

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

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**Dated:13.10.2022**

**MINUTES OF THE 39<sup>th</sup> EXPERT APPRAISAL COMMITTEE (INDUSTRY-3 SECTOR)  
MEETING HELD ON SEPTEMBER 29-30, 2022**

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

**Time: 10:00 AM onwards**

**(i) Opening Remarks by the Chairman**

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

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

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

**(iii) Confirmation of Minutes of the 38<sup>th</sup> Meeting of the EAC (Industry-3 Sector) held during September 14- 15, 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 26.09.2022, the EAC confirmed the minutes of meeting:

**Agenda No. 39.1**

**Proposed amendment in existing EC for change in type of fuel and for change in common facility for effluent discharge for Expansion of Pesticide Manufacturing Unit located at Plot Nos. 8104, 8109, 8110, 8111 & 268/1, Sachin G. I. D. C. Estate, Sachin, District: Surat, Gujarat by M/s. Anupam Rasayan India Limited (Unit-1)**

**[Proposal No. IA/GJ/IND3/283319/2022; File No. J-11011/357/2013-IA II(I)]**

1. The proposal is for amendment in the Environment Clearance (EC). The EC was granted by the Ministry vide letter IA-J-11011/357/2013-IA-II(I) dated 3.7.2015, for the project of Expansion of Pesticide Manufacturing Unit at Plot No. 8104, 8109, 8110, 8111 & 268/1, Sachin GIDC Estate, Tehsil & District Surat, Gujarat by M/s Anupam Rasayan India Ltd. (Unit -1).The amendment in EC was granted by the Ministry vide letter IA-J-11011/357/2013-IA-II(I) dated 11.1.2019 for Expansion of Pesticide Manufacturing Unit at Plot No. 8104, 8106, 8109, 8110 & 111 & 268/1, Sachin GIDC Estate, Tehsil & District Surat, Gujarat by M/s Anupam Rasayan India Ltd. (Unit -1).

2. The PP applied for **Amendment in the EC** in Form-4 on 14.7.2022, the proposal was placed in the 39<sup>th</sup> EAC meeting held during September 29-30, 2022, wherein the PP and an accredited consultant, Enpro Enviro Tech. and Engineers Pvt. Ltd. [Accreditation number NABET/EIA/2225/RA 0236\_Rev 01, valid up to 12.1.2025] made a presentation for the said proposal.
3. The project proponent has requested for amendment in the EC with the details as under:

EC Condition No.	Condition as per EC dated 3 <sup>rd</sup> July 2015	Condition as per EC Amendment 11 <sup>th</sup> January 2019	Proposed Amendment	Justification for proposed amendment
Para 3.	<p>ESP will be provided to coal/briquette fired boiler to control particulate matter. Scrubber will be provided to control process emissions viz. HCl, SO<sub>2</sub>, Hbr. Total water requirement will be increased from 127 m<sup>2</sup>/day to 321 m<sup>3</sup>/day after expansion. Out of which freshwater requirement from GIDC water supply will be 228 m<sup>3</sup>/day and remaining water requirement (92.75 m<sup>3</sup>/day) will be met from recycled water.</p> <p>Quantity of effluent generation will be increased from 56 m<sup>3</sup>/day to 181 m<sup>3</sup>/day. Effluent will be segregated into High COD/TDS and low COD/TDS effluent streams. High COD/TDS effluent stream will be passed through solvent stripper and</p>	<p>Gas fired boiler (8 TPH) and Thermopack (400 U x 2 &amp; 250 U x 5 Nos) will be installed in the unit in place of coal/briquette fired boiler. Total water supply from GIDC supply shall be 342.9 cum/day. Effluent generated from unit will be 181 cum/day. Effluent will be segregated into High COD/TDS and low COD/TDS effluent streams. Low COD/TDS effluent stream (29.985 cum/day) shall be treated in ETP. Treated effluent shall be discharged into CETP for further treatment after conforming to discharge norms. High COD/TDS effluent stream (50 cum/day) after primary treatment shall be sent to common MEE facility of M/s. MEPPL, Sachin for further treatment. Low COD/TDS effluent</p>	<p>Coal fired boiler (8 TPH) will be installed in place of gas fired boiler. ESP with 2 stage alkali scrubber and 30 m stack will be provided. Thermopack(400 U x 2 &amp; 250 U x 5 Nos) will remain same and will be operated based on Natural Gas.</p> <p>Total water requirement from GIDC supply will be 344.9 (Fresh 255.1 + Recycled 89.8) cum/day. Total effluent generation will be 183 cum/day. (171 Industrial + 12 Domestic)</p> <p>Industrial Effluent will be segregated into High COD/TDS and low COD/TDS effluent streams. Low COD/TDS effluent stream (29.985 cum/day) shall be treated in ETP. This treated effluent shall be</p>	<p>Steam is most vital utility and essential component for entire operational activity for ARIL.</p> <p>The regular consumption of steam for the unit is about 4000000 kg/month. Due to steep rise of gas price, steam cost is at its all-time high level which has most severely affected overall production cost for the unit. By replacing fuel, the unit can save up to 52% of the production cost.</p>

	<p>evaporated in MEE. Low COD/TDS effluent stream will be treated in the effluent treatment plant (ETP) comprising SBT. Treated effluent will be sent to CETP for further treatment after conforming to the standards prescribed for the effluent discharge and after obtaining permission from the GPCB. Condensate and recovery water will be treated and recycled in process and cooling tower make up. ....</p>	<p>stream (60 cum/day) shall be treated in ETP. Treated effluent shall be reused in the plant premises...</p>	<p>discharged into CETP for further treatment after conforming to discharge norms. High COD/TDS effluent stream (50 cum/day) after primary treatment shall be sent to common MEE facility of M/s. GECL, Sachin for further treatment. Low COD/TDS effluent stream (62 cum/day) shall be treated in ETP. Treated effluent shall be reused in the plant premises.....</p>	
Para 7A (ii)	<p>ESP shall be provided to coal/briquette fired boiler to control particulate matter. Continuous air emission monitoring system to be installed from the stack. The gaseous emissions should be disposed through stack of adequate height as per CPCB/SPCB guidelines.</p>	<p>As proposed gas fired boiler (8 TPH) and Thermo pack (400 U x 2 &amp; 250 U x 5) shall be installed in the unit in place of coal/briquette fired boiler ....</p>	<p>For 8 TPH boiler, coal is proposed to be replaced with natural gas. ESP along with two stage alkali scrubber and 30 m stack height is proposed to be provided to achieve environmental emission standards. Thermopack (400 U x 2 &amp; 250 U x 5) will remain same and will be operated based on natural gas.</p>	<p>Due to replacement of NG with Coal, it is proposed to install ESP along with alkali scrubber to achieve environmental standards.</p>
Para 7A (xi)	<p>Total water requirement shall not exceed 228 cum/day, proposed to be met from GIDC water supply. Prior permission shall be obtained from the concern regulatory authority.</p>	<p>Total water requirement shall not exceed 342.9 cum/day, proposed to be met from GIDC water supply. Prior permission shall be obtained from the concern regulatory authority.</p>	<p>Total water requirement shall not exceed 344.9 cum/day, Fresh water to be met from GIDC water supply. Prior permission shall be obtained from the concern regulatory authority.</p>	<p>It is to note that, even though total water requirement is increasing by 2 KLD, freshwater requirement will remain the same. Additional effluent will be recycled within the plant premises</p>

				itself after treatment through SBT.
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#### 4. **Deliberations by the EAC:**

The EAC observed that M/s Anupam Rasayan India Ltd. is having six number of units and recommended that the PP shall submit an undertaking that there is no inter-linking of units and exchange of products and raw materials between them. The EAC also noted that an accident occurred in one of the units recently. Hence, the PP needs to submit the detailed reasoning for the accident, remediation steps taken with supporting documents and the specific action plan to prevent recurrence of such accidents. Further, the PP needs to clarify about the NGT matter.

Regarding the proposed change in fuel from gas to coal, the EAC did not recommend the same as the project is located in a CPA and requires the usage of cleaner fuel. Further, the PP has not considered the cost of scrubbers, requirement of water and alkali and need for collecting and treating spent scrubbing solution

The EAC also deliberated on the change of membership from one CETP to another and recommended that the PP needs to submit the Environmental Performance Reports of both the CETPs and detailed justification for the proposed change. The PP also needs to submit an undertaking that the treated water from CETP can be reused.

