

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

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**Dated: 29.08.2022**

**MINUTES OF THE 36<sup>th</sup> EXPERT APPRAISAL COMMITTEE (INDUSTRY-3  
SECTOR) MEETING HELD ON AUGUST 16-17, 2022**

**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, EAC**

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

**(ii) Details of Agenda items by the Member Secretary**

The Member Secretary appraised the Committee about the details of Agenda items to be discussed during this EAC meeting.

**(iii) Confirmation of Minutes of the 35<sup>th</sup> Meeting of the EAC (Industry-3 Sector) held during July 28-29, 2022 through VC**

The EAC noted that the final minutes were issued after incorporating the comments offered by the members and approved by the Chairman on 11.08.2022. The EAC confirmed the minutes of meeting with the following modifications:

**Agenda No. 35.1**

**Expansion of Propylene Glycol Production Capacity by 50000 MTPA located at S.F. No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu Village, Manali Industrial Area, Manali, Chennai, Ambattur Taluk, Thiruvallur District, Tamil Nadu by Manali Petrochemicals Limited - Plant-II - Reconsideration of Environmental Clearance**

**[Proposal No. IA/TN/IND3/264526/2022; File No. J-11011/156/2008-IA-II(I)]**

1. The proposal was considered in 35<sup>th</sup> EAC Meeting held on 28-29<sup>th</sup> July, 2022, wherein the Committee recommended the proposal. The Minutes of Meeting (MoM) were published on 11.8.2022. The PP vide their e-mail dated 15.8.2022 requested the following corrections in the MoM.

<b>Point No.</b>	<b>Minutes of Meeting Points</b>	<b>Requesting for Correction</b>
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11	Details of Process Emissions Generation and its Management:	<p>The Flue gas flow rate for Boiler &amp; DG Set have been swapped in mail dated 07.05.2022 submitted for 31<sup>st</sup> EAC Meeting &amp; Corrected Annexure was submitted to the Ministry on 22.7.2022.</p> <table border="1" data-bbox="1106 524 1453 712"> <thead> <tr> <th>Point source emission</th> <th>Flue gas flow rate (Nm<sup>3</sup>/hr)</th> </tr> </thead> <tbody> <tr> <td>Boiler</td> <td>24250</td> </tr> <tr> <td>DG set</td> <td>15984</td> </tr> </tbody> </table>	Point source emission	Flue gas flow rate (Nm <sup>3</sup> /hr)	Boiler	24250	DG set	15984													
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S. No.	Point source emission	Fuel	Flue gas flow rate (Nm <sup>3</sup> /h)	Emission (g/s)	APC measures																
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19	<p>The PP also submitted that "I, M. Karthikeyan, Occupier and Whole Time Director (Operation) of M/s. Manali Petrochemicals Limited. give the declaration/undertaking, owing the contents ( information and data ) of EIA report preparation, has been undertaken in compliance to the Terms of Reference for the Proposed "Expansion of Propylene Glycol Plant by 50000 MTPA" at S.F.No. 1/6, 1/8, B to 29, 30/3 &amp; 31, Sathangadu village, Manali Industrial Area, Manali, Chcnai - 600 068, Ambattur Taluk, Thiruvallur District, Tamil Nadu State by M/s. Manali Petrochemicals Limited-Plant II and the information and content provided in the report are factually correct</p>	<p>he PP also submitted that "I, M. Karthikeyan, Occupier and Whole Time Director (Operation) of M/s. Manali Petrochemicals Limited. give the declaration/undertaking, owing the contents (information and data) of EIA report preparation, has been undertaken in compliance to the Terms of Reference for the</p>																			

		Proposed "Expansion of Propylene Glycol Plant by 50000 MTPA" at S.F.No. 1/6, 1/8, 23 to 29, 30/3 & 31, Sathangadu village, Manali Industrial Area, Manali, Chennai - 600 068, Ambattur Taluk, Thiruvallur District, Tamil Nadu State by M/s. Manali Petrochemicals Limited-Plant II and the information and content provided in the report are factually correct"
24	(ix) The PP shall ensure the use of cleaner fuel PNG with a stack height of 30 m for controlling the particulate emissions within the statutory limit of 115 mg/Nm <sup>3</sup> boiler and submit a report within a year to IRO, MoEF&CC before pt July of every year for the for the proposed 1.5 TPH activities carried out during the previous year.	The PP shall ensure the use of cleaner fuel R-LNG with a stack height of 30 mfor controlling the particulate emissions within the statutory limit of 115 mg/Nm <sup>3</sup> for the proposed 30 TPH boiler and submit a report within a year to IRO, MoEF&CC before 1 July of every year for the activities carried out during the previous year.
24	(xxi) As already committed by the PP, Zero Liquid Discharge shall be ensured, Effluent of 2556KLD will be treated through Effluent Treatment Plant and disposed to sea after meeting the prescribed standards	As already committed by the PP, Zero Liquid Discharge shall be ensured based on the outcome of study conducted by NEERI. Effluent of 2556KLD will be treated through Effluent Treatment Plant and disposed to sea after meeting the prescribed standards

## 2. Deliberations by the EAC:

The EAC deliberated the issues and noted that these are mostly typographical errors and the corrections requested are factual in nature and recommended for corrections in the minutes, as above.

## Agenda No. 35.8

**Proposed establishment of Bulk Drugs, Intermediates & Chemical Manufacturing Unit of production capacity 5957 MTPA located at Plot No. 81-E, Jigani I Phase Industrial Area, Jigani village, Jigani Hobli, Anekal Taluka, Karnataka by M/s Roshel Omkar Laboratories Private Limited - Consideration of ToR**

**[Proposal No. IA/KA/IND3/278534/2022; File No. IA-J-11011/227/2022-IA-II(I)]**

1. The proposal was considered in 35<sup>th</sup> EAC Meeting held on 28-29<sup>th</sup> July, 2022, wherein the Committee recommended the proposal. The MoM were published on 11.8.2022. The PP vide their e-mail dated 12.8.2022 requested the following corrections in the MoM.

<b>Point No.</b>	<b>Minutes of Meeting Points</b>	<b>Requesting Correction for</b>	<b>Justification/ Remarks</b>
Title and 1	Proposed establishment of Bulk Drugs, Intermediates & Chemical Manufacturing Unit of production capacity <b>5957 MTPA</b> located at Plot No. 81-E, Jigani I Phase Industrial Area, Jigani village, Jigani Hobli, Anekal Taluka, Karnataka by M/s Roshel Omkar Laboratories Private Limited	The total production Proposed establishment of Bulk Drugs, Intermediates & Chemical Manufacturing Unit of production capacity <b>1007 MTPA</b> located at Plot No. 81-E, Jigani I Phase Industrial Area, Jigani village, Jigani Hobli, Anekal Taluka, Karnataka by M/s Roshel Omkar Laboratories Private Limited	Some typographical error occurred while filling out Annexure-I.

## **2. Deliberations by the EAC:**

The EAC deliberated the issue and noted that the correction requested is factual in nature and recommended for correction in the minutes, as above.

After confirmation of minutes of the 35<sup>th</sup> EAC meeting, discussion on each of the agenda items was taken up ad-seriatim. Details of the proposals considered during the 36<sup>th</sup> EAC meeting **conducted through Video Conferencing (VC)**, deliberations made and the recommendations of the Committee are detailed in the respective agenda items as under:

## Agenda No. 36.1

**Expansion of different type of Resins (Phenol Formaldehyde Resin, Melamine Formaldehyde Resin & Urea Formaldehyde Resin) manufacturing unit of capacity upto 9000 MTPM located at Survey No.: 357 Paiki, 358 Paiki, Village: Kadadra, Taluka: Dahegam, District: Gandhinagar, Gujarat by M/s. Abhiyan Panel India LLP - Re-consideration of Environmental Clearance.**

**[Proposal No. IA/GJ/IND3/202188/2021; File No. IA-J-11011/85/2021-IA-II(I)]**

1. The proposal is for environmental clearance to the project for the Expansion of different type of Resins (Phenol Formaldehyde Resin, Melamine Formaldehyde Resin & Urea Formaldehyde Resin) manufacturing unit of capacity upto 9000 MTPM located at Survey No.: 357 Paiki, 358 Paiki, Village: Kadadra, Taluka: Dahegam, District: Gandhinagar, Gujarat by M/s. Abhiyan Panel India LLP.
2. The project/activity is covered under Category 'A' of item 5(f), 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) of the 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 ToR vide proposal number IA/GJ/IND3/202188/2021 dated 13.3.2021 and the standard ToR has been issued by the Ministry, vide letter No. IA-J-11011/85/2021-IA-II(I) dated 17.3.2021. The PP submitted that the Public hearing was conducted on 30.10.2021 which was presided by the Additional District Magistrate. The PP applied for Environment Clearance on 10.1.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported that it is an **Expansion EC**. Due to some shortcomings, the Project was referred back to the PP on 15.1.2022 and reply to the same was submitted on 11.3.2022. The proposal was placed in 28<sup>th</sup> EAC meeting, wherein the EAC deferred the proposal for asking requisite information, and the proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, T. R. ASSOCIATES, [Accreditation number NABET/EIA/1922/RA 0142 Valid up to 9.10.2022], 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 1.8485 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

<b>S. No.</b>	<b>Name of Product</b>	<b>Capacity per Month</b>	<b>CAS No.</b>
1.	Phenol Formaldehyde Resin	3000 MT	9003-35-4
2.	Urea Formaldehyde Resin	3000 MT	9011-05-6
3.	Melamine Formaldehyde Resin	3000 MT	82115-62-6

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and court notice direction (Case no. 02/22) is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the existing unit has obtained CTO from GPCB for manufacturing of laminate sheets and various types of Plywood/Veneered

Decorative plywood and/or Various Types of Block Board and/or various types of Flush Doors. Unit has obtained CTO compliance report from GPCB for manufacturing of laminated sheets and site was inspected on 6.7.2021.

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. Meshwo River is flowing at a distance of 5.38 km in East direction and three Schedule I species i.e. Peacock, Shikra and Pallid Harrier exist within 10 km study area of the project, conservation plan is submitted to PCCF and Chief Wildlife Warden on 31.12.2021 with budgetary provision of ₹ 6.0 Lakh. The PP committed to implement the plan in five years.
8. The Ambient Air Quality monitoring was carried out at 8 locations during October 2020 to December 2020. The baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (56.29 µg/m<sup>3</sup> to 86.97 µg/m<sup>3</sup>), PM<sub>2.5</sub> (27.67 µg/m<sup>3</sup> to 51.86 µg/m<sup>3</sup>), SO<sub>2</sub> (6.02 µg/m<sup>3</sup> to 23.28 µg/m<sup>3</sup>) and NO<sub>2</sub> (16.22 µg/m<sup>3</sup> to 40.23 µg/m<sup>3</sup>). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion project would be 0.4 µg/m<sup>3</sup>, 0.5 µg/m<sup>3</sup> and 0.002 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). Sound levels had been recorded according to IS: 9989:1991 (Reaffirmed 2001). The maximum noise level measured in the study area was 71.8 dB (A) in day time and 64.5 dB in night time at project site, which were below the stipulated standards. The noise levels (Leq) of the study area within the impact zone varied from 43.8 – 68.7 dB (A) in the day time and 35.7 – 61.4 dB (A) in the night time.
9. Ground water pH is found higher (8.86) in vahelal location, while in all other locations, it is well within the acceptable limit. TDS is found higher than acceptable limit at Project Site, Kadadra, Karoli, Bharkunda, Vahelal, Raipur, Viratalavdi and Jalundra. Water table is very high as compared to other locations and that must be the reason for high TDS on above mentioned location. Ground water is suitable for domestic and agricultural purpose after primary treatment. Water quality of all locations is found under classification E as per CPCB guidelines. Surface water pH is found higher than acceptable limit in all the locations. Total Hardness and Magnesium is found higher than acceptable limit in Vahelal Pond, Vitatalwadi and Canal near Raipur. TDS is within acceptable limit at Canal near Raipur and Canal near Harsoli, whereas in all other locations, TDS is found to be almost much higher than acceptable limit.
10. Soil pH has ranged from 6.381 to 7.68 and indicates that soils are neutral to alkaline in nature. The soils of Kadadra and Karoli are slightly alkaline and the soils of remaining locations are neutral in reaction EC values of soil samples ranges from 139 to 344 (µS / cm) show that soils have normal Ec. So, soil seems to be normal. The values of CEC ranged from 15.89 (Meq/100gm) as the lowest at Vahelal village and 79.04 (Meq/100 gm.) as the highest at Harsoli Village. High organic matter content as well as more amount of Mg salt- would have contributed to higher CEC. The soils are Sandy clay to Sandy Clay loam where loam soil will be rich in nutrients and more moisture content. The sandy clay has a larger concentration of sand. Such types of soil are easy to work but are less fertile. They have low water retention capacity. Sandy clay soil (Loamy soil) are in between sandy and clayed soil. They

are best for cropping, fertile and have good water retention capacity. Sodium content of the soil samples of study area is found to be in the range of 1.58 to 3.78(mg/g). Organics carbon content of all the soil samples are high. The possible explanation for high organic matter content may be that crop residues are buried after harvest of the crops, use of organics manure and green manuring by the farmers. Nutrient availability of soil samples revealed that the soil is low in nitrogen and P<sub>2</sub>O<sub>5</sub> and high in K<sub>2</sub>O content. The Ca content in soil is below critical level (i.e. <25% CEC) and Mg content in soil is more than critical level (i.e. <4% of CEC). The Bulk density of soil samples is found to be in the range of 1.58 to 3.78. SAR values indicates that the soil are not salt affected.

11. The PP reported that total fresh water requirement for the resin project will be 21.7 kL/day which will be fulfilled by borewell. For domestic activities 0.75 kL/day, for industrial activities 23.74 kL/day & for green belt development 5.27 kL/day water will be required. The total water requirement after considering both laminate and Resin unit will be 59.76 KLD (Fresh water 51.7 KLD and reuse water 8.06 KLD). As per Guidelines of Central Ground Water Authority (CGWA), the project site falls in over-exploited and notified area. Unit will procure fresh water through borewell. About 10.08 kL/day effluent will be generated from Boiler, Cooling Tower, RO reject, Washing and Process. However, there will not be any requirement of water in manufacturing activities. About 0.5 kL/day wastewater will be generated from floor washing. About 0.88 kL/day and 1.22 kL/day wastewater will be generated from boiler and cooling tower respectively as blow down, 0.02 kL/day will be generated from scrubber and about 2.2 kL/day R.O. Reject water will be generated from RO plant. About 5.26 kL/day wastewater will be generated process.
12. The PP reported the unit has obtained 450 KVA load for laminate sheet manufacturing unit which will be enough for resin manufacturing unit so the total power requirement is 450 KVA that is procured from Uttar Gujarat Vij Company Ltd. (UGVCL).

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

S. No.	Stack Identification	Stack Height	Air Pollution Control System	Remarks
1	Sanding & Cutting Section	Closed System	Bag Filter	Existing
2	Kraft Dryer	6 Meter	Activated Carbon Column	Existing
3	Design Dryer	6 Meter	Activated Carbon Column	Existing
4	Sanding Machine	Closed System	Dust Collection System	Existing

5	Cutting Machine	Closed System	Dust Collection System	Existing
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**14. Details of Solid Waste Generation and its Management:** The hazardous waste generated from manufacturing process will be discarded bags, used oil and ETP sludge + evaporation residue. Unit will provide storage area for hazardous wastes having roof, pucca flooring with leachate collection system. Leachate, if any will be collected and treated in effluent treatment plant. Unit will take membership of TSDF site after commencement of project.

S. No.	Description	Category	Total Quantity	Mode of Disposal
1.	Used oil / Spent Oil	5.1	0.05 KL/annum	Collection, storage and use within premises as a lubricant/ sell to registered recycler
2.	Discarded Plastic Bags / Drums / Barrels	33.1	60 MT/annum	Collection, storage and sell to authorized vendor.
3.	ETP Sludge	35.3	76.08 MT/annum	Collection, storage and disposal at Approved TSDF site
4.	Evaporation Residue	35.3	57.06 MT/annum	Collection, storage and disposal at Approved TSDF site
5.	Resin Residue	23.1	54 MT/annum	Collection, storage and disposal at Approved CHWIF site

The plastic waste, resin residue discarded plastic bags and drums, used oil will also be generated from laminate manufacturing unit

**15.** The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 51.97 Lakh (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 46.73 Lakh per annum, which includes Air Pollution [₹9 Lakh (capital) and ₹ 7 Lakh/annum (Recurring)], Water Pollution [₹ 5.0 Lakh (capital) and ₹ 17.04 Lakh/annum (Recurring)], AWH [₹ 3.49 Lakh/annum (Recurring)], Noise pollution [₹0.12 Lakh (capital) and ₹ 0.28 Lakh/annum (Recurring)], Hazardous / Solid Waste Management [₹2.10 Lakh (capital), ₹ 11.30 Lakh/annum (Recurring)], Greenbelt [₹5.86 Lakh/annum (capital) and ₹ 2.78 Lakh/annum (Recurring)], Fire and occupational Health and safety [₹ 22.39 Lakh (capital) and ₹ 0.84 Lakh/annum (Recurring)], Miscellaneous [₹ 7.5 Lakh (capital) and ₹ 0.2 Lakh/annum



(Recurring)], Industry proposes to allocate ₹ 4.68 Lakh towards CER for the provision of drinking water facilities in schools, Installation of Solar Lights in Kadadra village.

16. The PP reported that the advertisement for Public Hearing was published in newspaper viz. 'The Business standard' and in 'Gujarat Samachar' on 23.9.2021 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on 30.10.2021, which was presided by Additional District Magistrate. The main issues raised during the public hearing were about workers as well as to give preference to local persons for job.
17. The land for the proposed expansion has already been converted into non-agriculture land. Total land area of premises is 18485 m<sup>2</sup>, out of which 6108.28 m<sup>2</sup> (33 %) area will be developed for greenbelt.
18. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environmental Engineer- Chemist QA/QC- Safety health officer for the functioning of EMC.
19. The PP reported that net CO<sub>2</sub> emitted = 2520 MT/year, Production per year = 1,22,400 MT/year, Net CO<sub>2</sub> emitted per ton of product = 0.0206 MT or 20.6 kg. Approximately, 12 % CO<sub>2</sub> will be sequestered by use of renewable energy and 18.5 % CO<sub>2</sub> will be sequestered by greenbelt development.
20. The PP submitted the Disaster and Onsite and Offsite Emergency Plans in the EIA report.
21. The PP also submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 "I, Mr.Vineet Agrawal -partner of M/s. Abhiyan Panel India LLP located at Survey No.: 357 Paiki, 358 Paiki, Village: Kadadra, Taluka Dahegam District: Gandhinagar, Gujarat - 382305 do hereby give undertaking with reference to MoEF&CC O.M. No. J-11013/41/2006-IA.11.(1) dated 05t October 2011, that the data and information given in the Environmental Impact Assessment (EIA) report are factually correct and we will responsible for any discrepancy in the EIA report. We also undertake that content including information & data of the EIA report is own by us and data or information not taken from any other EIA report. The above stated fact is true to the best of my knowledge".
22. The consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 " I, T. R. Patel, Proprietor of M/s. T. R. Associates located at A-401, S. G. Business Hub, B/w. Sola Bhagwat & Gota Over Bridge, Near Umiya Campus, S. G. Highway, Ahmedabad - 380060, Gujarat, do hereby give undertaking with reference to MoEF O.M. No. J-11013/41/2006- JA.II(I) dated 04% August 2009, that we have prepared EIA report M/s. Abhiyan Panel India LLP located at Survey No.: 357 Paiki, 358 Paiki, Village: Kadadra, Taluka Dahegam District: Gandhinagar, Gujarat - 382305 as per Terms of Reference (ToR) prescribed wide letter no.: No.IA-J-11011/85/2021-IA-II(1) dated 17th March 2021. The stated ToRs have been complied with and the data mentioned in the EIA report are factually correct. The above stated fact is true to the best of my knowledge."

23. The estimated project cost is ₹ 234 Lakh. Total Employment will be 5 persons as direct.

24. The proposal was placed in 28<sup>th</sup> EAC Meeting held on March 24-25 2022, wherein the Committee deferred the proposal for want of requisite information. Reply to the same is submitted by PP on 28.7.2022, which is as follows:

S. No.	Queries Raised by EAC	Reply by PP	Observation of EAC
1.	The PP should revise the greenbelt plan (with ~2500 trees/ha) along with budgetary allocations and timelines. EAC noted that since this is an existing Unit and PP shall come for appraisal of the instant project after development of green belt.	As per suggestions received by EAC during EC appraisal presentation dated on 25 <sup>th</sup> March, 2022, Project proponent has demolished existing concrete RCC structure, soil conditioning activities, plating saplings and installation of drip irrigation system in presence of GPCB regional office staff.	The EAC found the reply submitted by the PP satisfactory.
2.	The EAC noted that total lease of land is 21485 s.qm, however PP has taken land conversion only for 18485 sq.m. PP should submit clarification regarding why conversion of land was done partially.	It is requested to note that Non-agricultural permission with industrial purpose was obtained for survey number- 357 paiki & 358 paiki, admeasuring about 21485 square meter situated at Village : Kadadra, Taluka : Dahegam. District: Gandhinagar, Gujarat dated on 14/10/2015. The unit has leased the land for the Industrial activities in Name of M/s Abhiyan Panel India LLP admeasuring about 18485 square meters. Remaining admeasuring about 3000 square meter land has leased on in the name of M/s Angel Resin	The EAC found the reply submitted by the PP satisfactory.
3.	The CTO compliance report shows that compliance status of various conditions as "GPCB will keep watch". Therefore, Action Plan along with timelines and budgetary allocations for self-compliance of the CTO conditions needs to be submitted.	Self-certified compliance of CTO with action plan including timeline and budgetary allocation has been submitted.	The EAC found the reply submitted by the PP satisfactory.

4.	The Project proponent shall prepare 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.	Unit has prepared the onsite/offsite emergency plan according 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. Furthermore, unit has taken safety training by DISH approved institute. Onsite-Offsite emergency plan and safety training certificates Has been submitted.	The EAC found the reply submitted by the PP satisfactory.
5.	The PP should submit the revised water balance with improvement in recycle/reuse and revise water scheme accordingly.	Revised water balance diagram with improvement in recycle/reuse by installing STP has been submitted.	The EAC found the reply submitted by the PP satisfactory.
6.	The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. proposed project. Proposed mitigation measures also needs to be submitted for further appraisal of the EAC.	<p><b><u>Scope 1: Direct GHG emissions</u></b></p> <p>Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled Steam boiler, Thermic fluid heater, D G Set etc.; emissions from chemical production in owned or controlled process equipment. Direct CO2 emissions from the combustion of biomass shall not be included in scope 1. The examples of scope 1 emissions in M/s. Abhiyan Panel India LLP are heat production in steam boiler using briquettes and white coal, thermic fluid heater using briquettes or Indonesian coal, use of Diesel in DG sets, burning of lubricant oil in machineries, treatment of effluent in ETP/STP, use of LPG stove in admin department etc.</p> <p>It may be noted that any accidental cases are not</p>	The EAC found the reply submitted by the PP satisfactory. However, it is noted that the CO <sub>2</sub> sequestration of 464 MT/annum (instead of 374 MT/annum) is erroneous, as the survival rate has not been accounted for.

