. The PP reported that the Total water requirement after expansion will be 575 KLD of which fresh water requirement of 303 KLD will be met from GIDC water supply department, Vapi.Effluent (Industrial) of 523 KLD will be Generated out of 470 KLD of effluent from process will be collected separately and treated in P/S/T ETP after it will be sent to MVR for further treatment followed by ATFD. Remaining 53 KLD effluent from Washing, cooling tower Blowdown and scrubber collected and will be treated directly in MVR followed by ATFD. From 517 KLD condensate (from MVR and ATFD) generated, partly i.e 273 KLD will be further treated in RO and RO permeate will be reuse in process and utilities. Remaining 244 KLD effluents will be discharge to CETP, Vapi after achieving the norms of CETP inlet norms. RO reject will be sent back the MVR for further treatment Domestic wastewater (40 KLD) will be treated in STP and STP treated water will be reused for gardening purposes
10. Power requirement after expansion will be 4500 kVA including existing 1820 kVA and will be met from Dakshin Gujarat Vij Co. Ltd. (DGVCL)Aarti industries Ltd. (Acid Division) GPCB ID (22987). Existing unit has Two Nos. of D.G Set. of capacity 250 KVA. Unit has proposed 01 No. of DG sets capacity of 2000 KVA. DG sets are used as standby during power failure. Stack (height 11.0 m) will be provided as per CPCB norms to the proposed DG sets.
11. The PP reported that the project, being in **notified industrial area (Notification No.GHU-75-45-GID-1974-4084 (I)CH dated 06.05.1975), is exempted from the public hearing** as per the Ministry's O.M. J-11011/321/2016-IA. II(I) dated 27.04.2018.
12. Total 11,345.59 Sq.m (40 % of total area) green belt will be developed after the proposed expansion. Green belt of 4,027.59 sq.m (14.2 % of total area) was developed within the project site and the remaining 7318 sq.m of green belt (25.8 % of total area) belt will be developed outside the premises within GIDC Estate. In addition to above, the unit had developed 2967.72 sq.m (10.46 % of total area) green belt just adjacent to the boundary. Hence, the total green belt will be developed in excess of 40% requirement.
13. The estimated project cost is Rs. 157.30 Crores including existing investment of Rs.108.00 Crores. The PP reported that the Total Employment will be 523 persons as direct & 25 persons indirect after expansion. Industry proposes to allocate Rs. 98.6 Lakhs towards of CER..
14. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the various environmental aspects such as emissions, Greenbelt development plan, fuel, water balance, the action plan proposed by the PP and advised the PP to submit the following

- Undertakings for fuel consumption and greenbelt development.
- Water balance diagram.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
 - (iv) 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.
 - (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analysed the samples.
 - (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.
 - (vii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
 - (viii) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
 - (ix) 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.

- (x) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xi) 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.
- (xii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiii) The PP should develop Greenbelt over an area of 40% of the total land area. The plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution.
- (xiv) Biomass shall be used as primary fuel for the proposed project, coal shall be used during the unavailability of biomass i.e emergency.
- (xv) 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.
- (xvi) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xvii) 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. 47.15

Proposed Establishment of Agrochemicals, Synthetic Organic chemicals, Fluorine based chemicals manufacturing facility of production capacity 264.615 TPD and Co-Generation Power Plant (6 MW) located at at Survey. No. 12/1, 12/2, 12/3, 13, 14/2, 14/3, 14/4, 14/5, 14/6, 14/7, 14/8, 14/9, 14/10, 14/11, 14/12, 14/13, 14/14, 14/15, 14/16, 14/17, 14/18, 14/19, 14/20, 19, 20, 21 (pt), 22 (pt), 26 (pt) & 27 (pt) (57.14 Acres), Naruva Village, Ranastalam Mandal, Srikakulam District and Andhra Pradesh by M/s. NACL Multichem Private Limited - Consideration of EC

[Proposal No. IA/AP/IND3/412939/2023; File No. IA-J-11011/434/2021-IA-II(I)]

1. The proposal is for the environmental clearance for Proposed Establishment of Agrochemicals, Synthetic Organic chemicals, Fluorine based chemicals manufacturing facility of production capacity 264.615 TPD and Co-Generation Power Plant (6 MW) located at at Survey. No. 12/1, 12/2, 12/3, 13, 14/2, 14/3, 14/4, 14/5, 14/6, 14/7, 14/8, 14/9, 14/10, 14/11, 14/12, 14/13, 14/14, 14/15, 14/16, 14/17, 14/18, 14/19, 14/20, 19, 20, 21 (pt), 22 (pt), 26 (pt) & 27 (pt) (57.14 Acres), Naruva Village, Ranastalam Mandal, Srikakulam District and Andhra Pradesh by M/s. NACL Multichem Private Limited
2. The project/activity is covered under Category ‘A’ of item 5(b) **Pesticides industry and pesticide specific intermediates (excluding formulations** and 5(f), Synthetic organic chemicals industry of Schedule of EIA Notification, 2006 (as amended) as the project is located outside the notified industrial area.
3. The ToR has been issued by the Ministry, vide letter no. IA- J-11011/434/2021-IA-II(I) dated 15.12.2021. The PP submitted that the Public Hearing for the proposed project has been conducted by the Andhra Pradesh Pollution Control Board on 14.10.2022 which was presided by the District Collector and District Revenue officer. The main issues raised during the public hearing are related to marine disposal by industries which reduce fish production, compliance to the norms by the industries in the area, employment to locals, alternate road to village etc. Action plan for the issues raised during the PH has been submitted. The PP applied for Environment Clearance on 3.1.2023 in Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a **Fresh EC case**. Due to the shortcomings, the proposal was referred back to the on PP 17.1.2023 and reply for the same has been submitted on 1.2.2023. Accordingly, the proposal is placed in this 47th EAC meeting on 15th -17th February, 2023, wherein the PP along with accredited Consultant, **M/s. Hubert Enviro Care Systems (P) Ltd, Chennai** [Accreditation number **NABET/EIA/1922/RA 0172** Valid up to 20.3.2023] 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 proposed total land area is 231237.58 m² will be used for proposed project and no R& R is involved in the Project. The details of products are as follows:

S. No	Products	CAS No	Capacity (TPD)	Uses
1. Agrochemicals -5(b)				
1	Profenofos	41198-08-7	10	Insecticide
2	Thiamethoxam	153719-23-4	1.5	Insecticide
3	Fipronil	120068-37-3	1	Insecticide
4	Imidachloprid	138261-41-3	1	Insecticide
5	Acetamiprid	135410-20-7	1	Insecticide
6	Pymetrozine	123312-89-0	1	Insecticide
7	Triazinone / Thiocarbohydrazide/ Dichloro Pinacolone /Pinacolone	33509-43-2	10	Intermediate
8	Pyriproxyfen	95737-68-1	1	Insecticide

S. No	Products	CAS No	Capacity (TPD)	Uses
9	Emamactin Benzoate	155569-91-8	1	Insecticide
10	Diafenthiuron	80060-09-9	1	Insecticide
11	Propiconazole	60207-90-1	2	Fungicide
12	Tricyclazole	41814-78-2	2	Fungicide
13	Fenbuconazole	114369-43-6	1	Fungicide
14	Myclobutanil	88671-89-0	1.5	Fungicide
15	Thifluzomide	130000-40-7	1	Fungicide
16	Hexaconazole	79983-71-4	3	Fungicide
17	Tebuconazole	107534-96-3	1.5	Fungicide
18	Thiophanate-methyl	23564-05-8	1.5	Fungicide
19	Azoxystrobin	131860-33-8	1.5	Fungicide
20	Pretilachlor	51218-49-6	4	Herbicide
21	Metribuzin	21087-64-9	2	Herbicide
22	Dimethomorph	110488-70-5	1.4	Fungicide
23	Clodinafop-Propargyl	105512-06-9	2	Herbicide
24	Bispyribec Sodium	125401-92-5	2	Herbicide
25	Bensulfuron Methyl	83055-99-6	2	Herbicide
26	Quizalofop-p-ethyl	100646-51-3	1	Herbicide
27	Clethodim	99129-21-2	3	Herbicide
28	Pinoxulam	219714-96-2	1	Herbicide
29	Metolachlor	51218-45-2	1	Herbicide
30	(Z)-hezatec – 11-en-1-yl acetate	34010-21-4	1	Intermediate
31	(Z)-hezatec – 9-enal	56219-04-6	1	Intermediate
32	(8E,10E) – Dodoca-8, 10-dyen-1-ol	53880-51-6	1	Intermediate
33	7Z,11Z hexadeca dienyl acetate	52207-99-5	1	Intermediate
34	7E, 9Z dodoca dienyl acetate	54364-62-4	1	Intermediate
35	8Z Dodecynyl acetate	28079-04-1	1	Intermediate
36	(Z)-Octadeca – 13 – enyl acetate	60037-58-3	1	Intermediate
37	2-Hydrazin-4-Methylbenzothiazole/ HMBT	66373-46-4	4	Intermediate
38	Bromoketal	60207-89-8	2	Fungicide
39	R&D and Validation Products	-	0.1	All
Sub-Total			76	
2. Synthetic Organic Chemicals- 5(f)				
1	4-Chlorobutyl Chloride	4635-59-0	1.5	Pharma Intermediate, Agro intermediate

S. No	Products	CAS No	Capacity (TPD)	Uses
2	Trityl chloride	76-83-5	1.5	Pharma Intermediate
3	Bis(2-chloroethyl) amine hydrochloride	821-48-7	1.5	Pharma Intermediate
4	6-ChloroHexanol	2009-83-8	1.5	Solvent
5	1-Chloro-5-hexanone	10226-30-9	1.5	Pharma Intermediate
6	Tyramine Hydrochloride	60-19-5	1.5	Pharma Intermediate
7	2- Acetyl Thiophene	88-15-3	1.5	Pharma Intermediate
8	N-Propyl Bromide	106-94-5	4	Solvent
9	Ortho Chloro Phenol	95-57-8	4	Pestiside Intermediate
10	Para Chloro Phenol	106-48-9	4	Pharma Intermediate
11	1,2-Pentanediol	5343-92-0	4	Agro & Cosmetic intermediate
12	2,4-Dichloroacetophenone	2234-16-4	4	Pharma Intermediate
Sub-Total			30.5	
3. Fluorine Based Chemicals-5(f)				
1	2,4- Difluoro benzylamine	72235-52-0	1.0	Pharma Intermediate
2	2,4- Difluoro benzonitrile	3939-09-1	1.0	Pharma Intermediate
3	2,6- Difluoro benzonitrile	1897-52-5	1.421	Pharma Intermediate
4	2- Trifluoromethyl benzamide	360-64-5	1.694	Pharma Intermediate, Fungicide intermediate
5	4- Fluoroaniline	371-40-4	1.0	Pharma Intermediate
6	Bisphenol AF	1478-61-1	1.0	Intermediate for Polymer
7	Tetrafluoro ethyl dimethyl amine	1550-50-1	1.0	Pharma Intermediate
Sub-Total			8.115	
4. By-products*				
1	NaBr Aqueous waste	--	25	For Recycling
2	HBr	--	10	For Recycling
3	HCL 15-20%	--	80	For Recycling
4	KCL 15-20 %	--	20	For Recycling
5	NASH Solution	--	15	For Recycling
Sub-Total			150	
Total (TPD)			264.615	
5. Thermal Power Plant (1d)				
Cogeneration Power Plant- 6 MW				

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. Nala is adjacent to Site in Western direction, Kandivalasa R is adjacent to Site in Southern Direction, Pond near Boyapalem is at a distance of ~0.43km in NE direction, Pond near Kontalapalem is at a distance of ~ 0.84 km in the SSE Direction, Canal near Sarugudipeta is ~1.34 km in the NNW Direction, Canal near Govindapuram is ~3.07 km in the SSW Direction, Nala near Kamavaram is ~3.69km in the NW Direction, Bay of Bengal is ~4.39km in the SE Direction, Lake near DevuniPalavalasa is ~5.07 km in the NNW Direction, Nala near DevuniPalavalasa is ~5.90 km in the NNW Direction, Canal near Derasam is ~6.52km in the NE Direction, LankalaCheruvu is ~7.60 km in the ENE Direction and PeddaCheruvu is ~9.85 km in the ENE Direction. There is no forest land involved in the proposed project. One Schedule-I species i.e., Peacock or Indian peafowl (*Pavo cristatus*), was observed in the 10 km radius from the proposed project. Conservation plan for Sch.-I species has already been submitted to Principal Chief Conservator of Forest (PCCF) (Wild Life & CWLW)
7. The PP reported that the **Ambient air** quality monitoring was carried out at 8 locations during 15th December 2021 to 15th March 2022 and the baseline data indicates the ranges of concentrations as: PM₁₀ (40.19 µg/m³ to 64.72 µg/m³), PM_{2.5} (20.93 µg/m³ to 36.95 µg/m³), SO₂ (6.99 µg/m³ to 14.86 µg/m³), NO₂ (14.26 µg/m³ to 35.85 µg/m³). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 1.17 µg/m³, 6.43 µg/m³, 10.27 µg/m³ with respect to PM₁₀, SO₂ and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise** - The observations of day equivalent and night equivalent noise levels at all locations are given as follows- In Industrial area day time noise levels was about 47.6 dB(A) and 40.4 dB(A) during night time, which is within prescribed limit by CPCB (75 dB(A) Day time & 70 dB(A) Night time) and no activities are at the proposed sand mine site. In residential areas day time noise levels varied from 48.5 dB(A) to 50.6 dB(A) and night time noise levels varied from 40.2 dB(A) to 42.6 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels are within the prescribed limit by CPCB (55 dB(A) Day time & 45 dB(A) Night time).
8. **Ground water** monitoring was carried out at 8 locations during 15th of December 2021 to 15th of March 2022 and the baseline data indicates the ranges as: pH (6.64 - 7.71), TDS (421 mg/l – 1156mg/l), Total Hardness (208mg/l – 663mg/l), Chlorides (89.46 mg/l – 375.1 mg/l) and Fluoride (0.29 mg/l -0.52 mg/l). **Surface water** monitoring was carried out at 8 locations during 15th of December 2021 to 15th of March 2022 and the baseline data indicates the ranges as: pH (6.82- 7.48), TDS (878 mg/l - 6426 mg/l), TSS (6 mg/l -21 mg/l), Total Hardness (201.4 mg/l - 592.8 mg/l), Chlorides (98.37mg/l -664.9 mg/l), Fluoride (0.29 mg/l -0.51 mg/l), BOD (8 mg/l - 27 mg/l), COD (24 - 48 mg/l) and DO (5.2 mg/l -5.8 mg/l). Marine sample indicates the ranges as: pH (6.78 - 6.91), TDS (16315 mg/l - 37750 mg/l), TSS (17mg/l - 29mg/l), Total Hardness (6364.7 mg/l - 6843.6 mg/l), Chloride (15284.3 mg/l - 17259.3mg/l), Fluoride (0.52mg/l -0.59 mg/l), BOD (4 mg/l – 6 mg/l), COD (10 mg/l – 17 mg/l) and DO (6.1 mg/l-6.2 mg/l).