The EAC also noted that the green belt condition of existing EC, which is 40% of the project area due to CPA, was not even partly complied. Further, the PP needs to comply with the mitigation measures for CPA stipulated in the Ministry's O.M dated 31.10.2019. 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.

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

#### **Agenda No. 39.2**

**Proposed synthetic organic chemicals manufacturing unit of capacity 700 TPM located at plot no. E-9 (D), Keshwana Industrial Area, RIICO Neemrana, Tehsil: Kotputli, District: Jaipur, Rajasthan by M/s Aromatic Allied and Organics Private Limited - Consideration of EC**

**Proposal No. IA/RJ/IND3/287673/2021; File No. IA-J-11011/524/2021-IA-II(I)]**

1. The proposal is for environmental clearance to the project for Proposed synthetic organic chemicals manufacturing unit of capacity 700 TPM located at plot no. E-9 (D), Keshwana Industrial Area, RIICO Neemrana, Tehsil: Kotputli, District: Jaipur, Rajasthan by M/s Aromatic Allied and Organics Private Limited
2. The project/activity is covered under Category 'B' 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). However, since the interstate boundary of Haryana and Rajasthan falls at 1.0 Km radius of project area, the project attracts the general condition and considered as Category 'A' at Centre.

- The PP applied for the ToR vide proposal number IA/RJ/IND3/245800/2021 dated 31.12.2021 and the standard ToR was issued by the Ministry, vide letter No. IA-J-11011/524/2021-IA-II(I) dated 5.1.2022. The PP submitted that public hearing is exempted as it is located in the notified industrial area. The PP applied for Environment Clearance on 17.8.2022 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 39<sup>th</sup> EAC Meeting held on 29-30 September 2022, wherein the Project Proponent and an accredited Consultant Vardan Environet, [Accreditation number NABET/EIA/1922/RA 0166(Rev.01), valid up to 6.11.2022], made a detailed presentation on the salient features of the project and informed the following:
- The PP reported that the proposed land area is 0.4250 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

Organic Chemicals					
Group A	Sulfonic Acids and Its Derivatives				
S. No.	Product Name	Capacity (TPM)	CAS NO.	Group Capacity TPM	End use
1	Benzene Sulfonic Acid	40	98-11-3	500	Used as an acid catalyst
2	Para Toluene Sulfonic Acid or Toluene Sulfonic Acid	350	6192-52-5		Used as catalyst agent in the synthesis of pharmaceuticals, pesticides, polymerization stabilizer and organic synthesis
3	Xylene Sulfonic Acid	50	25321-41-9		Household/professional cleaning products
4	Sodium Para Toluene Sulfonate	20	657-84-1		A supporting electrolyte for depositing polypyrrole membranes
5	Sodium Xylene Sulfonate	20	1300-72-7		Used in liquid household detergents and shampoos

6	Sodium Cumene Sulfonate	20	28348 - 53 - 0		Used in a variety of household detergent and cleaning products
<b>Group B</b>	<b>Sulfonyl Chlorides</b>				
1	Benzene Sulfonyl Chloride	25	98-09-9	<b>140</b>	used in the manufacture of Benzene Sulfonamide, surface active agents, sulfa drugs
2	Para Toluene Sulfonyl Chloride and Ortho Toluene Sulfonyl Chloride	90	133-59-5		Used to convert hydroxyl and amine groups into good leaving groups by forming sulfonates.
3	P-Chloro benzene Sulfonyl Chloride	25	<b>98-09-9</b>		Used as a biochemical building block
<b>Group C</b>	<b>Sulfonamides</b>				
1	Para Toluene Sulfonamide	15	<b>70-55-3</b>	<b>60</b>	Used in the manufacture of dyes, synthetic resins, paints, disinfectants and wood processing brightener
2	Lasamide	15	2736-23-4		Used to prevent and control seizures
3	5 Chloro Aniline 2,4, disulphonamide	15	121-30-2		-
4	Para Chloro benzene Sulfonamide	15	98-64-6		Used as an intermediate for preparation of insecticides, and also as an intermediate in dyes.
<b>Total (A+B+C)</b>				<b>700</b>	
<b>Inorganic Chemicals</b>					
1	Gypsum	400	<b>13397-24-5</b>	<b>750</b>	
2	HCl 25%	350.00	7647-01-0		
*Remark: No EC is required for the manufacturing of Inorganic chemicals.					

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. Sota Nadi is at a distance of 0.78 km in NW, Sahibi or Sabi Nadi is at a distance of 2.90 km in SE. The PP reported that no forest area is involved in the proposed project. and two Schedule I species i.e. *Varanus bengalensis* and *Pavo cristatus* exist within 10 km study area of the project, for which conservation plan is submitted to DCF on 5.8.2022 with budgetary provision of Rs. 10 Lakh for five years.
7. The PP reported that the ambient air quality monitoring was carried out at **8** locations during **1<sup>st</sup> December 2021 to 28<sup>th</sup> February 2022** to and the baseline data indicates at the maximum and minimum concentrations of PM10 for all the 8 Air Quality monitoring stations were found to be 85.6  $\mu\text{g}/\text{m}^3$  (AQ1) and 68.1  $\mu\text{g}/\text{m}^3$  (AQ6) respectively, while for PM<sub>2.5</sub> varies between 46.1  $\mu\text{g}/\text{m}^3$  (AQ1) and 30.0  $\mu\text{g}/\text{m}^3$  (AQ6). As far as the gaseous pollutants SO<sub>2</sub>, NO<sub>2</sub>, CO & VOC are concerned, the prescribed limits under NAAQ Standards for residential and rural areas has never surpassed at any station. The maximum and minimum concentrations of NO<sub>2</sub> were found to be 28.7  $\mu\text{g}/\text{m}^3$  (AQ1) and 14.0  $\mu\text{g}/\text{m}^3$  (AQ6) respectively. The maximum and minimum concentrations of SO<sub>2</sub> were found to be 18.9  $\mu\text{g}/\text{m}^3$  (AQ1) and 8.3  $\mu\text{g}/\text{m}^3$  (AQ6) respectively. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise:** Ambient noise levels were measured at 08 locations around the proposed project site. Minimum and maximum noise levels recorded during the day time were from 49.86 dB Leq. (N5) and 60.46 dB Leq. (N1) respectively and minimum and maximum level of noise during night time were 40.53 dB Leq. (N5) and 54.74 dB Leq. (N1) respectively.
8. **Ground Water:** The PP reported that pH varies from 7.55 to 7.76. The pH values of samples are within acceptable limits as per IS 10500:2012. Total Hardness varies from 179 to 271 mg/l. The hardness of water samples are within permissible limits as per IS 10500:2012. Total Dissolved Solids varies from 374 to 487 mg/l. The TSD value of water samples are within permissible limits as per IS 10500:2012. Fluoride varies from 0.36 to 0.57 mg/l. The Fluoride value of water samples are within permissible limits as per IS 10500:2012.
9. **Surface water:** The PP reported that pH varies from 7.89 to 8.21. Total Hardness varies from 996 to 974 mg/l. Total Dissolved Solids varies 1717 to 1748 mg/l. Dissolved oxygen varies from 6.1 to 6.2 (mg/l). BOD varies from 14.0 to 15.00 (mg/l). COD varies from 52 to 56 (mg/l).
10. **Soil:** The PP reported that the analysis results show that soil is Slight to Moderate Alkaline in nature as pH value ranges from 7.59 to 7.80 with organic matter 0.28 % to 0.48 %. The concentration of Nitrogen is recorded in the range of 135.11 kg/ha to 205.15 kg/ha, indicating the soils have good to better quantity of Nitrogen. The concentration of Phosphorus is recorded in the range of 19.88 kg/ha. to 28.23 kg/ha, indicating the soils have less to medium quantity of Phosphorus. The concentration of Potassium is recorded in the range of 137.59 kg/ha to 178.11 kg/ha which shows that the soils have medium to better quantity of potassium. The consumption of fertilizers is as important factor as their production. There is appropriate balance in the consumption of different fertilizer nutrients (NPK) in the study area. Based on particle sizes of the samples collected from the site, they are mostly falling in Sandy Loam category. Sand per cent

was varying from 47 to 52 %, Silt percent was in the range of 33 to 37 % and Clay was varying in range of 14 to 17 %. The soil texture triangle was calculated taking project site as the primitive location which shows that the soil of the study area falls in Loamy category and percolation rate of soil is satisfactory. The soil data was compared with the soil classification from Hand Book of Agriculture, Indian Council of Agricultural Research and the data was found to be fairly suitable for agriculture and plantation purposes.