		<p>considered in this calculation of carbon foot print.</p> <p><b><u>Scope 2: Indirect GHG emissions</u></b></p> <p>Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. The examples of scope 2 emissions in M/s. Abhiyan Panel India LLP are import of electricity from grid.</p> <p><b><u>Scope 3: Other indirect GHG emissions</u></b></p> <p>Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services. The credits for by products being sold as raw materials outside the boundary of the plant would be considered under scope 3.</p> <p><b>Net CO<sub>2</sub> emitted = 2520 MT/year</b></p> <p><b>Production per year = 1,22,400 MT/year</b></p> <p><b>Net CO<sub>2</sub> emitted per ton of product = 0.0206 MT or 20.6 kg</b></p> <p><b>RENEWABLE ENERGY &amp; RAIN WATER HARVESTING :</b></p> <p>1. The unit will install Solar street lights (10 nos.) (18 W) Kadadra village within 5 years.</p> <p>2. The unit will install Solar Panel</p>	
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		<p>(250 KW) at Roof top of Industrial shed within 5 years.</p> <p>3. The unit will install rain water harvesting system to reduction of fresh water consumption from ground water.</p> <p>So, total 3, 24,200 unit's electricity will be generated by Solar panel and solar street lights after 5 years. So the unit will sequestrate CO<sub>2</sub> approximately 292 MT per year.</p> <p><b><u>Approximately 12 % CO<sub>2</sub> will be sequestrated by use of renewable energy.</u></b></p> <p><b>GREEN BELT DEVELOPMENT:</b></p> <p>To sequestrate this CO<sub>2</sub> emissions, 1833 nos. of trees will be planted in 6108.2 m<sup>2</sup> (33.04%) area within the premises.</p> <p>Approx. 950 nos. of tress will be planted for conservation of Schdeule-1 species in nearby villages</p> <p>Unit will plant all species (2783 nos.) within 1<sup>st</sup> year. Tree will grow up within 5 years.</p> <p>Approx. 1 MT of CO<sub>2</sub> will be absorbed by 6 mature trees per year.</p> <p>Approx. 464 MT CO<sub>2</sub> will be absorbed by 2245 nos. trees per year after 5 years.</p> <p><b><u>Approximately 18.5 % CO<sub>2</sub> will be sequestrated by greenbelt development</u></b></p>	
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**25. 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 Committee 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 deliberated on greenbelt plantation and suggested that the unit shall plant all trees before starting the resin production. In view of this, the PP submitted an undertaking that the unit will develop complete greenbelt i.e. 6108 sq.m (Approx. 1833 number of trees) area before start of production. The EAC also deliberated on the carbon footprint considering product transportation in Scope-3. The PP submitted the details of carbon footprint and carbon sequestration study of the project along with proposed mitigation measures considering product transportation (Scope-3).

The EAC deliberated on the solar panel at rooftop in next 2 years for CO<sub>2</sub> emission reduction. The PP submitted an undertaking stated that the unit will install solar panel (250Kw) at rooftop inside the premises in next 2 years for reducing CO<sub>2</sub> emission.

The EAC suggested that the land owner will maintain and take care of the green belt that will be developed in area about 6180,20 m<sup>2</sup> by Abhiyan panel India LLP. The PP submitted an undertaking given by land owner which states that the greenbelt will be developed in an area about 6108.20 m<sup>2</sup> by Abhiyan panel India LLP, which will be maintained and taken care of thoroughly and even if any other industry will be given on rent in the premise, the developed greenbelt will not be compromised and will be taken care of accordingly.

The Committee deliberated the Onsite and Offsite Emergency plans and various mitigation measures to be 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, 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of EAC and grant of environmental clearance by 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.

**26. 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 6180,20 m<sup>2</sup> by planting 1833 number of trees before starting the production of resins. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, The budget earmarked for the plantation shall be ₹ 5.86 Lakh and 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 1<sup>st</sup> 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 Environmental engineer- Chemist. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 ₹ 51.97 Lakh (Capital cost) and ₹ 46.73 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.

- (iv) Total fresh water requirement for the proposed resin project will not exceed 21.7 kL/day which will be fulfilled by Borewell. 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 valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (v) The PP shall install solar panel (250 KW) at rooftop inside the premises in next 2 years.
- (vi) 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.
- (vii) 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.
- (viii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (ix) 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.
- (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 PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xii) About 0.5 kL/day wastewater will be generated from floor washing. About 0.88 kL/day and 1.22 kL/day wastewater will be generated from boiler and cooling tower respectively as blow down, 0.02 kL/day will be generated from scrubber and about 2.2 kL/day R.O. Reject water will be generated from RO plant. About 5.26 kL/day wastewater will be generated in process.
- (xiii) 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.

- (xiv) 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.
- (xv) 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.
- (xvi) 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.
- (xvii) 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.
- (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 storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
- (xx) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
- (xxi) 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. 36.2

**Proposed expansion of Pesticides & Pesticide Specific Intermediates with increase in production capacity from 1200 TPM to 4350 TPM, located at Plot No. 3246 to 3251, 3325 to 3329, GIDC Estate Panoli, Ankleshwar, District Bharuch, Gujarat by M/s. Aero Agro Chemical Industries Limited - Consideration of Terms of Reference (ToR)**

**[Proposal No. IA/GJ/IND3/284343/2022; File No. J-11011/938/2008-IA-II(I)]**

1. The proposal is for environmental clearance to the project for proposed expansion of Pesticides & Pesticide Specific Intermediates with increase in production capacity from 1200 TPM to 4350 TPM, located at Plot No. 3246 to 3251, 3325 to 3329, GIDC Estate Panoli, Ankleshwar, District Bharuch, Gujarat by M/s. Aero Agro Chemical Industries Limited.
2. The project/activity is covered under Category 'A' of item 5(b) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended). The project is located in a Critically Polluted Area (CPA) as identified by the CPCB.
3. The PP applied for ToR vide proposal number No. IA/GJ/IND3/284343/2022 dated 19.7.2022 and submitted Form-1 & PFR. In the Form-1, PP has mentioned that it's an expansion project. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, Shree Green Consultants. [Accreditation number NABET/EIA/2124/IA0072, valid up to 24.2.2024] 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 EC for the existing Unit was accorded vide File No. J-11011/938/2008-IA II (I) dated 3<sup>rd</sup> June, 2009 at Plot No. 3246 to 3251 and 3325 to 3329, GIDC Industrial Estate Panoli, Ankleshwar 394116, Dist: Bharuch, Gujarat. The PP also obtained valid CCA No. AWH-108428 issued vide letter no. GPCB/ANK/CCA1409(1)/ID-23779/ 569255 dated 05/10/2020. The PP reported that there is no violation of EIA notification, 2006, no court case is pending against the proposal and no direction issued under E (P) Act/Air Act/Water Act.
5. The details of the existing and proposed products and their production capacities are as follows:

Sr. No.	CAS No.	Products	Production Capacity (TPM)		
			Existing*	Proposed	Total
<b>Herbicides</b>					
1	94-75-7	2,4-Dichloro Phenoxy Acetic Acid (2,4-D Acid)	250	750	1000
	7084-86-8	2,4 D sodium			
	533-23-3	2,4 D Ester			
2	2008-39-1	2,4 D Amine		1100	1350
3	94-74-6	2- Methyl 4 – Chloro Phenoxy Acetic acid	125	50	175

Sr. No.	CAS No.	Products	Production Capacity (TPM)		
			Existing*	Proposed	Total
	26544-20-7	2-Methyl-4- Chloro Phenoxy Acetic Acid Ester			
	2039-46-5	2-Methyl-4- Chloro Phenoxy Acetic Acid Amines			
4	23184-66-9	Butachlor Technical	50	-	50
5	51218-49-6	Pretilachlor Technical	50	-	50
6	1071-83-6	Glyphosate Technical and its salt	25	-	25
7	52315-07-8	Metribuzin Technical	25	-	25
8	52645-53-1	Pendimethalin Technical	50	-	50
9	67375-30-8	Atrazine Technical	50	-	50
10	-	Chloro Phenol	-	140	140
<b>Total (A)</b>			<b>625</b>	<b>2040</b>	<b>2915</b>
<b>Intermediates</b>					
10	120-83-2	2,4 Dichloro phenol	240	860	1100
11	79-11-8	Monochloro Acetic Acid	275	00	275
12	79-04-9	Chloroacetyl Chloride	60	00	60
<b>Total (B)</b>			<b>575</b>	<b>860</b>	<b>1435</b>
<b>Grand Total (A+B)</b>			<b>1200</b>	<b>2900</b>	<b>4350</b>
<b>By products</b>					
13	-	P-Toluene Sulphuric acid	27.5	00	27.5
14	7647-01-0	HCl ( 30 %)	570	972	1542
15	7647-15-6	Sodium Bromide (7-8%)	175	00	175
16	7664-93-9	Spent Acid	0	264	264
17	7757-83-7	Sodium sulphite	0	165	165
<b>Total</b>			<b>772.5</b>	<b>1401</b>	<b>2173.5</b>

6. The PP reported that the existing land area is 20880.0 m<sup>2</sup>, which will be used for the proposed expansion and no R&R is involved in the Project. Proposed expansion shall be carried out on vacant land within the existing manufacturing unit.
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. The PP reported that there is no Eco sensitive area/National Park/Wildlife Sanctuary in 10 km radius of the site.
8. The PP reported that total water requirement is 450.54 KLD of which fresh water requirement of 220.80 KLD will be met from Panoli GIDC water supply system. Total waste water will be 364.34 KLD (Industrial 350.84 KLD + Domestic 13.5 KLD). Process 308.74 KLD, washing (2.1 KLD), Boiler (20 KLD) and Cooling (15 KLD) will be treated into WWTS. Total treated water (100 KLD out of 341.24 KLD) will be sent to PETL for further treatment. And remaining treated water 241.24 KLD will be sent to MEE for further treatment. MEE condensate 216.24 KLD will be reused in utility & process. MEE salt will be disposed into TSDF site. Domestic

Effluent will be treated into STP and treated water will be reused in gardening purpose.

9. Total power requirement for the expansion project will be around 1375 KVA which will be sourced from DGVCL Supply. Two D.G. set of (200 KVA x 1) and (300 KVA x 1) will be installed for the purpose of emergency uses only.
10. The PP informed that in pursuant to O.M. J-11011/321/2016-IA.II(I) dated 27.04.2018, the Public Hearing is exempted as the proposed project site is located in a Notified Industrial Area i.e., GIDC Industrial Area, Panoli, District Bharuch, Gujarat.
11. The proposed project is to be set up within the existing premises of land area of 20880.00 m<sup>2</sup> out of which 3549.6 m<sup>2</sup> (i.e. 17 %) land area is already used for greenbelt development. Approximately 6600 m<sup>2</sup> area green belt developed outside our premises in collaboration with Panoli Industry association. This will constitute a total of 49% greenbelt area development by M/s. Aero Agro Chemical Industries Limited.
12. The estimated project cost is ₹ 35.25 Crore. The total manpower requirement will be 175 nos. (65 permanent + 110 contract) after proposed expansion and preference will be given to local people.

### 13. **Deliberations by the EAC:**

The committee deliberated on the various environmental aspects such as air emission and its mitigation measures, gaseous & fugitive emission control measures, water requirement, wastewater generation, wastewater treatment System, solid & hazardous waste management and action plan proposed by the PP being in a critically polluted area. The Committee also deliberated on the issue of the greenbelt/plantation.

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

- (i) The status of 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 mitigative measures for CPA mentioned in the Ministry's OMs dated 31.10.2019 & 24.10.2019.
- (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 analyzed the samples.
- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules needs to be submitted.
- (vii) The PP need to conduct the Life Cycle Assessment including the impact on flora and fauna.
- (viii) 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.
- (ix) 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.
- (x) 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.
- (xi) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xii) 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.
- (xiii) 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.
- (xiv) As this is an existing unit, the PP shall comply the Greenbelt related condition mentioned in the previous EC. In additional, the PP should develop 40% Greenbelt of the total land area, accordingly 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. Trees have to be planted with spacing of 2m x 2m and number of trees has to be calculated accordingly.

- (xv) Plan for development of 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 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. 36.3**

**Proposal for Modernization in Existing unit for “Manufacturing of Agrochemicals and Organic intermediates” at Plot No. 5303, L/5308/4, L/5308/3, L/5308/1 & L/5309/6, Phase: 4<sup>th</sup>, GIDC Vapi, District: Valsad, Gujarat by M/s. Cropnosys India Pvt. Ltd. Consideration Environmental Clearance [Under Para 7 (ii)]**

**[Proposal No. IA/GJ/IND3/269803/2022; File No. J-11011/151/2012-IA-II(I)]**

1. The proposal is for environmental clearance to the project for Modernization in Existing unit for “Manufacturing of Agrochemicals and Organic intermediates” at Plot No. 5303, L/5308/4, L/5308/3, L/5308/1 & L/5309/6, Phase: 4<sup>th</sup>, GIDC Vapi, District: Valsad, Gujarat by M/s. Cropnosys India Pvt. Ltd.
2. The project/activity is covered under Category ‘A’ of item 5(b) (Pesticides industry and pesticide specific intermediates (excluding formulations) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) as the project is located inside the critically polluted area, so requires appraisal at Central Level by Expert Appraisal Committee (EAC)
3. The PP applied for Environment Clearance on 27.4.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP reported that Public Hearing is not applicable as proposed modernization project is located in Notified Industrial Area, GIDC Vapi. The PP reported in Form-2 that it is a **Modernization under para 7(ii)**. Due to some shortcomings, the Project was referred back to PP on 20.5.2022, 19.7.2022 and reply to the same was submitted on 14.7.2022, 19.7.2022. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, Eco Chem Sales & Services [Accreditation number NABET/EIA/2023/SA 0156, valid up to 15.3.2023] 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 0.3215 Ha and no R& R is involved in the Project. There will be no change in products and its capacity after modernization.

5. The PP reported that there will be no change in raw materials & their consumption and manufacturing process. There will be decrease in the water consumption, change in the mode of treatment of Industrial effluent [Treatment in our own Mechanical Vapour Recompression (MVR) instead of CMEE] and change in hazardous waste generation and its disposal. Existing Boiler will be kept stand-by due to procurement of steam from common steam boiler of M/s. Vapi Eco Energy Pvt. Limited, GIDC Vapi. There will be change in layout plan of the plot mainly due to relocation of utilities, production plant etc.
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 is issued under E(P) Act/Air Act/Water Act.
7. The PP reported that Certified Compliance Report was received from IRO Gandhinagar vide E File No. J-11/25-2022-IROG NR dated 24<sup>th</sup> June 2022 and inspected on 9.5.2022. Action taken on partially complied conditions has been submitted.
8. The PP reported the Compliance Report as per Ministry's O.M. dated 31<sup>st</sup> October, 2019 regarding projects located in Critically Polluted Areas.
9. 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 Kolak is flowing at a distance of 2.72 km in East direction. The PP reported that there is no forest land involved in the proposed project and no Schedule-I species exist within 10 km study area of the project.
10. The PP reported that the total water requirement is 74.4 KLD of which fresh water requirement of 57.1 KLD will be met from GIDC water supply department, Vapi. Effluent (Industrial) of 28.83 KLD will be treated in primary ETP followed by own proposed solvent stripper followed by MVR. 17.3 KLD of condensate from MVR will be recycled in the process and balance 11.5 KLD of concentrate from MVR will be filtered. 4.6 MT of solids from filter will be disposed of into TSDF and 6.9 KLD of concentrate will be sent to CMEE/CSD of M/S VGEL, Vapi. Thus, there is no discharge of any industrial effluent as unit is maintained as Zero Liquid Discharge (ZLD). Domestic wastewater (12 KLD) will be treated in STP and treated water will be utilized for Gardening/ toilet flushing.
11. The PP reported that power requirement after modernization will remain same i.e. 475.0 kVA and will be met from Dakshin Gujarat Vij Co. Ltd. (DGVCL). Existing unit has one number of D.G Set capacity of 250 KVA, additionally DG sets are used as standby during power failure. Stack (height 11.0 m) is provided as per CPCB norms to the existing DG sets. No D.G. Set will be proposed after modernization.
12. At present, 3 TPH capacity of natural gas fired steam boiler for process steam requirement is being used. For which we have valid CCA of the board. Now we wish to utilize steam from common steam generator M/s. Vapi Eco Energy limited, GIDC Vapi at a rate of 1100 kgs/hr. We have already obtained membership of M/s.

Vapi Eco Energy limited. After proposed modernization, we will keep our existing 3 TPH boiler as a standby.

**13.** Details of Process Emissions Generation and their Management: There will be no change in process gas emission.

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

S. No.	Name/ Type of hazardous waste	Schedule	Category no.	Quantity (in MT/Year)			Mode of disposal
				Existing	Proposed (+/-)	Total	
1	Used oil	Sch: I	5.1	0.06	0	0.06	Collection, storage, transpiration, disposal by Selling to registered recycler
2	Discarded containers	Sch: I	33.1	12	0	12.0	Collection, storage, transpiration, disposal at Selling to authorized recycler
3	Organic distillation residue	Sch: I	29.1	21.31	0	21.31	Collection, storage, transpiration, disposal at M/S RSPL for co-processing
4	Waste from ETP	Sch: I	35.3	3.3	0	3.3	Collection, storage, transpiration, disposal at TSDF of VGEL Vapi
5	Off-specification & date expired products	Sch: I	29.3	24.0	0	24.0	Collection, storage, transpiration, disposal at M/S RSPL for co-processing



6	Salt from MVR	Sch: I	35.3	0	1435.2	1435.2	Collection, storage, transpiration, disposal at TSDF of VGEL Vapi
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15. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 220 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 200.00 Lakh per annum.
16. The PP reported that the Public Hearing is not applicable as the project is located in Notified Industrial Area, GIDC Vapi.
17. The PP reported that Industry has already developed 1100.0 m<sup>2</sup> greenbelt and The Unit will have developed 1286.0 m<sup>2</sup> greenbelt area in plant premises and periphery of project site for meet the criteria of 40% Greenbelt area of total plot area. Considering 90% of Survival rate, Approx. 350 Nos. of trees / Shrubs will be planted within the six months.
18. The estimated project cost is Rs. 17.30 Crores including existing investment of Rs.9.70 Crores.

**19. Deliberations by the EAC:**

The EAC, constituted under the provision of the EIA Notification, 2006 comprising of Expert Members/domain experts in various fields, examined the proposal submitted by the PP in the desired formats along with 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 their knowledge and belief and no information has been suppressed in the 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.

It was informed to the EAC that the para 7(ii) of the EIA Notification, 2006, inter-alia, mentions that *all applications seeking prior environmental clearance for expansion with increase in the production capacity beyond the capacity for which prior environmental clearance has been granted under this notification or with increase in either lease area or production capacity in the case of mining projects or **for the modernisation of an existing unit** with increase in the total production capacity beyond the threshold limit prescribed in the Schedule to this notification through change in process and or technology or involving a change in the product –mix shall be made in Form I and they shall be considered by the concerned Expert Appraisal Committee or State Level Expert Appraisal Committee within sixty days, who will decide on the due diligence necessary including preparation of Environment Impact Assessment and public consultations and the application shall be appraised accordingly for grant of environmental clearance.*

The Committee 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 Committee deliberated on the Greenbelt plantation, Treatment, Storage & Disposal Facility (TSDF) certificate, details of the Sewage treatment plant and on the site layout plan with clear demarcation of existing and proposed unit, EAC suggested PP to provide STP plant for treatment of domestic wastewater and to revised water balance. PP submitted the same and EAC found it to be satisfactory.

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

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

- (i) The Unit shall comply with all the Specific and General EC conditions, as mentioned in the existing ECs. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (ii) The PP shall install the STP for treatment of domestic water. The treated water will be reused for gardening purpose and toilet flushing.

#### Agenda No. 36.4

**Proposed Expansion for manufacturing of Chlorinated Fine Chemicals with increase in production capacity from 1550 MT/month to 7600 MT/month and co – product 12310 MT/month located at Survey No. 455, 456, Village-Neja, Taluka-Khambhat, District Anand, Gujarat by M/s. Karan Intermediates Pvt. Ltd. - Consideration of Environmental Clearance**

**[Proposal No. IA/GJ/IND3/279658/2021; File No. J-11011/91/2015-IA II(I)]**

1. The proposal is for environmental clearance to the project for Proposed Expansion for manufacturing of Chlorinated Fine Chemicals with increase in production capacity from 1550 MT/month to 7600 MT/month and co–product 12310 MT/month located at Survey No. 455, 456, Village-Neja, Taluka-Khambhat, District Anand, Gujarat.
2. The project/activity is covered under Category 'A' of item 5(f) (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) of Schedule of Environment Impact Assessment (EIA) Notification,2006 (as amended) as the project is located outside the notified industrial area, so requires appraisal at Central Level by Expert Appraisal Committee (EAC).
3. The PP applied for ToR vide proposal number IA/GJ/IND3/226176/2021 dated 25.10.2021 and the ToR has been issued by the Ministry, vide letter No. J-11011/91/2015-IA-II-(I) dated 27.10.2021. The PP reported that Public Hearing was conducted on 6.4.2022 which was presided by the Additional Collector & Additional District Magistrate. The PP applied for Environment Clearance on 25.6.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP reported in Form-2 that it is an **Expansion EC**. Due to some shortcomings, the Project was referred back to PP on 6.7.2022, 19.7.2022 and reply to the same was submitted on 15.7.2022, 20.7.2022. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, San Envirotech Pvt. Ltd. [Accreditation number NABET/EIA/1922/RA 0216, valid up to 23.12.2022] 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 2.805 Ha and no R& R is involved in the Project. The details of products are as follows:

Sr. No.	Name of Products	CAS Nos.	Existing Qty. (MTPM)	Total after expansion including Existing (MTPM)			
				Phase-I*	Phase-II	Total	
<b>Products</b>							
1.	Mono Chloro Acetic (MCA)	79-11-8	300	1500	500	2000	
2.	Chloro Acetyl Chloride (CAC)	79-04-9	150	250	350	600	

3.	Tri Chloro Acetyl Chloride (TCAC)	76-02-8	150	750	250	1000
4.	Sulphur Mono Chloride (SMC)	10025-67-9	100	100	100	200
5.	Aluminum Chloride	7446-70-0	350	0.0	0.0	0.0
6.	Ferric Chloride	7705-08-0	500	0.0	0.0	0.0
7.	Methyl Chloride	74-87-3	0.0	500	0.0	500
8.	Sodium salt of Trichloro pyridine (NaTCP)	37439-34-2	0.0	0.0	750	750
9.	Meta Phenoxy Benzaldehyde (MPB)	39515-51-0	0.0	0.0	500	500
10.	Sodium Mono Chloro Acetate (SMCA)	3926-62-3	0.0	300	700	1000
11.	Methyl Chloro Acetate	96-34-4	0.0	200	0.0	200
12.	Ethyl Chloro Acetate	105-39-5	0.0	200	0.0	200
13.	Isopropyl Chloro Acetate	105-48-6	0.0	100	0.0	100
14.	Liq SO <sub>2</sub>	7446-09-5	0.0	200	0.0	200
15.	Dry HCl	7647-01-0	0.0	200	150	350
<b>Total</b>			<b>1550</b>	<b>4300</b>	<b>3300</b>	<b>7600</b>
<b>Co-Products</b>						
16.	ML of MCA	--	55	270	90	360
17.	Hydrochloric Acid (30%)	7647-01-0	1710	7800	650	8450
18.	Sodium bi Sulphite (20-30%)	7631-90-5	340	700	0	700
19.	Sodium Hypochlorite (20%)	7681-52-9	25	0	0	0
20.	Aluminum Chloride (AlCl <sub>3</sub> )	7446-70-0	0	0	1300	1300
21.	KBr & NaBr	7758-02-3 7647-15-6	0	0	1500	1500
<b>Total Co-Products</b>			<b>2130</b>	<b>8770</b>	<b>3540</b>	<b>12310</b>
<b>Total</b>			<b>3680</b>	<b>13070</b>	<b>6840</b>	<b>19910</b>

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 Unit is engaged in manufacturing of Chlorinated Fine Chemicals. Unit has obtained EC for existing activity from MoEFCC vide letter no.

J-11011/91/2015-IA II (I), dated 30.06.2016 and obtained amendment of EC vide MoEFCC letter no. J-11011/91/2015-IA, dated 15.11.2020. Certified Compliance Report (CCR) for the conditions stipulated in existing EC was obtained from MoEF&CC, IRO-Gandhinagar vide letter dated 24.06.2022 and inspected on 20.10.2021. Copy of the time targeted ATR for the partly complied and agreed to comply conditions of CCR was submitted to IRO-Gandhinagar.