9. **Soil** monitoring was carried out at 8 locations during 15th of December 2021 to 15th of March 2022 and the baseline data indicates the ranges as: Nitrogen (52.9 mg/kg to 418 mg/kg), Phosphorus (11.6 mg/kg to 93.4 mg/kg) and Potassium (17.4 mg/kg to 92.1 mg/kg)
10. The PP reported that Total water requirement is 2911 m³/day of which fresh water requirement of 1121 m³/day will be met from Ground water. Ground water application has been submitted to APGWD and awaiting for approval. HTDS Effluent of 1300 m³/day quantity and LTDS Effluent of 2080 m³/day will be treated through HTDS ETP capacity of 1500m³/day and LTDS ETP (Biological Treatment Plant) capacity of 2300m³/day followed by MEE and ATFD. Sewage of 30 m³/day quantity will be treated through STP capacity of 40m³/day. The plant will be based on Zero Liquid Discharge (ZLD) system.
11. Power requirement will be **6000 kVA (6 MW)** will be met from Co-generation/ APSPDCL. EMDG sets of **2x1000 kVA and 2x2000 kVA** is proposed and will be kept as standby during power failure. Stack height of **32m** for 2x1000 kVA and **34m** for 2x2000 kVA will be provided as per CPCB norms.
12. 1 x 40 TPH capacity Coal fired Boiler will be installed for the proposed project. ESP with a stack height of 45m for 1 x 40 TPH capacity Coal fired Boiler will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm³ for the proposed boilers.

13. Details of Process Emissions Generation and its Management:

S. No	Source	Stack Details						Emission (g/s)					APC
		No. of stack	Height (m)	Dia (m)	Temp (°C)	Exit velocity (m/s)	Flow rate (Nm ³ /hr)	PM	SO ₂	NO _X	CO	VO _C	
1	Reactor for agrochemicals	1	30	0.1	54	10	338.65	0.0030	0.0050	0.0042	0.0037	0.0002	Wet Scrubber
2	Reactor For Synthetic Organics & Fluorine based chemicals	1	30	0.1	58	10.9	373.65	0.0031	0.0052	0.0044	0.0038	0.0003	Wet Scrubber

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

S. No	Waste	Total (Kg/day)	Method of disposal
Construction phase-120			
1	Organic	32.4	Scope of the contractor as per SPCB/CPCB norms
2	Inorganic	21.6	Scope of the contractor as per SPCB/CPCB norms

S. No	Waste	Total (Kg/day)	Method of disposal
Operation phase-700			
1	Organic	189	Disposal To Local Municipal
2	Inorganic	126	APPCB Authorized Recyclers

OTHER SOLID WASTE GENERATION

Item name	Proposed (TPD)	Mode of disposal
Boiler Ash	12	Sold to Brick manufactures and cement plants. MOU will be made with them before operation phase.

Hazardous waste Management

S No	Source	Unit	Quantity	Mode of Disposal
For Agrochemicals				
1	Organic residue	TPM	920	Will send to TSDF or Cement industries.
2	Distillation Bottom Residue	TPM	400	Authorized cement plants for co-processing
3	Organic-Stripper Distillate	KLM	16.5	AFRF for pre- processing and onward disposal to cement industries for co- processing
4	Spent Solvents	TPM	7500	Shall be recovered insolvent recovery plant within the premises / APPCB Authorized recyclers.
5	a) Detoxified Container / Liners drums	No.s/Annum	20000	Sold to authorized recyclers
	b) HDPE Carboys Fiber drums		9000	Sold to authorized vendors
6	Waste Oil	KL/Annum	8	Authorized recyclers
7	Used batteries	No's/Annum	800	Buy back with supplier
For Synthetic Organic Chemicals				
1	Organic Residue	TPM	50	Will send to TSDF or Cement industries.
2	Distillation Residue	TPM	5	Authorized cement plants for co-processing

3	Sodium Bi carbonate	TPM	1.5	Sold to authorized vendor/ land Filling
4	Sodium Sulphate	TPM	2	Sold to authorized vendor/ land Filling
Combined HW Waste				
1	Inorganic salts	TPM	121	Sent to TSDF

15. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 18.44 crores (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 1.82 crore per annum. Industry proposes to allocate Rs. 225 Lakhs towards Corporate Social Responsibility

16. Industry will greenbelt in an area of 33% i.e., 76323.78 m² out of total area of the project.

17. The PP proposed to set up an Environment Management Cell (EMC) by engaging Head Environment- Manager Environment- Asst. Manager Environment and Environment Department officials for the functioning of EMC.

18. The PP reported that the following w.r.t carbon sequestration:

Source	Quantity (T)	Caloric Value (Kcal/Kg)	Total Energy (GJ)	Emission Factor (Kg CO ₂ /GJ)	Emissions (T)	Carbon Sequestration (%)	Source
HSD	159.6	10200	6814	74.1	504.93		
Coal	79200	4000	1326378	96.07	1,27,425.16	25	Bio Fuel & Energy Conservation
Gas	19.1	10500	837	63.1	52.84		
Transportation	5000	10200	213527	74.1	15,822.34		
Total					1,43,805.27		

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

20. The total estimated cost of the proposed project is Rs. 150 Crores. The total employment will be 700 with 200 persons as direct & 500 persons as indirect after expansion.

21. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance of 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 inter-alia, deliberated on the by-product details, fuel wastewater parameter w.r.t pesticide, Greenbelt development plan and budget for EMP, Pollution load Hierarchy of Environment management cell. Life cycle Assessment, carbon footprint, breakup of water balance and advised the PP to submit the following:

- The by-products detail to be verified and moved to Hazardous waste whichever coming from the pesticide products.
- Affidavit with respect to use of fuel.
- The wastewater parameters w.r.t pesticide to be looped in the water balance.
- Detailed Greenbelt development plan and budget for EMP
- Pollution load statement w.r.t specific pollutants on pesticide.
- Hierarchy of Environment management cell in simpler form of chart.
- Life cycle assessment in details including the hotspots from cradle to grave approach. And its mitigation.
- Carbon footprint w.r.t fuel change and increased in greenbelt.
- Water balance in tabular form segregating internal recycling and treatment.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

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.

22. 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 PP shall develop Greenbelt over an area of at least, 7.63 ha by planting 22900 number of trees within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the 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 the previous year.
 - (ii) 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. PP shall engage Head Environment- Manager Environment- Asst. Manager Environment officials. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
 - (iii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and

risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 1903 Lakh (Capital cost) and ₹ 191.5 Lakh (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

- (iv) As committed by the PP, Biomass/ Agro briquette /Rice husk shall be used as primary fuel, during the unavailability of agro briquette coal shall be used in case of emergency.
- (v) The Total water requirement is 2911 m³/day of which fresh water requirement of 1121 m³/day will be met from Ground water. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (vi) As committed by the PP, Zero Liquid discharge shall be ensured, of 1300 m³/day quantity and LTDS Effluent of 2080 m³/day will be treated through HTDS ETP capacity of 1500m³/day and LTDS ETP (Biological Treatment Plant) capacity of 2300m³/day followed by MEE and ATFD. Sewage of 30 m³/day quantity will be treated through STP capacity of 40m³/day
- (vii) No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
- (viii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (ix) The project proponent shall comply with the environment norms for Pesticide Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 446 (E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.
- (x) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (xi) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under

the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

- (xii) 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.
- (xiii) 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.
- (xiv) 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.
- (xv) 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.
- (xvi) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xvii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xviii) 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.
- (xix) 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. 47.16

Proposed expansion of dye intermediates manufacturing unit from Vinyl sulphone ordinary (about 100 MT/Month) to Vinyl sulphone, para base vinyl sulphone, Dimethoxy Aniline Vinyl sulphone, para cresidine vinyl sulphone, Ortho anisidine base vinyl sulphone, Supho Vinyl sulphone, PMP vinyl sulphone and other VS (totalling to 1000 MT/Month) located at Plot No. 122/1-2, 128/1-2 GIDC Nandesari, Taluka & District Vadodara by Panoli Intermediates (India) Pvt. Ltd. - Consideration of ToR

[Proposal No. IA/GJ/IND3/287393/2022; File No. IA-J-11011/299/2022-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for Proposed expansion of dye intermediates manufacturing unit from Vinyl sulphone ordinary (about 100 MT/Month) to Vinyl sulphone, para base vinyl sulphone, Dimethoxy Aniline Vinyl sulphone, para cresidine vinyl sulphone, Ortho anisidine base vinyl sulphone, Supho Vinyl sulphone, PMP vinyl sulphone and other VS (totalling to 1000 MT/Month) located at Plot No. 122/1-2, 128/1-2 GIDC Nandesari, Taluka & District Vadodara by Panoli Intermediates (India) 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 'B' of item 5(f), Synthetic organic chemicals industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/287393/2022** dated 7.8.2022. The proposal was referred back to the PP on 19.8.2022 & 4.10.2022 and its reply was submitted on 28.9.2022 & 2.2.2023 respectively. The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023, wherein the PP 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 are as follows: **Existing** Capacity : 1 Vinyl sulphone = 100 MT/Month, Acetic Acid =16 MT/Month, Hydrazine Dicarboxamide = 200 MT/Month, Calcium Chloride = 500 MT/Month , Dicalcium Phosphate = 250 MT/Month **Proposed** : Vinyl sulphone, para base vinyl sulphone, Dimethoxy Aniline Vinyl sulphone, para cresidine vinyl sulphone, Ortho anisidine base vinyl sulphone, Supho Vinyl sulphone, PMP vinyl sulphone and other VS = 1000 MT/month , Acetic Acid = 250 MT/Month, Product Quantities for Hydrazine Dicarboxamide, Calcium Chloride and Dicalcium Phosphate remain the same.
5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the existing land area is 10000 m². No additional land will be used for proposed expansion.
7. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km

radius of the site. The project doesn't fall within the CRZ boundaries. River Mahi is about 1.8 kms from GIDC Nandesari.

8. The PP reported that the 489 KLD (482 kLD Industrial + 5 KLD domestic + 2 KLD gardening) will be met from GIDC water supply. 198 KLD of effluent will be generated (195 kld industrial and 3 kld domestic) Multiple effect evaporator and Sodium Sulphate (Glauber Salt) recovery through crystallizer Capacity of MEE and Crystalliser will be increased to 200 kld or new MVR of 200 kld capacity will be installed. There is no effluent discharge from VS expansion.
9. The PP reported that Coal (26 MT/day) will be used as fuel.
10. About 4000 m² of green belt will be provided in the Vacant area allotted by Nandesari Industries Association and on our own agriculture farms nearby Nandesari
11. The estimated project cost is Rs. 9.95 Crores The PP reported that the Employment would be as per prevailing norms of state government for skilled and unskilled people for the proposed expansion activity.

12. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the Greenbelt development plan, layout plan, fuel consumption, notification of the industrial area, action plan and mitigation measures proposed being a project located in CPA, and sought the following requisite information/documents:

- (i). Compliance to green belt development of minimum 40% of the total area of the existing unit (@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.
- (ii). Layout plan with the requisite green belt for the proposed project.
- (iii). Undertaking for the use of natural gas/biomass instead of coal.
- (iv). EC or the gazette notification of the industrial area.
- (v). 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.
- (vi). Detailed justification/trend w.r.t the CEPI score of the CPA since the declaration as CPA.

In view of above, the EAC **deferred** the proposal.

Agenda No. 47.17

Expansion proposal for various resins, esters and monomers within the existing facility of production capacity from 29393.40 TPM to 39006.40 TPM located at 808/E, 305/6 & 7,

Survey No. 523, 434, 800, Phase-III, Notified Industrial Area, GIDC Vapi, Dist. Valsad, Gujarat by M/s Huber Group India Private Limited - Consideration of EC

Proposal No. IA/GJ/IND3/415285/2023; File No. IA-J-11011/46/2023-IA-II(I)]

1. The proposal is for Expansion proposal for various resins, esters and monomers within the existing facility of production capacity from 29393.40 TPM to 39006.40 TPM located at 808/E, 305/6 & 7, Survey No. 523, 434, 800, Phase-III, Notified Industrial Area, GIDC Vapi, Dist - Valsad 396195, Gujarat by M/s Huber Group India Private Limited.
2. The project/activity is covered under 5(f) – Synthetic Organic Chemicals Industry under category ‘B’. However, since the project site is located in a critically polluted area (CEPI – 79.38), the project attracts the general condition and considered as Category ‘A’ at Centre.
3. The ToR has been issued by the SEIAA vide letter no. SIA/GJ/99906/2022 dated 2.6.2022. The PP reported that the project, being located in notified industrial area (**Notification No.GHU-75-45-GID-1974-4084 (IO)CH dated 06.05.1975**), is exempted from the public hearing as per the Ministry’s O.M. J-111011/321/2016-IA.II(I) dated 27.04.2018. The PP applied for the Environment Clearance on 23.1.2023 in CAF and submitted the EIA/EMP Report and other documents. Due to some shortcomings, the project was referred back to PP on 23.1.2023 and reply to the same was submitted by the PP on 2.2.2023, 21.2.2023. The PP in the CAF reported that it is an Expansion case. The proposal is placed in this 47th EAC meeting held on 15th-17th January, 2023, wherein the PP and an accredited Consultant, M/s. Eco Chem Sales & Services, Surat (NABET certificate no. NABET/EIA/2023/SA 0156 Validity: 15/03/2023) made a detailed presentation on the salient features of the project and informed the following:
4. The PP reported that Existing land area is 386883.00 m² land will be used for proposed expansion and no R&R is involved in the Project. The details of products are as follows:

S. No.	Product Details	CAS no.	Quantity, MT/Month			End use of Product
			Existing	Proposed	Total	
1	Printing Inks (Semi Finished Or Finished)	--	16700.00	0.00	16700.00	Printing inks - printing on substrates.
	Or		Or		Or	Flush colors - intermediate in printing ink production
	Flush Colors	--	6000.00		6000.00	
2	Ink Toner-Paste	--	1250.00	0.00	1250.00	Intermediate in printing ink production
	Or		Or		Or	
	Ink Toners-Dry	--	452.50		452.50	
3	Synthetic Resins	--	5000.00	0.00	5000.00	Synthetic resins occur in a wide range

						of products, such as plastics, paints and varnishes.
4	Ink Vehicle	--	5000.00	0.00	5000.00	The ink vehicle is the fluid part of the ink that, as its name implies, transports the pigment onto the substrate.
5	R-Blue Pigment (Dry)	1325-87-7	125.00	0.00	125.00	Pigments have many applications ranging from paints & coatings, textile construction, and printing inks to plastics.
	Or R-Blue Pigment (Toner)	1325-87-7	Or 340.00		Or 340.00	
6	Retarder / Reducer	--	450.00	0.00	450.00	To slow down the rate at which the ink dries
7	Ammonia Solution	--	53.00	-53.00	0.00	Used either as a stabilizer, neutralizer or as a source of nitrogen to carry out several functions.
8	Gypsum	13397-24-5	600.00	0.00	600.00	Manufacture of wallboard, cement, plaster of Paris, soil conditioning, a hardening retarder in portland

						cement
9	Pilot Plant For R & D Of Various Specialilty Chemicals	--	0.40	0.00	0.40	Carry out R&D work
10	Methacrylates	18358-13-9	0.00	208.00	208.00	Used in electronic industry, dental application, paints, coatings, sheets, etc.
11	Polyamide Resin	63428-84-2	0.00	208.00	208.00	Polyamide are increasing in different end-use industries such as aerospace, automotive, oil & gas, wire enamel coatings, inks, electrical & electronics
12	Adhesives (Lamination Adhesive PU Solvent Base) And/Or Lamination Adhesive PU Solvent Less	--	0.00	1667.00	1667.00	Construction, woodworking, shoe production, and textile lamination
13	Polyurethane (Plasticizing Polyurethane Resin) And/Or Film Forming Polyuretance Resin	9009-54-5	0.00	417.00	417.00	Construction, woodworking, shoe production, and textile lamination
14	UV Monomers	3290-92-4	0.00	2250.00	2250.00	Used for formulation of UV coating
15	Esters	--	0.00	500.00	500.00	Used in formulation of coatings and

						inks
16	Poly Vinyl Butyral Resin	63148-65-2	0.00	42.00	42.00	Automotive, construction, and photovoltaic, coating
17	Ketonic Resin (Ketonic Resin Grade 1 / Ketonic Resin Grade 2 / Ketonic Resin Grade 3)	25052-06-2	0.00	208.00	208.00	Useful in the manufacture of pvc lacquers and for polishing lacquers and finishes for the surface treatment of wooden furniture and articles and liquid inks
18	Epoxy Acrylates	71281-65-7	0.00	3333.00	3333.00	Industrial, Building, and Construction, Aerospace, Automotive and coating and inks
19	Polyester Acrylate And/Or Polyester Resin Solution in Monomer	921213-39-0	0.00	833.00	833.00	Coatings and inks
	Total		29393.40	9613.00	39006.40	

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and one direction issued under E(P) Act/Air Act/Water Act i.e. received direction from TNPCB to pay environmental compensation.
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 Damanganga is flowing at a distance of 4.06 km in SW direction, river Kolak is flowing at a distance of 2.53 km in NE direction and river Darotha is flowing at 7.51 km in SW direction from the project site. The PP reported that no forest area is involved in the proposed project. Eight Schedule-I species i.e. Indian Gray Mongoose, Jungle Cat, Rusty Spotted Cat in Mammals Category, Indian River tern in Avifauna's category and Common Rat Snake, Chameleon, Indian Cobra and Monitor Lizard in Reptiles category species were

reported as in the study area as per Wild life (Protection) Act 1972, as amended. The Conservation plan for the same has been prepared and submitted for approval.

7. The PP reported that the Existing unit doesn't have earlier Environment Clearance as unit is operated before the EIA Notification 2006. The unit obtained a certified compliance report of an existing valid CC&A from GPCB, Gujarat, in the form of report outward no. 685724, dated 10/11/2022. As per the certified compliance report, there are no non-compliance or partly complied conditions. The unit compiles all applicable conditions of the valid CC&A.
8. The PP reported that the **Ambient air** quality monitoring was carried out at 08 locations during 01st March 2022 to 31st May 2022 and the baseline data indicates the ranges of concentrations as: PM₁₀ (54.9 – 87.1 µg/m³), PM_{2.5} (27.7 – 48.1 µg/m³), SO₂ (6.8 – 21.2 µg/m³) and NO_x (10.0 – 27.3 µg/m³). During the monitoring CO, HCl, Cl₂, NH₃, Mercaptan, CS₂ and HC 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 1.97 µg/m₃, 0.14 µg/m₃ and 0.44 µg/m₃ with respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise** quality monitoring was carried out at 08 locations during 01st March 2022 to 31st May 2022. Out of total 8 nos. of locations for noise monitoring 4 nos. of locations are monitored in the industry premises and 4 nos. of locations are monitored in surrounding villages within 3-4 km radius from the project site. Noise level in all the locations are within the standard norms prescribed by MoEF&CC.
9. **Ground water** quality sampling was carried out at 08 locations during 01st March 2022 to 31st May 2022 and based on comparison study of test results and summary report with drinking water norms, it is interpreted that the ground water sample collected from all the locations except Ambach village can be used as drinking purpose in absence of alternate source of drinking water as the parameters of the sample are meets with the permissible limit of IS 10500:2012. All the ground water samples can be used in the other domestic purpose and irrigation activity. Surface water quality sampling was carried out at 08 locations during 01st March 2022 to 31st May 2022 and based on test result data comparison study with CPCB standard for inland surface water classification, it is interpreted that surface water quality meet with the criteria D and E, it means these water sources can be used for propagation of wild life, fisheries and Irrigation, industrial utilization for cooling, etc. **The surface water** samples are collected from the Rivers and Lakes and presence of COD & BOD is found in both the samples, which indicated the presence of organic matter in the surface water body. The DO level of all surface water sampling locations are found >4.0 mg/L, DO level >4.0 mg/L is considered suitable for the survival of aquatic life and <4.0 mg/L is not considered suitable for aquatic life survival. Soil quality sampling was carried out at 08 locations during 01st March 2022 to 31st May 2022 and based on soil analysis data it is concluded that surface soils are neutral to alkaline in reaction, but normal from salinity and sodicity view point. The soils are low to high in total nitrogen and low in phosphorus and high in potassium. The levels of total Cu, B and Zn are within the limits, but Fe and Cr levels are high, which may impact availability of other micronutrients in soil.

10. The PP reported that the total water requirement after expansion is 4459.00 KLD of which fresh water requirement of 1803.00 KLD will be met from GIDC water supply department, Vapi. After expansion, industrial effluent will be segregated into High TDS/COD stream and Low TDS/COD stream. High TDS/COD effluent from process and washing (2089.00 KLD) will be routed to the ETP for primary, secondary, and tertiary treatment, whereas low TDS/COD effluent from boiler blow down (50.00 KLD), from cooling tower (100.00 KLD), from floor and other non-contaminated equipment (115.00 KLD) and from scrubber (75.00 KLD) will be routed to the RO Plant, where RO Permeate (127.00 KLD) will be reused in the cooling tower and RO Rejected (23.00 KLD) will be routed to the ETP to mix with the high COD/TDS stream. After Primary, Secondary and Tertiary treatment in ETP, the existing permitted quantity (591.70 KLD) will be sent to CETP, Vapi for further treatment and final disposal, and the excess quantity (1710.30 KLD) will be sent to the UF/RO Plant, where RO permeate (1368.00 KLD) will be reused in the process, RO reject (342.00 KLD) will be sent to MVR, MVR condensate (192.00 KLD) will be reused in the process, and MVR concentrate (150.00 KLD) will be sent to MEE/ATFD. MEE condensate (99.00 KLD) will be reused in the process, and salt (41.00 MT/D) will be sent to the TSDF site for disposal. Domestic wastewater (50.00 KLD) will be treated in STP and the treated wastewater will be utilized for gardening.
11. The PP reported that the Power requirement will be 12800 kVA and will be met from Dakshin Gujarat Vij Co. Ltd. (DGVCL). Existing unit has total 5 nos. D. G. Sets out of which 03 D. G. Sets have 1250 kVA capacities, 01 D. G. Set have 380 kVA capacity and 01 D. G. Set have 1500 kVA capacity. Unit has proposed 01 additional D. G. set which will have capacity of 1500 kVA. D. G. sets will be kept as standby and used during power failure. Stack (height 15.00 m) is provided as per CPCB norms to the existing D. G. Sets and 22 m stack height is proposed for the additional D. G. Set. Existing unit is having 1 number of natural gas fired steam boiler with capacity 10 TPH, 1 number of natural gas fired steam boiler with capacity 12 TPH, 1 number of coal/briquettes fired steam boiler with capacity 25 TPH, 4 numbers of natural gas / LDO fired thermopak with capacities 10 Lakhs Kcal/Hr each, 3 numbers of natural gas / LDO fired thermopak with capacities 15 Lakhs Kcal/Hr each and 3 numbers of natural gas / LDO fired thermopak with capacities 20 Lakhs Kcal/Hr each. ESP and lime dosing system with a stack height of 58 meter is provided with coal/briquettes fired steam boiler and stack height of 45 meter is provided with Natural gas fired steam boiler. 45 m stack height is provided with all natural gas / LDO fired thermopak. Additionally 1 number of natural gas / LDO fired steam boiler with capacity 10 TPH, 1 number of natural gas / LDO fired thermopak with capacity 10 Lakhs Kcal/Hr, 1 number of natural gas / LDO fired thermopak with capacity 20 Lakhs Kcal/Hr and 1 number of natural gas / LDO fired thermopak with capacity 60 Lakhs Kcal/Hr. Stack height of 45 meter will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm³ for the proposed steam boiler and thermopacks.
12. Details of process emissions generation and its management: At present, there is process gas emission like NH₃ from R-Blue plant, PM from spin flash dryers and spray dryer, PM and acid mist from gypsum plant and PM, SO_x, NO_x, HCl, Cl₂, NH₃, mercaptan, CS₂, CO and HC from incineration (capacity of 500 kgs/hr and 400 kgs/hr capacity 2 incinerator) system. Adequate capacity of ventury scrubber followed by alkali scrubber system with

chimney is provided at Incinerator while adequate capacity of dust collector system with chimney is provided at SFD. Two stage scrubber (water followed by acid) system with chimney is provided with the reactor to control ammonia gas emission. Two stage alkali scrubber system with chimney is provided at gypsum plant and cyclone separator followed by ventury scrubber system with chimney is provided with spray dryer. From the proposed product, there will be no generation of any process gas emission. However, to be on safer side we will install two stage alkali scrubber connected to reactors and storage tanks of raw materials.

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

Sr. No.	Name of Waste	Source of Generation	Category	Existing Quantity (MTPA)	Proposed Quantity (MTPA)	Total Quantity (MTPA)	Mode of Disposal
1.	ETP Waste	ETP	Sch:I/ 35.3	900.00	1600.00	2500.00	Collection, Storage, Transportation, Disposal by Sending to Approved and Authorized TSDF Sites by use of GPS Mounted Vehicles and XGN Manifest System
2.	Discarded Container / Bags	Raw Material	Sch:I/ 33.1	500.00	300.00	800.00	Collection, Storage, Transportation, Disposal by Selling to Authorized Recycler having all required permissions of SPCB by use of GPS Mounted Vehicles and XGN Manifest System
3.	Salt Generated	MEE/ATFD	Sch:I/ 37.3	10030.00	4760.00	14790.00	Collection, Storage,

	From MEE						Transportation, Disposal by Sending to Approved and Authorized TSDF Sites by use of GPS Mounted Vehicles and XGN Manifest System
4	Used Oil	Machinery & D G set	Sch:I/ 5.1	14.60	0.00	14.60	Collection, Storage, Transportation, Disposal by Selling to Registered Refiners / Reprocess having all required permissions of SPCB by use of GPS Mounted Vehicles and XGN Manifest System
5	Used Filter Cloth & Cotton Waste	Raw Material	Sch:I/ 21.1	31.30	100.70	132.00	Collection, Storage, and Disposal by Incineration at In House incineration Facility or by transport to Authorized CHWIF site by use of GPS Mounted Vehicles and XGN Manifest System
6	Incineration Ash	Incinerator	Sch:I/ 37.2	40.10	34.90	75.00	Collection, Storage, Transportation,

							Disposal by Sending to Approved and Authorized TSDF Sites by use of GPS Mounted Vehicles and XGN Manifest System
7	Spent Sulphuric Acid	Process	Sch:I/ 26.3	12000.00	0.00	12000.00	Collection, Storage & Disposal by Use in Gypsum Plant for Manufacturing of Gypsum
8	Process Residue & Waste	Process	Sch:I/ 26.1	1500.00	873.60	2373.60	Collection, Storage, Transportation, Disposal By In-house Incineration Facility or Co-processing at Cement Industry by use of GPS Mounted Vehicles and XGN Manifest System
9	Off-Specification Products	R & D	Sch:I/ 28.4	1.00	0.00	1.00	Collection, Storage and Disposal By Incineration within the Unit
10	Date Expired Products	R & D	Sch:I/ 28.5	1.00	0.00	1.00	Collection, Storage and Disposal By Incineration within the Unit
11	Ammonia Solution (18%)	Process	Sch:I/ B3	636.00	0.00	636.00	Collection, Storage and Reuse by Captive

							Consumption in Manufacturing of R- Blue Product
12	Acetic Acid (35%)	Process	Sch:I/ 26.4	13000.00	0.00	13000.00	Reception, Collection, Storage and Utilised in the Process
13	Used Charcoal / Activated Carbon Waste	Purification process	Sch:I/ 36.2	0.00	216.00	216.00	Collection, Storage, Transportation, Disposal by In-house Incineration Facility Or Co-processing at Cement Industry by use of GPS Mounted Vehicles and XGN Manifest System
14	Spent Solvent	Purification Process	Sch:I/ 26.4	0.00	26777.00	26777.00	Collection, Storage, Distill In-house and Recycle in the Process
Non Hazardous							
1	Fly Ash	Coal Fired Boiler	--	2340.00	0.00	2340.00	Collection, Storage, Transportation and Disposal by Selling to Brick Manufacturer
2	STP Sludge	STP	--	0.00	20.00	20.00	Used as Manure within Plant Premises

14. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 9064.50 Lakh (capital) and the Recurring cost (operation and maintenance) will be about 4405.236 Lakhs per annum. The industry proposes to allocate 198.00 Lakhs towards CER.