11. The PP reported the freshwater requirement for the proposed project will be 45 KLD which will be sourced from ground water. Application has been submitted to CGWA to abstract ground water vide application no. 21-4/16654/RJ/IND/2022 dated 21.02.2022. Total 56 KLD of wastewater will be generated which will be sent to ETP for treatment followed by to RO-1 and RO-2 and then MEE for further treatment. Treated wastewater of 48 KLD will be reused in Cooling tower, Boiler and Reactor Washing. Hence, no wastewater will be discharged outside the premises and ZLD will be maintained in the plant premises.

12. The PP reported that Maximum power requirement for the plant will be 250 kVA. The power will be supplied by JVVNL. 3 nos. of D.G Sets each of capacity 125 kVA each will be proposed as the backup power supply which will be used in case of emergency only.

13. The PP reported that Unit proposed **1.6 TPH Wood briquette** fired boiler. Scrubber with a stack of height of **30 m** will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm<sup>3</sup> for the proposed boilers.

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

S. No.	Source	Capacity	Fuel	Pollutants	Control measures
1	Boiler	1.6 TPH (1 no.)	Wood Briquette	SPM, SO <sub>2</sub> , NO <sub>2</sub>	Scrubber and 30 m. Stack height
2	DG Set	125 kVA (3 nos.)	HSD	SPM, CO, HC	Acoustic Enclosure with 6 m. stack height

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

Type of Waste	Cat.	Source of Waste	Quantity per Year	Method of storage	Method of Disposal
<b>Hazardous Waste Generation</b>					
Spent Solvents	28.6	Process	1.732 TPA	Dedicated drums	In-house
Spent Carbon	28.3	Process	12 MTA	Open mouth barrels	To be send to TSDF



ETP Sludge	35.3	ETP	1.5 TPA	Stored in covered area with platform	To be send to TSDF
MEE salts	37.3	MEE	0.528 TPA	Stored in covered area	To be send to TSDF
Empty Bags/Containers	33.1	Storage go down	2000 bags/month	50	To Authorized Hazardous waste collectors/Recycler.
Used Lub. Oils	5.1	Utilities	0.5	Drums	To Authorized Hazardous waste collectors/Recycler.
<b>Solid Waste Generation Disposal</b>					
Bottom Ash	-	Utilities	3.96 Tonnes/year	Bags	To Authorized Hazardous waste collectors/Recycler.

16. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 61.5 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 7.4 Lakh per annum, Industry proposes to allocate ₹ 10.0 Lakhs towards Corporate Environment Responsibility (CER) for avenue tree plantation.
17. The PP reported that the Public Hearing is exempted as it is located in the notified industrial area.
18. Green belt will be developed around 40.02 % area of the total plant area. Out of the 4250 sq.m. of the plant area, about 1701 sq.m. (0.1701 ha.) of area will be developed under greenbelt. Total 510 trees will be planted at project site considering 80 % of survival rate.
19. The PP proposed to set up an Environment Management Cell (EMC) by engaging General manager- Manger EHS- Supervisor- worker (safety) – chemist- worker for the functioning of EMC.
20. The PP reported that the total carbon emission per year- 323.83 Tonnes/Annum. In total 15 years, the carbon emissions will be – 4,857.45 Tonnes. The total carbon emission from the industry during construction and operation phase will be 323.83 Tonnes/Annum and in 15 years total carbon emissions will be 4,857.45 Tonnes which will be sequestrate by planting 2510 nos. of trees. When tree will be fully grown/mature (15 years), the carbon sequestration by trees will be 6,812.25 Tonnes.
21. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
22. The estimated project cost is ₹ **9.75 Crores**. Total Employment will be **50** persons during operation phase and 30 number during construction phase.

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

The EAC confirmed from the PP regarding the location of project in CPA of Jaipur and the PP submitted that the project site is 100 km far from the designated CPA. Regarding the Greenbelt, the EAC sought an undertaking from the PP that the industry will plant 2,510 number of plants (510 within the plant premises and 2000 on the periphery of 600 m road besides the unit and NH 48). The EAC also suggested to revise the budget for greenbelt. The PP submitted the same vide letter dated 29.9.2022.

The EAC noted that the PP has enhanced the CER budget from 0.6% to 1.0% i.e. from ₹ 6.0 lakhs to ₹ 10.0 lakhs and accordingly, the EMP budget has been revised. The EAC also deliberated on the water requirement and wastewater treatment. The total domestic water requirement will be 3.0 KLD and domestic wastewater generation will be 2.4 KLD. For the treatment of domestic water, submerged rock filters will be installed after soak pit and treated wastewater will be reused for green belt development.

The EAC also deliberated on the revised carbon footprint and carbon sequestration study phase wise in construction and operation phase.

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

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

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

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, 1701 m<sup>2</sup> by planting 510 number of trees within a period of one year grant of EC. In addition, the industry shall plant 2,000 saplings on the periphery of 600 m road, besides the unit and NH-48 considering 80 % of survival rate. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹ 12.54 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 by engaging General manager- Manger EHS- Supervisor- worker (safety) – chemist- worker 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 61.5 Lakh (Capital cost) and 7.4 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 freshwater requirement for the proposed project will be 45 KLD, which will be sourced from ground water. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining prior permission 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 project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) The species-specific conservation plan of Schedule-I species shall be implemented within time limit and as per the approval of the Chief Wildlife Warden of the State Government.
- (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. 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) The industrial wastewater (56 KLD) shall be sent to ETP for treatment followed by to RO-1 and RO-2 and then MEE for further treatment. The treated wastewater (48 KLD) shall be reused in Cooling tower, Boiler and Reactor Washing. The domestic wastewater (2.4 KLD) shall be treated in soak pit followed by submerged rock filters and the treated water shall be used for greenbelt development. Hence, no wastewater shall be discharged outside the premises and ZLD shall be maintained.
- (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. 39.3**

**Proposed Specialty Chemicals & Agrochemicals Manufacturing Unit of Production capacity 21620 MTPA located at plot no. 5807-5808, GIDC Estate, Ankleshwar, District: Bharuch (Gujarat) by M/s. Sajjan India Ltd., Unit-2 - Consideration of ToR.**

**[Proposal No. IA/GJ/IND3/291001/2022; File No. IA-J-11011/351/2022-IA-II(I)]**

1. The proposal is for the proposed specialty chemicals & agrochemicals manufacturing unit of Production capacity 21620 MTPA located at plot no. 5807-5808, GIDC Estate, Ankleshwar, District: Bharuch (Gujarat) by M/s. Sajjan India Ltd., Unit–2. **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB**
2. The project/activity is covered under Category ‘A’ of item 5(b)-Pesticides industry and pesticide specific intermediates (excluding formulations) and 5(f)-Synthetic organic chemicals of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Centre.
3. The PP applied for the ToR vide proposal number No. IA/GJ/IND3/291001/2022 dated 30.8.2022 The proposal was referred back to the PP on 5.9.2022 and its reply was submitted on 10.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29<sup>th</sup>- 30<sup>th</sup> September, 2022, wherein the PP and an accredited Consultant, M/s. Aqua –Air Environmental Engineers Pvt. Ltd. [Accreditation number – NABET/EIA/2023/IA0062, Valid up to 7.10.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

S. NO.	CHEMICAL NAME OF PRODUCT	CAS NO.	GROUP QTY (MT/YEAR)	LD-50 (MG/KG), LC-50 (MG/L)
<b>GROUP NAME: OTHER AGRO AND PHARMA INTERMEDIATES</b>				
1	4-tert-Butylcyclohexanone	98-53-3	3740	300mg/kg , 17 mg/l
2	3-Trimethylsilyl-propynoic acid allylamide	251911-61-2		NA
3	3-Iodophthalicanhydride	28418-88-4		NA
4	3-Bromo-2-methyl propene	1458-96-6		11 mg/L
5	1-(4-Phenoxyphenoxy)propan-2-ol	57650-78-9		2830 mg/kg
6	5-Methyl chroman-6-carboxylic acid	20006-76-2		NA
7	6-Amino-7-fluoro-4-(2-propynyl)-2H-1,4-benzoxazin-3(4H)-one	103361-42-8		NA
8	3-Isobutylaniline	131826-11-4		NA
9	2,5-Dimethoxypyrimidin-4-amine	6960-17-4		>1000 mg/kg
10	(1E)-[2-[[6-(2-chlorophenoxy)-5-fluoro-4-pyrimidinyl]oxy]phenyl] and its intermediates.	361377-29-9		>2000 mg/kg
11	3',4'-difluoro-2-aminobiphenyl	873056-62-3		>1200 mg/Kg