7. The PP reported that there are no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from site. Pond of Village Gudel is at 8.70 km in north west. The PP reported that there is no forest land involved in the proposed project and one Schedule-I species i.e. Peacock or Indian Peafowl exist within 10 km study area of the project, conservation plan is submitted to Deputy Conservator of Forests on 19.5.2022 with budgetary provision of ₹ 7.8 Lakh. The PP committed to implement the plan in one year.
8. The PP reported that Ambient air quality monitoring was carried out at 8 locations during March, 2021 to May, 2021 and the baseline data indicates the ranges of concentration as: PM<sub>10</sub> (63.6 - 74.6 µg/m<sup>3</sup>), PM<sub>2.5</sub> (35.9 - 44.4 µg/m<sup>3</sup>), SO<sub>2</sub> (13.8 - 18.2 µg/m<sup>3</sup>), NO<sub>x</sub> (19.8 - 23.1 µg/m<sup>3</sup>). AAQ modelling study for point source emission indicated that the maximum incremental GLCs after the proposed project would be 2.609 µg/m<sup>3</sup>, 1.932 µg/m<sup>3</sup>, 1.947 µg/m<sup>3</sup>, 2.247 µg/m<sup>3</sup>, 1.092 µg/m<sup>3</sup> and 0.185 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, HCl, Cl<sub>2</sub> & HBr. The resultant concentrations are within the national ambient air quality standards (NAAQS).
9. The monitored noise level in the day time Leq (Ld) varied from 45.3 to 58.5 dB(A) and the night time Leq (Ln) varies from 38.0 to 46.2 dB(A) within the study area. Higher noise value of 58.5 dB(A) was recorded during day time at Project site & lower noise value of 38.0 dB(A) was recorded during night time at Village Sokhada.
10. In the study area, pH varied from 7.53 to 7.92, which shows that the soil is slightly alkaline in nature. Organic Matter ranged from 1.23 to 2.45 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 favorable physical conditions (porosity and permeability) whereas those with high bulk density exhibit poor physical conditions for agriculture crops. 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), except TDS, Calcium & Chloride. This is due to sea water ingress because study area is very close to coast line.
11. The PP reported that at present, total water requirement (Industrial + Domestic + Greenbelt) is 104 KLD. After expansion (**Phase-I & Phase-II**), it will be increased up to (575.5+424.5=1000.0 KLD); out of which (492+220=712.0 KLD) will be fresh water requirement & (93.5+194.5=288.0 KLD) will be recycle/treated water (RO permeate, MEE Condensate & Treated water from the STP). Water consumption for **Phase-I** will be 585.5 KLD; out of which 492 KLD will be fresh water requirement & 93.5 KLD will be recycle/treated water. Unit is satisfying its fresh water requirement from ground water source i.e. Bore Well. Copy of CGWA application for 492 KLD has been submitted to CGWA dated 24.6.2022, total wastewater

generation is 12.0 KLD industrial wastewater generation and 4.5 KLD domestic sewage generations. Total industrial wastewater generation after expansion (Phase-I & Phase-II) will be (84.0+199.0=283.0 KLD). Major source of wastewater generation will be process effluent (4.0+168.0=172.0 KLD). Additional sources of wastewater streams will be scrubber (10.0 +6.0=16.0 KLD), Water treatment (20.0+15.0=35.0 KLD), cooling bleed off (40.0+10.0=50.0 KLD) and boiler blow down (10.0 KLD). Entire effluent will be treated in ETP followed by RO, RO permeate will be reused in utility and reject will be subject to evaporation in MEE and ATFD. Thus, unit propose to achieve Zero Liquid Discharge (ZLD). Generated domestic effluent (13.5+4.5=18.0 KLD) will be treated in STP and treated sewage will be utilized for greenbelt development.

12. The PP reported that the entire power requirement shall be sourced from MGVCCL (Madhya Gujarat Vij Company Limited). The existing power demand is 750 kVA and additional power demand for expansion activities will be 4250 kVA. Total power demand after expansion will be 5000 kVA. After expansion, unit proposes to install D G Set of 750 kVA x 3 nos. which will be used in case of power failure from grid.

13. Existing unit has Bio Fuel/Coal fired Steam Boiler (6 TPH x 1 no.). Cyclone & Bag filter are installed as APCM on stack of Boiler. Adequate stack height of 30 m is provided. After expansion, 2 stacks of Low Sulfur Coal fired 2 Boilers (10.0 TPH x 2 nos.), one stack of PNG fired Thermic Fluid Heater (5.0 Lakh Kcal/hr.) and one stack of PNG fired Hot Air Generator (1.0 Lakh Kcal/hr.) will be added. ESP with Lime dosing system will be provided as APCM on stacks of boilers. No APCM will be required on stack of PNG fired TFH & HAG, as Natural Gas is an environment friendly fuel. Stack with stack height of 45 m (Boiler) & 21 m (TFH & HAG) will be installed for controlling the particulate emissions within the statutory limit of 150 mg/Nm<sup>3</sup> for the proposed utilities. Details of flue gas stacks are given below.

Sr. No.	Stack attached to	Fuel Type	Fuel consumption	Stack Height (m)	APC measures	Probable Emission
<b>➤ Flue Gas Stacks-Existing</b>						
1	Steam boiler (6.0 TPH)	Bio Fuel/Coal	30 TPD	30	Cyclone & Bag filter	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm
2	D.G. Set* (200 kVA)	HSD	75 lit/hr.	11	Adequate stack height	NO <sub>x</sub> <150 ppm
<b>➤ Flue Gas Stacks- scenario after expansion</b>						
1	Steam boiler (6.0 TPH)	Bio Fuel/Coal	30 TPD	30	Cyclone & Bag filter	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
2	Steam boiler (10.0 TPH)	Low Sulphur Coal	90 TPD	45	ESP with Lime	PM<150 mg/Nm <sup>3</sup>

					dosing system	SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
3	Steam boiler (10.0 TPH)	Low Sulphur Coal	90 TPD	45	ESP with Lime dosing system	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
4	Thermic Fluid Heater (5.0 Lakh Kcal/hr.)	PNG	1000 SCM/Day	21	Adequate stack height	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
5	Hot Air Generator (1.0 Lakh Kcal/hr.)	PNG	250 SCM/Day	21	Adequate stack height	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
6	D.G. Set (750 kVA)	HSD	160 lit/hr.	11	Adequate stack height	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm
7	D.G. Set (750 kVA x 2 nos.)	HSD	300 lit/hr.	21	Adequate stack height	PM<150 mg/Nm <sup>3</sup> SO <sub>2</sub> <100 ppm NO <sub>x</sub> <150 ppm

14. At present, process emissions are from vent attached with reaction vessel of MAC Plant and reaction vessel of CAC & TCAC Plant. 3 Stage water scrubber followed by alkali scrubber is installed as APCM. After expansion, vent attached to SMC Plant, Vent of Methyl Chloride Plant, Vent of Na TCP Plant, Vent of MPB Plant, Vent of Vent of hood for SO<sub>2</sub> Bottling Plant will be added. Water scrubber followed by Alkali scrubber will be installed as APCM on process vents. Details of process gas stacks are given below.

### The Process Gas stacks

Sr. No.	Stack attached to	Stack Height (m)	APC measures	Probable Emission
➤ Process Gas stack-Existing				

1	Reaction vessels (MCA)	21	3 Stage water scrubber followed by alkali scrubber	HCl<35 mg/Nm <sup>3</sup> Cl <sub>2</sub> <09 mg/Nm <sup>3</sup>
2	Reaction vessels (CAC & TCAC)	21	3 Stage water scrubber followed by alkali scrubber	HCl<35 mg/Nm <sup>3</sup> Cl <sub>2</sub> <09 mg/Nm <sup>3</sup> SO <sub>2</sub> <40 mg/Nm <sup>3</sup>
<b>➤ Process Gas stack after expansion scenario</b>				
1	Vent of MCA Plant	21	4 Stage water scrubber followed by 2 stage alkali scrubbers	HCl<35 mg/Nm <sup>3</sup> Cl <sub>2</sub> <09 mg/Nm <sup>3</sup>
2	Vent of CAC Plant	21	2 Stage water scrubber followed by 1 stage alkali scrubber	HCl<35 mg/Nm <sup>3</sup> Cl <sub>2</sub> <09 mg/Nm <sup>3</sup> SO <sub>2</sub> <40 mg/Nm <sup>3</sup>
3	Vent of TCAC Plant	21	4 Stage water scrubber followed by 3 stage alkali scrubbers	HCl<35 mg/Nm <sup>3</sup> Cl <sub>2</sub> <09 mg/Nm <sup>3</sup> SO <sub>2</sub> <40 mg/Nm <sup>3</sup>
4	Vent of SMC Plant	21	Water scrubber followed by Alkali scrubber	HCl<35 mg/Nm <sup>3</sup>
5	Vent of Methyl Chloride Plant	21	Water scrubber followed by Alkali scrubber	HCl<20 mg/Nm <sup>3</sup>
6	Vent of NaTCP Plant	21	2 Stage water scrubber followed by 1 stage alkali scrubber	HCl<35 mg/Nm <sup>3</sup>
7	Vent of MPB Plant	21	2 Stage water scrubber followed by 1 stage alkali scrubber	HCl<35 mg/Nm <sup>3</sup> HBr<20 mg/Nm <sup>3</sup>
8	Vent of hood for SO <sub>2</sub> Bottling Plant	11	Alkali scrubber	SO <sub>2</sub> <40 mg/Nm <sup>3</sup>

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

S. No.	Type of Waste	Category of Waste as per HWM Rules 2016	Quantity (MT/Month)				Disposal facility
			Existing as per CCA	Proposed		Total	
				Phase-I*	Phase-II		
1.	ETP sludge	35.3	0.050	25	75	100	Collection, Storage, Transportation & Disposal to TSDF site for land filling.
2.	MEE Salt	35.3	--	22	68	90.0	
2.	Distillation Residue	36.4	0.7	27	75	100	Collection, storage, neutralizing and treating, transportation



							and disposal to TSD site for land filling or To CHWI facility for incineration
3.	Used Oil	5.1	0.1 kl/year	--	1.0 kl/year	1.0 KL/year	Collection, storage and reused for internal lubrication purpose, In case of excess sold to registered re-processors
4.	Discarded Containers/Bags/Liners	33.1	100 Nos./month 0.150 Mt/month	600 Nos./month 0.450 Mt/month	400 Nos./month 0.65 Mt/month	1000 Nos./month 1.0 Mt/month	Collection, storage, transportation and disposal by selling to authorize recyclers
5.	ML of MCA	26.3	55	270	90	360	Collection, storage,
6.	HCl (30%)	26.3	1710	7800	650	8450	transportation and disposal by partial reusing and balance selling under Rule-9 to actual users
7.	Sodium bi Sulphite (20-30%)	26.3	340**	700	0.0	700	Collection, storage, transportation and disposal by selling under Rule-9 to actual users
8.	Aluminum Chloride (AlCl <sub>3</sub> )	26.3	0.0	0	1300	1300	Collection, storage, transportation and disposal by
9.	KBr & NaBr	26.3	0.0	0	1500	1500	selling under Rule-9 to actual users

**16.** The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 633 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 465.5 Lakhs per annum which includes Air Pollution [₹ 250 Lakh (capital) and ₹ 25 Lakh/annum (Recurring)], water pollution Control [₹145 Lakh (capital) and ₹ 300

Lakh/annum (Recurring)], Noise Pollution Control [₹5.0 Lakh (capital) and ₹ 1.5 Lakh/annum (Recurring)], Solid /Hazardous Waste Management [₹45 Lakh (capital) and ₹ 125 Lakh/annum (Recurring)], Environment Monitoring and Management [₹3.0 Lakh (capital) and ₹ 5.0 Lakh/annum (Recurring)], Occupational health [₹15.0 Lakh/annum capital ₹ 0.5.0 Lakh/annum (Recurring)] Greenbelt Development Plan [₹ 5.0 Lakh (capital) ₹ 2.0 Lakh/annum (Recurring) Rain Water Harvesting system [₹ 15 Lakh (capital) and ₹ 2.0 Lakh/annum (Recurring)], Industry proposes to allocate ₹ 150 Lakh towards CER for Digging and increase the capacity of Lunej Pond for Rainwater Harvesting, Drinking water and sanitation facilities in surrounding villages, Women Empowerment & children Development activities in surrounding villages, Preservation of Environment & tree plantation in surrounding villages, Medical facility as per requirement to Urban Health Centre, Khambhat Medical facility as per requirement to Urban Health Centre, Khambhat.

17. The PP reported that the advertisement for Public Hearing was published in newspaper viz. The Times of India and in "Divya Bhaskar" on 5.3.2022 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on **6.4.2022**, which was presided by Resident Additional Collector & Additional District Magistrate. The main issues raised during the public hearing were about employment to local people.
18. The PP reported that Unit has developed 1500 m<sup>2</sup> greenbelt in plant premises and proposes to develop greenbelt in an area of 7750 m<sup>2</sup> at project site. After expansion, total greenbelt area will be 9250 m<sup>2</sup> which will be around 33% of the total project area of 28025 m<sup>2</sup>. A greenbelt shall be developed within the site boundary at periphery of the premises.
19. The PP proposed to set up an Environment Management Cell (EMC) by engaging manager-EHS-ETP chemist, APCM chemist, ETP operator, APCM chemist, APCM operator for the functioning of EMC.
20. The PP submitted that total CO<sub>2</sub> emission (Tons/year) is 92652 and Unit will save/capture/ reduce approx. 62326 tons per year or 67% of total carbon dioxide generated during year (considering direct & Indirect Source of CO<sub>2</sub> emission) through mitigation measures suggested and Ca(OH)<sub>2</sub> aqueous solution in wet scrubber will be installed after ESP to capture CO<sub>2</sub> at an average, 100 to 110<sup>0</sup> C temperature, of vented gas.
21. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
22. The PP submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 "I, Mr. Karan Patel, Director of M/s. Karan Intermediates Pvt. Ltd. located at Survey No. 455 & 456, Village: Neja, Tal: Khambhat, Dist. Anand, Gujarat do hereby undertake as under: We undertake that, we will complete additional greenbelt development as per new EC expansion proposal (more than 7750 m<sup>2</sup> within 1 year. What is stated here in above is true to the best of my knowledge and the same I believe to be true".

23. The Consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 that “I, Dr. Mahendra Sadaria, hereby confirm that the above mentioned experts prepared the EIA of M/s. Karan Intermediates Pvt. Ltd. located at Survey No. 455 & 456, Village: Neja, Tal: Khanbhat, Dist. Anand, Gujarat. I also confirm that, the consultant organization shall be fully accountable for any misleading information mentioned in this statement..”.
24. The estimated project cost is Rs. 161.0 Crore including existing investment of Rs. 11.0 Crore. The PP reported that total employment will be 550 persons after expansion.

## **25. 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 Committee 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 Committee deliberated on the certified compliance report that the submitted action plan on Partial complied/ Agreed to comply the conditions in CCR is without mentioning “complied” the conditions. If submitted action plan confirm to the Complied conditions, then EAC suggested PP to submit revised action with confirmation of Complied conditions. The PP submitted the same.

The EAC also deliberated on the capacity of ETP and EAC suggested PP to revise the capacity of ETP to 20% more than the total wastewater generation. The EAC also deliberated on the greenbelt and suggested to submit the video clip of aerial view covering greenbelt in plant area by drone and commitment from PP for completion of greenbelt development within 1 year. The EAC also deliberated on the membership certificate of TSDF site with booked quantity and space capacity of TSDF site.

The EAC also noted about the CO<sub>2</sub> capture and CO<sub>2</sub> reduction step to be taken by unit in submitted CO<sub>2</sub> Sequestration details and clarify how to CO<sub>2</sub> reduction with lime dosing system in Coal fired Boiler. The PP has submitted all of these.

The Committee deliberated the Onsite and Offsite Emergency plans and various mitigation measures to be 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, 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of the EAC and grant of environmental clearance by 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.

**26. 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 7500 m<sup>2</sup> by planting 1940 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, the budget earmarked for the plantation shall be ₹ 5.0 Lakh and 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 1<sup>st</sup> 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 manager-EHS- ETP chemist, APCM chemist, ETP operator, APCM chemist, APCM operator. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 ₹ 633 Lakh (Capital cost) and ₹ 465.5 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (iv) The total water requirement (Industrial + Domestic + Greenbelt) is 104 KLD. After expansion (**Phase-I & Phase-II**), it will be increased up to (575.5+424.5=1000.0 KLD); out of which (492+220=712.0 KLD) will be fresh water requirement & (93.5+194.5=288.0 KLD) will be recycle/treated water (RO permeate, MEE Condensate & Treated water from the STP). Water consumption for **Phase-I** will be 585.5 KLD; out of which 492 KLD will be fresh water requirement & 93.5 KLD will be recycle/treated water. Unit is satisfying its fresh water requirement from ground water source i.e. 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 withdrawal 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (v) 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.
- (vi) 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.
- (vii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) 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.

- (ix) 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.
- (x) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xi) As already committed by the PP, Zero Liquid Discharge shall be ensured and the Entire effluent will be treated in to ETP pass through RO, RO permeate will be reuse in utility and reject will be subject to evaporated in MEE and ATFD. Generated domestic effluent (13.5+4.5=18.0 KLD) will be treated in STP and treated sewage will be utilized for greenbelt development.
- (xii) 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.
- (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 the 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 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.
- (xix) 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.
- (xx) 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. 36.5**

**Expansion for Proposed Synthetic Organic Chemicals (Different Types of Resin) Manufacturing Unit of production capacity upto 2800 MT/Month located at Survey No. 745/P1, 787, 788, Village: Susvav, Taluka: Halvad, District: Morbi, Gujarat by M/s. Welwin Laminates LLP - Consideration of Environmental Clearance**

**[Proposal No. IA/GJ/IND3/232341/2021; File No. IA-J-11011/336/2021-IA-II(I)]**

1. The proposal is for environmental clearance to the project for Expansion for Proposed Synthetic Organic Chemicals (Different Types of Resin) Manufacturing Unit of production capacity upto 2800 MT/Month located at Survey No. 745/P1, 787, 788, Village: Susvav, Taluka: Halvad, District: Morbi, Gujarat.
2. The project/activity is covered under Category 'A' of item 5(f), 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) of the 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 ToR vide proposal number IA/GJ/IND3/232341/2021 dated 28.10.2021 and the ToR has been issued by the Ministry, vide letter No. IA-J- J-11011/336/2021-IA-II(I) dated 2.11.2021. The PP submitted that Public hearing was conducted on 19.04.2022 which was presided by the District Magistrate and District Collector. The PP applied for Environment Clearance on 22.6.2022 in Form-2 and submitted 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 5.7.2022 and 17.7.2022 and reply to the same was submitted on 6.7.2022 and 21.7.2022. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and the accredited Consultant T. R. ASSOCIATES [Accreditation number NABET/EIA/1922/SA 0153 Valid up to 8.4.2023 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 1.6188 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

Sr. No.	Name of Product	Proposed Resin Production Capacity (MT/Month)	CAS No.	End Use
1	Phenol Formaldehyde Resin	1100	9003-35-4	Laminate sheet production
2	Urea Formaldehyde Resin	1200	9011-05-6	Laminate sheet production
3	Melamine Formaldehyde Resin	500	9003-08-1	Laminate sheet production
<b>TOTAL</b>		<b>2800</b>		

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 court notice direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that unit has obtained CTE from GPCB for manufacturing of laminate sheet. Unit is in construction phase nowadays.
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. However Wild Ass Sanctuary is located at 17.64 km in NW direction. Canal from Sirohi Dam is 0.39 km away in South direction, Branch canal is 0.36 km in West direction, while stream is 4.43 km in East direction. The PP reported that no forest area is involved in the proposed project and one Schedule-I species i.e., Indian peafowl exist within 10 km study area of the project, conservation plan is submitted to PCCF and Chief wildlife warden on 20.5.2022 with budgetary provision of ₹ 5.0 Lakh. The PP committed to implement the plan in five years.
8. The PP reported that Ambient air quality monitoring was carried out at 8 locations during October 2021 to December 2021. October 2021 to December 2021 baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (59.11 µg/m<sup>3</sup> to 86.63 µg/m<sup>3</sup>), PM<sub>2.5</sub> (29.44 µg/m<sup>3</sup> to 52.29 µg/m<sup>3</sup>), SO<sub>2</sub> (2.11 µg/m<sup>3</sup> to 17.81 µg/m<sup>3</sup>) and NO<sub>2</sub> (16.43 µg/m<sup>3</sup> to 36.87 µg/m<sup>3</sup>). The AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion project would be 0.02 µg/m<sup>3</sup>, 0.1 µg/m<sup>3</sup> and 0.005 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub>. The resultant concentrations are within the National Ambient Air Quality Standards



(NAAQS). The maximum noise level measured in the study area was 72.6 dB (A) in day time and 68.6 dB (A) in night time near Project Site, which were below the stipulated standards. The noise levels (Leq) of the residential area within the impact zone varied from 47.9 – 50.3 dB (A) in the day time and 41.6 – 42.1 dB (A) in the night time.

9. Ground water - pH is found within the acceptable limit at all locations except Mayurnagar (9.0), Juna Dhanala (9.6) & Susvav (10.2). Chloride is found higher than the acceptable limit but below the permissible limit at Pratapgadh (393.7 mg/L). Total hardness is found higher than the permissible limit at only Pratapgadh. Calcium and magnesium are found well within limits at all the locations. Sulphate is found well within the acceptable limit at all locations. TDS is found higher than acceptable limit at all the locations except Juna Dhanala and Susvav but all are well within permissible limit. The Fecal Coliform is observed only at Juna Dhanala & Susvav. Ground water is suitable for domestic and agricultural purpose after adequate treatment such as primary treatment and disinfection. Surface water - pH is found higher than the acceptable limit at all the locations because of the domestic activities such as washing of cloths, utensils etc. Chloride is found within the acceptable limit at all the locations. Magnesium is found well within accepted limit at all locations except Juna Dhanala Lake but is well within permissible limit. Sulphate is also found within the acceptable limit at all the locations. TDS is also found within the acceptable limit at all the locations except River near Mayurnagar and Juna Dhanala lake but are well within permissible limits. Fecal coliform was found at almost all locations except Brahmani dam-2 & Canal near Shivrinar Village may be due to the cattle washing, presence of algae, use of water for domestic activities, which may impact on health of persons who will use this water. Thus, surface water can be used for agricultural purpose after adequate primary treatment.
10. The soils of the expansion for proposed project area are neutral to slightly alkaline in reaction. The soil of Vishalnagar and Sultanpur villages are slightly alkaline and the soils of remaining soil sampling locations are normal. EC of soils of all the sampling locations is normal. Organic carbon content of soils of Project site, Juna Dhanala and Ghanshyamnagar villages are low, while soils of Juna Devaliya, Pratapgadh and Ishvarnagar villages have high Organic Carbon content. The farmers would have buried crop residues after harvest of the crops and used organic manures. CEC values ranged from medium to high. CEC values of Project Site as well as Juna Dhanala and Juna Devaliya villages have medium while soils of Pratapgadh, Ishvarnagar and Ghanshyamnagar villages have high CEC values. This indicates that the soils having high CEC values seem to be fertile, more clay content and medium black. The soils with medium CEC value seem to be less fertile and having coarser sand. The soils of expansion for proposed project area are either sandy loam or sandy clay loam and hence water holding capacity of soils is found to be good. Nutrient availability of soil samples found to be medium in N, low in  $P_2O_5$  and high in  $K_2O$ . All the soil samples have less than critical level of Ca (<25% of CEC). Sodium value ranges from 1.17 to 3.31 mg/L. SAR value of soil of Project site has high, Vadharva village has medium and other soil sampling locations have low. Bulk density ranged from 1.46 to 2.46  $g/cm^3$ . In short, the soils of expansion for proposed project area are sandy loam to medium black type, fertile, good water holding capacity and slightly saline in nature.