15. The PP reported that greenbelt was developed in an area of 99600.00 m² i.e. 25.74 % of the total area of the project and an additional greenbelt of 55153.00 m² area i.e. 14.25 % will be developed.
16. The PP proposed to set up an Environment Management Cell (EMC) consisting of EHS manager- manager – technical manager – engineer- ETP operator- assistant for the functioning of EMC.
17. The PP submitted the Onsite and Offsite disaster management plans in the EIA report.
18. The estimated project cost is Rs. 720.00 Crores including existing investment of Rs. 99.00 Crores. Total Employment will be 2077 persons with 1977 persons as direct & 100 persons as indirect, after expansion.
19. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The Committee deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The Committee suggested 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 inter-alia, deliberated on the Greenbelt development plan/plantation, fuel, justification for the alternate site option for the project, and the action plan for the CPA condition dated 31.10.2019 and advised the PP to submit the following:

- Undertaking regarding the tree covered area by reducing lawn area and increase the tree density at the periphery of the site boundary.
- Undertaking for the utilisation of agro briquette as a primary fuel.
- Detailed justification for the alternate site option for the project
- Revised action plan for the CPA conditions as per OM dated 31.10.2019 mentioning existing and proposed compliances.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

The EAC deliberated the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during 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 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, **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) Adequate stack height as per CPCB/SPCB guidelines shall be provided. Stack emission levels shall be stringent than the existing standards in terms of the identified critical pollutants.
 - (ii) CEMS shall be installed and connected to SPCB/CPCB Server.
 - (iii) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
 - (iv) The PP shall transport material through truck and tempo with adequate control measures. The PP shall also explore transportation of materials by rail/belt conveyer.
 - (v) Agro briquettes shall be used as a primary fuel for boilers and thermopack with coal as a secondary fuel i.e only on non-availability of briquettes. Natural gas and LDO, HSD shall be used for the existing utilities.
 - (vi) The best available technology shall be used.

- (vii) The PP shall develop Greenbelt over an area of at least, 55153 m² (Total 154753.00 m², 40%) of the total area by planting 20,500 number of trees and 41,000 shrubs shall be planted within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be ₹ 15 Lakhs and shall be kept in separate account and should be audited annually. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the 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 the previous year.
- (viii) The PP shall develop Greenbelt outside the plant premises such as avenue plantation, in vacant spaces, social forestry etc.
- (ix) The PP shall maintain sufficient road space available within the site and the width of the existing road shall be maintained.
- (x) Treated effluent (1786 KLD) shall be recycled within the premises by installing RO, UF/RO, MVR and MEE/ATFD units and 820 KLD of steam condensate shall be recycled for steam boiler makeup water.
- (xi) Zero Liquid Discharge shall be ensured for the proposed expansion.
- (xii) Continuous monitoring of effluent quality/quantity shall be done. The CEMS shall be connected to SPCB/CPCB server as well, to comply with the norms.
- (xiii) The Unit shall propose 500.00 m³ capacity tank to store an additional quantity of rain water in addition to the existing tank.
- (xiv) Domestic wastewater (50 KLD) shall be common STP and STP treated water shall be utilized shall be used for green belt development.
- (xv) Fly ash shall be sold to the brick/ cement manufacturers.
- (xvi) The Hazardous waste shall be managed & disposed according to the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous waste having good calorific value shall be sent for co-processing.
- (xvii) Monitoring of the compliance of EC conditions shall be submitted with third party audit every year
- (xviii) As proposed, an amount of ₹ 198.00 lakhs shall be allocated towards CER for Plantation of trees, development of nursery, Creation of community assets (infrastructure)) at nearby villages

- (xix) 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-manager – technical manager – engineer- ETP operator- 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.
- (xx) 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 [₹ 9064.50 Lakh (Capital cost) and ₹ 4405.236 Lakh (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.
- (xxi) Total water requirement after expansion is 4459.00 KLD of which fresh water requirement of 1803.00 KLD will be met from GIDC water supply department, Vapi. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawal only after obtaining prior permission from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xxii) 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.
- (xxiii) 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.
- (xxiv) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (xxv) The species-specific conservation plan of Schedule-I species shall be implemented within time limit and as per the approval of the Chief Wildlife Warden of the State Government.

- (xxvi) 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.
- (xxvii) 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. The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xxviii) 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.
- (xxix) 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.
- (xxx) 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.
- (xxxi) 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.
- (xxxii) 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.
- (xxxiii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be fire proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xxxiv) 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.

- (xxxv) 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.

Agenda No. 47.18

Expansion of Agrochemicals, Synthetic Organic Chemicals & their intermediates manufacturing plant located at Plot Nos. A-81 to A-84, B-22 to B-24, B-26 to B-29 & OS-4, Phase-I, MIDC Dombivli (East), Taluka Kalyan, District Thane, Maharashtra by M/s Gharda Chemicals Limited - Consideration of ToR

[Proposal No. IA/MH/IND3/416681/2023; File No. IA-J-11011/55/2023-IA-II(I)]

1. The proposal is for the ToR for preparation of EIA/EMP for Expansion of Agrochemicals, Synthetic Organic Chemicals & their intermediates manufacturing plant located at Plot Nos. A-81 to A-84, B-22 to B-24, B-26 to B-29 & OS-4, Phase-I, MIDC Dombivli (East), Taluka Kalyan, District Thane, Maharashtra by M/s Gharda Chemicals Limited. **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(b)-Pesticide Industry and pesticide specific intermediates (excluding formulations) and 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).
3. The PP applied for the ToR vide proposal number No. **IA/MH/IND3/416681/2023** dated 4.2.2023. The proposal is now placed in 47th EAC Meeting held on 15th -17th February, 2023, wherein the PP and an accredited Consultant, M/s Perfact Enviro Solution Pvt. Ltd [Accreditation number NABET/EIA/1922/SA0143, and valid up to 28.2.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

Name of the product	Product/In termediate/	Categ ory as per EIA Notifi cation	CA S No.	End Use	Exi stin g (TP A)	Capacity as per business as usual scenario	Capacity as per Peak Pollution load assessmen t

						Proposed (TP A)	Total (TP A)	Proposed (TP A)	Total (TP A)
1A) Bispyribac Sodium;	Product	5b	125 401-92-5	Herbicide	50	1400	1450	730	780
1B) Diuron;	Product	5b	330-54-1	Herbicide	560	890		220	
1B-i) N Methyl-N-(3,4 Dichloro) Phenyl Carbamate;	Intermediate	5b	191 8-18-9	Used as herbicide intermediates and also in other chemical industries					
1C) Imazethapyr;	Product	5b	813 35-77-5	Herbicide	69	1381		711	
1D) Isoproturon;	Product	5b	341 23-59-6	Herbicide	155	1295		625	
1E) Cyprosulfamide ;	Product	5b	221 667-31-8	Herbicide	0	1450		780	
1E-i) p-Toluene sulfonyl chloride;	Intermediate	5f	98-59-9	Used as herbicide intermediates and also in other chemical industries					
1E-ii) p-Toluene sulfonamide;	Intermediate	5f	70-55-3						
1E-iii) p-Carboxy-benzene sulfonamide;	Intermediate	5f	138-41-0						
1E-iv) Amid chloride;	Intermediate	5f	816 431-72-8						

1F) Aclonifen;	Product	5b	740 70- 46-5	Herbicide	0	1450		780	
1F-i) a. 2,3,4-Trichloro nitro benzene;	Intermediate	5f	177 00- 09-3	Used as herbicide intermediates and also in other chemical industries	0	1450		780	
1F-ii) b. 2,3-Dichloro-6-nitro aniline (DICONA);	Intermediate	5f	650 78- 77-5						
1G) Metolachlor;	Product	5b	512 18- 45-2	Herbicide	0	1450		780	
1H) Glufosinate Ammonium;	Product	5b	771 82- 82-2	Herbicide	0	1450		780	
1I) Pyroxsulam;	Product	5b	422 556- 08-9	Herbicide	0	1450		780	
1J) Sulfentrazone;	Product	5b	122 836- 35-5	Herbicide	0	1450		780	
1J-i) 5-Methyl-2-phenyl-2,4-dihydro-[1,2,4]-triazol-3-one (PT);	Intermediate	5f	228 63- 24-7	Used as herbicide intermediates and also in other chemical industries	0	1450		780	
1J-ii) 4-Difluoromethyl-5-methyl-2-phenyl-2,4-dihydro-[1,2,4]-triazol-3-one (DFMPT);	Intermediate	5b	133 840- 80-9						
1J-iii) 4-Difluoromethyl-5-methyl-2-(2,4-dichlorophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (DCPT);	Intermediate	5b	111 992- 16-6						

1J-iv)4-Difluoromethyl-5-methyl-2-(2,4-dichloro-5-nitrophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (DCNPT);	Intermediat e	5b	111 992- 17-7					
1J-v)4-Difluoromethyl-5-methyl-2-(5-amino-2,4-dichlorophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (ADCPT);	Intermediat e	5b	111 992- 18-8					
1K) Pinoxaden (Route 1);	Product	5b	243 973- 20-8	Herbici de	0	1450	780	
1K-i) 2,6-diethyl -4-methyl bromo-benzene;	Intermediat e	5f	314 084- 61-2	Used as herbicid e interme diates and also in other chemic al industri es				
1K-ii) 1-(2,6-diethyl -4-methyl phenyl)-malononitrile;	Intermediat e	5f	314 020- 53-6					
1K-iii)1-(2,6-Diethyl-4-methyl-phenyl)-malonamide;	Intermediat e	5b	314 020- 40-1					
1K-iv) N,N'-diacetylhydrazi ne (DAH);	Intermediat e	5f	314 8- 73-0					
1K-v) 2,2'-Dichlorodiethyl ether (DCDEE);	Intermediat e	5b	111- 44-4					
1K-vi) 4,5-Diacetyl-1,4,5-hexahydro-oxadiazepine (DAODAP);	Intermediat e	5b	835 98- 13-4					

1K-vii) Hexahydro- 1,4,5- oxadiazepine HCl (OXA.HCl);	Intermediat e	5b	405 281- 14-3					
1K-viii) Pyrazole- oxadiazepine;	Intermediat e	5b	314 020- 44-5					
1L)) Pinoxaden (Route 2);	Product	5b	243 973- 20-8	Herbici de	0	1450	780	
1L-i) heptylene- 4-malonitrile ;	Intermediat e	5f	NA	Used as herbicid e interme diates and also in other chemic al industri es				
1L-ii) 2-(2,6- diethyl -4- methyl phenyl) - malonitrile ;	Intermediat e	5f	314 020- 53-6					
1L-iii)1-(2,6- Diethyl-4- methyl-phenyl)- malonamide;	Intermediat e	5b	314 020- 40-1					
1L-iv) N,N'- diacetylhydrazi ne (DAH);	Intermediat e	5f	314 8- 73-0					
1L-v) 2,2'- Dichlorodiethyl ether (DCDEE);	Intermediat e	5b	111- 44-4					
1L-vi)4,5- Diacetyl-1,4,5- hexahydro- oxadiazepine (DAODAP);	Intermediat e	5b	835 98- 13-4					
1L-vii) Hexahydro- 1,4,5- oxadiazepine HCl (OXA.HCl);	Intermediat e	5b	405 281- 14-3					
1L-viii) Pyrazole- oxadiazepine;	Intermediat e	5b	314 020- 44-5					

1M) Bromoxynil Octanoate;	Product	5b	1689-99-2	Herbicide	0	1450		780	
1M-i) p-Hydroxy benzonitrile;	Intermediate	5f	767-00-0	Used as herbicide intermediates and also in other chemical industries					
1M-ii) 2,6-Dibromo-4-cyano-phenol;	Intermediate	5f	1689-84-5						
1M-iii) Octanoyl chloride;	Intermediate	5f	111-64-8						
1N) Bromoxynil Heptanoate;	Product	5b	56634-95-8	Herbicide	0	1450		780	
1N-i) p-Hydroxy benzonitrile;	Intermediate	5f	767-00-0	Used as herbicide intermediates and also in other chemical industries					
1N-ii) 2,6-Dibromo-4-cyano-phenol;	Intermediate	5f	1689-84-5						
1N-iii) Heptanoyl chloride ;	Intermediate	5f	111-64-8						
1O) Triclopyr Acid Butoyl Ester;	Product	5b	64700-56-7	Herbicide	20	1430		760	
1O-i) 3,5,6 Trichloro Pyridinol Sodium Salt (NaTCPOL);	Intermediate	5b	37439-34-2	Used as herbicide intermediates and also in other chemical industries					
1O-ii) Triclopyr Acid Methyl Ester;	Intermediate	5b	60825-26-5						
1O-iii) 3,5,6-Trichloro-2-pyridinyloxy acetic acid (Triclopyr	Intermediate	5b	55335-06-3						

Acid);								
1P) Sulcotrione;	Product	5b	991 05- 77-8	Herbicide	0	1450	780	
1P-i) 4-Methyl sulfonyl toluene (MST);	Intermediate	5f	318 5- 99-7	Used as herbicide intermediates and also in other chemical industries				
1P-ii) 2-Chloro-4-Methyl sulfonyl toluene (CMST);	Intermediate	5f	167 1- 18-7					
1P-iii) 2-Chloro-4-Methyl Sulfonyl Benzoic Acid (CMSBA);	Intermediate	5f	532 50- 83-2					
1P-iv) 2 Chloro-4-Methyl sulfonyl benzoic acid chloride (CMSBAc);	Intermediate	5f	106 904- 10-3					
1P-v) 1,3-Cyclohexanedione (1,3 CHD);	Intermediate	5f	504- 02-9					
1P-vi) Sulcotrione Ester;	Intermediate	5f	114 911- 83-0					
1Q) Clodinafop Propargyl;	Product	5b	105 512- 06-9	Herbicide	24	1426	756	
1Q-i) FPDPA Preparation;	Intermediate	5b	114 420- 56-3	Used as herbicide intermediates and also in other chemical industries				
1Q-ii) FPDPA Preparation;	Intermediate	5b	101 053- 90-1					
1R) Trichlopyr acid;	Product	5b				20	1430	760
1R-i) 3,5,6 Trichloro Pyridinol Sodium Salt (NaTCPOL);	Intermediate	5b						