12	isopropyl 2-(4-methoxybiphenyl-3-yl)hydrazinofornate 1-methylethyl 2-(4-methoxy[1,1'-biphenyl]-3-yl)hydrazinecarboxylate and its intermediates	149877-41-8		Ratte LD50 >5000 mg/kg
<b>GROUP NAME : BENZENE DERIVATIVES</b>				
13	2,6-Dichloro-4-methylphenol	2432-12-4	6500	NA
14	2-Trifluoromethylbenzoyl chloride	312-94-7		8200mg/kg
15	3-Chloro 2 Fluoro Phenol	2613-22-1		NA
16	4-Nitro-2-sulphobenzoic Acid Potassium salt	5344-48-9		>1000 mg/kg
17	2-Methoxyethyl a-cyano-a-[4-(1,1-dimethylethyl)phenyl]-B-oxo-2-(trifluoromethyl) benzene propanoate	400882-07-7		>1000 mg/kg/day
18	4-Chloro-2,6-dimethyl bromobenzene	103724-99-8		N/A
19	1,2- bis (2- Aminophenoxy) ethane	52411-34-4		N/A
20	2-Trilfuoromethyl benzamide	[360-64-5]		> 2 000 mg/kg bw
21	5-Amino-2,4-di-tert-butylphenol	873055-58-4		LC50 (calculated) > 100 mg/l @ 96 hr
22	AOX-D	Not Available		>1000 mg/kg
23	4-Acetyl-2-methylbenzamide	1095275-06-1	>1200 mg/Kg	
24	2-amino benzonitrile	1885-29-6	LD50 Mouse Intravenous - 180 mg/kg	
25	2,4,6-Trimethylaniline (Mesidine)	88-05-1	>743mg/kg	
26	Methyl (2-bromomethylphenyl) (methoxyimino)acetate	133409-72-0	NA	
27	2-tert-butyl-2-[2-(4-chlorophenyl)ethyl]oxirane	80443-63-6	LD50- 5 g/kg, tLC50:1356 mg/m3/4H	
28	3-[Benzoyl(methyl)amino]-2-fluorobenzoic acid	1207726-84-8	NA	
29	Methyl 3-(bromomethyl)-2-chloro-4-(methyl	120100-44-9		

	sulfonyl) benzoate			
30	(4-Chloro-2,6-dimethylphenyl)acetic acid	186748-50-5		LD50 700 mg/kg
	<b>GROUP NAME: HETROCYCLIC DERIVATIVES</b>			
31	Ethyl 4-chloro-3-ethyl-1-methyl-1H-pyrazole-5-carboxylate	124800-34-6	3580	NA
32	1-Methyl-3-(trifluoromethyl)-1h-pyrazole-4-carboxylic acid	113100-53-1		NA
33	3-bromo-1-(3-chloro-2-pyridyl)-4,5-dihydro-1H-pyrazole-5-carboxylic acid	500011-86-9		NA
34	2-chloro-5-(3-chloropropyl)-3-(ethylsulfonyl)pyridine	2505482-71-1		500 mg/kg
35	(2,4-dichlorophenyl)(5-hydroxy-1,3-dimethyl-1H-pyrazol-4-yl)methanone	58010-98-3		NA
36	1,3-Dimethyl-5-chloropyrazol nyl chloride	27006-83-3		>25 & < 50 mg/kg
37	2,6-Dimethyl-,2,3-dihydro-1h-inden-1-one	66309-83-9		2000 mg/kg
38	N-[1,1-dimethyl-2-(4-isopropoxy-otolyl)-2-oxoethyl]-3-methylthiophene-2-carboxamide	875915-78-9		2000 mg/kg
39	6-Fluoro-2-methyl indole	40311-13-5		>1100 mg/kg
40	Bis[1-(N,N-dimethylsulfamoyl)-1,2,4-triazole-3-yl]disulfide	247236-09-5		>1500 mg/kg
41	1,3-Thiazolan-2-one	2682-49-7		500 mg/kg bw
42	2-Chloro-1-(1-chloro-cyclopropyl)-ethanone	120983-72-4		NA
	<b>GROUP NAME: PYRIMIDINE DERIVATIVES</b>			
43	4-hydroxy-2-isopropyl-6-methylpyrimidine	2814-20-2	2600	2200mg/kg
44	2,4,6-Trihydroxypyrimidine	67-52-7		13400 mg/kg bw
45	4,6-Difluoro-2-ethoxy pyrimidine	166524-65-8		< 500 mg/kg bw
46	5-Bromopyrimidine	4595-59-5		LC50: 35.53 predicted
47	1-(4,6-Dimethoxy Pyrimidine-2-yl)propan-2-one	414909-25-4		>1200 mg/Kg
48	2-(3-Chloro-5-(trifluoromethyl)pyridin-	658066-44-5		NA



	2-yl) ethanamine			
49	2-chloro-4, 6-dimethylpyrimidine	4472-44-0		56 mg/kg
	<b>GROUP NAME : NAPTHELENE BASED DYE INTERMEDIATES</b>			
50	4 – Benzoylamino - 5 – Naphthol – 2 – 7Disulphonic Acid	117-46-4	900	> 2500 mg/kg bw
51	4 – Hydroxy N – (3 – Sulfophenyl – 2 – Naphthylamine – 6- Sulphonic Acid	25251-42-7		LD50 4440 mg/kg b/w
	<b>GROUP NAME : PYRIDINE DERIVATIVES</b>			
52	5-chloro-2-methoxy-4-methylpyridine- 3- carboxylic acid	851607-38-0	2350	> 2000 mg/kg
53	(5-chloro-2-methoxy-4-methylpyridin- 3-yl) (2,3,4-trimethoxy-6- methylphenyl)methanone	6880046-61- 9		> 2000 mg/kg
54	2-Sulfonamide-3- trifluoromethylpyridine	104040-76-8		>1000 mg/Kg
55	3-Chloro-2-hydrazinopyridine	22841-92-5		NA
56	3-Chloro-N-(3-chloro-5-tri uoromethyl- 2-pyridyl)- $\alpha,\alpha,\alpha$ -tri uoro-2,6- dinitro-p-toluidine	79622-59-6		>5,000 mg/kg
57	2-chloro-5-chloromethylpyridine	70258-18-3		NA
	<b>GROUP NAME : PYRIMIDINE CHLORO DERIVATIVES</b>			
58	4,6-Dimethoxy-2-chloropyrimidine	[13223-25-1]	1400	>1000 mg/kg
59	N-(2-Amino-4,6-dichloropyrimidin-5-yl) formamide	[171887-03- 9]		500 mg/kg bw
60	Dichloro-1,3 diazabenzene	[1193-21-1]		LD50 >200 mg/kg bw
	<b>GROUP NAME: THIOL DERIVATIVES</b>			
61	Thiocyclam oxalate	31895-22-4	400	195 mg/kg, 1. 02mg/L
	<b>GROUP NAME : R &amp; D PRODUCTS</b>			
62	R & D Products	--	150	--
	<b>Total</b>		<b>21620</b>	

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

6. The PP reported that the proposed land area is 34561 m<sup>2</sup> 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. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries.
8. The PP reported that the source of water will be GIDC Water Supply. The total water requirement will be 1740 KLD, out of which, fresh water requirement will be 1016 KLD. The quantity of industrial effluent from manufacturing process and other ancillary industrial operations shall be 954 KLD and the quantity of Domestic wastewater (sewage) shall be 30 KLD.
9. The PP reported that the power demand will be around 8000 KVA for proposed unit. DG Set (Standby) 2000 KVA (3 nos).
10. The PP reported that the project being in notified industrial area is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA.II(I) dated 27.04.2018.
11. The Company will develop an effective Green Belt within the factory and on periphery of the factory. The total plot area is 34561 m<sup>2</sup>, out of which 13825 m<sup>2</sup> (33%) will be developed as Green Belt Area.
12. The estimated project cost is ₹ 430 Crores. The PP reported that employment would be as per prevailing norms of state government for skilled, semi-skilled and unskilled people for the proposed project. Industry proposes to allocate Rs. 12.9 Crores towards CER.