11. The PP reported that total water requirement for the Resin plant will be **25.98 KLD** which will be fulfilled by Borewell, in which fresh water will be **19.59 KLD** and reuse water will be **6.39 KLD**. The unit has also applied for NOC from CGWA department for total water consumption (laminated sheet + Resin) dated 20.6.2022 Total **1.5 KLD** domestic wastewater will be generated from resin plant, which will be treated in STP. About **6.16 KLD** effluents will be generated from Boiler, Cooling Tower, RO reject, Washing, Scrubbing and Process. However, there will not be any requirement of water in manufacturing activities. About **0.5 KLD** wastewater will be generated from floor washing. About **0.8 KLD** and **0.16 KLD** wastewater will be generated from boiler and cooling tower respectively as blow down, **0.5 KLD** will be generated from scrubber and about **2 KLD** will be of R.O. reject. About **2.2 KLD** wastewater will be generated from manufacturing process. 8 KLD RO permeate water will be used for Boiler. About 0.8 KLD wastewater from Boiler, 0.5 KLD from scrubber, 0.16 KLD from washing activity and 2.2 KLD wastewater from process will be generated and treated in ETP. 4.92 KLD condensate from single effect forced circulation evaporator will be reused in industrial activities. the plant will be based on Zero Liquid Discharge System.

12. The PP reported that Power requirement after expansion for proposed will be 300 **KVA** and has met from **PGVCL**. 500 KVA D. G. Set [Fuel: HSD (100 L/hr.)] has been provided and used only in case of power failure. Stack (15 meter) will be provided as per CPCB norms to the DG set.

13. Industry will provide one steam boiler of 5 TPH [Fuel: Briquettes (6.87 Ton/day) / Indonesian coal (5.0 Ton/day)]. (Indonesian coal will only be used when unavailability of briquettes). Unit will increase working hours of steam boiler (5 TPH) for proposed resin manufacturing (working for 8 hours). Multi Cyclone Dust collector followed by bag filter followed by alkaline scrubber with stack height of 30 m has been installed for controlling the particulate emissions within the statutory limit.

14. **Details of Process Emissions Generation and their Management:** There is no Process Emissions Generation and their Management

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

Sr. No.	Description	Category	Quantity (MT/annum)	Mode of Disposal
1	ETP Sludge	35.3	19.58	Collection, storage and disposal at approved TSDF site
2	Evaporation Residue	35.3	58.72	Collection, storage and disposal at approved TSDF site
3	Used Oil	5.1	0.05	Collection, storage and used within premises as a lubricant / sold to registered recycler
4	Discarded Plastic Bags /Barrels	33.1	19.78	Collection, storage & sold to authorized vendor

5	Spent Carbon*	35.1	38.4	Collection, storage and disposal at approved CHWIF site
6	Resin Residue	23.1	16.8	Collection, storage and disposal at approved CHWIF site
7	Edge cutting waste	23.1	408	Collection, storage and disposal at approved CHWIF site

- 16.** The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 95.93Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 98.73 Lakh per annum, which includes Air Pollution [₹ 23 Lakh (capital) and ₹ 5.28 Lakh/annum (Recurring)], water pollution [₹ 19.23 Lakh (capital) and ₹ 43 Lakh/annum (Recurring)], noise Pollution [₹ 0.12 Lakh/annum (capital) and ₹ 3.36 Lakh/annum (Recurring)], Hazardous solid waste management [₹ 1.0 Lakh (capital) and ₹ 10.766 Lakh/annum (Recurring)], soil ₹ 0.5704 Lakh/annum (Recurring)], Greenbelt [₹ 9.41 Lakh/annum (capital) and ₹ 4.0 Lakh/annum (Recurring)], Fire safety and occupational health [₹ 28.51 Lakh (capital) and ₹ 1.95 Lakh/annum (Recurring)], Miscellaneous Rain water harvesting [₹ 3.41 Lakh (capital) and ₹ 27 Lakh/annum (Recurring)], Industry proposes to allocate ₹ 2.7 Lakh towards CER for such as Installation of solar lights in nearby villages.
- 17.** The PP reported that the advertisement for Public Hearing was published in newspaper viz. The Times of India and in Gujarat Samachar on 16.3.2022 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on 19.4.2022, which was presided by District Magistrate and District Collector. The main issues raised during the public hearing are related to solid waste generation details, impacts in village due to the project, precautionary steps, responsibility for the pollution done by industry.
- 18.** Industry will develop greenbelt in an area of 33.72 % i.e, 5459 m<sup>2</sup> out of total area (16188 m<sup>2</sup>) of the project.
- 19.** The PP proposed to set up an Environment Management Cell (EMC) by engaging Environmental engineer- Chemist QA/QC – safety and health officer for the functioning of EMC.
- 20.** The PP reported that Net CO<sub>2</sub> emitted = 1890 MT/year, Production per year =43,200 MT/year, Net CO<sub>2</sub> emitted ton per product = 0.0437 MT or 43.7 kg, approximately 12.3 % CO<sub>2</sub> will be sequestrated by use of renewable energy, and approximately 38% of carbon emitted will be sequestrated by Social Forestry and Greenbelt Development. We will reduce carbon footprint emission upto 12.3% by adopting renewable energy.
- 21.** The PP submitted the disaster and Onsite and Offsite Emergency Plan in the EIA report.

22. The PP also submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 “I, Bipin Lalji Loriya - Designated Partner of M/s. Welwin Laminates LLP located at Survey No. 745/P1, 787, 788 Village: Susvav, Taluka: Halvad, District: Morbi-363351 do hereby give undertaking with reference to MoEF&CC O.M. No. J-11013/41/2006-IA.IL(I) dated 05% October 2011, that the data and information given in the Environmental Impact Assessment (EIA) report are factually correct and we will responsible for any discrepancy in the EIA report. We also undertake that content including information & data of the EIA report is own by us and data or information not taken from any other EIA report. The above stated fact is true to the best of my knowledge”.
23. The consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 “I, T. R. Patel, Proprietor of M/s. T. R. Associates located at A-401, S. G. Business Hub, B/w. Sola Bhagwat & Gota Over Bridge, Near Umiya Campus, S. G. Highway, Ahmedabad - 380060, Gujarat, do hereby give undertaking with reference to MoEF O.M. No. J-11013/41/2006-IA.IL.(1) dated 04 August 2009, that we have prepared EIA report for M/s. Welwin Laminates LLP located at Survey No. 745/P1, 787, 788 Village: Susvav, Taluka: Halvad, District: Morbi-363351, as per Terms of Reference (ToR) prescribed wide letter no.: JA-J- 11011/336/2021-IA-II(I), dated 294 November 2021. The stated ToRs have been complied with and the data mentioned in the EIA report are factually correct. The above stated fact is true to the best of my knowledge”
24. The estimated project cost is ₹ 1232.17 Lakh. Total direct Employment will be 20 persons.
25. **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 Committee 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 Committee deliberated on the water quantity and the EAC suggested the PP to check the usage of water i.e. water quantity for gardening purpose. The EAC also deliberated on the maximum carbon sequestration emitted by the industry, and

EAC suggested to PP to give the budgetary allocation for social forestry and location where social forestry is to be carried out. The PP submitted the same.

The EAC also deliberated on the carbon foot prints and carbon footprint report with considering product transportation, (scope-3). The PP submitted the same.

The Committee deliberated on the Onsite and Offsite Emergency plans and various mitigation measures to be 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, 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of EAC and grant of environmental clearance by 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.

**26. 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 5459 m<sup>2</sup> by planting 1365 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, The budget earmarked for the plantation shall be ₹ 9.41 Lakh 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 1<sup>st</sup> 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. The PP shall engage

Environmental engineer- Chemist QA/QC. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 ₹ 95.93 Lakh (Capital cost) and ₹ 98.73 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (iv) Total water requirement for the Resin plant will be **25.98 KLD** which will be fulfilled by Borewell, in which fresh water will be **19.59 KLD** and reuse water will be **6.39 KLD**. The unit has also applied for NOC from CGWA department for total water consumption (laminated sheet + Resin) dated 20.6.2022. 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 valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (v) 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.
- (vi) 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.
- (vii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) 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.

- (ix) 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.
- (x) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xi) As already committed by the PP, Zero Liquid Discharge shall be ensured and about 0.8 KLD wastewater from Boiler, 0.5 KLD from scrubber, 0.16 KLD from washing activity and 2.2 KLD wastewater from process will be generated and treated in ETP. 4.92 KLD condensate from single effect forced circulation evaporator will be reused in industrial activities.
- (xii) 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.
- (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 the 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 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.
- (xix) 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.
- (xx) 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. 36.6**

**Expansion of Chlorinated Paraffin Plasticizer with production capacity from (50 TPD to 125 TPD) & Hydrochloric Acid (byproduct) (100 TPD to 250 TPD) Manufacturing Unit, located at Survey No. 62 A part, Village Gondiparla, Mandal & District Kurnool, Andhra Pradesh by M/s. Shivtek Industries Private Limited - Consideration of Environmental Clearance**

**[Proposal No. IA/AP/IND2/72163/2018; File No. IA-J-11011/21/2018-IA-II(I)]**

1. The proposal is for environmental clearance to the project for Expansion of Chlorinated Paraffin Plasticizer with production capacity from (50 TPD to 125 TPD) & Hydrochloric Acid (byproduct) (100 TPD to 250 TPD) Manufacturing Unit, located at Survey No. 62 A part, Village Gondiparla, Mandal & District Kurnool, Andhra Pradesh by M/s. Shivtek Industries Private Limited.
2. The project/activity is covered under Category 'A' of item 5(f), 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) of the Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) due to the applicability of general condition, i.e. Telangana and Andhra Pradesh interstate boundary lies within 5 km (0.68 km toward ENE) radius of the project site. Therefore, the project requires appraisal at Central Level.
3. The PP applied for ToR vide proposal number IA/AP/IND2/72163/2018 dated 10.1.2018 and the standard ToR has been issued by the Ministry, vide letter No. A-J-11011/21/2018-IA-II(I) dated 15.2.2018. The PP submitted that the Public Hearing was conducted on 5.11.2021 which was presided by the Additional



District Magistrate and DRO. The PP applied for Environment Clearance on 18.5.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported that it is a **Fresh EC**. Due to some shortcomings, the Project was referred back to the PP on 24.5.2022, 8.6.2022, 15.7.2022 and reply to the same was submitted on 7.6.2022, 30.6.2022, 21.7.2022. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and the accredited Consultant Gaurang Environmental Solutions Pvt. Ltd. [Accreditation number NABET/EIA/2023/RA0192(Rev 01), valid upto 19.1.2023] 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 1.01171 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

S. No.	Product	Proposed (T/M)	Proposed (T/A)	CAS No.	End Use
1	Azacyclonol	32.00	384.00	115-46-8	Treatment of Schizophrenia
2	Ethyl Iso Nipecotate	8.50	102.00	1126-09-6	API Intermediate
3	Nicotinic Acid Methyl Ester	4.20	50.40	93-60-7	Used as a Rubefacient for relief of pains in muscles, tendons and joints
4	1-Benzylpiperidine-4-Carboxaldehyde	0.60	7.20	22065-85-6	API Intermediate
<b>Total (A)</b>		<b>45.30</b>	<b>543.60</b>	--	--
<b>By-Product</b>					
1	Ammonium Sulfate	10.08	120.96	7783-20-2	--
<b>Total (B)</b>		<b>10.08</b>	<b>120.96</b>	--	--

5. The PP reported that there is a violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and court case is issued under E(P) Act/Air Act/Water Act. The PP reported that the project is operational since the year 2011 without obtaining prior environmental clearance hence it is **violation case** in respect to EIA Notification dated 14<sup>th</sup> March 2017. The unit had obtained **Consent for Operation (CFO)** under chapter 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under chapter 21 of Air (Prevention & Control of Pollution) Act, 1981 and **Authorization** under Rule 6 of the HoW Rules, 2016 vide **Order No. KLN-287/APPCB/ZO-KNL/CFO&HWM/2017** dated **02.02.2018** valid till **30.11.2021**.
6. The PP reported that the manufacturing process started in 2012 and had been continued till 08.10.2016. There was a fire accident in the factory on 8.10.2016. Due to this, factory was closed for about one year and it was in regular in operation from January 2018.

7. The PP reported that the matter of operation of the factory was referred to Andhra Pradesh Pollution Control Board (APPCB) but they never received any response from them. Draft EIA was submitted to APPCB in August 2020 but no response was received for over a year. At last, Public Hearing was conducted in November 2021. The plant was in operation upto November 2021 in confirmation with the valid Consent to Operate (CTO). On expiry date of CTO, the plant was closed since. Traces are linked to the fact that Madras High Court had permitted several such industries to operate under such circumstances.
8. The PP reported that Certified Compliance report of CFO conditions by APPCB has been obtained vide letter no. 2811 APPCB/RO/KNL/CF0/2022 dated 26.03.2022.
9. 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. Tungabhadra River is at 1.3 km in WSW direction. The PP reported that no forest area is involved in the proposed project and two Schedule-I species i.e. Indian peafowl & Blackbuck exist within 10 km study area of the project, conservation plan is submitted to PCCF and CWLW with budgetary provision of ₹ 4.0 Lakh. The PP committed to implement the plan in one year.
10. The PP reported that the ambient air quality monitoring has been carried out with a frequency of two days in a week at eight locations covering one complete season i.e. winter (Dec 2018-Feb 2019) and one-month additional baseline for January 2022. The maximum and minimum concentrations for PM<sub>2.5</sub> were recorded as 33 µg/m<sup>3</sup> and 14 µg/m<sup>3</sup> respectively. The maximum concentration was recorded at AAQ1 (Project Site) and the minimum concentration was recorded at AAQ4(Kasipur) and AAQ6 (Padidempadu near R.F) PM<sub>10</sub>: The maximum and minimum concentrations for PM<sub>10</sub> were recorded as 64 µg/m<sup>3</sup> and 35 µg/m<sup>3</sup> respectively. The maximum concentration was recorded at AAQ1 (Project Site) and the minimum concentration was recorded at AAQ3 (Gondiparla). SO<sub>2</sub>: The maximum and minimum SO<sub>2</sub> concentrations were recorded as 17 µg/m<sup>3</sup> and 9 µg/m<sup>3</sup> respectively. The maximum concentration was recorded at AAQ1 (Project Site) and the minimum concentration was recorded at AAQ4 (Kasipur), AAQ5 (Kurnool), AAQ6 (Padidempadu near R.F) and AAQ8 (Devamada). NO<sub>2</sub>: The maximum and minimum NO<sub>x</sub> concentrations were recorded as 16 µg/m<sup>3</sup> and 9 µg/m<sup>3</sup>. The maximum concentration was recorded at AAQ1 (Project Site), AAQ 2 (E.Thandrapadu) and AAQ7 (Panchaligala) and the minimum concentration was recorded at AAQ3(Gondiparla), AAQ4 (Kasipur), AAQ5 (Kurnool), AAQ6 (Padidempadu near R.F) and AAQ8 (Devamada).
11. Noise levels during day time were found to be in the range 45 to 58 dB (A). The maximum noise level was observed to be 58 dB (A) at NQ 1 (Project site) and a minimum of 45 dB (A) was observed at NQ 3 (Devamada). Noise levels observed to fall in the range 36 to 44 dB (A) during the night time. A maximum of 44 dB (A) was observed at NQ 1 (Project site) and a minimum of 36 dB (A) was observed at NQ 7 (Padidempadu).
12. The soil results were compared with soil standards. It has been observed that the pH of the soil ranged from 6.61 to 7.91 indicating the soil is basic in nature. The texture of the soil sample is predominantly Sandy clay. The soil organic content varied from 0.99 to 4.9 %. The cation exchange capacity of the soils is very low in all samples,

contributed mainly by Potassium exchangeable ions. The level of nitrogen of the all samples is very low to low while the potassium levels are high. The calcium magnesium ratio of the samples reflects calcium is low. The results of ground water were compared to Indian Standard Specification of drinking water IS: 10500:2012 and found fit for drinking purpose.

- 13.** The PP reported that the total daily water requirement for the project after the proposed expansion will be 200 KLD (existing 87 KLD + proposed 113 KLD). The daily fresh water demand will be 198.30 KLD and the treated/recirculated water demand will be 1.70 KLD. The fresh water will be supplied by M/s SRAAC Ltd. Domestic effluent of 1.8 KLD will be treated through proposed modular STP of 2 KLD capacity. The plant will be based on Zero Liquid Discharge system. Treated water from STP to the tune of 1.7 KLD will be used for greenbelt
- 14.** The PP reported that the total power demand after the proposed expansion will be 400 kVA (existing 210 kVA+ proposed 190 kVA). Power will be available from Andhra Pradesh Power Corporation Limited; supplied to Shivtek Industries Pvt. Ltd by SRAAC Ltd. The existing project has three DG sets of capacities 100 kVA, 62 KVA & 40 kVA. In the expansion project, it is proposed to install one DG Set of 320 KVA in place of 40 KVA 7 62 KVA. HSD is being used for DG Set operations. Adequate stacks have been provided on the DG sets as per CPCB guidelines

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

<b>Process emission</b>	Chlorination process	Un-reacted Chlorine carried away with HCL vapors	<ul style="list-style-type: none"> <li>• Unreacted gas &amp; vapors are passed through Absorbers &amp; wash towers and further to neutralization plant of SRAAC for formation of Sodium Hypochlorite.</li> <li>• Condenser system for process emissions has been installed</li> <li>• Leak Detection and repair system has been implemented for detection of gas.</li> <li>• Leak free pump with mechanical seals are used for transfer solvent from storage tank to reactor.</li> <li>• It is ensured that minimum no. of flanges, joints and valves to avoid leakage from pipelines.</li> </ul>
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**16. Details of Solid Waste Generation and its Management:**

**Municipal Solid Waste**

Waste	Quantity	Cat.	Mode of disposal
Used/ spent oil	100 lt/year	5.1 of schedule I	Re-Processors/ Recyclers of waste oil authorized by APPCB/SPCBs

**Municipal Solid Waste**

Particulars	Detail	Basis	Quantity of waste generated (Kg/day)
Workers	45 nos.	@0.55 kg/day	24.75 Say 25
Landscaping	0.82 acre	@0.2kg/acre/day	0.164
<b>Total</b>			<b>25.16 say 25 kg/day</b>

17. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 26 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 12.15 Lakh per annum, which includes Air pollution Control [₹ 9.5 Lakh (capital) and ₹ 1.5 Lakh/annum (Recurring)], Water pollution Control [₹ 5 lakh (capital) and ₹ 2 Lakh/annum (Recurring)], Noise pollution Control [₹ 1 Lakh/annum ( capital) and ₹ 0.5 Lakh/annum (Recurring)], Solid & hazardous waste disposal [₹ 1.0 Lakh (capital) and ₹ 0.3 Lakh/annum (Recurring)], Rain water storage tank [₹ 2.0 Lakh (capital), ₹ 0.1 Lakh/annum (Recurring)], Environment Monitoring (air, water, soil, noise) [₹ 2.75 Lakh/annum (Recurring)], Occupational Health & Safety [₹ 2 Lakh (capital) and ₹ 0.5 Lakh/annum (Recurring)], Firefighting equipment & fire hydrant [₹ 0.5 Lakh/annum (Recurring)], Green belt development [₹ 5.99500 Lakh (capital) and ₹ 4 Lakh/annum (Recurring)], Social EMP [₹7.5 Lakh (capital) ] Industry proposes to allocate ₹ 7.50 Lakh towards addressing issues raised during public hearing & recommendations of the EAC based on MoEF&CC O.M. 22-65/2017-IA.III dated 30.09.2020.
18. The PP reported that the advertisement for the Public Hearing was published in newspaper viz. "The New Indian Express" and Sakshi on 4.10.2021 and the Public Hearing for the project was conducted by the Andhra Pradesh Pollution Control Board on **5.11.2021**, which was presided by Additional District Magistrate and DRO. The main issues raised during the public hearing are related to drinking water, employment opportunities, community infrastructure, health infrastructure & education related infrastructure development.
19. Greenbelt will be developed in 33% (3379 m<sup>2</sup>) of the total project area with native species using 545 more trees.
20. The PP proposed to set up an Environment Management Cell (EMC) by engaging chief operating officer – head Technical service- Manager Environment for the functioning of EMC.
21. The PP reported that the total amount of CO<sub>2</sub> emitted before proposed plan was 137.1 Ton/annum and carbon sequestered with existing plantation was 4180 Ton/annum. Therefore, emissions were under control. Total Amount of CO<sub>2</sub> emitted after proposed plan with change in DG set capacity will be 278.9 Ton /annum and carbon sequestration will be 1196 Ton/annum. Therefore, emission of CO<sub>2</sub> will be under control.
22. The PP submitted the Disaster and Onsite and Offsite Emergency Plans in the EIA report.
23. The PP also submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 ' I hereby give undertaking that the data and information

*given in the application enclosures and other documents are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost. ”.*

24. The consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 “*I hereby submit an undertaking as part of report owning the contents (information and data) of the application and relevant documents submitted and that the contents of EIA report pertaining to the Expansion of Chlorinated Paraffin Plasticizer with production capacity from (50 TPD to 125 TPD) & Hydrochloric Acid (byproduct) (100 TPD to 250 TPD) Manufacturing Unit have not been copied from other EIA reports.*”
25. The estimated project cost is Rs. 700 Lakh (Existing 400 Lakh + Proposed 300 Lakh). Total Employment after expansion will be 45 persons.
26. **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 Project Proponent in desired format along with the EIA/EMP reports prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent.

The EAC noted that the Project Proponent 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 project proponent.

The Committee 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 Committee deliberated on the budget allocated towards plantation in the natural community augmentation resource plan and EAC suggested PP to submit revise community augmentation plan. The EAC also deliberated on the greenbelt development & plantation programme and EAC suggested to PP to revise greenbelt development & plantation w.r.t number of trees to be planted and the calculation should take into consideration a survival rate of 80%. The PP submitted the same, and EAC found it to be satisfactory.

The EAC also noted about the monitoring report of Cl<sub>2</sub> in the ambient air. PP submitted the same.

The Member Secretary informed that Ministry has issued a Standard Operating Procedure dated 7<sup>th</sup> 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 15<sup>th</sup> July 2021. Recently, in the Order dated 9<sup>th</sup> 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 7<sup>th</sup> July, 2021."*

The EAC observed that in this regard, the Ministry issued O.M. number 22-21/2020- IA.III dated 28.1.2022. Further, the instant proposal is of State of Andhra Pradesh and should be dealt as per the provision of SOP dated 7.7.2021 for handling of violation cases. The PP also submitted the a) Damage Assessment Plan, b) Remedial Plan and c) Community Augmentation plan. The details of the same are as follows:

#### Revised Remediation Plan:

S. No.	Environmental component	Activity	Budget
1.	Land environment	Plantation: 714 trees within the plant premises	Rs. 7,85,500.00
2.	Water Pollution	RW Storage tanks within project premises (4 nos. of volume 100 cu. m. each)	Rs. 800,000.00
3.	Noise pollution	PPEs to be provided to the workers (45 workers)	Rs. 45,000.00
<b>TOTAL BUDGET TOWARDS REMEDIATION PLAN (TO BE SPENT WITHIN PROJECT)</b>			<b>Rs. 16,30,500.00</b>

#### Revised Natural and Community Resource Augmentation Plan:

S. No	Field/Activity	Location	Budgetary Allocation (Rs.)	Time frame for implementation
A	<b>Revised Natural Resource Augmentation Plan</b>			

a.	5000nos Trees to be planted in consultation with Village Panchayat/ local bodies (including maintenance for 4 years)	Govt. School, PHC/ CHC in E.Thandrapadu village	Rs. 11,00,000.00	Within 2 year ( 2500 trees each year)
<b>B Community Resource Augmentation Plan</b>				
a.	Construction of 4 nos. rain water harvesting structure	Government Primary School in E.Thandrapadu village & Panchayat office	Rs. 12,00,000.00	1 <sup>st</sup> year: 2 nos. In Govt. School 2 <sup>nd</sup> year: 2 nos. At Panchayat office
b.	1 no. of GLR with R.O. Plant (Drinking water facility) each in E. Thandrapadu village & Gondiparla village. Land to be earmarked and provided by village Panchayat	E. Thandrapadu village & Gondiparla village	Rs. 10,00,000.00	1 in each year
c.	Assistance to farmers by providing seedlings, manure and Bio-fertilizers in consultation with village panchayat	E. Thandrapadu village & Gondiparla village	Rs. 12,00,000.00	Rs. 4 lacs/annum for 3 years
d.	Sponsoring students for vocational training programme in Govt. ITI school, Kurnool for ITI trades [welder, wireman, fitter, mechanic (motor vehicle), HVAC technician plumber etc.]	5 students each from E. Thandrapadu village & Gondiparla village for 3 years	Rs. 10,50,000/-	Rs. 3.5 lacs/annum for 3 years
5.	Solar lights in E. Thandrapadu village & Gondiparla village in consultation with village Panchayat	E. Thandrapadu village & Gondiparla village	Rs. 205,000.00	Within 1 year
<b>Total cost</b>			<b>Rs. 1,01,55,000.00/-</b>	

<b>Revised Summary of Budgetary Allocation</b>
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S. No.	Particulars	Estimated Cost (in Rs.)	
		Original calculation	Revised calculation as per directions of EAC
1.	Remediation plan	Rs. 14,45,000.00	Rs. 16,30,500.00
2.	Natural resource & Community resource augmentation plan	Rs. 57,55,000.00/-	Rs. 1,01,55,000.00/-
<b>Total</b>		<b>Rs. 72,00,000.00/-</b>	<b>Rs. 1,17,85,500.00/-</b>

The revised Cost towards Remediation and Natural/community resource augmentation plan is **Rs. 1,17,85,500.00/-** therefore, the bank guarantee of the same will be made and submitted to APPCB.