1R-ii) Triclopyr Acid Methyl Ester;	Intermediate	5b						
1S) OR Mesotrione (MCB Route);	Product	5b	104-206-82-8	Herbicide	39	1411	741	
1S-i) 4-chloro benzene sulfonyl chloride (MCB sulfonyl chloride);	Intermediate	5f	98-60-2	Used as herbicide intermediates and also in other chemical industries		1411		
1S-ii) 1-Chloro-4-(methyl sulfonyl) benzene;	Intermediate	5f	98-57-7					
1S-iii) 1-Chloro-2-nitro4-(methyl sulfonyl) benzene (Chloro NMSB);	Intermediate	5f	97-07-4					
1S-iv) Methyl-2-Cyano-2-(4-(methyl sulfonyl)-2-Nitrophenyl) acetate Cyano NMSB);	Intermediate	5b	193-910-4-66-1					
1S-v) 2-Nitro-4-methyl sulfonyl benzoic acid (NMSBA);	Intermediate	5b	110-964-79-9					
1S-vi) 2-Nitro-4-methyl sulfonyl benzoyl chloride (NMSBAc);	Intermediate	5b	110-964-80-2					
1S-vii) 1,3-Cyclohexane dione -sodium salt (1,3-CHD - Na salt);	Intermediate	5f	504-02-9					

1S-viii)3-(4'-methylsulfonyl-2'-nitro-benzoyloxy)-2-cyclohexene-1-one (Mesotrione enol ester);	Intermediate	5b	226 944- 49-6						
1T) Mesotrione (TSC Route);	Product	5b	104 206- 82-8	Herbicide	30	1420			
1T-i) 4-Methyl sulfonyl toluene (MST);	Intermediate	5f	318 5- 99-7	Used as herbicide intermediates and also in other chemical industries					
1T-ii) 2-Nitro-4-methyl sulfonyl toluene (NMST);	Intermediate	5f	167 1- 49-4						
1T-iii) 2-Nitro-4-methyl sulfonyl benzoic acid (NMSBA);	Intermediate	5f	110 964- 79-9						
1T-iv) 2-nitro -4-(methyl sulfony) benzoyl chloride (NMSBAc);	Intermediate	5f	110 964- 80-2						
1T-v) 1,3-Cyclohexane dione -sodium salt(1,3-CHD - Na salt);	Intermediate	5f	504- 02-9						
1T-vi)3-(4'-methylsulfonyl-2'-nitro-benzoyloxy)-2-cyclohexene-1-one (Mesotrione enol ester);	Intermediate	5b	226 944- 49-6						
1 (BP)-i) Hydrochloric acid 30%;	By-product	Non-EC	764 7- 01-0	Chemical	156. 7	2748 .5	290 5	1406 .1	156 3
1 (BP)-ii) Ammonium nitrate 40%;	By-product	Non-EC	648 4- 52-2	Chemical	59.3	1187 .5	124 7	611. 4	671

1 (BP)-iii) Ortho nitro cumine;	By-product	5f	652 6- 72-3	Chemical	63.1	527. 1	590	254. 4	317
1 (BP)-iv) Dimethyl amine;	By-product	5f	124- 40-3	Chemical	27.1	226. 6	254	109. 4	137
1(BP)- v)Diethyl-5- ethyl-pyridine- 2,3-dicarboxylic acid (Diacid);	By-product	5f	105 151- 39-1	Chemical	16.3	325. 9	342	167. 8	184
1 (BP)-vi) Methanol;	By-product	5f	67- 56-1	Chemical	21.3	226. 7	248	112. 1	133
1 (BP)-vii) Ethanol;	By-product	5f	64- 17-5	Chemical	0.0	646. 7	647	347. 9	348
1 (BP)-viii) Sodium bisulfite;	By-product	Non- EC	763 1- 90-5	Chemical	32.7	1940 .8	197 3	1028 .9	106 2
1 (BP)-ix) Ammonium hydroxide;	By-product	Non- EC	133 6- 21-6	Chemical	34.9	442. 8	478	222. 1	257
1 (BP)-x) Sulfur dioxide gas (compressed);	By-product	Non- EC	744 6 - 09 - 5	Chemical	16.4	895. 0	911	473. 9	490
1 (BP)-xi) Potassium Chloride;	By-product	Non- EC	744 7- 40-7	Chemical	0.0	641. 4	641	345. 1	345
1 (BP)-xii) Manganese dioxide;	By-product	Non- EC	131 3- 13-9	Chemical	0.0	749. 7	750	403. 3	403
1 (BP)-xiii) 2,6- DE-4-Me- Phenol;	By-product	5f	350 50- 88-5	Chemical	0.0	330. 3	330	177. 7	178
1 (BP)-xiv) Bromine;	By-product	Non- EC	772 6- 95-6	Chemical	0.0	929. 5	930	500. 0	500
1 (BP)-xv) Ammonium Chloride;	By-product	Non- EC	121 25- 02-9	Chemical	0.0	466. 4	466	250. 9	251
2A) Tembotrione;	Product	5b	335 104- 84-2	Herbicide	0	750	750	200	200
2A-i) Methane thiol;	Intermediate	5f	74- 93-1	Used as herbicide					

2A-ii) 3-Chloro-2-methyl phenyl methyl sulphide (CMTT);	Intermediat e	5f	829 61- 52-2	e interme diates and also in other chemic al industri es					
2A-iii) 2-Chloro-3-methyl-4-methylthio acetophenone (Acyl CMTT);	Intermediat e	5f	181 997- 71-7						
2A-iv) 2-chloro-3-methyl -4-methyl sulfonyl acetophenone;	Intermediat e	5b	181 997- 72-8						
2A-v) 2-chloro-3-methyl -4-methyl sulfonyl benzoic acid (CMMSBA);	Intermediat e	5b	106 904- 09-0						
2A-vi) 2-chloro-3-methyl -4-methyl sulfonyl benzoic acid methyl ester (CMMSBA Ester);	Intermediat e	5b	120 100- 04-1						
2A-vii)Methyl-(2-chloro-3-bromomethyl-4-methyl sulfonyl benzoate (CBrMMSBA Ester);	Intermediat e	5b	120 100- 44-9						
2A-viii)2-chloro-4-(methylsulfonyl)-3-[(2,2,2-trifluoroethoxy) methyl] benzoic acid (CTFEMMSBA);	Intermediat e	5b	120 100- 77-8						
2A-ix)2-chloro-4-(methylsulfonyl	Intermediat e	5b	111 872						

)-3-[(2,2,2-trifluoroethoxy)methyl] benzoyl chloride (CTFEMMSBA c);			9-23-9					
2A-x) 1,3-Cyclohexane dione -sodium salt (1,3-CHD - Na salt);	Intermediat e	5f	504-02-9					
2A-xi) 3-oxo-cyclo hexyl-2-chloro -4-(methyl sulfonyl)-3-((2,2,2-trifluoro ethoxy)methyl) benzoate(Temb otrione enol ester);	Intermediat e	5f	263 401-21-4					
2B) Sulfosulfuron;	Product	5b	141 776-32-1	Herbici de	4	746		196
2B-i) IPG Preparation;	Intermediat e	5b	126 202-06-0	Used as herbicide intermediates and also in other chemical industries				
2B-ii) CIP Preparation;	Intermediat e	5b	5/1/399 9					
2B-iii) CIPSA Preparation;	Intermediat e	5b	112 566-17-3					
2B-iv) EIPS Preparation;	Intermediat e	5b	112 583-03-6					
2B-v) EIPSO2 Preparation;	Intermediat e	5b	141 776-47-8					
2B-vi) Carbamate Preparation;	Intermediat e	5b	302-11-4					
2C) Penoxsulam;	Product	5b	219 714-96-2	Herbici de	0	750		200

2C-i) Methyl 3-hydroxy-2-methoxyacrylate sodium salt ;	Intermediate	5f	(104151-54-4)	Used as herbicide intermediates and also in other chemical industries					
2C-ii) 2,5-dimethoxy-4-hydroxy pyrimidine ;	Intermediate	5f	(370103-23-4)						
2C-iii) 2,5-dimethoxy-4-chloropyrimidine;	Intermediate	5f	(370125-25-6)						
2C-iv)4-Hydrazino-2,5-dimethoxypyrimidine	Intermediate	5f	(381666-22-4)						
2C-v)3-amino-5,8-dimethoxy[1,2,4]triazolo[4,3-c]pyrimidine;	Intermediate	5f	(381666-24-6)						
2C-vi)5,8-dimethoxy[1,2,4]triazolo[4,3-c]pyrimidin-2-amine Int-A;	Intermediate	5b	219715-62-5						
2C-vii) 4-Nitro-2-Chloro Benzotrifluoride;	Intermediate	5f	777-37-7						
2C-viii) 4-Nitro-2-(trifluoromethyl) Aniline;	Intermediate	5f	121-01-7						
2C-ix) 2-Bromo-4-Nitro-6-(trifluoromethyl) Aniline;	Intermediate	5f	400-66-8						
2C-x)N-(2-Bromo-4-Nitro-6-(trifluoromethyl) Phenyl acetamide;	Intermediate	5f	85977-20-4						

2C-xi)N-(2-Fluoro-4-Nitro-6-(trifluoromethyl) Phenyl acetamide;	Intermediate	5f	NA						
2C-xii)N-(4-amino-2-Fluoro-6-(trifluoromethyl) Phenyl acetamide;	Intermediate	5f	882 88- 08-8						
2C-xiii) N-(2-Fluoro-6-(trifluoromethyl) Phenyl acetamide;	Intermediate	5f	NA						
2C-xiv) 2-Fluoro-6-(trifluoromethyl) aniline;	Intermediate	5f	144 851- 61-6						
2C-xv) 2-Fluoro-6-(trifluoromethyl) Benzene sulfonic acid;	Intermediate	5f	NA						
2C-xvi) 2-Fluoro-6-(trifluoromethyl) benzene sulfonyl chloride Int-B;	Intermediate	5b	405 264- 04-2						
2 (BP)-i) Aluminium chloride 25%;	By-product	Non-EC	744 6- 70-0	Chemical	0	2901	2901	773	773
2 (BP)-ii) Chloroform;	By-product	5f	67- 66-3	Chemical	0	520	520	139	139
2 (BP)-iii) Sulfur dioxide gas (compressed);	By-product	Non-EC	744 6 - 09 - 5	Chemical	0	162	162	43	43
2 (BP)-iv) Sodium bromide;	By-product	Non-EC	764 7- 15-6	Chemical	0	314	314	84	84

2 (BP)-v) Hydrochloric acid;	By-product	Non-EC	764 7- 01-0	Chemical	8.2	1524	153 2	400	408							
2 (BP)-vi) Acetic acid;	By-product	5f	64- 19-7	Chemical	0	170	170	45	45							
2 (BP)-vii) Potassium bromide;	By-product	Non-EC	3/2/ 775 8	Chemical	0	347	347	93	93							
2 (BP)-viii) Methanol;	By-product	5f	67- 56-1	Chemical	1.5	409	410	108	109							
3A) Thiophanate Methyl;	Product	5b	235 64- 05-8	Fungicide	150	450	600	350	500							
3B) Propiconazole;	Product	5b	602 07- 90-1	Fungicide	24	576		476								
3B-i)2-(2,4-dichlorophenyl)-2-methyl-4-n-propyl-1,3-dioxolane (Ketal);	Intermediate	5b	NA	Used as Fungicide intermediates and also in other chemical industries	0	600		500								
3B-ii)2-(2,4-dichlorophenyl)-2-bromomethyl-4-n-propyl-1,3-dioxolane.;	Intermediate	5b	NA													
3C) Metalaxyl;	Product	5b	578 37- 19-1	Fungicide												
3C-i) Methoxy Acetyl Chloride;	Intermediate	5f	388 70- 89-2	Used as Fungicide intermediates and also in other chemical industries												
3C-ii) Methyl (2,6-Dimethyl Phenylamino) Propanoate (Alaninate);	Intermediate	5b	528 88- 49-0													
3 (BP)-i) Sodium sulfite solution;	By-product	Non-EC	775 7- 83-7	Chemical	0	787. 2	787 .2	656	656							

3 (BP)-ii) Calcium Chloride Brine (35%);	By-product	Non- EC	100 43- 52-4	Chemic al	0	473. 4	473 .4	394. 5	394 .5
4A) Azoxystrobin;	Product	5b	131 860- 33-8	Fungici de	69	431	500	31	100
4A-i) 3- Methoxymethyl ene benzofuran- 2(3H)-one (MMB);	Intermediat e	5b	408 00- 90-6	Used as Fungici de interme diates					
4A-ii) Methyl 2-(2- hydroxyphenyl) -3,3-dimethoxy propanoate (MMB inter);	Intermediat e	5b	175 971- 61-6	and also in other chemic al industri es					
4A-iii) 2-((6- chloropyrimidi n-4-yl)oxy) benzotrile (CPOB);	Intermediat e	5b	913 846- 53-4						
4A-iv) Dimethoxy Azoxystrobin;	Intermediat e	5b	NA						
4B) Pyraclostrobin;	Product	5b	175 013- 18-0	Fungici de	69	431		31	
4B-i) Sodium salt of 1-(4- chlorophenyl)- 3- hydroxypyrazol e;	Intermediat e	5b	762 05- 19-1	Used as Fungici de interme diates and also in other chemic al industri es					
4B-ii)1-(4- chlorophenyl)- 3-[2- (nitrophenyl)- methoxy]-1H- pyrazole (PNBE);	Intermediat e	5b	220 368- 29-6						
4B-iii) Methyl N-hydroxy-N- (2-[[1- (4- chlorophenyl)-	Intermediat e	5b	NA						