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

The EAC deliberated on the various environmental aspects such as air emissions and its mitigation measures, gaseous & fugitive emission control measures, water requirement, carbon emissions and action plan proposed by the PP being in a critically polluted area.

The EAC also deliberated on the CER, proposed fuel in Boiler, Flue Gas & Process Gas Emission details, treatment methodology of STP and the greenbelt development plan and sought clarification/revision. The same was submitted by the PP and the EAC found it to be satisfactory. The PP submitted an undertaking to use Briquettes as Primary Fuel for Boiler and only in case of shortage of Briquettes, imported coal will be used as secondary fuel.

After detailed deliberations, the EAC **recommended** the project for grant of ToR **(Standard ToR [Annexure-II] and additional ToR as mentioned below), without public hearing** as per the 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 an action plan with respect to mitigation measures for CPA mentioned in the Ministry's OMs dated 31.10.2019.
- (iii) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
- (iv) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. the proposed project. The Action Plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources shall also be prepared and submitted.
- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have 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) Industry shall use Briquettes as Primary Fuel for Boiler and only in case of shortage of Briquettes, imported coal may be used as secondary fuel.
- (ix) 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.
- (x) 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.
- (xi) 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.
- (xii) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xiii) 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.

- (xiv) 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.
- (xv) The PP should develop 13825 m<sup>2</sup> (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. Approx. 4128 number of plantations have to be planted considering 80% survival rate and with a spacing of 2m x 2m.
- (xvi) 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.
- (xvii) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xviii) In addition to the above, the EIA/EMP report shall also address issues such as i) Effective fugitive emission control measures for process, transportation, packing etc. ii) use of cleaner fuels and iii) best available technology for the plant.

#### **Agenda No. 39.4**

**Proposed Synthetic Organic Chemical (Formaldehyde Based Resins) Unit of production capacity 400 TPM located at Survey No. 104/1 P2, 104/2 P2, 105/1, Plot No.: 4, Bhadiyad - Lalpar Road, Bhadiyad, Taluka & District Morbi, Gujarat by M/s. Ketone Laminates LLP (Unit-II) - Consideration of EC.**

**[Proposal No. IA/GJ/IND3/253021/2022; File No. IA-J-11011/335/2021-IA-II(I)]**

1. The proposal is for the environmental clearance to the proposed Synthetic Organic Chemical (Formaldehyde Based Resins) Unit of production capacity 400 TPM located at Survey No. 104/1 P2, 104/2 P2, 105/1, Plot No.: 4, Bhadiyad - Lalpar Road, Bhadiyad, Taluka & District Morbi, Gujarat by M/s. Ketone Laminates LLP (Unit-II)
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 and requires appraisal at the Centre.
3. The PP applied for the ToR vide proposal number IA/GJ/IND3/253021/2022 dated 12.2.2022. and the standard ToR was issued by the Ministry, vide letter No. IA-J-11011/335/2021-IA-II(I) dated 19.2.2022. The PP submitted that public hearing was conducted on 20.4.2022 which was presided by the District Collector. The PP applied for Environment Clearance on 8.8.2022 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 23.8.2022, 5.9.2022 and reply to the same was submitted on 26.8.2022, 11.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29-30 September 2022, wherein the Project Proponent and an accredited Consultant M/s. Ecogreen Enviro Services, [Accreditation number NABET/EIA/2023/IA0070, valid up to 22.12.2023 made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the proposed land area is 0.14921 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 Products	CAS no.	Quantity MT/Month	End-use of products
1	Phenol Formaldehyde Resin & OR	9003-35-4	400	Used as wood adhesives for plywood and particleboard
2	Melamine Formaldehyde Resin & OR	82115-62-6		Used as plywood and particleboard adhesives, laminated countertops and tabletops, dishwasher-safe tableware, and automotive surface coatings
3	Urea Formaldehyde Resin & OR	9011-05-6		Used in industrial products and even in home decor products
<b>Total</b>			<b>400</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. Machhu river: 1.8 Km in W, Machhu Canal: 3.4 km in SW, Paneli Talav: 6.8 km in E, Ghantu lake: 5.5 km in NE. The PP reported that no forest area is involved in the proposed project. and Schedule I species i.e. Black kite (*Milvus migrans*), Shikra (*Accipiter badius*), Indian peafowl (*Pavo cristatus*), Black-shouldered kite (*Elanus axillaris*) exist within 10 km study area of the project, for which conservation plan is submitted to PCCF and chief wildlife warden on 24.3.2022 with budgetary provision of Rs. 2.2 Lakh for five years.
7. The PP reported that ambient air quality monitoring was carried out at 8 locations during 1<sup>st</sup> October 2021 to 31<sup>st</sup> December 2021 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (62.14-94.14 µg/m<sup>3</sup>), PM<sub>2.5</sub> (25.58-50.43 µg/m<sup>3</sup>), SO<sub>2</sub> (9.69-32.55 µg/m<sup>3</sup>) and NO<sub>x</sub> (11.08-39.67 µg/m<sup>3</sup>). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.02824 µg/m<sup>3</sup>, 0.01414 µg/m<sup>3</sup>, 0.07406 µg/m<sup>3</sup> and 0.02598 µg/m<sup>3</sup> with respect to PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. The resultant concentrations are within the National Ambient Air Quality Standards

(NAAQS). The day time Leq (day) noise levels at all the industrial, commercial, residential & silence locations were observed to be in the range of 50.48 dB(A)-69.7 dB(A). The maximum noise level of 69.7 dB (A) was observed at project site and the minimum noise level of 50.48 dB(A) was observed at Surapuradada Temple, during the study period. It is observed that the day time noise levels are in accordance to the prescribed limit of 75 dB (A) for industrial, 65 dB (A) for commercial & 55 dB (A) for residential respectively but it is slightly higher than the 50 dB (A) for Silence zone. The night time Leq (night) noise levels at all the industrial locations was observed to be in the range of 43.26 dB(A)-51.86 dB(A). The maximum noise level of 51.86 dB(A) was observed at project site and the minimum noise level of 43.26 dB(A) was observed at Bhadiyad Village during the study period. It is observed that the night time noise levels are in accordance to the prescribed limit of 70 dB(A) for industrial, 55 dB(A) & 45 dB(A) for commercial and residential respectively but it is slightly higher than the prescribed limit 40 dB(A) for silence zone.

**8. Ground Water:** The PP reported that the analysis results indicate that pH of the groundwater samples was found to be in range of 7.19-7.68. The TDS were found to be in the range of 398.0-2686.0 mg/l. Parameters like Total Hardness as CaCO<sub>3</sub> (184.0 mg/l – 664.0 mg/ l); Total Alkalinity (105.0 – 572.0 mg/ l); Project: Proposed Synthetic Organic Chemical Unit (Formaldehyde Based Resins) Applicant: M/s. Ketone Laminates LLP (Unit-II) Chapter 3-Description of Environment August-2022 Page | 120 Report No.-EGES\_2022\_EIA\_00045\_01 Rev No. 01 Calcium as Ca (96.0-335.0 mg/ l); Magnesium as Mg (21.14-114.7 mg/ l); Chloride as Cl (40.73-518.0 mg/l); Sulphate as SO<sub>4</sub> (11.53-165.0 mg/l) found in the ground water. All parameters except TDS, Total Hardness and Iron at two to three locations found in the permissible limits. The water quality is potable in nature after giving necessary treatment (U.F + R.O) followed by disinfection process. Most of the parameters for Ground Water samples were found within the permissible limit as per drinking water norms IS 10500:2012. During the analysis it was also found that TDS for the ground water samples were found more than the desirable limits at Lilapar, Lakhadhirpur, Bhadiyad. If peoples of these villages use this high TDS water for longer periods will expose body to various chemicals, toxins and may cause chronic health conditions like Water born diseases, liver, kidney etc. Hence, they shall not directly use this bore well water for drinking purpose. They have to compulsory treat this water before use for drinking purpose. The major parameters of samples meet permissible limits as per IS:10500 but were found more than the desirable limits. Hence, this water can be directly used for domestic purpose but cannot be used directly for drinking purpose without treatment.