The EAC observed that as per Step-3 B (viii), *the project proponent will be required to submit a bank guarantee equivalent to the amount of Remediation Plan and Natural & Community Resource Augmentation Plan with Central / the State Pollution Control Board (depending on whether it is appraised at Ministry or by SEIAA). The quantification of such liability will be recommended by Expert Appraisal Committee and finalized by Regulatory Authority. The bank guarantee shall be deposited prior to the grant of environmental clearance and will be released after successful implementation of the Remediation plan and Natural & Community Resource Augmentation Plan.*

The EAC observed that as per para 12 of the SOP dated 7.7.2021, there is a provision of Penalty. The instant proposal falls under category 12(a) (II) and for the compliance of the same, the PP submitted the following penalty amount. The EAC agreed with the same, which shall be remitted by the PP to the fund maintained by the SPCB as per Ministry's O.M. dated 28.07.2022.

Details	Amount (in Rs.)	Penalty %	Penalty in (Rs.) =B x C ( Lakh)
A	B	C	D
Project cost incurred upto 18.5.2022. i.e date of filling of application along with EIA/EMP report	400 Lakh	1	4 Lakh
Total turnover during the period of violation	441.62 crore	0.25	110.405 Lakh
Total			114.405 Lakh
114.405*0.5 (as per 12.2 of SOP i.e. suo-moto reporting of violation by PP vide e-mail dated 13.12.2017)			<b>57.2025 Lakh</b>

The Committee deliberated the Onsite and Offsite Emergency plans and various mitigation measures to be 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, 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 Committee is of the view that recommendation of EAC and grant of environmental clearance by 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 project proponent 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.

**27. 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 Budget earmarked towards Remediation plan and Natural and Community Resource Augmentation plan is ₹ 117.855 Lakh. The PP is required to submit the bank guarantee for an amount as approved by regulatory Authority to the CPCB.
- (ii) The PP shall spend amount proposed for Remediation plan and Natural and Community Resource Augmentation plan within a span of three years. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of activities carried out etc. to the Regional Office of MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.
- (iii) Remediation plan shall be completed in 3 years whereas bank guarantee shall be for 5 years. The bank guarantee will be released after successful implementation of the remediation plan and the Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.
- (iv) A penalty amount of Rs. 57.2025 Lakh shall be remitted by the PP to the fund maintained by the SPCB as per the Ministry's O.M. dated 28.07.2022.
- (v) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. The State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.
- (vi) Preventive measures to be taken to control ignition sources in bulk storage area and fire protection system to be established above ground storage tanks. Proper

earthing shall be provided in all the electrical equipment wherever solvent handling is done.

- (vii) The PP shall develop Greenbelt over an area of atleast 3379 m<sup>2</sup> by planting 414 trees 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 ₹ 7.855 Lakh and 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 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 1<sup>st</sup> July of every year for the activities carried out during previous year.
- (viii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage operating officer – head Technical service- Manager Environment. In addition to this one safety & health officer with suitable qualification and experience shall be engaged within six months 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 1<sup>st</sup> July of every year for the activities carried out during previous year.
- (ix) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 26 Lakh (Capital cost) and ₹ 12.15 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 1<sup>st</sup> July of every year for the activities carried out during previous year.
- (x) The total daily water requirement of the project after the proposed expansion will be 200 KLD (existing 87 KLD + proposed 113 KLD). The daily fresh water demand will be 198.30 KLD and the treated/ recirculated water demand will be 1.70 KLD. The fresh water will be supplied by M/s SRAAC Ltd. 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 valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year
- (xi) 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.

- (xii) 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.
- (xiii) The project proponent shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (xiv) 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.
- (xv) 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.
- (xvi) The project proponent shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xvii) As already committed by the PP, Zero Liquid Discharge shall be ensured. Domestic effluent of 1.8 KLD will be treated through proposed modular STP of 2 KLD capacity and treated water from STP to the tune of 1.7 KLD will be used for greenbelt
- (xviii) 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.
- (xix) 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.
- (xx) 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.
- (xxi) 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.

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

### **Agenda No. 36.7**

**Proposed Expansion of Synthetic Organic Chemicals Manufacturing Unit (550 MT/Month to 1500 MT/Month) located at Revenue Survey No. 194/2, Sokhada, Taluka: Khambhat, District: Anand, Gujarat by M/s. Unity Dye Chem Pvt. Ltd. - Consideration of Terms of Reference**

**[Proposal No. IA/GJ/IND3/280744/2022; File No. IA-J-11011/239/2022-IA-II(I)]**

1. The proposal is for ToR to the project for Proposed Expansion of Synthetic Organic Chemicals Manufacturing Unit (550 MT/Month to 1500 MT/Month) located at Revenue Survey No. 194/2, Sokhada, Taluka: Khambhat, District: Anand, Gujarat by M/s. Unity Dye Chem Pvt. Ltd.

2. The project/activity is covered under Category 'A' of item 5(f) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended).
3. The PP applied for ToR vide proposal number No. **IA/GJ/IND3/280744/2022** dated 29.6.2022 and submitted Form-1 & PFR. In the Form-1, PP has mentioned that it's an expansion project. Due to the shortcoming the project was referred back to PP dated 5.7.2022 and reply for the same has been submitted dated 21.7.2022 The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, M/s Aqua-Air Environmental Engineers Pvt. Ltd. (NABET Accreditation No.: NABET/EIA/2023/IA0062 (Rev. 03), valid upto October 7, 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 Unit doesn't have earlier Environmental Clearance. Unit has CTO Before EIA Notification, 2006. Initially unit has CTO for 10 MT/month of production vide Consent Order No. 3200 dated: 16/07/2004. Unit has obtained Amalgamation of three different pigment manufacturing units located at Sr. No. 194, Vill-Sokhada, Tal-Khambhat, Anand with cumulative capacity of 50 MT/Month of Pigments vide Consent Order No. 31523 dated: 10/02/2009. Unit has obtained CTO for Blending and mixing of Pigments (500 MT/month) vide letter no. GPCB/CCA-KH-116/25222/24109 dated: 29/10/2009. The PP reported that there is no violation of EIA notification, 2006, no court case is pending against the proposal and no direction issued under E (P) Act/Air Act/Water Act.
5. The PP reported that proposed expansion is from **550** MT/month to **1500** MT/month. The details of the same are as follows:

SR. NO.	NAME OF THE PRODUCT	CAS NO	MT/MONTH			CAT EGO RY	END USE
			EXISTING QUANTIT Y	PROPOSE D QUANTITY	AFTER EXPANSIO N QUANTITY		
1	Pigment	6985-92-8	50	0	50	5(f)	Paint, Plastic, Ink etc.
2	Pigment (Powder, Wet Cake & Paste/Emulsion)	--	500	0	500		
<b>Group - 1: Pigment Red</b>							
3	Pigment Red 2	6041-94-7	0	100	100		
4	Pigment Red 3	2425-85-6					
5	Pigment Red 4	2814-77-9					
6	Pigment Red 5	6410-41-9					
7	Pigment Red 12	6410-32-8					
8	Pigment Red 14	6471-50-7					

9	Pigment Red 38	6358-87-8				
10	Pigment Red 48:1	7585-41-3				
11	Pigment Red 48:2	7023-61-2				
12	Pigment Red 48:3	15782-05-5				
13	Pigment Red 48:4	5280-66-0				
14	Pigment Red 48:5	--				
15	Pigment Red 49	1248-18-6				
16	Pigment Red 49:1	1103-38-4				
17	Pigment Red 49:2	1103-39-5				
18	Pigment Red 49:3	6371-67-1				
19	Pigment Red 52:1	17852-99-2				
20	Pigment Red 52:2	12238-31-2				
21	Pigment Red 53	2092-56-0				
22	Pigment Red 53:1	5160-02-1.				
23	Pigment Red 53:3	73263-40-8				
24	Pigment Red 57:1	5281-04-9.				
25	Pigment Red 63:1	6417-83-0				
26	Pigment Red 63:2	35355-77-2				
27	Pigment Red 81	12224-98-5				
28	Pigment Red 81:1	80083-40-5				
29	Pigment Red 81:x	63022-06-0				
30	Pigment Red 81:y	--				
31	Pigment Red 81:2	75627-12-2				
32	Pigment Red 81:3	68310-07-6				
33	Pigment Red 81:4	85959-61-1				
34	Pigment Red 112	6535-46-2				
35	Pigment Red 122	980-26-7				

36	Pigment Red 123	24108-89-2					
37	Pigment Red 144	5280-78-4					
38	Pigment Red 146	5280-68-2					
39	Pigment Red 168	4378-61-4					
40	Pigment Red 169	12237-63-7					
41	Pigment Red 170	2786-76-7					
42	Pigment Red 175	6985-92-8					
43	Pigment Red 176	12225-06-8					
44	Pigment Red 177	4051-63-2					
45	Pigment Red 178	3049-71-6					
46	Pigment Red 179	5521-31-3					
47	Pigment Red 188	61847-48-1					
48	Pigment Red 210	61932-63-6					
49	Pigment Red 202	3089-17-6					
50	Pigment Red 254	122390-98-1					
51	Pigment Red 256	79102-65-1					
52	Pigment Red 264	122390-98-1					
<b>Group - 2: Pigment Yellow</b>							
53	Pigment Yellow 1	2512-29-0					
54	Pigment Yellow 3	6486-23-3					
55	Pigment Yellow 12	6358-85-6					
56	Pigment Yellow 13	5102-83-0					
57	Pigment Yellow 14	5468-75-7	0	100	100	5(f)	Paint, Plastic, Ink etc.
58	Pigment Yellow 16	5979-28-2					
59	Pigment Yellow 17	4531-49-1					
60	Pigment Yellow 61	12286-65-6					
61	Pigment Yellow 62	12286-66-7					

62	Pigment Yellow 63	14569- 54-1					
63	Pigment Yellow 65	6528-34- 3					
64	Pigment Yellow 73	13515- 40-7					
65	Pigment Yellow 74	6358-31- 2					
66	Pigment Yellow 83	5567-15- 7					
67	Pigment Yellow 93	5580-57- 4					
68	Pigment Yellow 97	12225- 18-2					
69	Pigment Yellow 101	2387-03- 3.					
70	Pigment Yellow 120	29920- 31-8					
71	Pigment Yellow 121	61968- 85-2					
72	Pigment Yellow 138	30125- 47-4					
73	Pigment Yellow 139	36888- 99-0					
74	Pigment Yellow 151`	31837- 42-0					
75	Pigment Yellow 153	68859- 51-8					
76	Pigment Yellow 154	68134- 22-5					
77	Pigment Yellow 155	68516- 73-4					
78	Pigment Yellow 168	71832- 85-4					
79	Pigment Yellow 174	78952- 72-4					
80	Pigment Yellow 180	77804- 81-0					
81	Pigment Yellow 181	74441- 05-7					
82	Pigment Yellow 182	67906- 31-4					
83	Pigment Yellow 183	23792- 68-9					
84	Pigment Yellow 191	129423- 54-7					
85	Pigment Yellow 191:1	154946- 66-4					
<b>Group - 3: Pigment Orange</b>							
86	Pigment Orange 5	3468-63- 1	0	50	50	5(f)	Paint, Plastic, Ink etc.
87	Pigment Orange 13	3520-72- 7					



88	Pigment Orange 16	6505-28-8					
89	Pigment Orange 34	15793-73-4					
90	Pigment Orange 36	12236-62-3					
91	Pigment Orange 43	4424-06-0					
92	Pigment Orange 62	52846-56-7					
93	Pigment Orange 64	72102-84-2					
<b>Group - 4: Pigment Blue</b>							
94	Pigment Blue 1	1325-87-7					
95	Pigment Blue 15	147-14-8					
96	Pigment Blue 15:1	147-14-8					
97	Pigment Blue 15:2	147-14-8					
98	Pigment Blue 15:3	147-14-8	0	50	50	5(f)	Paint, Plastic, Ink etc.
99	Pigment Blue 15:4	147-14-8					
100	Pigment Blue 15:6	147-14-8					
101	Pigment Blue 16	574-93-6					
102	Pigment Blue 60	81-77-6					
103	Pigment Blue 62	57485-98-0					
<b>Group - 5: Pigment Violet</b>							
104	Pigment Violet 1	1326-03-0					
105	Pigment Violet 1x	N.A.					
106	Pigment Violet 3	1325-82-2					
107	Pigment Violet 19	1047-16-1	0	50	50	5(f)	Paint, Plastic, Ink etc.
108	Pigment Violet 23	6358-30-1					
109	Pigment Violet 27	12237-62-6					
110	Pigment Violet 29	81-33-4					
<b>Group-6 Solvent Dyes</b>							
111	Solvent Red 19E	6368-72-5					
112	Solvent Red 23	85-86-9					
113	Solvent Red 24	85-83-6					
114	Solvent Red 52	81-39-0	0	100	100	5(f)	Paint, Plastic, Ink etc.
115	Solvent Red 111	82-38-2					
116	Solvent Red 135	20749-68-2					

117	Solvent Red 151	144013-41-1				
118	Solvent Red 168	71832-19-4				
119	Solvent Red 169	27354-18-3				
120	Solvent Red 179	479-27-6				
121	Solvent Red 197	52372-39-1				
122	Solvent Red 207	15958--69-6				
123	Solvent Red 227	2944-28-7				
124	Solvent Yellow 2	6370-43-0				
125	Solvent Yellow 14	842-07-9				
126	Solvent Yellow 18	6407-78-9				
127	Solvent Yellow 33	8003-22-3				
128	Solvent Yellow 43	19125-99-6				
129	Solvent Yellow 44	2478-20-8				
130	Solvent Yellow 72	61813-98-7				
131	Solvent Yellow 114	7576-65-0				
132	Solvent Yellow 131	71819-82-4				
133	Solvent Yellow 157	27908-75-4				
134	Solvent Yellow 163	106768-99-4				
135	Solvent Yellow 167	N.A.				
136	Solvent Orange 60	61969-47-9				
137	Solvent Orange 63	16294-75-0				
138	Solvent Orange 105	31482-56-1				
139	Solvent Blue 35	17354-14-2				
140	Solvent Blue 36	14233-37-5				
141	Solvent Blue 97	61969-44-6				
142	Solvent Blue 101	6737-68-8				
143	Solvent Blue 102	15403-56-2				
144	Solvent Blue 104	116-75-6				

145	Solvent Violet 13	81-88-1					
146	Solvent Violet 14	67577-84-8					
147	Solvent Violet 38	63512-14-1					
148	Solvent Violet 59	6408-72-6					
149	Solvent Green 3	128-80-3					
150	Solvent Green 28	71839-01-5					
151	Solvent Green 33	10671-57-8					
<b>Group – 7: Naphthols</b>							
152	Naphthol AS	92-77-3					
153	Naphthol ASBO	132-68-3					
154	Naphthol ASD	135-61-5					
155	Naphthol ASOL	135-62-6					
156	Naphthol ASBS	132-65-9	0	50	50	5(f)	Speciality Chemical
157	Naphthol ASE	92-78-4					
158	Naphthol ASCL (ASCA)	132-65-9					
159	Naphthol ASKB	135-63-7					
<b>Group – 8: Fast Basis</b>							
160	Bordeaux GP	96-96-8					
161	Orange GC	17333-85-5					
162	Red B Base	97-52-9					
163	Red RC	93-34-5					
164	Red TR	97-35-8					
165	Scarlet RC	27165-17-9					
166	Yellow GC	17333-83					
167	Blue B	119-90-4					
168	Garnet GBC	97-56-3					
169	Black K	64071-88-9	0	50	50	5(f)	Pigment
170	Red KB	2780-35-4					
171	Blue BB	5486-84-0					
172	Red 3GL	89-63-4					
173	Orange RD	29362-18-3					
174	Corinth V	47300-91-4					
175	Fast Red G Base	89-62-3					
176	Fast Scarlet R Base	99-59-2					
<b>Group – 9: Pyrazolone</b>							
177	2,5-Dichloro SPMP	84-57-1					
178	Ortho Chloro SPMP	88-76-6	0	50	50	5(f)	Specialty Chemicals

179	1,3-SPMP	119-17-5					
180	1,4-SPMP	89-36-1					
181	PMP	89-25-8					
<b>Group – 10: Other</b>							
182	3,3-Dichloro Benzidine Dihydrochloride (3,3-DCB)	612-83-9	0	350	350	5(f)	Pigments Intermediates
183	4B Acid	88-44-8					
184	2B Acid	88-51-7					
<b>TOTAL</b>			<b>550</b>	<b>950</b>	<b>1500</b>		

6. The PP reported that the Existing land area is 11600 m<sup>2</sup> and the same area will be used for proposed expansion and no R&R is involved in the Project.
7. The PP reported that proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z notification, 2011 as amended. The PP reported that there is no Eco sensitive area/National Park/Wildlife Sanctuary in 10 km radius of the site.
8. The PP reported that the total Water requirement will be 456.5 KLD (86.99 KLD Fresh + 369.51 KLD Recycled) sourced from Ground water. Fresh water requirement in Existing Scenario is less than 10 KLD, as per the Guideline of CGWA NOC for ground water is exempted for less than 10 KLD Unit has applied for the ground water abstraction of Total 86.99 KLD to CGWA vide Application Number: 21-4/9304/GJ/IND/2022 dated: 27/06/2022. and Total Waste Water generation will be 385.2 KLD. All effluent (375 KLD) will be collected in collection tank followed by Primary Treatment, RO and MEE, RO Permeate (331.6 KLD), Steam Condensate (15.25 KLD) and MEE Condensate (37.91 KLD) will be recycled within premises. Domestic sewer will be treated in STP and then reused within premises.
9. Power required from MGVL: 800 KVA (EXISTING 300 KVA + PROPOSED 500 KVA) Standby power supply from D.G. set: 375 KVA.
10. The PP informed that in pursuant to O.M. J-11011/321/2016-IA.II(I) dated 27.04.2018, the Public Hearing is not exempted as the proposed project site is not located in a Notified Industrial Area.
11. Company has developed an effective Green Belt within the factory and on periphery of the factory. Total Plot Area is 11600.0 m<sup>2</sup>, out of which 3828.0 m<sup>2</sup> is developed as Green Belt Area.
12. The estimated project cost is ₹ 18.82 Crore (existing 9.2 + proposed 9.62 crore). Total Employment will be 160 persons as direct & persons indirect after expansion.
13. **Deliberations by the EAC:**

The EAC, constituted under the provision of the EIA Notification, 2006 and comprising of Expert Members/domain experts in various fields, have examined the

proposal. The EAC noted deficiencies in the proposal viz. the plantation plan was not as per the standard requirement, spacing of 2m x 2m should have been considered for green belt and number of trees has to be increased. The layout plan as per KML file and that shown during the presentation are quite different. The EAC cautioned the Consultant and PP for this serious lapse.

The EAC has received a complaint against the project alleging violation of EIA Notification, 2006 and its amendments. The Committee recommended that Ministry may seek a factual report from IRO, Gandhinagar, MoEF&CC.

The EAC therefore, **returned the proposal in the present form** and recommended that the proposal may only be considered after submission of the following:

- i) Revised layout plan with proper dimensions.
- ii) Undertaking to the effect that the project is not a violation proposal in pursuant to S.O. 804(E) dated 14.03.2017 and SOP dated 07.07.2021 with supporting documents including the details of production vis-a-vis CTO.
- iii) PP shall submit proof of development of green belt in the project site. It is suggested that plants of at least 5-6 ft height may be planted for green belt.
- iv) The PP needs to submit the current status of CTO.
- v) Factual report from IRO, Gandhinagar, MoEF&CC on the said complaint.

### **Agenda No. 36.8**

**Setting up of APIs & Intermediates Manufacturing Unit located at Plot No. F-17, MIDC Chincholi Industrial Area, Taluka - Mohol, District - Solapur, Maharashtra by M/s. Livia Life Sciences Pvt. Ltd. - Consideration of Environmental Clearance.**

**[Proposal No. IA/MH/IND2/173828/2020; File No. IA-J-11011/211/2020-IA-II(I)]**

1. The proposal is for environmental clearance to the proposed project for Setting up of API's & Intermediates Production capacity of 120.96 T/A, located at Plot No. F-17, MIDC Chincholi Industrial Area, Taluka - Mohol, District - Solapur, Maharashtra. by M/s. Livia Life Sciences Pvt. Ltd.
2. The project/activity is covered under Category 'A' of item 5(f), 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) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) due to applicability of General Condition, i.e. Great Indian Bustard Wild Life Sanctuary is present at a distance of 2.75 km & its ESZ at 2.4 km from the project site, the project requires appraisal at Central Level.

3. The PP applied for ToR vide proposal number IA/MH/IND2/173828/2020 dated 13.10.2020 and the Standard ToR has been issued by the Ministry, vide letter No. IA-J-11011/211/2020-IA-II(I) dated 26.10.2020. The PP submitted that the Public Hearing is exempted because the proposed project is located in Notified Chincholi MIDC Industrial Area. The PP applied for Environment Clearance on 17.9.2021 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported that it is a **Fresh EC**. Due to some shortcomings, the Project was referred back to PP on 22.9.2021, 8.12.2021 and reply to the same was submitted on 5.12.2021, 17.12.2021. The proposal was considered in the 23<sup>rd</sup> EAC meeting held on 29.12.2021, wherein the EAC returned the proposal in its present form. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, Enviro Resources. (NABET Accreditation No.: NABET/EIA/1922/SA0133, valid upto 28.9.2022] 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 land area is 1.6 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

S. No.	Product	Proposed (T/M)	Proposed (T/A)	CAS No.	End Use
1	Azacyclonol	32.00	384.00	115-46-8	Treatment of Schizophrenia
2	Ethyl Iso Nipecotate	8.50	102.00	1126-09-6	API Intermediate
3	Nicotinic Acid Methyl Ester	4.20	50.40	93-60-7	Used as a Rubefacient for relief of pains in muscles, tendons and joints
4	1-Benzylpiperidine-4-Carboxaldehyde	0.60	7.20	22065-85-6	API Intermediate
<b>Total (A)</b>		<b>45.30</b>	<b>543.60</b>	--	--
<b>By-Product</b>					
1	Ammonium Sulfate	10.08	120.96	7783-20-2	--
<b>Total (B)</b>		<b>10.08</b>	<b>120.96</b>	--	--

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 Eco Sensitive Zone Patch No. 97 of Great Indian Bustard Sanctuary is at an approximate aerial distance of 2.4 km from proposed project location. Sina River is flowing at a distance of 6.4 km in SW direction, Nanaj Odha is flowing at a distance of 2.8 km in SWW direction, Check dam at Darphal Village is present at a distance of 3.2 km in N direction and Wkruk Lake is present at a distance of 10.7 km in E direction. The PP reported that there is no forest land

involved in the proposed project and Schedule-I species i.e. Antelope cervicapra (Black buck), Canis lupus pallipes (Indian wolf), Gazella bennettii (Chimkara), Varanus bengalensis (Bengal monitor), Pavo cristatus (Indian peafowl) & Ardeotis nigriceps exist within 10 km study area of the project, conservation plan is submitted to Chief Conservator of Forest on 1.7.2021 with budgetary provision of ₹ 5.98 Lakh. The PP committed to implement the plan in one year.