1H-pyrazol-3-yl] oxymethyl} phenyl) Carbamate (PHABEC);								
4C) Trifloxystrobin;	Product	5b	141 517- 21-7	Fungicide	0	500		100
4C-i) 3-Bromobenzotrifluoride;	Intermediate	5f	401- 78-5	Used as Fungicide intermediates and also in other chemical industries				
4C-ii) 3-Trifluoromethyl acetophenone;	Intermediate	5f	349- 76-8					
4C-iii) 3-Trifluoromethyl acetophenone oxime;	Intermediate	5f	997 05- 50-7					
4C-iv) Methyl - 2-oxo-2-(o-tolyl) acetate;	Intermediate	5f	349 66- 54-6					
4C-v) Methyl-2-(2'-bromoethylphenyl)-2-oxoacetate;	Intermediate	5b	126 534- 57-4					
4C-vi) Methyl (E)-2-oxo-2-(2-(((1-(3(trifluoromethyl) phenyl) ethylidene) amino) oxy) methyl) phenyl) acetate;	Intermediate	5b	141 493- 05-2					
4C-vii) Methyl(Z)-2-(hydroxyimino)-2-(2-(((E)-1-(3(trifluoromethyl) phenyl) ethylidene) amino)oxy) methyl) phenyl	Intermediate	5b	NA					

acetate (Oxime Product);									
4 (BP)-i) Acetic acid;	By-product	5f	64-19-7	Chemical	43	267	309.3	19	61.9
4 (BP)-ii) Methyl acetate;	By-product	5f	79-20-9	Chemical	53	329	381.7	24	76.3
4 (BP)-iii) Sodium acetate;	By-product	5f	127-09-3	Chemical	17	109	126.2	8	25.2
4 (BP)-iv) Potassium chloride;	By-product	Non-EC	7447-40-7	Chemical	58	359	416.8	26	83.4
4 (BP)-v) Sodium bicarbonate 30%;	By-product	Non-EC	144-55-8	Chemical	77	478	554.7	34	110.9
4 (BP)-vi) Calcium chloride 30%;	By-product	Non-EC	10043-52-4	Chemical	0	1733	1732.6	347	346.5
4 (BP)-vii) Calcium fluoride;	By-product	Non-EC	7782-41-4	Chemical	0	65	65.3	13	13.1
4 (BP)-viii) Hydrogen bromide 30%;	By-product	Non-EC	10035-10-6	Chemical	0	1362	1361.6	272	272.3
4 (BP)-ix) Benzotrifluoride (BTF);	By-product	5f	98-08-8	Chemical	0	52	52.4	10	10.5
4 (BP)-x) Hydrochloric acid 30%;	By-product	Non-EC	7647-01-0	Chemical	0	930	930.1	186	186.0
4 (BP)-xi) Magnesium sulfate;	By-product	Non-EC	7487-88-9	Chemical	0	549	549.0	110	109.8
4 (BP)-xii) Methanol;	By-product	5f	67-56-1	Chemical	12	68	80.0	4	16.0
4 (BP)-xiii) Succinimide;	By-product	5f	123-56-8	Chemical	0	166	166.2	33	33.2
4 (BP)-xiv) Bromine;	By-product	Non-EC	7726-95-6	Chemical	0	224	223.6	45	44.7
5A) Diflubenzuron;	Product	5b	35367-38-5	Insecticide	8	1442	1450	492	500

5A-i) 2,6-Difluorobenzamide (2,6-DFBA);	Intermediate	5f	180 63-03-1	Used as Insecticide intermediates and also in other chemical industries				
5B) Cartap Hydrochloride;	Product	5b	152 63-52-2	Insecticide	50	1400	450	
5B-i) N,N-Dimethyl allyl amine;	Intermediate	5f	215 5-94-4	Used as Insecticide intermediates and also in other chemical industries				
5B-ii) 2,3-Dichloro-N,N-Dimethyl propyl amine hydrochloride (DCDMPA.HCl);	Intermediate	5f	507 86-84-1	Used as Insecticide intermediates and also in other chemical industries				
5B-iii) 2-N,N-dimethylanino-1-Sodium-3-thiosulphate propane (Monosultap);	Intermediate	5b	295 47-00-0	Used as Insecticide intermediates and also in other chemical industries				
5C) Acetamiprid;	Product	5b	135 410-20-7	Insecticide	9	1441	491	
5C-i) Dry HCl gas;	Intermediate	Non-EC	764 7-01-0	Used as Insecticide intermediates and also in other chemical industries				
5C-ii) Methyl-N-Cyanoacetamide (NCMA);	Intermediate	5f	565 2-84-6	Used as Insecticide intermediates and also in other chemical industries				
5C-iii) 2-Chloro-5(Methylamino methyl)Pyridine (CMPMA);	Intermediate	5f	120 739-62-0	Used as Insecticide intermediates and also in other chemical industries				

5D) Pyriproxyfen;	Product	5b	957 37- 68-1	Insectic ide	8	1442		492	
5E) Diafenthiuron;	Product	5b	800 60- 09-9	Insectic ide	150	1300		350	
5E-i) 1-(2,6- Disisopropyl-4- Phenoxyphenyl) (Thiourea);	Intermediat e	5f	135 252- 10-7	Used as Insectic ide interme diates					
5E-ii) 4- phenoxy-2 ,6- diisopropylanili ne isothiocyanate;	Intermediat e	5f	800 58- 93-1	and also in other chemic al industri es					
5E-iii) 2,6- Difluorobenza mide (2,6- DFBA);	Intermediat e	5f	180 63- 03-1						
5F) Imidacloprid;	Product	5b	138 261- 41-3	Insectic ide	0	1450		500	
5F-i) Nitro Guanidine;	Intermediat e	5f	556- 88-7	Used as Insectic ide interme diates and also in other chemic al industri es					
5F-ii) N-(Nitro- imono) imidazolidine (NIIMDA);	Intermediat e	5f	546 5- 96-3						
5F-iii) 2- Chloro-5- Methyl Pyridine (CMP);	Intermediat e	5f	183 68- 64-4						
5Fd)) 2-Chloro- 5-chloromethyl pyridine (CCMP);	Intermediat e	5f	702 58- 18-3						
5G) Clothianidin;	Product	5b	210 880- 92-5	Insectic ide	0	1450		500	
5G-i) 2,3 Dichloropropen e (2,3-DCP);	Intermediat e	5f	78- 88-6	Used as Insectic ide interme diates and					
5G-ii) 2- Chloroallyl isothiocyanate;	Intermediat e	5f	142 14- 31-4						

5G-iii) 2-Chloro-5-chloromethylthiazole (CCMT);	Intermediate	5f	105 827- 91-6	also in other chemical industries				
5G-iv) Nitroguanidine;	Intermediate	5f	556- 88-7					
5G-v) N-methyl-N'-nitroguanidine;	Intermediate	5f	424 5- 76-5					
5G-vi)1,5-dimethyl-2-nitroiminohexahydro-1,3,5-triazine (DMNITCH);	Intermediate	5f	136 516- 16-0					
5G-vii)1-(2-chloro-5-thiazolylmethyl)-3,5-dimethyl-2-nitroimino-hexahydro-1,3,5-triazine (DMNITCH + CCMT);	Intermediate	5f	NA					
5H) Ethiprole R1 or ;	Product	5b	121 587- 01-9	Insecticide	0	1450	500	
5H-i) Diethyl disulfide;	Intermediate	5f	110- 81-6	Used as Insecticide intermediates and also in other chemical industries				
5H-ii) Ethyl thiopyrazole;	Intermediate	5f	120 068- 56-6					
5I) Ethiprole R2 Or;	Product	5b	121 587- 01-9	Insecticide	0	1450	500	
5I-i) Diethyl disulfide;	Intermediate	5f	110- 81-6	Used as Insecticide				

5I-ii) Ethyl thiopyrazole;	Intermediate	5f	120 068- 56-6	intermediates and also in other chemical industries					
5J) Ethiprole R3;	Product	5b	121 587- 01-9	Insecticide	0	1450		500	
5J-i) APR Disulphide;	Intermediate	5f	130 755- 46-3	Used as Insecticide					
5J-ii) Ethyl thiopyrazole;	Intermediate	5f	120 068- 56-6	intermediates and also in other chemical industries					
5 (BP)-i) Methyl chloride;	By-product	5f	74- 87-3	Chemical	22.5	630. 0	652 .5	202. 5	225 .0
5 (BP)-ii) Bisultap;	By-product	5f	522 07- 48-4	Chemical	42.6	1193 .7	123 6.3	383. 7	426 .3
5 (BP)-iii) Methanol;	By-product	5f	67- 56-1	Chemical	0.8	126. 7	127 .5	43.2	44. 0
5 (BP)-iv) Hydrogen bromide;	By-product	Non-EC	100 35- 10-6	Chemical	43.4	376. 2	419 .6	101. 3	144 .7
5 (BP)-v) Potassium bromide;	By-product	Non-EC	2/3/ 775 8	Chemical	59.3	514. 1	573 .4	138. 4	197 .7
5 (BP)-vi) Ammonium Sulphate ;	By-product	Non-EC	778 3- 20-2	Chemical	0.0	997. 6	997 .6	344. 0	344 .0
5 (BP)-vii) Dimethyl amine solution 40 %;	By-product	5f	124- 40-3	Chemical	0.0	1033 .5	103 3.5	356. 4	356 .4

5 (BP)-viii) Benzyl Chloride;	By-product	5f	100- 44-7	Chemic al	0.0	929. 6	929 .6	320. 6	320 .6
5 (BP)-ix) Phosphoric Acid (H3PO4) ;	By-product	Non- EC	766 4- 38-2	Chemic al	0.0	898. 8	898 .8	309. 9	309 .9
5 (BP)-x) Acetic Acid;	By-product	5f	64- 19-7	Chemic al	0.0	550. 9	550 .9	190. 0	190 .0
5 (BP)-xi) Hydrochloric acid 30%;	By-product	Non- EC	764 7- 01-0	Chemic al	0.0	4060 .9	406 0.9	1400 .3	140 0.3
5 (BP)-xii) Sulfur dioxide gas (compressed);	By-product	Non- EC	744 6 - 09 - 5	Chemic al	0.0	833. 1	833 .1	287. 3	287 .3
5 (BP)-xiii) Ammonium hydroxide 20%;	By-product	Non- EC	133 6- 21-6	Chemic al	0.0	666. 3	666 .3	229. 7	229 .7
5 (BP)-xiv) Potassium chloride 25%;	By-product	Non- EC	744 7- 40-7	Chemic al	0.0	9705 .3	970 5.3	3346 .7	334 6.7
5 (BP)-xv) N,N- bis (dichloromethyl) methyl amine;	By-product	5f	663 48- 28-5	Chemic al	0.0	742. 4	742 .4	256. 0	256 .0
5 (BP)-xvi) Bromine;	By-product	Non- EC	772 6- 95-6	Chemic al	0.0	323. 4	323 .4	111. 5	111 .5
5 (BP)-xvii) Ethiprole sulfone;	By-product	5f	120 068- 68-0	Chemic al	0.0	39.2	39. 2	13.5	13. 5
6A) Chlorantranilip role;	Product	5b	500 008- 45-7	Insectic ide	0	1000	100 0	240	240
6A-i) 2,3- Dichloropyridin e (DCP);	Intermediat e	5f	240 2- 77-9	Used as Insectic ide interme diates and also in other chemic al					
6A-ii) 3-Chloro- 2- hydrazinopyrid ine (CHP);	Intermediat e	5f	228 41- 92-5						
6A-iii) Ethyl 2- (3- chloropyridin - 2-yl) -5-oxo-	Intermediat e	5b	500 011- 88-1						

pyrazolidine-3-carboxylate (DHPy);				industries					
6A-iv) Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-4,5-dihydro-1H-pyrazole-5-carboxylate (DHBrPy);	Intermediat e	5b	500 011- 91-6						
6A-v) Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylate (BrPy);	Intermediat e	5b	500 011- 92-7						
6A-vi)3-Bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylic acid (Intermediate-B);	Intermediat e	5b	500 011- 86-9						
6A-vii)2-Hydroxyimino-N-o-tolyl-acetamide (Isonitroso);	Intermediat e	5b	113 2- 03-2						
6A-viii) 7-Methylisatin /7-Methylindole -2,3-dione;	Intermediat e	5f	112 7- 59-9						
6A-ix)5-Chloro-7-methylisatin/5-Chloro-7-methylindole-2,3-dione;	Intermediat e	5b	143 89- 06-1						
6A-x) 6-Chloro-8-methylisatoic anhydride/6-chloro-8-methyl-1 H-benzo[d][1,3]ox	Intermediat e	5f	120 374- 68-7						

azine-2,4-dione;								
6B) Fipronil;	Product	5b	120 068- 37-3	Insectic ide	144	856	96	
6B-i) Trichloro methyl sulfenyl chloride;	Intermediat e	5f	594- 42-3	Used as Fungici de interme diates and also in other chemic al industri es				
6B-ii) Thiophosgene;	Intermediat e	5f	463- 71-8					
6B-iii) Ortho- Chloro benzyl trifluoromethyl sulfide (OCBTMS);	Intermediat e	5f	251 926- 48-4					
6B-iv) Trifluoromethy l sulfinyl chloride (CF3SOCl);	Intermediat e	5f	206 21- 29-8					
6B-v) Aminopyrazole;	Intermediat e	5f	120 068- 79-3					
6C) Cyantraniliprol e;	Product	5b	736 994- 63-1	Insectic ide	0	1000	240	
6C-i) Diisopropyl maleate;	Intermediat e	5f	108- 31-6	Used as Insectic ide interme diates and also in other chemic al industri es				
6C-ii) 3-Chloro- 2- hydrazinopyrid ine (CHPy);	Intermediat e	5f	228 41- 92-5					
6C-iii) Isopropyl 2-(3- chloropyridin - 2-yl)-5-oxo- pyrazolidine-3- carboxylate (DHPE);	Intermediat e	5f	105 507 1- 81-2					
6C-iv) Preparation of Isopropyl 3- bromo -1-(3- chloro-2-	Intermediat e	5f	105 507 2- 00-8					

pyridinyl)-4,5-dihydro-1H-pyrazole-5-carboxylate (DHBrPy);									
6C-v) Isopropyl 3-bromo-1-(3-chloro -2-pyridinyl)-1H-pyrazole-5-carboxylate (BPE);	Intermediate	5f	104 507 7- 27-7						
6C-vi) Preparation of 3-bromo-1-(3-chloro -2-pyridinyl)-1H-pyrazole-5-carboxylic acid (Inter-B);	Intermediate	5f	500 011- 86-9						
6C-vii) 8-Methylisatoic anhydride;	Intermediate	5f	661 76- 17-8						
6C-viii) 2-Amino-N,3-dimethylbenzamide (ADMBz);	Intermediate	5f	870 997- 57-2						
6C-ix) 2-Amino-5-bromo-N,3-dimethylbenzamide (ABDMBz);	Intermediate	5f	890 707- 30-9						
6C-x) 2-Amino-5-cyano-N,3-dimethylbenzamide (ACnDMBz) Int-A;	Intermediate	5f	890 707- 29-6						
6D) Tetrachlorantraniliprole;	Product	5b	110 438 4- 14-6	Insecticide	0	1000		240	
6 (BP)-i) Sodium carbonate;	By-product	Non-EC	497- 19-8	Chemical	0	5042 .9	504 2.9	1210 .3	121 0.3