**9. Surface water:** The PP reported that the results obtained for the collected samples indicate that the major parameters of surface water quality was found to be well within the prescribed inland standards / specifications for drinking water IS:10500-1992 (Reaffirmed 2012) limit & CPCB standards (Classification of Inland Surface Water – falling under Class B, C & D. The water of Machhu canal is good than the other sampling locations, it falls in class B as per CPCB drinking water norms. This water should not be directly used in drinking but it can be used after conventional treatment followed by disinfection. Use of this water without treatment for drinking purpose is harmful for health. No Heavy metal i.e. lead, cadmium, chromium and mercury found in surface water sources. This water can be used in irrigation and other domestic purposes.

**10. Soil:** The PP reported that the porosity of soils varied from 31.46 % to 35.78 % and can be considered as Good for air and water movement in the soil. The water holding capacity varied from 63.84 % to 76.82 % which indicates very well and suited for proper plant root development. Bulk density varied from 1.46 to 1.68 g/cm<sup>3</sup>. The moisture content varied from 15.36 % to 20.06 %. pH varied from 7.7 to 8.6 which indicates soil moderately alkaline nature. Calcium varied from 117.98 to 391.5 mg/kg. Magnesium varied from 39.86 to 125.5 mg/kg. The electrical conductance is ranges from 0.266 to 1.215 mho/cm that is good for seed germination and plant growth. Nitrogen varied from 160.3 to 241.3 kg/h, Phosphorous varied from 20.35 to 36.25 kg/h and Potassium varied from 101.52 to 189.24 kg/h that indicates good physical condition and with good availability of nutrients like Nitrogen, Potassium, Phosphorus.

**11.** The PP reported that total water requirement is 11.1 KLD, out of which 1.0 + 0.6 + 0.5 + 4.0 + 5.0 KLD will be used in Domestic, Gardening, washing, Boiler & Cooling respectively. Domestic wastewater will be sent to Septic tank/Soak Pit. Evaporator (single effect) condensate and Boiler condensate 4.7 KLD will be reused within the premises, hence total fresh water requirement will be reduced up to 6.4 KLD (Industrial + Domestic). Unit will achieve ZLD.

**12.** The PP reported that Total power requirement will be 250 KVA. Power supply shall be taken from Paschim Gujarat Vij Co. Ltd. D. G. set capacity of 150 KVA (1 No.) will be provided to fulfil the power requirement and used in case of power cut or failure. DG set will be provided with an effective safe stack height for proper dispersion of pollutants that will keep the emissions within the permissible limit.

**13. Details of Process Emissions Generation and their Management:** There will be no any process gas emission from the proposed project.

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

**Municipal Solid Waste**

Particulars	No. of persons	@kg/day/Person	Quantity of waste (in kg/day)	Management of SW
Workers	23	0.1 kg/day/person	2.3	will be segregate and collected in dustbins and will be sent to collection system through Gram Panchayat.
<b>Total</b>			<b>2.3 kg/day</b>	

**Hazardous Waste**

Sr. No.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Ann um)	Management of HW

1	Empty Barrels/Containers / Liners contaminated with Hazardous Chemicals/Wastes	Storage & handling of Raw Materials	Sch-I/ 33.1	5.0	Collection, Storage, Transportation, and disposal by send it to authorized Decontamination facility/ recyclers or reuse or send back to supplier.
2	Used/ Spent Oil	Equipment & Machineries	Sch-I/5.1	0.1	Collection, Storage and Disposal by Reuse in plant & Machinery as lubricant or sell it to authorized Re-Refiners/recyclers.
3	Process waste (Resins)	From Process	Sch-I/23.1	5.0	Collection, Storage, Transportation & send to pre/co-processing units (cement industries) OR disposal at nearest CHWIF site
4	ETP sludge	Effluent Treatment Plant	Sch-I/ 35.3	8.0	Collection, Storage, Transportation, Disposal at TSDF site.
5	Salt	Evaporator	Sch-I/ 35.3	4.0	Collection, Storage, Transportation, Disposal at TSDF site

15. The budget earmarked towards Environmental Management Plan (EMP) is ₹ 84.04 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 7.5 Lakh per annum. The industry proposes to allocate Rs. 6.0 Lakhs towards Corporate Environment Responsibility (CER).
16. The PP reported that the advertisement for Public Hearing was published in two newspapers viz. The Times of India & Divya Bhaskar dated 20.04.2022. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 24.05.2022 which was presided by the District Collector. The main issues raised during the public hearing are related to employment generation by proposed project and regarding wastewater disposal.
17. The PP reported that the industry will save / capture / reduce approx. 58.0 tons per year or 56.4% of total carbon dioxide generated during year (considering direct Source of CO<sub>2</sub> emission) through above mitigation measures (year wise sequestration plan) suggested.
18. The PP proposed to set up an Environment Management Cell (EMC) by engaging General manager- Office assistants- ware house in charge – work manager- unskilled workers for the functioning of EMC.
19. The PP reported that summary of carbon emission from different sources-



S. No.	Source	TYPE	CO <sub>2</sub> Generation/ Emission	
			TPD	TPA
A	Fuel	Direct	0.105	38.6
B	Effluent	Direct	0.00063	0.23
C	Waste	Direct	0.00055	0.20
D	Transportation	Indirect	0.018	6.7
E	Energy/Power Consumption	Indirect	0.19	69.4
<b>Total</b>			<b>0.31418</b>	<b>115.6</b>

#### SUMMARY OF SEQUESTRATION

S. No.	Sequestration Mode	Sequestrate CO <sub>2</sub> Generation/ Emission, TPA
A	Using Solar Panel & Electric Vehicle	4.977
B	Tree Plantation	21.57
C	Segregation Of Waste	0.20
<b>Total</b>		<b>26.75</b>

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

21. The estimated project cost is **Rs3.0 Crore**. Total Employment will be **23 persons as direct & 15 persons indirect**.

#### 22. Deliberations by the EAC:

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

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

The EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The EAC deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The EAC 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 the layout plan/greenbelt development and advised the PP to revise the layout plan considering greenbelt in east side of the plot, road side and periphery of the plant. Further, the PP should revise the greenbelt development plan considering number of trees with 80% survival rate of trees and related changes in EMP cost, green belt development plan and Carbon foot print study. The PP committed the same and confirmed that the industry changed number of trees and its capital cost in greenbelt development plan as 150 nos. instead of 125 nos. considering 80% survival rate of trees. Moreover, industry made revised EMP cost w.r.t greenbelt development and revised carbon capture qty. (MT/year) considering 150 nos. trees in carbon foot print study report. The EAC found it to be satisfactory.

The EAC also deliberated on the details of water consumption and advised the PP to revise the water balance diagram considering reuse of treated sewage from Septic Tank and Soak Pit for greenbelt area of plant premises. The PP submitted the same and the EAC found it to be satisfactory.

The EAC also deliberated on the Carbon sequestration study and advised the PP to revise the Carbon sequestration study by exploring the possibilities to reduce 50% of carbon footprint instead of 23% through greenbelt development, solar energy utilization activity etc. in nearby areas within two years' time frame. The PP submitted the same and the EAC found it to be satisfactory.

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

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

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

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

- (i) The PP shall develop Greenbelt over an area of at least, 4930 m<sup>2</sup> by planting 150 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 2 m). In addition, the budget earmarked for the plantation shall be ₹ 0.84 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 by engaging General manager-Office assistants- ware house in charge – work manager- unskilled. 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 ₹ 84.04 Lakh (Capital cost) and ₹ 7.5 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) Total water requirement is 11.1 KLD out of which fresh water requirement is 6.4 KLD which will be sourced from bore well. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 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 project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) The species-specific conservation plan of Schedule-I species shall be implemented within time limit and as per the approval of the Chief Wildlife Warden of the State Government.
- (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. 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 shall be treated in Septic tank/Soak Pit and utilized for green belt. The effluent from process, washing and cooling tower shall be treated in ETP followed by Evaporator. The condensate from evaporator shall be reused in cooling, washing & Boiler.
- (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. 39.5**

**Proposed Expansion for the manufacturing of Formaldehyde (37%) from 500 TPM to 4000 TPM (Total Production capacity – 4500 TPM) located at Khasra no. 205/1 Village-Lalpur, Tehsil-Kichha, District–Udham Singh Nagar, Uttarakhand by M/s Subham Chemicals Pvt. Ltd. - Consideration of EC.**

**[Proposal No. IA/UK/IND3/245343/2020; File No. IA-J-11011/326/2020-IA-II(I)]**

1. The proposal is for the environmental clearance to the project for Proposed Expansion for manufacturing of Formaldehyde (37%) from 500 TPM to 4000 TPM (Total Production capacity – 4500 TPM) located at Khasra no. 205/1 Village-Lalpur, Tehsil-Kichha, District–Udham Singh Nagar, Uttarakhand by M/s Subham Chemicals 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 and requires appraisal at Centre.