7. The PP reported that ambient air quality monitoring was carried out at 8 locations during November 2020 to January 2021 and the baseline data indicates the ranges of concentrations as PM<sub>10</sub> (41.8 - 73.2 µg/m<sup>3</sup>), PM<sub>2.5</sub> (10.6 -23.4 µg/m<sup>3</sup>), SO<sub>2</sub> (11.9 - 36.4 µg/m<sup>3</sup>) and NO<sub>x</sub> (15.8 - 42.4 µg/m<sup>3</sup>). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.257 µg/m<sup>3</sup>, 0.758 µg/m<sup>3</sup> and 0.125 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>x</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). In addition, Ambient Air Quality Monitoring was carried out 8 locations during February 2022 and the baseline data indicates the ranges of concentrations as PM<sub>10</sub> (44.9 - 70.2 µg/m<sup>3</sup>), PM<sub>2.5</sub> (14.1 -22.1 µg/m<sup>3</sup>), SO<sub>2</sub> (16.9 – 25.6 µg/m<sup>3</sup>) and NO<sub>x</sub> (19.3 – 35.8 µg/m<sup>3</sup>).
8. The day time noise level at the project premises was observed to be 72.5 dB (A), while during night time, the noise level was recorded to be 63.1 dB (A). The noise levels during the day time as well as night time were estimated to be under the prescribed standards by CPCB. The minimum noise level recorded during the daytime was observed at location N2, whereas the maximum noise level can be observed at location N7. The location N7 is well populated and surrounded by industrial area, hence can give rise to high noise level in the surroundings. It shall be noted that the permissible limits for noise did not exceed at any of the locations selected for sampling.
9. The soil samples were derived from 8 different locations within the study area of the project. Analysis results of the same, revealed that the pH values of soil samples were varying in range of 7.5 to 7.9; which indicated slightly alkaline to moderately alkaline nature of soil samples. The organic matter content in soils was varying between the range from 2.1-3.2 percent. The values for Nitrogen at all locations varied between 190.6 to 280.6 kg/ha and the maximum concentration of Nitrogen was observed at location S7. Concentration of Phosphate were found to be in the range of 38.2 to 96.3 kg/ha, whereas highest concentration was observed at location S7, while the lowest concentration was observed at location S1. Concentration of potassium amongst all locations was found to be ranging between 93.5 to 197.2 kg/ha. Heavy metals viz. Cd, Cr, Co & Pb were below detection limit, whereas the concentration of Ni & Zn varied in the range of 0.3 to 2.3 mg/kg and 0.9 to 6.0 mg/kg respectively.
10. **Ground water-** The values/ concentrations of various parameters amongst all the samples were in the range of pH - 7.2 to 7.80, TDS - 505 to 625 mg/l, Sulphates - 72.5 to 120.6mg/l, Phosphates - 0.05 to 0.6 mg/l, Total Hardness - 210 to 290.4 mg/l, Nitrate - 18.4 to 36.1 mg/l, Bicarbonate - 135.2 to 175.1 mg/l, Calcium - 32.1 to 68.2 mg/l, Sodium - 90 to 105 mg/l, Potassium 12.3 to 22.1 mg/l, Fluoride - 0.01 to 0.5 mg/l, Magnesium - 22.1 to 30.2 mg/l, COD - 18.2 to 25.6 mg/l, BOD - 5.3 to 9.2 mg/l, whereas concentrations of Arsenic, Lead were <0.01 mg/l and that of

Cadmium, Iron, Chromium, Mercury, Nickel & Zinc were <0.003 mg/l, <0.3 mg/l, <0.05 mg/l, <0.001 mg/l, <0.02 mg/l & <0.1 mg/l respectively. Total Coliforms & E. Coli were absent in all samples.

- 11.** The PP reported that the total water requirement is 216.5 m<sup>3</sup>/day of which fresh water requirement of 150.25 m<sup>3</sup>/day will be met from MIDC Chincholi. Effluent of 39.81 m<sup>3</sup>/day quantity will be treated by segregating high COD & Low COD Streams, HCOD effluent will be treated by using Stripper MEE followed by ATFD; low COD effluent will be treated in conventional ETP consist of Primary, Secondary and Tertiary treatment facility. The plant will be based on Zero Liquid discharge system.
- 12.** The PP reported that proposed connected load of project will be 1000 kVA and will be met from Maharashtra State Electricity Distribution Company Limited (MSEDCL). Additionally, 1x500 kVA DG will be used as standby during power failure. Stack (4.5 m) will be provided as per CPCB norms to the proposed DG.
- 13. Details of Process Emissions Generation and their Management:** The process emission from process activity will be subjected to Acid/Alkali & Lime Scrubber of 2 no. x 1000 CFM capacities, 1 x 500 CFM capacity scrubber will be installed to mitigate fugitive emissions from storage tanks.

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

**Table 1: Non-Hazardous Waste**

SN	WASTE	QUANTITY	MANAGEMENT
1	Boiler Bottom Ash	47.19 Kg/day	Sale/Handover to Brick Manufacturers
2	Canteen Waste	2 Kg/day	Hand over to Vermi Composting Facility (off-site)
3	Scrap Metal	As actual generation during project operational phase	Hand over to recyclers/ Disposal by Local Administration Waste Disposal Mechanism
4	Scrap Plastic		Hand over to recyclers/ Disposal by Local Administration Waste Disposal Mechanism
5	Office Waste		Hand over to recyclers/ Disposal by Local Administration Waste Disposal Mechanism
6	Wooden Pallets		Hand over to recyclers/ Disposal by Local Administration Waste Disposal Mechanism

**Table 2: Hazardous Waste**



Sr. No	Particulars	Category*	UOM	Quantity	Method of Disposal/Management
1	ETP Sludge	35.3	T/A	6.6	Disposal through Maharashtra Enviro Power Ltd, - CHWTSDF
2	Used/Spent Oil	5.1	KL/A	0.5	Disposal Maharashtra Enviro Power Ltd. - CHWTSDF
3	Spent Catalyst	28.2	T/A	3.6	Disposal through Maharashtra Enviro Power Ltd.- CHWTSDF
4	Spent Solvents	28.6	KL/A	2020.0	Sale to MPCB Authorized Vendors/Disposal through Maharashtra Enviro Power Ltd. - CHWTSDF
5	Process Residue	28.1	T/A	50.0	Disposal through Maharashtra Enviro Power CHWTSDF
6	Distillation Residue	20.3	T/A	26.4	Disposal through Maharashtra Enviro Power Ltd. - CHWTSDF
7	Organic Distillate from High Efficiency Chillers	28.1	KL/A	28.0	Sale to MPCB Authorized Vendors/Disposal through Maharashtra Enviro Power Ltd. - CHWTSDF
8	Stripped Solvent from Stripper MEE (40% Concentration)	--	KL/A	48.5	Sale to MPCB Authorized Vendors/Disposal through Maharashtra Enviro Power Ltd. - CHWTSDF
9	MEE Residue	37.3	T/A	451.4	Disposal through Maharashtra Enviro Power CHWTSDF
10	Contaminated Empty Drums/Carboys/Containers	33.1	Nos./A	2100.0	Sale to MPCB Authorized Vendor/ Disposal through Maharashtra Enviro

Sr. No.	Particulars	Category*	UOM	Quantity	Method of Disposal/Management
					Power Ltd.-CHWTSDF
11	Contaminated Empty Bags	--	Nos./A	1200.0	Sale to MPCB Authorized Vendor/ Disposal through Maharashtra Enviro Power Ltd.-CHWTSDF
*Schedule I of The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.					

15. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 334.50 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 330.11 Lakh per annum which includes Air [₹ 45.0 Lakh (capital) and ₹ 18.0 Lakh/annum (Recurring)], water [₹ 200 Lakh (capital) and ₹ 120 Lakh/annum (Recurring)], Noise [₹ 4.50 Lakh (capital) and ₹ 1.00 Lakh/annum (Recurring)], Environment Monitoring [₹ 7.50 Lakh/annum (Recurring)], occupational health [₹ 4.50 Lakh (capital) and ₹ 1.50 Lakh/annum (Recurring)], Greenbelt [₹ 11.00 Lakh (capital)] Hazardous waste Management [₹ 7.00 Lakh (capital) and ₹ 81.00 Lakh/annum(Recurring)], Non-Hazardous solid waste Management [₹0.50 Lakh (capital) and ₹ 2.00 Lakh/annum(Recurring)], Rain water harvesting measures [₹17.00 Lakh (capital) and ₹ 1.00 Lakh/annum(Recurring)], Energy [₹8.00 Lakh (capital) and ₹ 1.60 Lakh/annum(Recurring)], Disaster management and safety [₹30.00 Lakh (capital) and ₹ 3.50 Lakh/annum(Recurring)], Storm water management [₹7.00lakh (capital) and ₹ 0.50 Lakh/annum(Recurring)] Environment Management Cell ₹ 90.00 Lakh/annum(Recurring)] Industry proposes to allocate ₹ 19.10 Lakh towards CER.

16. The PP reported that the Public Hearing is exempted as the project is located in the notified industrial area.

17. Industry will develop greenbelt in an area of 33.0% i.e., 5,281.33 m<sup>2</sup> out of total area of the project.

18. The PP proposed to set up an Environment Management Cell (EMC) for the functioning of EMC.

19. The PP submitted the disaster and Onsite and Offsite Emergency Plan in the EIA report.

20. The PP submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011, "This is to confirm that we have checked the Environmental Impact Assessment (EIA) Report prepared by Environmental Consultant M/s Enviro Resources for our project "Proposed Manufacturing of API's & Intermediates Products" at Plot No. F-17, MIDC Chincholi Industrial Area, Taluka - Mohol, District - Solapur, Maharashtra. The data incorporated in

*EIA Report is correct as per our understanding at this moment. Being understood the entire EIA Report, we confirm to implement suggestions and recommendation given in Environmental Monitoring and Management Plan of this report. We declare the ownership of this EIA Report and its content (Information and Data). For Liva Life Sciences Pvt. Ltd.”.*

- 21.** The Consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 that *“This is to confirm that, the EIA report for “Setup of Proposed API’s & Intermediates Products Manufacturing Unit” by M/s Livia Life Sciences Pvt. Ltd.; at Plot No. F-17, Chincholi MIDC Industrial Area, Taluka - Mohol, District - Solapur, Maharashtra has been prepared by M/s Enviro Resources. The Standard ToR given by MoEF&CC dated April 2015 and additional ToR by EAC (Infra-2), GOI dated 26th October, 2020 has been fully complied for preparing EIA Report. We also confirm that the EIA Report is prepared on project related factual data as submitted by Client - M/s Livia Life Sciences Pvt. Ltd. & Baseline Data collected by M/s. Noida Testing Laboratories”.*
- 22.** The estimated project cost is ₹ 9.55 Crore. Total direct employment will be 50 persons.
- 23.** The proposal was placed in 23<sup>rd</sup> EAC Meeting held on December 29, 2021 wherein the Committee deferred the proposal for want of requisite information. Reply to the same is submitted by PP on 7.7.2022 which is as follows:

<b>S. No.</b>	<b>Queries Raised by EAC</b>	<b>Reply by PP</b>	<b>Observation of EAC</b>
1.	PP need to justify for the consideration of November 2020 to January 2021 baseline season for monitoring parameters. Considering that the baseline data is of November 2020 to January 2021 additional one month (recent), baseline data needs to be collected and to validate the existing data.	The baseline studies were conducted according to condition mentioned for preparation of EIA report i.e. 6(ii) of accorded ToR, in which it was mentioned that: “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.” Additional one month baseline conducted in the month of February 2022 to validate the existing data	The EAC found the reply submitted by the PP satisfactory.

2.	Zero liquid flowchart needs to be revised.	The revised ZLD effluent treatment scheme chart and effluent treatment scheme has been submitted.	The EAC found the reply submitted by the PP satisfactory.
3.	PP need to submit the accurate Ambient air quality interpretation and correlated the interpreted data with CPCB standards. PP should revise the emission table.	The project site & monitoring area location specific Ambient air quality revised interpretation as per additional monitoring of February 2022 compared with NAAQS has been submitted.	The EAC found the reply submitted by the PP satisfactory.
4.	PP need to justify the monitoring location criteria as per CPCB guidelines and Action plan for controlling the fugitive emissions from the unit.	The monitoring location criteria considered as CPCB guidelines has been submitted.	The EAC found the reply submitted by the PP satisfactory.
5.	Revised greenbelt plan (spacing of 2m x 2m and number of trees have to be increased accordingly) along with timelines and budgetary allocations.	Revised greenbelt plan with spacing of 2m x 2m for tree plantation & details of increased number of trees along with timelines and budgetary allocation has been submitted.	The EAC found the reply submitted by the PP satisfactory.
6.	Details of Onsite emergency plan as per provisions of the MSIHC Rules need to be submitted.	Onsite Emergency Plan as per provisions of MSIHC Rules submitted to District Collector, Solapur and Deputy Director - Industrial Safety and Health, Solapur has been submitted.	The EAC found the reply submitted by the PP satisfactory.
7.	PP shall revise the conservation activities of conservation	The revised Consecration Plan for Schedule - I species has been submitted.	

	of Schedule –I species.		
8.	It is informed to the EAC that the Ministry has sought EDS two times and still the Consultant/PP did not try to revise the application accordingly. Even the name of P P, project area, TOR compliances etc. are vague. Detailed EDS may be refereed on Parivesh Portal	The application was revised as per the EDS however additional comments made & suggestion advised by committee during EIA appraisal have been complied to the fullest in the revised EIA report. Further, we shall ensure more attention at our end to minimize the EDS moving forward.	The EAC found the reply submitted by the PP satisfactory.
8	EAC noted that the presentation and the Reports made by the Consultant are inadequate and are of poor. The Committee warned the Consultant, EIA Coordinator and Functional Area Expert. The Committee advised that they will rework and resubmit the reports as per provisions of the EIA Notification, 2006.	The comments made & suggestions advised by the Hon'ble EAC Committee during EIA appraisal have been very well taken & the same shall be implemented in revised EIA Report of not just the current project but also for all the projects moving forward, accordingly the revised EIA is being submitted.	The EAC found the reply submitted by the PP satisfactory

**24. 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 Committee 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 Committee deliberated on the greenbelt development, tree cutting due to the proposed project and suggested PP to submit the action plan for greenbelt development including the design and development of greenbelt. PP submitted the same and EAC found it to be satisfactory. The EAC also deliberated on the domestic sewage and on the fuel consumption, the Ambient Air quality interpretation, generic zero liquid flowchart, process flow.

The Committee deliberated 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

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

**25. 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 atleast 5,281.33 m<sup>2</sup> by planting 1358 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, the budget earmarked for the plantation shall be ₹ 11 Lakh and 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 1<sup>st</sup> 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. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 331.50 Lakh (Capital cost) and 330.11 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (iv) The fresh water requirement of 150.25 m<sup>3</sup>/day will be met from MIDC Chincholi. 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 valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year
- (v) 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.
- (vi) 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.

- (vii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) 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.
- (ix) 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.
- (x) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xi) As already committed by the PP, Zero Liquid Discharge shall be ensured Effluent of 39.81 KLD quantity will be treated by segregating high COD & Low COD Streams, HCOD effluent will be treated by using Stripper MEE followed by ATFD; low COD effluent will be treated in conventional ETP consist of Primary, Secondary and Tertiary treatment facility.
- (xii) 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.
- (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 the 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 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.
- (xix) 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. 36.9**

**Setting up Dyes and Dye intermediates manufacturing unit located at plot No. 02, Sy.No. 316, Village Dhanot, Tehsil Kalol, District Gandhinagar (Gujarat) by M/s Bhimani Dyechem Industries - Amendment in Environmental Clearance**

**[Proposal No. IA/GJ/IND3/281952/2022; File No. J-11011/349/2018-IA-II (I)]**

1. The proposal is for amendment in the Environmental Clearance granted by the Ministry vide letter F. No. J-11011/349/2018-IA-II (I) dated 07.01.2020 for the project of Dyes & Dye Intermediates located at: Plot No. 2 of Survey No. 316, Plot No. 2 of Survey No. 317, Survey No. 344, Opp. Dharti Industrial Estate, Village: Dhanot, Ta: Kalol, Dist: Gandhinagar, Gujarat in favour of M/s. Bhimani Dyechem Industries

<b>S. No.</b>	<b>Para of EC issued by MoEF&amp;CC</b>	<b>Details as per the EC</b>	<b>To be revised/read as</b>	<b>Justification/reasons</b>
1	Point No. 2 The Ministry of Environment, Forest and Climate Change has considered	Point No. 2 Survey No. 316, Plot No. 2: 3344 Sq. m.	Point No. 2 The Ministry of Environment, Forest and Climate	For future expansion we have purchased the land which is adjacent to our existing plot area. Survey No. 316, Plot No. 2: 3344 sqm (Existing)

<p>the proposal for environmental clearance to the project for setting up Dyes and Dye Intermediates manufacturing unit of capacity 225 TPM by M/s. Bhimani Dyechem Industries in an area of 3344 sqm at Plot No. 02, Sy. No. 316, Village: Dhanot, Tehsil: Kalol, District: Gandhinagar, (Gujarat).</p> <p>Point No. 4 Total land area is 3344 sqm. Greenbelt will be developed in 33.04% i.e. 1105 sqm. Of total project area, The estimated project cost is Re. 4.5 Cr. Total capital cost earmarked towards environmental pollution control measure is Rs. 99.5 Lacs and recurring cost (operation and maintenance) will be about Rs. 369.9 Lacs per annum, Total employment will be 40 persons as direct &amp; 10</p>	<p>Point No. 4 Total area: 3344 sqm. Greenbelt area: 1105 sqm. (33.04%) Total employment: 40 persons direct &amp; 10 persons indirect &amp; M/s. Bhimani Dyechem Industries located at Plot No. 02, Sy. No. 316, Village: Dhanot, Tehsil: Kalol, District: Gandhinagar, (Gujarat).</p>	<p>Change has considered the proposal for environmental clearance to the project for setting up Dyes and Dye Intermediates manufacturing unit of capacity 225 TPM by M/s. Bhimani Dyechem Industries in an area of 23765.21 sqm at Plot No. 2 of Survey No. 316, Plot No. 2 of Survey No. 317, Survey No. 344, Opp. Dharti Industrial Estate, Village: Dhanot, Ta: Kalol, Dist: Gandhinagar, Gujarat.</p> <p>Point No. 4 Total land area is 23765.21 sqm. Greenbelt will be developed in 34% i.e. 8056.94 sqm. Of total project area, the estimated project cost is Re. 7.5 Cr.</p>	<p>Survey No. 317, Plot No. 2: 5963.21 sqm (Proposed)</p> <p>Survey No. 344: 14458 sqm (Proposed)</p> <p><b>TOTAL Area: 23765.21 sqm</b></p>
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	<p>Persons indirect.</p> <p>&amp; Address of M/s. Bhimani Dyechem Industries in whole EC. Plot No. 02, Sy. No. 316, Village: Dhanot, Tehsil: Kalol, District: Gandhinagar, (Gujarat).</p>		<p>Total capital cost earmarked towards environmental pollution control measure is Rs. 146 Lacs and recurring cost (operation and maintenance) will be about Rs. 510.5 Lacs per annum, Total employment will be 40 persons as direct &amp; 10 Persons indirect.</p> <p>&amp; M/s. Bhimani Dyechem Industries located at Plot No. 2 of Survey No. 316, Plot No. 2 of Survey No. 317, Survey No. 344, Opp. Dharti Industrial Estate, Village: Dhanot, Ta: Kalol, Dist: Gandhinagar, Gujarat</p>	
2	<p>B. General Condition (III) Water quality</p>	<p>Source of Fresh Water: Water Tanker</p>	<p>B. General Condition (III) Water quality monitoring</p>	<p>Due to the unavailability of Water Tanker, we have obtained permission of CGWA vide letter no. CGWA/NOC/IND/ORIG/2022/</p>

	<p>monitoring and preservation.</p> <p>iii. Total fresh water requirement shall not exceed 85 cum/day, proposed to be met from concern regulatory authority/Authorized agency.</p>		<p>and preservation.</p> <p>iii. Total fresh water requirement shall not exceed 85 cum/day, proposed to be met from CGWA.</p>	<p>15592, dated: 18.04.2022, valid up to 17.04.2025.</p>
3	<p>Change in mode of treated effluent discharge in whole EC.</p>	<p>44.5 KLD generated industrial Effluent will be treated in ETP (Having Primary Treatment Unit) then goes to In House Spray Dryer for Spray Drying.</p>	<p>44.5 KLD generated industrial Effluent will be treated in ETP (Having Primary Treatment Unit) then send to GPCB registered Common Spray Drying Facility M/s. Chhatral Environment Management System Pvt. Ltd. Dhanot by tanker having GPS system.</p>	<p>In House Spray Dryer will not be viable for our medium scale unit.</p> <p>Common Spray Dryer facility is available in nearby industry (3.7 km away) which has been authorized by the SPCB also they have manifest system which are operated by the SPCB (XGN Software) &amp; treated water goes through by Tanker with GPS tracking system.</p> <p>Reduce the fuel consumption @ 1 MTPD.</p>
4	<p>A. Specific Condition (i)</p>	<p>No Coal shall be used as fuel in the boiler.</p>	<p>We plan to use Coal/Lignite/Agro Waste as fuel in boiler.</p>	<p>– As per our EC Application, EIA report, Appraisal presentation and EAC (Industry-II) minutes of meeting 23-25 October 2019 mentioned “Coal/Lignite/Agro Waste” used as fuel.</p> <p>– We are giving the undertaking we will use Lignite/Agro Waste as fuel when less/unavailability of Lignite/Agro Waste we will use Coal as fuel.</p>

### 3. Deliberations by the EAC:

The EAC inter-alia, deliberated on the fuel consumption, water consumption, adjoining land area, House Spray Dryer, details of carbon foot prints and carbon sequestration study w.r.t. proposed project and details of onsite and offsite emergency plan. Regarding greenbelt, the EAC noted that as it is an existing unit, the consultant should have considered spacing of 2m x 2m and number of trees has to be increased. The Committee **returned the proposal in the present form** for submission of the following:

- (i) The detailed greenbelt plan of entire area along with budgetary allocation for completion of greenbelt in one year. Action plan for high carbon sequestration species trees in the greenbelt needs to be submitted.
- (ii) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. proposed project. Proposed mitigation measures also need to be submitted for further appraisal of the EAC.
- (iii) The additional land is on the one side of existing unit and require revised air quality modelling.
- (iv) The PP needs to submit the details of Onsite/Offsite emergency plan and mitigation measures to be proposed during implementation of the project.
- (v) The PP needs to submit details of water conservation measures and provide a justification regarding the non-availability of water tankers.
- (vi) The PP needs to submit justification for stating that House Spray Dryer will not be viable for our medium scale unit.
- (vii) The PP needs to submit undertaking that Industry will use Lignite/Agro Waste as fuel and only in its shortage, will use coal as fuel.
- (viii) Latest six monthly compliance report submitted to IRO, MOEF&CC.