6 (BP)-ii) Potassium bisulfate;	By-product	Non-EC	777 3- 03-7	Chemical	0	782. 6	782 .6	187. 8	187 .8
6 (BP)-iii) Ethanol ;	By-product	5f	64- 17-5	Chemical	0	489. 4	489 .4	117. 5	117 .5
6 (BP)-iv) Ammonium Sulphate;	By-product	Non-EC	778 3- 20-2	Chemical	0	777. 4	777 .4	186. 6	186 .6
6 (BP)-v) Bromine;	By-product	Non-EC	772 6- 95-6	Chemical	0	848. 2	848 .2	203. 6	203 .6
6 (BP)-vi) Hydrochloric acid;	By-product	Non-EC	764 7- 01-0	Chemical	0	3085 .0	308 5.0	740. 4	740 .4
6 (BP)-vii) Sulfur dioxide gas (compressed);	By-product	Non-EC	744 6 - 09 - 5	Chemical	0	1623 .0	162 3.0	389. 5	389 .5
6 (BP)-viii) Iso propyl alcohol;	By-product	5f	67- 63-0	Chemical	0	154. 0	154 .0	37.0	37. 0
7) Alphamethrin;	Product	5b	673 75- 30- 80	Pyrethroid	500	0	500	0	500
7A-i) Tetrachloro Butyronitrile (TBN);	Intermediate	5f	417 97- 95-9	Used as Pyrethroid intermediates and also in other chemical industries					
7B-ii) Tetrachloro Butyric Acid (TBA);	Intermediate	5f	438 7- 77-3						
7C-iii) Tetrachloro Butyric Acid Chloride (TBAC);	Intermediate	5f	681 21- 36-8						
7D-iv) 2 Chlorobutanone (2-CB);	Intermediate	5f	686 97- 08-5						
7E-v) Cypermethric Acid (CMA);	Intermediate	5b	590 42- 49-8						

7F-vi) Cypermethric Acid Chloride (CMAC);	Intermediate	5b	523 14- 67-7						
7G-vii) Cypermethrin;	Intermediate	5b	523 15- 07-8						
7 (BP)-i) Ammonium chloride 11%;	By-product	Non- EC	121 25- 02-9	Chemical	180 8	0	180 8	0	180 8
7 (BP)-ii) Sodium bisulfite 30%;	By-product	Non- EC	763 1- 90-5	Chemical	890	0	890	0	890
7 (BP)-iii) Sulfur dioxide gas (compressed);	By-product	Non- EC	744 6 - 09 - 5	Chemical	165	0	165	0	165
7 (BP)-iv) Hydrochloric acid 30%;	By-product	Non- EC	764 7- 01-0	Chemical	718	0	718	0	718
8A) Deltamethrin;	Product	5b	529 18- 63-5	Pyrethroid	50	4950	500 0	3450	350 0
8B) Lambda Cyhalothrin;	Product	5b	914 65- 08-6	Pyrethroid	24	4976		3476	
8B-i) 3-(2 Chloro 3 Trifluoro Propenyl -2, 2- Dimethyl Cyclopropane Carbonyl Chloride (CHAC);	Intermediate	5b	393 870- 46-7	Used as Insectic ide interme diates and also in other chemic al industri es					
8C) Cypermethrin;	Product	5b	523 15- 07-8	Pyrethroid	245 0	2550		1050	
8C-i) Tetrachloro Butyronitrile (TBN);	Intermediate	5f	417 97- 95-9	Used as Insectic ide interme					

8C-ii) Tetrachloro Butyric Acid (TBA);	Intermediat e	5f	438 7- 77-3	diates and also in other chemic al industri es					
8C-iii) Tetrachloro Butyric Acid Chloride (TBAC);	Intermediat e	5f	681 21- 36-8						
8C-iv) 2 Chlorobutanon e (2-CB);	Intermediat e	5f	686 97- 08-5						
8C-v) Cypermethric Acid (CMA);	Intermediat e	5b	590 42- 49-8						
8C-vi) Cypermethric Acid Chloride (CMAC);	Intermediat e	5b	523 14- 67-7						
8D) Permethrin;	Product	5b	526 45- 53-1	Pyrethr oid	50	4950			3450
8D-i) Tetrachloro Butyronitrile (TBN);	Intermediat e	5f	417 97- 95-9	Used as Insectic ide interme diates and also in other chemic al industri es					
8D-ii) Tetrachloro Butyric Acid (TBA);	Intermediat e	5f	438 7- 77-3						
8D-iii) Tetrachloro Butyric Acid Chloride (TBAC);	Intermediat e	5f	681 21- 36-8						
8D-iv) 2 Chlorobutanon e (2-CB);	Intermediat e	5f	686 97- 08-5						
8D-v) Cypermethric Acid (CMA);	Intermediat e	5b	590 42- 49-8						
8D-vi) Cypermethric Acid Chloride (CMAC);	Intermediat e	5b	523 14- 67-7						

8E) Cypermethric Acid Chloride (CMAC);	Product	5b	Cis: 685-39-75-3 Trans: 619-14-47-4	Pesticide Intermediate and also in other chemical industries	2000	3000		1500	
8E-i) Tetra Chloro Butyro Nitrile;	Intermediate	5f	417-97-95-9						
8E-ii) Tetra chloro Butyric Acid;	Intermediate	5f	438-7-77-3						
8E-iii) Tetra chloro Butyric Acid;	Intermediate	5f	681-21-36-8						
8E-iv) 2-Chloro Butanone;	Intermediate	5f	686-97-08-5						
8E-v) Cypermethric Acid;	Intermediate	5b	590-42-49-8						
8F) Cypermethric Acid (CMA);	Product	5b	Cis: 590-42-49-8 Trans: 590-42-50-1	Pesticide Intermediate and also in other chemical industries	100	4900		3400	
8F-i) Tetra Chloro Butyro Nitrile;	Intermediate	5b	417-97-95-9						
8F-ii) Tetra chloro Butyric Acid;	Intermediate	5b	438-7-77-3						
8F-iii) Tetra chloro Butyric Acid Chloride;	Intermediate	5b	681-21-36-8						
8F-iv) 2-Chloro Butanone;	Intermediate	5b	686-97-08-5						

8 (BP)-i) Ammonium chloride 11%;	By-product	Non-EC	121 25- 02-9	Chemical	147 00.0	6299 .0	209 99. 0	-0.7	146 99. 3
8 (BP)-ii) Sodium bisulfite 30%;	By-product	Non-EC	763 1- 90-5	Chemical	714 8.4	3180 .2	103 28. 6	81.6	723 0.0
8 (BP)-iii) Sulfur dioxide gas (compressed);	By-product	Non-EC	744 6 - 09 - 5	Chemical	132 8.5	585. 4	191 4.0	11.2	133 9.8
8 (BP)-iv) Hydrochloric acid 30%;	By-product	Non-EC	764 7- 01-0	Chemical	578 6.2	2551 .1	833 7.3	49.9	583 6.1
9) Mepiquat Chloride;	Product	5b	243 07- 26-4	Growth Regulator	15	135	150	135. 0	150
10A) Rafoxanide;	Product	5f	226 62- 39-1	Veterinary drug	12	88	100	88	100
10A-i) ICL;	Intermediate	5b	NA	Intermediate and also in other chemical industries					
10A-ii) DISA;	Intermediate	5b	NA						
10A-iii) NE;	Intermediate	5b	NA						
10A-iv) AE;	Intermediate	5b	NA						
10B) Oxyflozanide;	Product	5f	227 7- 92-1	Veterinary drug (Flukicide)	60	40		40	
10B-i) Oxy (C);	Intermediate	5f	NA	Intermediate and also in other chemical industries					
10B-ii) Oxy (S/D);	Intermediate	5f	NA						

10 (BP)-i) Phosphorous acid;	By-product	Non-EC	135 98- 36-2	Chemical	0.5	3.9	4.4	3.9	4.4
10 (BP)-ii) Potassium Chloride;	By-product	Non-EC	744 7- 40-7	Chemical	1.4	10.5	11.9	10.5	11.9
11) Phase Transfer Catalyst (PTC);	Product	5f	633 93- 96-4	Chemical	37	213	250	213	250
12A) Poly Ether Imide (PEI) & its monomer & Polymer;	Product	5f	611 28- 46-9	Polymer & intermediate	14	186	200	486	500
12B) Poly Ether Ketone Ketone - PEKK & its monomer & Polymer;	Product	5f	749 70- 25-5	Polymer & intermediate	14	186		486	
12C) Poly Ether Ketone - PEK & its monomer & Polymer;	Product	5f	273 80- 27-4	Polymer & intermediate	14	186		486	
12C-i) PCBC;	Intermediate	5f	104 83 6						
12C-ii) PCHB;	Intermediate	5f	420 19- 78-3						
12D) Chloro Hydroxy Benzo Phenone (CHBP);	Product	5f	420 19- 78-3	Polymer & intermediate	14	186		486	
12E) DPSO₂;	Product	5f	NA	Polymer & intermediate	25	175		475	
12F) ABPBI;	Product	5f	259 28- 81-8	Polymer & intermediate	22	178	478		
12 (BP)-i) Aluminium chloride 28%;	By-product	Non-EC	744 6- 70-0	Chemical	135.4	952.0	1087	2583.1	2719
12 (BP)-ii) Hydrochloric acid 30%;	By-product	Non-EC	764 7- 01-0	Chemical	108.0	819.6	928	2211.1	2319

12 (BP)-iii) Sodium bisulfite;	By-product	Non-EC	763 1- 90-5	Chemical	124.1	1004	1128	2696.9	2821
13) Pigment Red;	Product	5f	846 32- 65-5 / 000 098 0- 26-7	Pigment	25	0	25	0	25
13-i) DTBS;	Intermediate	5f	926- 26-1	Pigment intermediate					
13 (BP)-i) Tert Butanol ;	By-product	5f	75- 65-0	Chemical	10.4	0.0	10.4	0.0	10.4
13 (BP)-ii) Sodium acetate;	By-product	5f	127- 09-3	Chemical	24.1	0.0	24.1	0.0	24.1
14) Vanillin;	Product	5f	121- 33-5	Chemical intermediate for Food /Perfume /Pharmaceutical	130	-130	0	-30	100
14 (BP)-i) Sodium bromide;	By-product	Non-EC	764 7- 15-6	Chemical	225.4	-225	0	-52	173.4
15A) 3,5,6 Trichloro Pyridinol Sodium Salt (NaTCPOL);	Product	5f	374 39- 34-2	Synthetic Organic Chemical intermediates	0	500	500		100
15B) R,R-Sodium salt of Cypermethric Acid (Na-CMA);	Product	5b	128 241- 41-8						
15C) RR Cypermethric Acid	Product	5b	556 67- 40-8						

(RRCMA);									
15D) 2,3 Dichloro Aniline (DCA);	Product	5f	608-27-5						
15E) 2,5-Dichlorophenol (DCP);	Product	5f	[583-78-8]						
15F) Aminopyrazole (APR);	Product	5f	120068-79-3						
15G) 5-Chloro Indanone (5-CI);	Product	5f	[42348-86-7]						
15H) 5-Chloro Indanone Ester (5-CIE);	Product	5f	[65738-56-9]						
15 (BP)-i) Ammonium chloride (11%);	By-product	Non-EC	12125-02-9	Chemical	0	1887.60	1887.60	377.52	377.52
15 (BP)-ii) Sodium bisulfite;	By-product	Non-EC	7631-90-5	Chemical	0	546.97	546.97	109.39	109.39
15 (BP)-iii) SSCMAC;	By-product	5b	128241-41-8	Chemical	0	594.75	594.75	118.95	118.95
15 (BP)-iv) Hydrochloric acid 30%;	By-product	Non-EC	767-01-0	Chemical	0	3713.60	3713.60	742.72	742.72
15 (BP)-v) Para dichloro benzene;	By-product	5f	[106-46-7]	Chemical	0	1649.10	1649.10	329.82	329.82
15 (BP)-vi) Meta dichloro benzene;	By-product	5f	541-73-1	Chemical	0	19.79	19.79	3.96	3.96
15 (BP)-vii) Trichloro benzene;	By-product	5f	[120-82-1] / [87-61-6] / [108-70-3]	Chemical	0	21.44	21.44	4.29	4.29

15 (BP)-viii) 2,5 Dichloro nitro benzene;	By-product	5f	[89-61-2]	Chemical	0	81.80	81.80	16.36	16.36
15 (BP)-ix) Ortho dichlorobenzene;	By-product	5f	[95-50-1]	Chemical	0	164.34	164.34	32.87	32.87
15 (BP)-x) Sulfur dioxide gas (compressed);	By-product	Non-EC	7446-09-5	Chemical	0	442.50	442.50	88.50	88.50
15 (BP)-xi) Aluminium chloride 20%;	By-product	Non-EC	7446-70-0	Chemical	0	9272.50	9272.50	1854.50	1854.50
15 (BP)-xii) Methanol;	By-product	5f	67-56-1	Chemical	0	147.00	147.00	29.40	29.40
16) Products from R & D Activities;	Product	5b & 5f	--	Agrochemicals, basic chemical intermediates	0	500	500	500	500
17) Hand Sanitizer;	Product	Non-EC	NA	Chemical	100	0	100	0	100
18) Sodium Hypochlorite 5% solution (as Disinfectant);	Product	Non-EC	10022-70-5	Chemical	500	0	500	0	500
19) Pesticide Liquid & Solid Formulations - Formulations from own technical products or by procuring technical products from outside;	Product	Non-EC	-	-	3000	5,000	8,000	5,000	8,000

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.