3. The PP applied for the ToR vide proposal number IA/UK/IND3/188220/2020 dated 19.12.2020. and the standard was issued by the Ministry, vide letter no. IA-J-11011/326/2020-IA-II(I) dated 24.12.2020. The PP submitted that public hearing was conducted on 10.7.2021 which was presided by the Additional District Magistrate. The PP applied for Environment Clearance on 22.12.2021 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 PP on 3.1.2022, 7.6.2022 and reply to the same was submitted on 25.5.2022, 13.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29-30 September 2022, wherein the Project Proponent and an accredited Consultant SD Engineering Services Pvt. Ltd., [Accreditation number NABET/EIA/1922/RA 0136, valid up to 10.2.2022 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 0.9470 Ha and no R& R is involved in the Project. The details of products are as follows:

Name of the Product	Quantity MT/Month			End-use of the products
	Existing	Proposed	Total	
Formaldehyde	500	4000	4500	Formaldehyde-Urea Resin

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 as this is an expansion project and existing unit is operating since year 1996 after getting CTE and a CTO obtained from UKPCB for the same. Field inspection in context to compliance of CTO was done on 2.9.2022. Industry has complied the stipulated condition under CTO.
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. Malsi River is present at distance of 2.26 Km/SW. The PP reported that no forest area is involved in the proposed project and exist within 10 km study area of the project.
8. The PP reported that Ambient air quality monitoring was carried out at 8 locations during 1<sup>st</sup> October 2021 to 31<sup>st</sup> December 2021 and the baseline data indicates the During the study PM10 was observed in the range of 62.9 – 94.9  $\mu\text{g}/\text{m}^3$ . Maximum concentration of PM10 was found at Project. Site PM2.5 was observed in the range of 28.9 – 57.0  $\mu\text{g}/\text{m}^3$ . Maximum concentration of PM2.5 was found at Project Site. SO<sub>2</sub> concentration was observed in the range of 7.4 - 13.7  $\mu\text{g}/\text{m}^3$ , which is well within the standard limit. NO<sub>x</sub> concentration was observed in the range of 15.1- 30.6  $\mu\text{g}/\text{m}^3$ , which is well within the standard limit. noise levels in the study area are well within the prescribed limits as prescribed by the CPCB.

- 9. Ground Water:** The PP reported that pH was observed in the range of 7.03 – 7.41 which meets with desirable norms. Total dissolved solids were recorded in the range of 594 to 958 mg/L, with the minimum at the Project Site and the maximum at the Chhinaki Village. Total hardness was in the range of 360-590 mg/L, with the minimum at Project Site & the maximum at the Chhinaki Village. Total Alkalinity was found in the range of 298-508 mg/L, with the minimum at the Project Site & the maximum at the Chhinaki Village. The Chloride was found in the range of 142-344 mg/L, with the minimum at the Project Site & the maximum at Rudrapur (Vipin Rice Mills). Total Phosphorus was found in the range of 1.2 to 1.8 mg/l, with the minimum at Project site and the maximum at the Rameshwarpur village. Iron was found in the range of 0.17-0.32 mg/L, with the minimum at the Project Site and the maximum at the Chhinaki Village. All microbiological parameters MPN analysis was also carried out and it was found Nil.
- 10. Surface Water:** The PP reported that the pH of the samples was found in the range of 8.1-8.4. The TDS analysis was also carried out for the surface water samples and it was found in the range of 200-280mg/L. The DO measured during analysis was found in the range of 4.6-5.5 mg/L. COD & BOD analysis was also carried out during the study period and it was found more than desirable value for drinking water. MPN test was also carried out and it was found positive, which indicates the faecal contamination in surface water body.
- 11. Soil:** The PP reported that the pH value of soil samples varied from 7.56-7.67 with an average 7.62. It was observed that the soil reaction was slightly alkaline in nature. The limit of pH value for the Acidic soils <6.5, normal 6.5-7.5, Alkaline 7.5- 8.5 and Alkali > 8.5. The Electrical Conductivity of the soil ranges from 0.272 to 0.432 with an average 0.342. On the basis of the limits suggested by Muhar et al. (1963) for judging salt problem in soils samples were found normal (EC < 1.0 (dSm<sup>-1</sup>)) and categorized in non-saline in character. Total nitrogen status in soil of study area varied from 9.0-11.20 with an average of 10.09 mgkg<sup>-1</sup>. The maximum total nitrogen 11.2 mgkg<sup>-1</sup> was found in sample location No. 2 while lowest 9.0 mgkg<sup>-1</sup> was observed in sample location No 4. On the basis of the rating according to Robert Flynn 50 % of the soil samples were rated in low range (<10 mgkg<sup>-1</sup>) and remaining 50% in medium range. Data on the phosphorus content in the surrounding soil of the project was found sufficient while the potassium content in all the soil samples were found in low range due to the intensive cultivation of crops with lack of potassium fertilizer's application in soil. The Sodium Adsorption Ratio (SAR) of the soil widely accepted for characterizing soil sodicity, which describes the proportion of sodium to calcium and magnesium in soil solution expressed in milliequivalents per liter (meq/L). When SAR is greater than 13, the soil is called a sodic soil. Excess sodium in sodic soils causes soil particles to repel each other, preventing the formation of soil aggregates. This results in a very tight soil structure with poor water infiltration, poor aeration and surface crusting, which makes tillage difficult and restricts seedling emergence and root growth (Munshower, 1994; Seelig, 2000; Hornbeck et al., 2007). The SAR value of soil of project site was found below 13(meq/L). There is no need of amendments application. Calcium and Magnesium content in soil were found adequate. The physical properties of the soil Like Water content and Bulk density (BD) were also found good and favourable for plant growth as well as green belt development.

12. The PP reported that the total water requirement for the proposed project will be 153.15 KLD & for domestic or drinking purpose will be 0.63 KLD which will be sourced from bore-well for which the groundwater abstraction permission has been taken from CGWA. Sewage generated due to domestic activities by workmen and staff personnel at site during construction and operation phase. Sewage (0.50 KLD) is disposed through Septic Tank/Soak Pit System. There will be no liquid effluent from the process except once in 4 months when the plant is washed after shut down. It is a Zero Liquid Discharge plant.

13. The PP reported that total power requirement will be 400 KVA from Uttarakhand Biji Nigam. 2 D.G. sets of capacity 125 KVA and 250 KVA and 1 Transformer of 300 K.W will also be proposed as the backup power supply & 1 Baby Boiler of capacity 10 kg/h. will also be proposed.

14. **Details of Process Emissions Generation and their Management:** Emission from HSD for DG Set. The significant pollutants identified are PM, SOx and NOx. There are no Process Gas Emissions.

**Flue Gas Emission**

S. no	Stack Attached to	Stack Height (m)	Fuel	Emission Conc.	Air Pollution Control Equipment
1.	DG Set (250 KVA)	11	HSD	PM : <150 mg/Nm <sup>3</sup> SOx : <100 ppm NOx : < 50 ppm	Adequate Stack height is provided for proper dispersion of pollutant.

15. **Details of Solid Waste Generation and its Management:** Solid/Hazardous Wastes generated from the various plant activities. It is observed that adequate mitigation measures are implemented by proponent to avoid accidental due to spillage or leakage of wastes, during operation phase. Treatment, Storage and Disposal mode for the same is followed as per Hazardous Waste (Storage, Handling and Trans- Boundary Movement) Third Amendment Rules, 2016.