#### Agenda No. 36.10

**Proposed Synthetic Organic Chemicals (Castor products) Unit of total Production Capacity 3200 MT/Month located at Survey No.: 1601, 1594, Dadarda to Jethajina Muvada Road, Village: Antrolivas Dolji, Taluka: Talod, District: Sabarkantha, Gujarat by M/s. Selico Agro Organics Pvt. Ltd. – Consideration of Environmental Clearance.**

**[Proposal No. IA/GJ/IND3/235394/2021; File No. IA-J-11011/444/2021-IA-II(I)]**

1. The proposal is for the environmental clearance to the project for Proposed Synthetic Organic Chemicals (Castor products) Unit of total Production Capacity 3200 MT/Month located at Survey No.: 1601, 1594, Dadarda to Jethajina Muvada Road, Village: Antrolivas Dolji, Taluka: Talod, District: Sabarkantha, Gujarat by M/s. Selico Agro Organics Pvt. Ltd

2. The project/activity is covered under Category 'A' of item 5(f), 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) 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/GJ/IND3/235394/2021** dated 1.11.2021 and the standard ToR has been issued by the Ministry, vide letter No IA-J-11011/444/2021-IA-II(I) dated 3.11.2021. The PP submitted that Public hearing is conducted on 12.4.2022 which was presided by the Additional District Magistrate. The PP applied for Environment Clearance on 18.6.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported that it is a **Fresh EC case**. Due to some shortcomings, the Project was referred back to PP on 5.7.2022, 17.7.2022 and reply to the same was submitted on 6.7.2022, 22.7.2022. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant T.R. ASSOCIATES, [Accreditation number NABET/EIA/1922/SA0153, valid upto 8.4.2023], 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 1.8506 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

Sr. No.	Name of the Product	Production Capacity (MT/Month)	CAS No.	End Use
1.	Hydrogenated castor oil	600	--	As gelling agent, Emulsion Stabilizer, Viscosity Control Agent
2.	12-Hydroxy Stearic Acid (12-HAS)	500	106-14-9	Used in Varnishes, Soap and in different types of Cosmetics
3.	Methyl 12-Hydroxy Stearate (Me-12HS)	200	141-23-1	Used as RM for Coatings e.g. PU
4.	Poly 12-Hydroxy stearic acid(Poly 12-HAS)	100	58128-22-6	Used as Engine Lubricants
5.	Ricinoleic Acid(RA)	500	141-22-0	Electric Capacitors
6.	Methyl Ricinoleate(Me-RA)	200	141-24-2	Additive for Paints and Varnishes
7.	poly Ricinoleic 4Acid(poly RA)	200	27925-02-6	In Cosmetics as Surfactant, Cleansing Agent, Conditioning Agent in Typical Products Like Lotions, Creams,

8.	Sebacic Acid	150	111-20-6	Internal Lubricants for Natural & Synthetic Rubber
9.	fatty Acid Amide	100	103819-22-3	Primary Raw Material for Grease
10.	Fabric softener	100	--	As an Additive in Paint Industry & Manufacturing PVC Products Like Sheet, Films, Wall Panel
11.	Metal Working fluid	100	--	Intermediate in Pharma Products
12.	Zinc Ricinoleate	100	13040-19-2	Additive in Grease & Lubricants
13.	Fatty Acid Esters	50	135800-37-2	Stabilizing Agents for Ink & Paint Industry, Additive for Lubricants, Thickening Agent
14.	Resin Emulsion	50	9063-87-0	Cosmetics, Surfactant/Emulsifier, Deodorant, Plasticizer, Diesel Lubricants, RM for Corrosion Inhibitors,
15.	Mono glyceride of Castor Oil	50	736150-63-3	RM for Lubricants, Plasticizers
16.	Polyurethane Prepolymer	100	103837-45-2	Used in Bio based Fuels, Polymers
17.	Polyol	100	9003-11-6	Slip Additive for Paints & Inks, Additive for Asphalt Base Products
	<b>Total</b>	<b>3200</b>		

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, Under Section 33-A of Water Act, 1974 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. Dadarda Pond 0.93 km in WNW direction. The PP reported that no forest area is involved in the proposed project. and two Schedule I species i.e Indian Peafowl and Shikra exist within 10 km study area of the project, for which conservation plan is submitted to PCCF and chief wildlife warden on 19.5.2022 with budgetary provision of Rs. 5.0 Lakh for 5 years.
7. Ambient air quality monitoring was carried out at 8 locations during March 2021 to May 2021 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (59.26 µg/m<sup>3</sup> to 86.61 µg/m<sup>3</sup>), PM<sub>2.5</sub> (26.16 µg/m<sup>3</sup> to 50.55 µg/m<sup>3</sup>), SO<sub>2</sub> (6.37 µg/m<sup>3</sup> to 21.93 µg/m<sup>3</sup>) and NO<sub>2</sub> (16.40 µg/m<sup>3</sup> to 39.72 µg/m<sup>3</sup>). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.03 µg/m<sup>3</sup>, 1 µg/m<sup>3</sup> and 0.0003µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). The maximum noise level measured in the study area was 73.8

dB (A) in day time and 65.4 dB (A) in night time near Dadarda, which were below the stipulated standards in day time as well as in night time. The noise levels (Leq) of the residential area within the impact zone varied from 38.4 – 54.5 dB (A) in the day time and 33.6 – 53.3 dB (A) in the night time. The noise level (Leq) is observed to be higher at Kalipura i.e. 47.3 dB(A) in the night time.

- 8. Ground water:** pH is found between within acceptable limit at all locations except Varvada (9.23) and Fatehpur ser (8.62) due to the clayey nature of soil. Chloride (443 mg/lit) is found higher than the acceptable limit but below the permissible limit at Varvada. Total hardness is found higher than the acceptable limit at Borewell Near Project site, Dadarda, Varvada, Vajapur and Motesari these is may be due to sedimentary rock and calcium bearing minerals. Magnesium is found higher then acceptable limit at Borewell near Project site, Dadarda, Varvada and Vajapur. Calcium is found higher than the acceptable limit at Varvada may be due to sedimentary rock and calcium bearing minerals. Sulphate was found well within the acceptable limit at all locations. The TDS was found higher than the acceptable limit at all the locations except Kalipura. The Total Coliform (4 MPN/ 100 ml) was observed only at Borewell near project site. **Surface Water:** pH is found higher than the acceptable limit at all the locations except Fatepur ser because of the domestic activities such as washing of clothes, utensils etc. Chloride, Magnesium, Total hardness, Sulphate is found within the acceptable limit at all the locations. TDS is also found within the acceptable limit at all the locations. Total coliforms were found in all villages due to the cattle washing, presence of algae, use of water for domestic activities, which may impact on health of persons who will use this water. Thus, surface water can be used for agricultural purpose after adequate primary treatment. Water quality of all location is found classification E as per CPCB guidelines.
- 9.** Result of soil analysis revealed that soil of proposed project area is neutral to slightly alkaline in nature, have normal EC and have low to sufficient organic carbon content. Nutrient availability of soil samples indicates that the soil was low to medium in nitrogen and low in  $P_2O_5$  &  $K_2O$ . The CEC values ranged from 9.14 meq/100gm as the lowest at Kalipura village and 38.96 as the highest at Vajapur village. Almost all soil samples except the soil samples of Vajapur village have the medium CEC. By and large soils of project area have lower soil fertility. A possible explanation for High CEC value of soil of Vajapur village would be sufficient in organic carbon content, fertilization and irrigation. All the soil samples have Calcium less than critical level and Magnesium more than critical level ( $Ca < 25\%$  of CEC and  $Mg < 4\%$  of CEC). The soil of all the sampling locations seems to be sandy loam in nature and hence water holding capacity was found to be poor to average. SAR values were found to be low to medium and sodium value from 1.15 to 3.14 mg/g. Bulk density shows the compactness of soil. A compact soil has a higher value. Bulk density of soil samples ranged from 1.11 to 1.71 ( $gm/cm^3$ ).
- 10.** The PP reported that total fresh water requirement for the proposed project will be 51.53 kL/day which will be fulfilled by borewell water. Industrial wastewater will be generated from cooling tower (2.93 KLD), RO reject (19.85 KLD), Process (38.62 KLD) & washing activities (1 KLD), Boiler Blow down (0.48) and scrubber (1.5 KLD). Industrial wastewater will be treated in ETP comprising of primary, secondary followed by evaporator treatment units. Wastewater coming from process will be treated in oil, grease and fat trapping unit then it will go to ammonia stripper collection



and then to cum neutralization tank where it will get mix with wastewater coming from cooling tower blow down and scrubbing waste water. After neutralization wastewater goes to primary settling tank where the supernatant goes to secondary treatment unit and sludge will be disposed of at TSDF site. After secondary treatment unit the w/w will be collected in holding tank. Waste water from washing activities, RO reject and boiler blow-down treated in collection cum neutralization tank-2 and then it will go to holding tank. Then the treated stream coming from secondary treatment and collection cum neutralization tank-2 will get mix in holding tank. The mixed stream then sent to evaporator for further treatment. The condensate water will be reused for industrial purpose and in this way the unit will maintain the ZERO LIQUID DISCHARGE.

11. The PP reported that the Power requirement will be 300 KW and will be met from Uttar Gujarat Vij Company Limited (UGVCL). Proposed details of Flue Gas Emissions unit with Air Pollution Control Measures.

Sr. No.	Stack attached to	Stack Height (m)	Fuel Requirement	Expected Pollutant	APC System	GPCB Limit
1	Thermic fluid Heater (15,00,000 kcal/hr)	30	White coal/Briquettes (1 MT/day)	SPM SO <sub>2</sub> NO <sub>2</sub>	Multicyclone separator followed by bag filter followed by water scrubber	SPM ≤ 150 mg/Nm <sup>3</sup> SO <sub>2</sub> ≤ 100 ppm NO <sub>x</sub> ≤ 50 ppm
2	Boiler (1 TPH)	30	White coal/Briquettes (1.37 MT/day)	SPM SO <sub>2</sub> NO <sub>2</sub>	Multicyclone separator followed by bag filter followed by water scrubber	
3	D. G. Set (1 X 300 KVA) (Stand by)	12	Diesel (100 lit/hr)	CO HC NO <sub>x</sub>	--	As per GPCB Norms

Note: \*D.G. Set will only be used when power failure.

## 12. Details of Process Emissions Generation and their Management:

S.NO.	Stack attached to	Height of the stack (m)	APC System	Expected Pollutant
1.	Reactor of Sebacic acid and Hood connected to Oleum storage area	12	Dual condenser system (water + brine) followed by dual stage scrubber (water + alkali) followed by activated carbon column	SO <sub>2</sub> , VOCs

2.	Cracking section of sebacic acid	--	Local exhaust ventilation	CO & CO <sub>2</sub>
3.	Reactor of Fatty acid ester, Methy 12-Hydroxy Stearate (Me-12HS) & Methyl Ricinolete(Me-RA)	12	Dual condenser system (water + brine) followed by activated carbon column	VOCs

### 13. Details of Solid Waste Generation and its Management:

S. No.	Description	Category	Source	Total Quantity MT/annum	Mode of Disposal
1.	ETP Sludge	35.3	ETP	193.14	Collection, storage and disposal at Approved TSDF site
2.	Evaporation Residue	35.3	ETP	386.28	Collection, storage and disposal at Approved TSDF site
3.	Used oil / Spent Oil	5.1	Plant Utilities and machineries	1.5	Collection, storage and use within premises as a lubricant/ sell to registered recycler
4.	Spent catalyst	28.2	Manufacturing process	10.25	Collection, storage and send to register regenerator for reprocessing or regeneration of catalyst or it will send to CHWIF.
5.	Spent catalyst	28.2	Manufacturing process	1.22	Collection, storage, regeneration of catalyst and used in manufacturing process
6.	Spent Carbon	36.2	Manufacturing process	105.83	Collection, Storage, Transportation and Incinerated at CHWIF.

7.	Distillation residue	20.3	Manufacturing process	217.15	Collection, Storage, Transportation and Incinerated at CHWIF.
8.	Glycerine Crude	--	Sweet water treatment plant	2363.98	Used in manufacturing process or send to Rule-9
9.	Sodium sulfate	--	Sweet water treatment plant	847.14	Collection, storage and send to Rule-9
10.	Mixed fatty acid	--	Manufacturing Process	574.56	Collection, storage and send to Rule-9
11.	Filter Residue	--	Manufacturing process	13.68	Collection, storage and disposal at Approved CHWIF site
12.	Discarded bags/drums	33.1	Raw material storage	45	Collection, storage & sold to authorized vendor
13.	Methanol recovery	20.2	Manufacturing process	518.4	Collection, storage & reuse within premises.

14. The Budget earmarked towards Environmental Management Plan (EMP) is 121.984 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 367.5 Lakh per annum, which includes Air Pollution [₹ 23.0 Lakh/annum (capital) and ₹ 11.8728 Lakh/annum (Recurring)] Water Pollution [₹ 45.6 Lakh (capital) and ₹ 261.6 Lakh/annum (Recurring)], Noise Pollution [₹0.12 Lakh/annum (capital) and ₹ 0.63 Lakh/annum (Recurring)], Hazardous solid waste management . [₹ 0.7 lakh (capital) and ₹ 66.94 Lakh/annum (Recurring)], soil [₹ 0.1426 Lakh/annum (Recurring)], Greenbelt [₹ 18.5 Lakh/annum( capital ) and ₹ 6.5 Lakh/annum (Recurring)], Fire safety and occupational health safety [₹ 32.3 Lakh (capital) and ₹ 1.8 Lakh/annum (Recurring)], Miscellaneous Rain water harvesting [₹ 2.10 Lakh (capital) and ₹ 18 Lakh/annum (Recurring)], Industry proposes to allocate ₹ 17.78 Lakh towards CER for Installation of solar panels in nearby villages.

15. The PP reported that the advertisement for Public Hearing was published in two newspapers on 10.03.2022 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on 12.04.2022, which was presided by Additional District Magistrate. The main issues raised during the public hearing are related to employment to locals, pollution control measures, wastewater disposal.

16. Total land area of premises is 18506.00 m<sup>2</sup>, out of which **6150.66 m<sup>2</sup>** (33.24 %) area will be developed as greenbelt.

17. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environment Engineer- Chemist – Safety and Health Officer for the functioning of EMC.

18. The PP reported that Net CO<sub>2</sub> emitted = 1712.5 MT/year, Production per year = 38,400 MT/year, Net CO<sub>2</sub> emitted per product = 0.0446 MT or 44.6 kg and approximately, 9 % CO<sub>2</sub> will be sequestered by use of renewable energy, and 26 % CO<sub>2</sub> will be sequestered by greenbelt development.
19. The PP submitted the disaster and Onsite and Offsite Emergency Plan in the EIA report.
20. The PP also submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 " I, Mr. Pareshbhai Patel -Director of M/s. Selico Agro Organics Pvt Ltd located at Survey No.: 1601, 1594, Dadarda to Jethajina Muvada road, Village: Antrolivas Dolji, Taluka: Talod, District: Sabarkantha, Gujarat-383305 do hereby give undertaking with reference to MoEF&CC O.M. No. J-11013/41/2006-IA.II.(I) dated 05t October 2011, that the data and information given in the Environmental Impact Assessment (EIA) report are factually correct and we will be responsible for any discrepancy in the EIA report. We also undertake that content including information & data of the EIA report is own by us and data or information not taken from any other EIA report. The above stated fact is true to the best of my knowledge".
21. The consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 ", T. R. Patel, Proprietor of M/s. T. R. Associates located at A-401, S. G. Business Hub, B/w. Sola Bhagwat & Gota Over Bridge, Near Umiya Campus, S. G. Highway, Ahmedabad - 380060, Gujarat, do hereby give undertaking with reference to MoEF O.M. No. J-11013/41/2006- IA.II.(1) dated 04 August 2009, that we have prepared EIA report for M/s. Selico Agro Organics Pvt. Ltd. located at Survey No.: 1601, 1594, Dadarda to Jethajina Muvada road, Village: Antrolivas Dolji, Taluka: Talod, District: Sabarkantha, Gujarat - 383305 as per Terms of Reference (TOR) prescribed wide letter no.: IA-J-11011/444/2021-IA-II (I) dated 3'4 Nov, 2021. The stated TOR has been complied with and the data mentioned in the EIA report are factually correct. The above stated fact is true to the best of my knowledge."
22. The estimated project cost is **Rs 907.26 Lakh**. Total direct employment will be **70** persons.

### **23. 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 Committee 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 Committee deliberated on the waste water technology for effluent and EAC suggested PP to submit technology for wastewater treatment generated from castor derivatives plant. The EAC deliberated on the carbon sequestration and suggested EAC to submit detailed carbon footprint with proposed mitigative measures to achieve maximum carbon sequestration or reduction of CO<sub>2</sub>. The EAC also noted about the greenbelt inside the premises and plantation in nearby villages and suggested PP to submit revised EMP. PP submitted the undertaking regarding the same.

The Committee deliberated 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of EAC 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.

**24. 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, **6150.66 m<sup>2</sup>** by planting 1846 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, The budget earmarked for the plantation shall be ₹ 18.5 Lakh and 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 1<sup>st</sup> 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 by engaging Environment Engineer- Chemist. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 121.984 Lakh (Capital cost) and 367.5 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (iv) The total fresh water requirement for the proposed project will be 51.53 kL/day which will be fulfilled by borewell 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 withdrawal 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 1<sup>st</sup> July of every year for the activities carried out during the previous year
- (v) 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.
- (vi) 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.
- (vii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.

- (viii) 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.
- (ix) 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.
- (x) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xi) As already committed by the PP, Zero Liquid Discharge shall be ensured Domestic wastewater generation quantity is treated in STP and treated wastewater can be reused for gardening purpose. So, the domestic wastewater management through STP is adequate instead of septic tank/soak pit system.
- (xii) 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.
- (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 the 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 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.
- (xix) 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.
- (xx) 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. 36.11**

**Proposed Synthetic Organic Chemicals (Formaldehyde 37%) Unit [Total Production Capacity: 3000 MT/Month] located at Survey No.: 493, Plot-3, Village: Chhadvada, Taluka: Bhachau, District: Kutch, Gujarat by M/s. Naksh Formaline Pvt. Ltd. - Consideration of Environmental Clearance**

**[Proposal No. IA/GJ/IND3/209967/2021; File No. IA-J-11011/187/2021-IAII( I)]**

1. The proposal is for the Proposed Synthetic Organic Chemicals (Formaldehyde 37%) Unit [Total Production Capacity: 3000 MT/Month] located at Survey No.: 493, Plot-3, Village: Chhadvada, Taluka: Bhachau, District: Kutch, Gujarat by M/s. Naksh Formaline Pvt. Ltd.
2. The project/activity is covered under Category 'A' of item 5(f), 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) 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/GJ/IND3/209967/2021** dated 4.5.2021 and the standard ToR has been issued by the Ministry, vide letter No IA-J-11011/187/2021-IA-II(I) dated 30.4.2021. The PP submitted that Public Hearing was conducted on 22.3.2022 which was presided by the Additional District Magistrate. The PP applied for Environment Clearance on 27.7.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported



that it is a **Fresh EC case**. The proposal is now placed in 36<sup>th</sup> EAC Meeting held on 16-17 August, 2022, wherein the Project Proponent and an accredited Consultant, T.R. ASSOCIATES [Accreditation number NABET/EIA/1922/SA0153, valid upto 8.4.2023], 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 0.31997 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

Sr. No.	Name of the Product	Production Capacity (MT/Month)	CAS Number	End use of products
1	Formaldehyde (37%)	3000	50-00-0	Formaldehyde-based resins are used to manufacture composite and are used to make interior molded components and under-the-hood components that need to withstand high temperatures
<b>Total Production Capacity</b>		<b>3000</b>	<b>--</b>	

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, Under Section 33-A of Water Act, 1974 is issued under E (P) Act/Air Act/Water Act.
6. The PP reported that there is Wild Ass Sanctuary at 3 km from the project site, but the eco-sensitive zone boundary of Wild Ass Sanctuary is at 41.8 km ESE direction. Chhadvada pond is at 3.1 km in SSW direction. The PP reported that no forest area is involved in the proposed project. and Schedule I species i.e. Indian Wild Ass, Indian Peafowl, Pallid harrier, Shikra, Gull billed Tern, Lesser Flamingo, Chinkara and Eurasian Spoonbill exist within 10 km study area of the project, for which conservation plan is submitted to PCCF and chief wildlife warden on 9.6.2022 with budgetary provision of Rs. 2150000 for 5 years.
7. Ambient air quality monitoring was carried out at 8 locations during March 2021 to May 2021. The baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (58.35 µg/m<sup>3</sup> to 86.94 µg/m<sup>3</sup>), PM<sub>2.5</sub> (25.68 µg/m<sup>3</sup> to 52.31 µg/m<sup>3</sup>), SO<sub>2</sub> (6.46 µg/m<sup>3</sup> to 20.42 µg/m<sup>3</sup>) and NO<sub>2</sub> (16.26 µg/m<sup>3</sup> to 41.65 µg/m<sup>3</sup>). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.03 µg/m<sup>3</sup>, 0.08 µg/m<sup>3</sup> and 0.02 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub> in case of briquettes and 0.08 µg/m<sup>3</sup>, 0.03 µg/m<sup>3</sup> and 0.03 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>2</sub> in case of Indonesian coal. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). The maximum noise level measured in the study area was 72.6 dB (A) in day time and 68.6 dB (A) in night time near Electrotherm India Ltd., (Industrial area) which were below the stipulated standards. The noise levels (Leq) of the residential area within the impact zone varied from 35.7 – 72.6 dB (A) in the day time and 36.4 – 68.6 dB (A) in the night time.

- 8. Ground Water:** pH is found between 6.2 to 8.5 which are well within the acceptable limit at all locations. COD ranges from 24 mg/L to 63 mg/L, BOD ranges from 7.4 mg/L to 18.8 mg/L and DO ranges from 3.2 mg/L to 6.2 mg/L and is within acceptable limit at all locations. Chloride ranges from 50 mg/L to 861.8 mg/L. It is found higher than the acceptable limit at Jangi (861.8 mg/L) and Laliyana village (284 mg/L) due to salt-bearing geological formations, deposition of salt spray. Total hardness ranges from 49 mg/L to 1440 mg/L and is found higher than the acceptable limit at Jangi, Laliyana, Samkhyali and Gharana these is may be due to sedimentary rock and calcium bearing minerals. Magnesium ranges from 29.2 mg/L to 760 mg/L and it is found higher than acceptable limit at all the locations except Vijpasar and inside vijpasar village it may be due to sea present at near to 10 km distance. Calcium ranges from 13 mg/L to 680 mg/L and it is found higher than the acceptable limit at Jangi due to sedimentary rock and calcium bearing minerals. Sulphate ranges from 7.3 mg/L to 284.4 mg/L and it is found higher than the acceptable limit at Jangi. TDS ranges from 236 mg/L to 3412 mg/L and it is found higher than acceptable limit at all the locations except Vijpasar and inside vijpasar village it may be due to sea present at near to 10 km distance. Total Coliform is observed at jangi due to sample is taken from open well and at the time of sampling it is observed that there were growth of algae and also some vertebrates (Frogs etc.) also been found. Ground water is suitable for domestic and agricultural purpose after primary treatment and disinfection. **Surface water:** pH found within study area ranges from 6 to 8.2 and is found within acceptable limits at all the locations. COD ranges from 8 mg/L to 71 mg/L, BOD ranges from 2.4 mg/L to 24.9 mg/L and DO ranges from 3.2 mg/L to 5.4 mg/L and is within acceptable limit at all locations. Chloride ranges from 40 mg/L to 954 mg/L and it is found to be higher than acceptable limit at Ambaliyara pond, Samkhiyali and Coastal zone it may be due to soil of the area and near by coastal zone. Total hardness ranges from 58.8 mg/L to 1402 mg/L and it is found higher than the acceptable limit at Ambaliyara pond, Samkhiyali and Coastal zone it may be due to the Coastal zone water used for salt extraction. Magnesium ranges from 11.1 mg/L to 236.2 mg/L and it is found higher than acceptable limit at Ambaliyara pond, Samkhiyali, Gharana, Vondh pond and Coastal zone. Sulphate ranges from 7.4 mg/L to 281.8 mg/L and it is found higher than the acceptable limit at Coastal Zone. TDS ranges from 216 mg/L to 5896 mg/L and it is higher than the acceptable limit at all the locations accept Laliyana and Branch canal near project site. Total coliform were found in all villages due to the cattle washing, presence of algae, use of water for domestic activites, which may impact on health of persons who will use this water.
- 9.** Soil pH ranged from 6.88 to 8.54 indicating that soils are neutral to moderately alkaline in nature. The soil of Samkhyali village was found to be natural and the soil of remaining locations were found to be moderately alkaline in nature. Nutrient availability of soil samples reveals that the soil was low in nitrogen ranging from (5.31% to 26.47%), low in  $P_2O_5$  ranging from (4.54 mg/kg to below detectable limit) & high in  $K_2O$  ranging from (1.5 mg/g to 3.25 mg/g). Organic carbon content of all the soil samples was high. The possible explanation for high organic carbon content may be that the crop residue would have been buried after harvesting the crops, for use of organic manures and green manuring by famers. EC values of soil samples range from 542  $\mu\text{s}/\text{cm}$  to 2.04  $\text{ms}/\text{cm}$  show that the soil of all the sampling locations had medium EC except the soil of coastal zone that had high EC. The CEC values range from 33.44 meq/100gm as the lowest at Electrotherm India location and 43.54 as the highest at lakhpat village. High organic matter content as well as more amount of Mg

salt would have contributed to higher CEC values. The Ca content in soil was below critical levels (i.e. less than 25% of CEC and Mg content in soil was more than critical level i.e. less than 4% of CEC. The soil of all the sampling locations seems to be sandy loam except soil of coastal zone was sandy clay loam. Water holding capacity was found to be poor to high. SAR values were found to be low to medium indicating soils are salt affected. Bulk density of soil samples ranges from 1.02 to 1.95 (gm/cm<sup>3</sup>).