6. The PP reported that the existing land area is 42,408 sq.m. (10.48 Acres), and the same will be used for the proposed expansion.
7. The PP reported that there is a wildlife sanctuary namely Matheran Wildlife Sanctuary with ESZ at 9.80 Km in SE direction within 10 km distance from the project site. Ulhas River is flowing at a distance of 1.40 km in NNW direction. There is a Reserve Forest near Brahmanpada at a distance of 7.24 Km in NNW direction. There is ASI monument-The Temple of Ambaranath at a distance of 7.00 Km in direction SE.
8. The PP reported that the total water requirement for existing is 1175 KLD, out of which fresh water of 1018 KLD will be sourced from MIDC Supply, 65 KLD of recycled water will be sourced from boiler condensate, 35 KLD from rainwater, 38 KLD of treated water will be sourced from in house treatment RO and MEE and 19 KLD of recovered water is reused from process. Total water requirement after expansion will be 1428 KLD, out of which fresh water of 1088 KLD will be sourced from MIDC Supply, 119 KLD of recycled water will be sourced from boiler condensate, 35 KLD from rainwater, 77 KLD of treated water will be sourced from in house treatment RO and MEE and STP and 19 KLD of recovered water is reused from process. In the Existing unit, effluent generation of 674 KLD including domestic waste water generation of 95 KLD. The wastewater generated is being treated in ETP (620 KLD), RO (400 KLD) and MEE (120 KLD). Segregation of the process waste water into high concentration (directly treated into MEE) and low concentration (treated in ETP) is being done. Treated water of 38 KLD from RO & MEE is being reused and 590 KLD of treated water obtained from ETP is sent to the CETP of the area. After proposed expansion, effluent generation of 832 KLD including domestic waste water generation of 95 KLD. The wastewater generated will be treated in ETP (620 KLD), RO (400 KLD) and MEE (350 KLD). Segregation of the process waste water into high concentration (directly treated into MEE) and low concentration (treated in ETP) will be done. Treated water of 77 KLD from RO & MEE will be reused and 590 KLD of treated water obtained from ETP will be sent to the CETP of the area.
9. The connected load of 7259 kW out of which 5000 KW sourced from wind power and the rest 2259 KW is sourced from Maharashtra State Electricity Transmission Company Limited (MSETCL). Existing unit has DG sets of 2 X 1000 KVA and 1 X 1250 KVA (standby) during power failure and no additional DG set will be required after proposed expansion. Maximum stack height of 11.8 m and 12.8 m respectively as per CPCB norms has been provided.
10. The PP reported that the project, being in notified industrial area i.e., MIDC Notified Industrial Estate vide **notification no. LAQ-B.5626 dated 17.5.1962**, 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. Out of the total green belt of 20,283.2 sqm (47.8%), 11812.6 sqm (27.8%) of green belt has already been developed, however the density of trees will be increased and remaining 8470.6 sqm (20.0%) is yet to be developed. Trees will be planted in the ratio of 2500 trees

per hectare i.e total of 5071 no. of trees are to be planted out of which 1406 no. of trees are already planted and 3665 no. of trees more to be planted.

12. The estimated project cost after expansion is Rs. 448.26 Crores including existing investment of Rs. 388.26 Cr. and Proposed- Rs. 60 Cr. The PP reported that total Employment is 1081 persons (as direct & indirect) and the same will be followed after proposed expansion. Industry proposes to allocate Rs 45 lakhs. i.e 0.75% of proposed cost towards CER.

13. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the Greenbelt development plan, justification of selection of project site, land availability for greenbelt area and the action plan proposed by the PP and advised the PP to submit the following

- Undertaking for minimum 40% green area development in compliance with OM dated 31.10.2019. Revised greenbelt development plan.
- Justification of selection of project site.
- Supporting Document for Land availability for Green Area Development.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

14. 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) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
- (iv) 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.
- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analysed the samples.

- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.
- (vii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (viii) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (ix) 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.
- (x) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xi) 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.
- (xii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiii) The PP should develop Greenbelt over an area of 40.15% of the total land area (20.40%-onsite green area+ 19.75 – outside the plot within MIDC). 4257 Number of saplings (onsite & within MIDC green area) selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution.
- (xiv) 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.
- (xv) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xvi) 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. 47.19

Proposed synthetic organic chemical of production capacity 1900 TPM located at plot no. 188/2, 189, 190 & 191 GIDC, Nandesari by M/s. Sodium Metal Pvt. Ltd. (Unit -II) - Consideration of ToR

[Proposal No. IA/GJ/IND3/288757/2022; File No. IA-J-11011/319/2022-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for Proposed synthetic organic chemical of production capacity 1900 TPM located at plot no. 188/2, 189, 190 & 191 GIDC, Nandesari by M/s. Sodium Metal Pvt. Ltd. (Unit -II) **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 'B' of item 5(f), Synthetic organic chemicals industry. However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/414477/2023** dated 4.2. 2023. The proposal is now placed in 47th EAC Meeting held on 15th-17th February, 2023, wherein the PP and an accredited Consultant, Jyoti Om Chemical Research Centre Pvt. Ltd. [Accreditation number NABET/EIA/2023/IA0071 Valid up to 18.12.2023], made a detailed presentation on the salient features of the project and informed the following:
4. The PP reported the product details are as follows:

S. N	Name of product	CAS No.	Quantity MT/month	End Use
1	2-Acetyl 6-Methoxynaphthalene and its isomers	3900-45-6	555	anti-inflammatory drug
2	2-Methoxynaphthalene	93-04-9	50	intermediate for the synthesis of non-steroidal anti-inflammatory drugs (NSAIDs)
3	Alfa Amyl Cinnamic Aldehyde and fractions	78605-96-6	110	synthetic fragrance & suspected allergen
4	Undecylenic Acid and its Salts / Fatty Acid Oil	112-38-9	165	used topically as a zinc salt

				in various creams against fungal infections, eczemas, ringworm, and other cutaneous conditions
5	Rose Oxide and Rose Diol	16409-43-1	65	an ingredient in cosmetics, personal care products, fragrances, cleaners, detergents, home care, perfumes etc.
6	4-Methyl Catechol	452-86-84	20	a hapten, a carcinogenic agent, an antioxidant, a human metabolite and a plant metabolite
7	4-Methyl Catechol Diacetic Acid Dimethyl Ester	52589-39-6	20	a reactant in the preparation of Benzodioxepinones
8	Methyl, 2,4-Dihydroxy-3,6-Dimethyl Benzoate (MDDB) and isomers	4707-47-05	65	fragrance ingredient in fine fragrances
9	Alpha Campholenic Aldehyde and fractions	4501-55-0	290	Campholenic Aldehyde is appears colorless liquid with fresh and woody odor
10	Sandal Butanol / Sandal Butenol / Sandala Butanol	72089-08-8/ 28219-60-5/	50/ 25/ 8.2	Sandalore, a powerful, diffusive and extremely

		72089-08-8		tenacious product, imparts a rich, warm, natural sandalwood character to perfumes
11	Sandal Pentanol/ Sandal Pentenol/ Sandala Pentanol	65113-99-7/ 67801-20-1/ 65113-99-7	50/ 25/ 8.3	an ingredient in hair growth / nourishing formulas
12	Sandanol/ Sandala	28219-61-6 28219-61-7	50/ 5.5	as an antiseptic and astringent, and for the treatment of headache
	Total		1562	
	List of Inorganic Products			
1	Poly Aluminium Chloride	1327-41-9	1900	most efficient water treatment chemicals

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the existing land area is 8990 m². No additional land will be used for proposed expansion.
7. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z Notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. Mahi River is flowing at a distance of 1.35 km in W direction.
8. The PP reported that the total water requirement is 215 m³/day of which fresh water requirement of 207 m³/day will be met from GIDC Supply and the balance 8 m³/day will be met from the treated domestic effluent. Effluent of 120 m³/day will be treated through Primary ETP and then sent to CETP of M/s. NIA, Nandesari for the final disposal.
9. The power requirement after expansion will be 1250 KVA and will be met from Madhya Gujarat Vij Company Limited (MGVCL). Unit will have 1 Nos.of DG sets (500 KVA)

capacity, as standby during power failure. Stack (height 11 m) will be provided as per CPCB norms to the proposed DG sets.

10. The PP reported that the project, being located in notified industrial area i.e., GIDC Nandesari notified on 06.05.1975, 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. Industry will develop greenbelt in an area of 33 % i.e.2975 m² out of 8990 m², total area of the project within premises and additional 1000 m² of the project outside the premises and within the industrial estate.
12. The estimated project cost is Rs. 60 Crores The PP reported that the Total Employment will be 40 with 15 persons as direct & 25 persons as indirect. Industry proposes to allocate Rs. 2.4 crores towards of CER.

13. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the various environmental aspects such as emissions, Greenbelt development plan, fuel, STP for domestic effluent, the action plan proposed by the PP and advised the PP to submit the following

- Undertaking for fuel consumption, agro-briquette shall be used as primary fuel.
- Undertaking to explore the greenbelt upto maximum extent.
- Undertaking to provide STP to treat the domestic effluent.

The PP submitted the above information/documents and the EAC found it to be satisfactory.

14. 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) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
 - (iv) 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.

- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analysed the samples.
- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules need to be submitted.
- (vii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (viii) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (ix) 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.
- (x) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xi) 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.
- (xii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiii) The PP should develop Greenbelt over an area of 40% of the total land area. In addition to that PP shall develop 10% green belt area outside the premises which site is 1.34 km far from the unit within GIDC. The plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution.
- (xiv) Agro- briquette shall be used as primary fuel for the proposed project, coal shall be used during the emergency i.e monsoon.
- (xv) STP shall be installed to treat the domestic effluent, and treated water shall be reused for gardening purpose.

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

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.

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) **Forest, wildlife and CRZ related issues (if applicable):**

- 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 carried out 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(a) CATEGORY - CHEMICAL FERTILIZERS

1. Details on requirement of energy and water along with its source and authorization from the concerned department.
2. Energy conservation in ammonia synthesis for urea production and comparison with best technology.
3. Details of ammonia storage and risk assessment thereof.
4. Measures for control of urea dust emissions from prilling tower.
5. Measures for reduction of fresh water requirement.
6. Details of proposed source-specific pollution control schemes and equipment's to meet the national standards for fertilizer.
7. Details of fluorine recovery system in case of phosphoric acid plants and SSP to recover fluorine as hydro fluoro silicic acid (H_2SiF_6) and its uses.
8. Management plan for solid/hazardous waste including storage, utilization and disposal of bye products viz., chalk, spent catalyst, hydro fluoro silicic acid and phosphor gypsum, sulphur muck, etc.
9. Details on existing ambient air quality for PM10, PM2.5, Urea dust*, NH_3 *, SO_2 *, NO_x *, HF*, F*, Hydrocarbon (Methane and Non-Methane) etc., and expected, stack and fugitive emissions and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (*as applicable)
10. Details on water quality parameters in and around study area such as pH, Total Kjeldhal Nitrogen, Free Ammonical Nitrogen, free ammonia, Cyanide, Vanadium, Arsenic, Suspended Solids, Oil and Grease, *Cr as Cr+6, *Total Chromium, Fluoride, etc.
11. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.

12. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
13. 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.

C. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR 5(b) CATEGORY - PESTICIDES INDUSTRY AND PESTICIDE SPECIFIC INTERMEDIATES (EXCLUDING FORMULATIONS)

- a. Commitment that no banned pesticides will be manufactured.
- b. Details on solvents to be used, measures for solvent recovery and for emissions control.
- c. Details of process emissions from the proposed unit and its arrangement to control.
- d. Ambient air quality data should include VOC, other process-specific pollutants* like NH₃*, chlorine*, HCl*, HBr*, H₂S*, HF*, CS₂etc.,(*-as applicable)
- e. Work zone monitoring arrangements for hazardous chemicals.
- f. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.
- g. Action plan for odour control to be submitted.
- h. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
- i. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
- j. Material Safety Data Sheet for all the Chemicals are being used/will be used
- k. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
- l. Details of incinerator if to be installed.
- m. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
- n. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.
- o. 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.

D. 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 NH₃*,chlorine*,HCl*,HBr*,H₂S*,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/dryers 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.

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

S. No.	Name of Members	Designation
1.	Prof. (Dr.) A.B. Pandit Vice Chancellor, Institute of Chemical Technology, Mumbai, Sir JC Bose Fellow, Government of India Email: ab.pandit@ictmumbai.edu.in	Chairman
2.	Dr. Ashok Kumar Saxena, IFS Bungalow No. 38, Sector-8A, Gandhinagar, Gujarat – 382008 E-mail: ashoksaxena1159@gmail.com	Member
3.	Prof. (Dr.) S. N. Upadhyay Research Professor (Hon.), Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi E-mail: snupadhyay.che@iitbhu.ac.in	Member
4.	Shri Santosh Gondhalkar 'Shree' Apartment, Flat 401, Plot No. 22, Tukaram Society, Santnagar, Pune- 411009 E-mail: santoshgo@gmail.com	Member
5.	Dr. Suresh Panwar House No.4, Gayateri Green Society, NH 58 Bypass, Kankerkhara, Meerut, Uttar Pradesh Email: spcpri@gmail.com	Member
6.	Shri Tukaram M Karne "SHREYAS ORNATE" F-1, 95-Tulasibagwale Colony, Sahakarnagar-2, PUNE: 411 009, Maharashtra E-mail: tmkarne@gmail.com	Member
7.	Prof. (Dr.) Suneet Dwivedi, Professor in K Banerjee Centre of Atmospheric and Ocean Studies, University of Allahabad, Allahabad - 02 Uttar Pradesh E-mail: dwivedisuneet@rediffmail.com /suneetdwivedi@gmail.com	Member
8.	Shri Dinabandhu Gouda Additional Director, DH IPC-I, Room No. 309A, Third Floor,	Member

	Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 E-mail: dinabandhu.cpcb@nic.in	
9.	Dr. M. Ramesh Scientist 'E' Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Room No. V-203, Vayu Wing, Jor Bagh Road, New Delhi-110003 Tel. 011-20819338 E-mail: ramesh.motipalli@nic.in	Member Secretary

MOM approved by



(Prof. Aniruddha B. Pandit)
Chairman