- 10.** The PP reported that total water requirement for the proposed project will be 135.91 kL/day (fresh water requirement will be 106.31 kL/day and reuse water will be 29.60 kL/day) fresh water demand will be fulfilled by surface water source. Total 1.27 kL/day sewage will be generated which will be treated in STP and STP treated water will be reused for gardening purpose. About 35.75 kL/day effluent will be generated from Boiler, Cooling Tower, RO reject and Washing activity. About 0.5 kL/day wastewater will be generated from washing activity, 9 kL/day wastewater will be generated from boiler and cooling tower as blow down. About 26.25 kL/day R.O. reject water will be generated from RO plant. About 28.60 kL/day will be condensate from multi effect forced circulation evaporator which will be reused. Thus, the unit will maintain Zero Effluent Discharge.
- 11.** The PP reported that the Power requirement for proposed project will be **230 KVA** and has met from **PGVCL**. 160 KVA D. G. Set [Fuel: Diesel (65 Lit./hr.)] shall be provided and used only in case of power failure. Stack (12 meter) shall provide as per CPCB norms to the DG set. Industry will provide one steam boiler of 1 TPH [Fuel: Briquettes/Agro waste (0.29 Ton/Month) or Indonesian Coal (0.25 Ton/Month)]. Multicyclone separator followed by bag filter with stack height of 30 m will be installed with Boiler for controlling the particulate emissions within the statutory limit.
- 12. Details of Process Emissions Generation and their Management;** There will be process emission of traces of formaldehyde and CO from manufacturing activity. To control the process emission, Activated carbon column will be provided with process reactors.

**13. Details of Solid Waste Generation and its Management:**

Sr. No.	Description	Source	Category	Total Quantity MT/annum	Mode of Disposal
1.	ETP Sludge	ETP	35.3	129.6	Collection, storage and disposal at Approved TSDF site.
2.	Evaporation Residue	Evaporator	35.3	76.33	Collection, storage and disposal at Approved TSDF site.
3.	Formaldehyde Neutralization waste	Spillage and washing	33.2	12	Collection, storage and disposal at Approved TSDF site.

4.	Spent carbon (APCM)	Activated Carbon Column	35.1	18	Collection, storage and disposal at approved CHWIF.
5.	Used oil / Spent Oil	Plant & Machinery	5.1	0.2	Collection, storage and use within premises as a lubricant/ sell to registered recycler.
6.	Discarded bags and drums	Raw material storage	33.1	5	Collection, storage and decontamination or Reuse within premises/ sell to approved re-processors.

14. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 103.21 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 182.72 Lakh per annum, which includes Air Pollution [₹ 23.00 Lakh/annum (capital) and ₹ 5.76 Lakh/annum (Recurring)] Water Pollution [₹28.50 Lakh (capital) and ₹ 132.96 lakh/annum (Recurring)], Noise Pollution [₹0.12 Lakh/annum (capital) and ₹ 0.72 Lakh/annum (Recurring)], Hazardous solid waste management . [₹ 2.50 Lakh (capital) and ₹ 4.31 Lakh/annum (Recurring)], Greenbelt [₹ 14 Lakh/annum( capital ) and ₹ 3.47 Lakh/annum (Recurring)], Fire safety and occupational health safety [₹ 27.72 Lakh (capital) and ₹ 1.0 Lakh/annum (Recurring)], Miscellaneous [₹ 7.37 Lakh (capital) and ₹ 34.5 Lakh/annum (Recurring)], Industry proposes to allocate ₹ 13.71 Lakh towards CER for installation of Solar lights and provision of RO water cooler and healthcare provision.
15. The PP reported that the advertisement for Public Hearing was published in two newspapers on 18.02.2022 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on 22.03.2022, which was presided by Additional District Magistrate. The main issues raised during the public hearing are related to handling of Formaldehyde, employment generation and air emissions.
16. Industry will develop greenbelt in an area of **34.6 %** i.e, **1107.27 m<sup>2</sup>** out of total area (3199.75 m<sup>2</sup>) of the project.
17. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environment Engineer- Chemist – Safety and Health Officer for the functioning of EMC.
18. The PP reported that Net CO<sub>2</sub> emitted = 1333.98 MT/year, Production per year = 36,000 MT/year, Net CO<sub>2</sub> emitted per product = 0.037 MT or 37 kg Unit will be able to sequestrate **25.87 ≈ 26 %** carbon emission by adopting renewable source of energy, planting the trees and adopting the following proposed measures.
19. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.

20. The PP also submitted an undertaking with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 5.10.2011 " 1, Mr. Sumit Goyal-Director of M/s. Naksh Formaline Pvt. Ltd. located at Survey No.: 493, Plot-3, Village: Chhadvada, Taluka: Bhachau, District: Kutch, Gujarat - 370201 do hereby give undertaking with reference to MoEF&CC O.M. No. J-11013/41/2006-IA.II.(I) dated 05th October 2011, that the data and information given in the Environmental Impact Assessment (EIA) report are factually correct and we will be responsible for any discrepancy in the EIA report. We also undertake that content including information & data of the EIA report is own by us and data or information not taken from any other EIA report. The above stated fact is true to the best of my knowledge."
21. The consultant submitted an undertaking that with reference to O.M. No. J-11013/41/2006-IA. II (I) dated 4.8.2009 "I, T. R. Patel, Proprietor of M/s. T. R. Associates located at A-401, S. G. Business Hub, B/w. Sola Bhagwat & Gota Over Bridge, Near Umiya Campus, S. G. Highway, Ahmedabad - 380060, Gujarat, do hereby give undertaking with reference to MoEF O.M. No, J-11013/41/2006- A.II.(1) dated 04 August 2009, that we have prepared EIA report for M /s. Naksh Formaline Pvt. Ltd. located at Survey No.: 493, Plot-3, Village: Chhadvada, Taluka: Bhachau, District: Kutch, Gujarat - 370201 as per Terms of Reference (TOR) prescribed wide letter no.: IA-J-11011/187/2021-IA-II (I) dated 04th May 2021. The stated TOR has been complied with and the data mentioned in the EIA report are factually correct. The above stated fact is true to the best of my knowledge."
22. The estimated project cost is **Rs. 685.92 Lakh**. Total direct employment will be **17** persons.

**23. 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 Committee 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 Committee deliberated on the soil biomass. and microbiology of the soil, suggested PP to submit the usage of Indonesian coal in unavailability of briquettes,

and also to submit the revised ETP details and to revise solid hazardous details. Revised flue gas emission. The EAC also deliberated on the scrubber as APCM with steam boiler and suggested to update EMP cost and need to submit the action plan of Public Hearing. In view of this PP submitted the details regarding the same.

The EAC also noted about the carbon sequestration and suggested PP to increase the carbon sequestration by greenbelt development in nearby villages and need to submit undertaking regarding this, PP submitted the same and EAC found it to be satisfactory.

The Committee deliberated 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 Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

The Committee is of the view that recommendation of EAC and grant of environmental clearance by 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.

**24. 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., **6150.66 m<sup>2</sup>** by planting 332 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). In addition to this, PP shall plant approx.. 2200 number of trees in nearby villages. The budget earmarked for the plantation shall be ₹ 14 Lakh and 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 1<sup>st</sup> 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 by engaging Environment Engineer- Chemist. 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 1<sup>st</sup> July of every year for the activities carried out during the 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 103.21 Lakh (Capital cost) and 182.72 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 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (iv) Total water requirement for the proposed project will be 135.91 kL/day (fresh water requirement will be 106.31 kL/day and reuse water will be 29.60 kL/day) will be fulfilled by surface water source. 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 valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (v) As committed by the PP, The PP shall use Briquettes- as the first priority fuel and incase of unavailability of the same the unit may use Indonesian coal as an alternative fuel. The PP shall submit to the Regional Office of MoEF&CC before 1<sup>st</sup> July of every year for the fuel used during previous year clearly mentioning the quantity. In case the Indonesian coal is used, then, analysis report from a NABL Accredited Laboratory w.r.t the proximate analysis and Sulphur content of the coal should also be submitted.
- (vi) 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.
- (vii) 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.

- (viii) The PP shall comply with the environment norms for Pharmaceuticals/Bulk Drugs Industry as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 541(E), dated 06.08.2021 under the provisions of the Environment (Protection) Rules, 1986.
- (ix) 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.
- (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 PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xii) As already committed by the PP, Zero Liquid Discharge shall be ensured Total 1.27 kL/day sewage will be generated which will be treated in STP and reused for gardening purpose.
- (xiii) 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.
- (xiv) 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.
- (xv) 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.
- (xvi) 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.
- (xvii) 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.
- (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 storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
- (xx) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
- (xxi) The 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. 36.12**

**Setting up Pesticides, Pesticide Intermediates and Fine Chemicals Manufacturing Unit at Plot No. SPM-29, Sterling SEZ & Infrastructure Ltd, Post Sarod, Taluka Jambusar, District Bharuch (Gujarat) by M/s PI Industries Ltd. (Unit-II) - Amendment in EC**

**[Proposal No. IA/GJ/IND3/285811/2022; File No. IA-J-11011/6/2017-IA-II(I)]**

1. The proposal is for amendment in the Environmental Clearance granted by the Ministry vide letter no. IA-J-11011/6/2017-IA-II(I), dated 26.07.2018 for the project of Pesticides, Pesticide Intermediates and Fine Chemicals manufacturing plant and amendment in EC on 17.06.2019 at Plot No. SPM-29/2, Sterling SEZ & Infrastructure Ltd, Post: Sarod, Taluka: Jambusar, Dist: Bharuch, Gujarat in favour of M/s. PI Industries Ltd. (Unit-II).
2. The project proponent has requested for amendment in the EC with the details are as under;

<b>S. No.</b>	<b>Para of EC issued by MoEF&amp;CC</b>	<b>Details as per EC</b>	<b>To be revised/read as</b>	<b>Justification/ reasons</b>
1.	Condition No. 6 Para-3	The unit will have <b>Boilers of 6 TPH (1 no.) &amp; 12 TPH (2 Nos)</b>	The unit will have <b>Boilers of 17 TPH (2 Nos)</b> and	<b>Change of 12 TPH boilers (2 Nos.) and 6 TPH (1 no) to 17 TPH (2 Nos.)</b>

	and Thermic Fluid Heater (60 Lakh Kcal/Hr) with <b>Furnace Oil/Natural Gas (204 MT/Day/195440 Nm<sup>3</sup>/Day)</b> will be used as fuel. Boiler & Thermic Fluid heater is connected with stacks of adequate height of 30 m & 20 m respectively.	Thermic Fluid Heater (60 Lakh Kcal/Hr) with <b>Light Diesel Oil/Natural Gas (204 MT/Day/195440 Nm<sup>3</sup>/Day)</b> will be used as fuel. Boiler & Thermic Fluid heater is connected with stacks of adequate height of 30 m & 20 m respectively.	Boilers. Proposed amendment is to have better fuel efficiency without increase in fuel <b>consumption</b> sanctioned in Existing EC because <b>no increase in steam demands</b> . Proposed to replace <b>Furnace Oil by Light Diesel Oil as Fuel</b> and due to this reason, GPCB has discontinued FO fuel from approved fuel list.
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### 3. Deliberations by the EAC:

The EAC deliberated on the issue and observed that EC was granted by the Ministry on 26.07.2018, the existing greenbelt/plantation is not adequately planted, in view of this, the PP needs to submit the action plan for greenbelt and to increase the number of trees, accordingly. The PP is also required to submit the details of carbon foot prints and carbon sequestration study w.r.t. proposed project and details of onsite and offsite emergency plans. The EAC advised the PP and the consultant that in future, they should ensure the compliance of existing EC including green belt before applying for amendment in EC. The Committee therefore, **deferred** the proposal.

#### Agenda No. 36.13

**Clarification regarding Applicability of Environmental Clearance for Setting up of LABSA (Linear Alkyl Benzene Sulphonic Acid) manufacturing unit of capacity 28800 TPA at Plot No. A6/2Part, C4, SIPCOT Industrial Park, Village Thervoy Kandigai, Taluk Gummidipoondi, District Tiruvallur, (Tamil Nadu) by M/s Mahaveer Surfactants Pvt. Ltd.**

1. TNPCB in its CTE for the above project has also directed the PP to furnish clarification from MoEF&CC regarding the applicability of EC under EIA Notification, 2006 for the following products other than LABSA while applying for CTO. Accordingly, the PP requested the Ministry for the same. The PP along with their consultant, Vimta Labs, have also made a presentation before the EAC.

Sr. No.	Description	As per EIA Report for EC	As per CTE Application	
1	Linear Alkyl Benzene Sulphonic Acid (LABSA)-	28,800 TPA	Linear Alkyl Benzene Sulphonic Acid 96% (LABSA)	25200 TPA
			Linear Alkyl Benzene Sulphonic Acid (Powder)	924 TPA

2	Alcohol Ether Sulphates (AES)	4,968 TPA	Nil	-
3	Alfa-olefins Sulfonates, (AOS)	4,162 TPA	Alfa-olefins Sulphonate 70% (AOS)	20404 TPA
			Alfa-olefins Sulphonate 38% (AOS)	40799 TPA
			Alfa-olefins Sulphonate (Needles)	2520 TPA
			Alfa-olefins Sulphonate (Powder)	8400 TPA
			Alpha Olefin Sulfonation (Noodles 89%)	21000 TPA
4	Sodium Lauryl Sulphate (SLS)-	3,744 TPA	Sodium Lauryl Sulphate 70% (SLS)	25200 TPA
			Sodium Lauryl Sulphate 28% (SLS)	75600 TPA
			Sodium Lauryl Sulphate (Powder)	5040 TPA
5	By Product	-	Sodium Sulphate	70 TPA

## 2. Deliberations by the EAC:

The committee deliberated on the documents submitted by the PP and observed that the manufacturing process of the above products is similar to that of LABSA. Hence, these products also don't require EC as in the case of LABSA.

### Agenda No. 36.14

#### **Clarification regarding requirement of Environment Clearance for manufacturing Powder Moulding Resin using formaldehyde as a raw material**

1. Based on the direction of RSPCB, M/s Saint Melawares Pvt. Ltd. requested the Ministry to clarify on the requirement of EC for manufacturing Powder Moulding Resin using formaldehyde as a raw material. Accordingly, the proposal was placed before the EAC.
2. During the meeting, the PP made a presentation and reported that in view of the listings in entry no. 5(f) of the EIA Notification and the elaboration made on page 39 Technical EIA Guidance manual prepared by IL&FS for MoEF&CC, necessary directions may be issued to the State Pollution Control Board that they may not mandate EC from such small industries who are not themselves

manufacturers of Formaldehyde. There should not be any requirement of EC for the industries using Formaldehyde as a raw material and also do not have any effluent or even solid waste.

### **3. Deliberations by the EAC:**

The Ministry has been regularly receiving project proposals for manufacturing various resins – urea formaldehyde, phenol formaldehyde and melamine formaldehyde for selling or for using within their own laminate making units and granting EC following the proper procedure.

M/s Saint Melawares Pvt. Ltd. are manufacturing moulding powder using melamine, formaldehyde, wood pulp. The process of making resin is no different from that used by others. In addition, the moulding powder manufacture will require additional steps for evaporation and for containment of emissions besides higher energy requirement. During presentation, the PP agreed that emissions do occur and the same are removed by scrubbing. The scrubbed liquid waste, though small in volume, will have to be properly handled and treated. The PP themselves showed that fume extractors and scrubbers besides dust collectors are required in the manufacturing process.

In view of the above, the unit is not justified in claiming EC waiver not only for itself but also for others producing various types of formaldehyde-based products. After due deliberations, the Committee did not agree to this request and advised for obtaining environmental clearance before starting manufacturing operations.

### **Any Other Item with Permission of Chair**

#### **Agenda No. 36.15**

#### **Clarification regarding requirement of Environmental Clearance for Solvent Extraction for manufacturing of Tobacco Syrup Extraction from Tobacco Dust by M/s Singhal Solvent Pvt. Ltd., Pehowa Road, Cheeka, Kaithal, Haryana**

1. Haryana State Pollution Control Board has requested the above clarification to MoEF&CC. Accordingly, the matter was placed before the EAC.

### **2. Deliberations by the EAC:**

The unit is making Tobacco Syrup by extracting the extractable constituents from pelletized tobacco dust, leaves and stems using chloroform as the extracting medium. The chloroform is removed from the syrup by evaporation at 60-70°C and reused for further extraction. No chemical reaction is taking place during this process and all steps are based on physical unit operations.

After due deliberations the Committee opined that this activity of PP does not fall under the category of manufacture of synthetic organic chemicals and it does not require environmental clearance.

## **Agenda No. 36.16**

### **Clarification on requirement of Environment Clearance for the production of Nicotine Di-tartrate Di-hydrate**

1. The above matter was placed before the EAC in its 32<sup>nd</sup> meeting held during May 30-31, 2022, wherein the Committee recommended that the product does not fall under the category of synthetic organic chemicals and does not require EC. However, it does involve the use of an industrial solvent like methylene dichloride and methanol for which adequate measures and precautions are required for storage, transportation, use, etc. through the consent of the Karnataka State Pollution Control Board.
2. The Ministry while examining the matter has observed that, as per the EIA Guidance manual issued by the Ministry, synthetic organic chemicals are defined as man-made (anthropogenic) organic compounds created through industrial synthesis. A non-exhaustive list is available which includes hydrogenated castor oil, which is also extracted from plants and subjected to hydrogenation, as a part of Basic Organic Chemicals. Accordingly, the matter was placed before the EAC for its views.

### **3. Deliberations by the EAC:**

The nicotine is a natural product that can be extracted from tobacco (dust, leaves stem) using a suitable extractant. Tartaric acid (or 2,3-dihydroxysuccinic acid) is a carboxylic acid with a chemical formula  $C_4H_6O_6$ . Tartaric acid is an organic acid found in many vegetables and fruits such as grapes, bananas, and tamarinds. Thus, both components of nicotine di-tartrate di-hydrate are of natural origin. These are mixed together and crystalized to form the final product (an adduct) and there is no chemical reaction involved in the real sense. The process takes place under normal operating conditions.

In the case of hydrogenated castor oil, the hydrogen is required to be added in the molecule at the unsaturated carbon bond positions using a suitable catalyst under specific operating conditions of pressure and temperature. The process is akin to the manufacturing process used for producing hydrogenated vegetable ghee from edible vegetable oils.

Hence, both the manufacturing processes are not the same and duly justified for their respective non-requirement and requirement of EC.

The meeting ended with thanks to the Chair.

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**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 31<sup>st</sup> 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.

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**STANDARD TERMS OF REFERENCE CONDITIONS****A. STANDARD 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 30<sup>th</sup> 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 upto 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, SO<sub>2</sub>, NO<sub>x</sub>, 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(f) CATEGORY SYNTHETIC ORGANIC CHEMICALS INDUSTRY (DYES & DYE INTERMEDIATES; BULK DRUGS AND INTERMEDIATES EXCLUDING DRUG FORMULATIONS; SYNTHETIC RUBBERS; BASIC ORGANIC CHEMICALS, OTHER SYNTHETIC ORGANIC CHEMICALS AND CHEMICAL INTERMEDIATES)**

1. Details on solvents to be used, measures for solvent recovery and for emissions control.
2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, other process-specific pollutants\* like NH<sub>3</sub>\*, chlorine\*, HCl\*, HBr\*, H<sub>2</sub>S\*, 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.

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

S. No.	Name of Member	Designation
1.	<b>Prof. (Dr.) A.B. Pandit</b> Vice Chancellor, Institute of Chemical Technology, Mumbai, Sir JC Bose Fellow, Government of India Email: <a href="mailto:ab.pandit@ictmumbai.edu.in">ab.pandit@ictmumbai.edu.in</a>	Chairman
2.	<b>Prof. (Dr.) S. N. Upadhyay</b> Research Professor (Hon.), Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi E-mail: <a href="mailto:snupadhyay.che@iitbhu.ac.in">snupadhyay.che@iitbhu.ac.in</a>	Member
3.	<b>Dr. Ashok Kumar Saxena, IFS</b> Bungalow No. 38, Sector-8A, Gandhinagar, Gujarat – 382008 E-mail: <a href="mailto:ashoksaxena1159@gmail.com">ashoksaxena1159@gmail.com</a>	Member
4.	<b>Prof. (Dr.) Suneet Dwivedi,</b> Professor in K Banerjee Centre of Atmospheric and Ocean Studies, University of Allahabad, Allahabad - 02 Uttar Pradesh E-mail: <a href="mailto:dwivedisuneet@rediffmail.com">dwivedisuneet@rediffmail.com</a> <a href="mailto:/suneetdwivedi@gmail.com">/suneetdwivedi@gmail.com</a>	Member
5.	<b>Shri Santosh Gondhalkar</b> 'Shree' Apartment, Flat 401, Plot No. 22, Tukaram Society, Santnagar, Pune- 411009 E-mail: <a href="mailto:santoshgo@gmail.com">santoshgo@gmail.com</a>	Member
6.	<b>Shri Sanjay Bisht</b> Scientist 'E', Room No. 517, Office of the Director General of Meteorology, Indian Meteorological Department, Musam Bhawan, Lodhi Road, New Delhi -110003 E-mail: <a href="mailto:sanjay.bist@imd.gov.in">sanjay.bist@imd.gov.in</a>	Member
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10.	<b>Prof. (Dr.) Vijay S. Moholkar</b> Professor in Department of Chemical Engineering, Block-K (Academic complex), Room No. 111, Indian Institute of Technology Guwahati, Guwahati – 781039 E-mail: vmoholkar@iitg.ac.in	Member
11.	<b>Dr. M. Ramesh</b> Scientist 'E' Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Room No. A-233, Agni Wing, Jor Bagh Road, New Delhi-110003 Tel. 011-20819249 E-mail: <a href="mailto:ramesh.motipalli@nic.in">ramesh.motipalli@nic.in</a>	Member Secretary

**MOM approved by**

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

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