S. No	Type of Waste	Category	Quantity (TPA)	Storage	Disposal
1.	Used Oil	Sch.- I, 5.1	0.02	Packed in carboys	Sell to Registered re-processors
2.	Discarded Containers	Sch.- I, 33.1	1.00	De-contaminated, stored	Sell to authorized recycler



16. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 40.00 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 10.00 Lakh per annum. The industry proposes to allocate Rs. 8.0 Lakhs towards the Corporate Environment Responsibility (CER).
17. The PP reported that the advertisement for Public Hearing was published in two newspapers viz. Hindustan Times & Amar Ujala dated 10.7.2021. Public Hearing for the proposed project has been conducted by the State Pollution Control Board on 20.7.2021 which was presided by the Additional District magistrate.
18. The PP reported that the total area for green belt is 3220 m<sup>2</sup> which is about 33.79% of total plot area. Existing Greenbelt developed area is 3220 m<sup>2</sup> and for proposed plant 111.6 m<sup>2</sup> to developed in coming years as per schedule.
19. The PP proposed to set up an Environment Management Cell (EMC) by engaging Plant manager- Plant supervisor- Plant operator- safety officer- plant chemist for the functioning of EMC.
20. The PP submitted the disaster and Onsite and Offsite Emergency Plan in the EIA report.
21. Total cost of the project is Rs 400.00 Lakhs.( Existing cost Rs.150 lakhs and proposed 250 lakhs). During construction phase 43 approx.. 14 persons will be required. Whereas it is estimated that total 10 persons will be required for the proposed project during operation phase. Preference will be given to local villagers. Manpower will be employed directly and indirectly through contracts, services, etc. Local persons based on their qualification and skill will be hired for various industrial activities.
22. **Deliberations by the EAC:**

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

The EAC observed that the documents of the proposal were circulated by the PP/Consultant only on the day of presentation and the EAC took a serious note of this. Further, the EAC observed that there is a lack of clarity in the presentation made by the PP and there are several shortfalls in the presentation w.r.t water balance, on-site and offsite disaster management plan, greenbelt development plan, carbon foot prints & carbon sequestration, water and energy conservation measures, English translation of Public Hearing minutes and action plan for Public Hearing issues etc. The PP needs to revise the EIA/EMP, accordingly. **The EAC warned the Consultant and the PP for the same.**

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

## Agenda No. 39.6

**Proposed Bulk Drugs & Specialty Chemicals manufacturing unit of production capacity 100 TPM located at Plot No. C1B-7001, G.I.D.C. Industrial Estate, Ankleshwar, Taluka: Ankleshwar, District: Bharuch, Gujarat by M/s. Shiv Chemtech Private Limited - Consideration of ToR.**

**[Proposal No. IA/GJ/IND3/288742/2022; File No. IA-J-11011/318/2022-IA-II(I)]**

1. The proposal is for Proposed Bulk Drugs & Specialty Chemicals manufacturing unit of production capacity 100 TPM located at Plot No. C1B-7001, G.I.D.C. Industrial Estate, Ankleshwar, Taluka: Ankleshwar, District: Bharuch, Gujarat by M/s. Shiv Chemtech Private Limited. **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**
2. The project/activity is covered under Category 'B' of item 5(f) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended). However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/288742/2022** dated 16.8.2022 The proposal was referred back to the PP on 23.8.2022, 31.8.2022 and its reply was submitted on 28.8.2022, 13.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29<sup>th</sup>- 30<sup>th</sup> September, 2022, wherein the PP made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

S. No.	Name of product	CAS No.	Quantity MT/month	End Use
	<b>Group-1 OR</b>			
1.	Ammonium Acetate	631-61-8	100	Used as food additive as an acidity regulator
2.	Potassium Acetate	127-08-2		Used as potassium supplement used to prevent and to treat low potassium
3.	Calcium Acetate	62-54-4		Used to prevent high blood phosphate levels in patients who are on dialysis due to severe kidney disease
4.	Copper Acetate	142-71-2		Used as catalyst to make other

				chemicals and pigments
5.	Sodium acetate	127-09-3		Used in Pharmaceuticals & Dyes
6.	Calcium Stearate	1592-23-0		Used in pharmaceuticals and cosmetics
7.	Magnesium Stearate	557-04-0		Used as anticaking, lubricant, release, and antifoaming agent.
8.	Zinc Stearate	557-05-1		Used in the polymers industry as a heat stabilizer component
9.	Sodium Stearate	822-16-2		Major component of many soaps, cosmetics and food additives
	<b>Group-2</b>			
10.	Benzyl Bromide	100-39-0		Useful in organic synthesis as a benzyl protecting group for alcohols and carboxylic acids
11.	N Butyl Bromide	109-65-9		Used in Pharmaceuticals
12.	Phenyl Bromide	108-86-1	30	Used in organic synthesis to prepare the corresponding Grignard reagents
13.	N Propyl Bromide	106-94-5		Used in Pharmaceuticals
14.	Iso Propyl Bromide	75-26-3		Used in Pharmaceuticals
15.	Meta Nitro Benzyl Bromide	3958-57-4		Used in Pharmaceuticals
16.	Meta Bromo Nitro Benzene	585-79-5		Used in Pharmaceuticals
17.	Meta Bromo Anisole	2398-37-0		Used in Pharmaceuticals
18.	Tetra Methyl Ammonium Chloride	75-57-0		Phase Transfer Catalyst

19.	Tetra Butyl Ammonium Bromide	1643-19-2		Phase Transfer Catalyst
20.	N-Bromo Succinimide	128-08-5		Brominating and oxidizing agent
21.	Sulphanilic Acid	121-57-3		Use as an intermediate in the production of dyes & pharmaceuticals
22.	Bromo Acetic Acid	79-08-3		Used in Pharmaceuticals
23.	Para Bromo Benzyl Alcohol	873-75-6		Used as building blocks in organic synthesis, for example in pharmaceuticals
24.	Para Bromo Benzyl Bromide	589-15-1	Used as pharmaceutical intermediates	
	<b>TOTAL</b>		<b>100.0</b>	

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the proposed land area is 805.0 m<sup>2</sup> 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. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries.
8. The PP reported that Total water requirement will be 9.2 KLD. Fresh water requirement will be met through GIDC Water supply. Domestic wastewater 0.8 KLD will be treated in ETP along with industrial wastewater. 4.8 KLD from Process & utilities & 0.8 KLD from Domestic waste water will be treated in ETP & then 5.6 KLD will be sent to Common MEE of M/s. DIPL, Ankleshwar for further treatment & disposal. Scrubbing Solution 0.52 KLD Scrubbing Solution will be re-used within premises or sent to authorized users registered under Rule-9. 4.5 KLD Circulation from Cooling Tower will be re-used back in Cooling Tower.
9. The PP reported that Power requirement will be 100 KVA, which will be taken from DGVCL. 1 No. of 80 KVA DG Set will be kept for emergency power back up. Fuel: Natural Gas = 800 SCM/Day (for 1 Nos. of 2.0 Lakh kcal/hr TFH) and HSD = 200.0 Liter/Day (for stand by DG Set).
10. The PP reported that the project being in notified industrial area is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA.II(I) dated 27.04.2018.

11. The PP reported that total 805.0 m land area is available at site; out of this, 173.92 m<sup>2</sup> greenbelt area will be provided in premises. Remaining 170 m<sup>2</sup> will be provided outside premises. Hence, Total Greenbelt Area = 343.92.0 m<sup>2</sup> (Inside premises = 21.6% + Outside premises = 21.12%).

12. The estimated project cost is ₹ 3.0 Crores. Total Employment will be 5 persons as direct & 7 persons indirect. Industry proposes to allocate Rs.0.12 Crores @ of 4.0% towards CER.

**13. Deliberations by the EAC:**

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

The EAC observed that since the project is located in a CPA, 40% greenbelt is required. However, the layout proposed by the PP has no provision for the same and the PP has no action plan also. Hence, the EAC recommended that the PP shall **explore alternate site(s) for the proposed project.**

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

**Agenda No. 39.7**

**Expansion of Existing Chlor-Alkali, Synthetic Organic Units & Captive Power Plant at Village: Varsana, Taluka: Anjar, District: Kutch, Gujarat by M/s KUTCH CHEMICAL INDUSTRIES LIMITED – Consideration of amendment in ToR**

**[Proposal No. IA/GJ/IND3/291762/2022; File No. IA-J-11011/250/2021-IA-II(I)]**

1. The proposal is for the amendment in the Terms of Reference (ToR). The standard ToR was granted by the Ministry vide letter No. IA-J-11011/250/2021-IA-II(I) dated 24<sup>th</sup> June, 2021 for Expansion of Existing Chlor-Alkali, Synthetic Organic Units & Captive Power Plant at Village: Varsana, Taluka: Anjar, Distt. Kutch, Gujarat vide proposal number IA/GJ/IND3/214774/2021.
2. The project proponent has requested for amendment in the ToR with the details as under:

S. No.	ToR issued by MoEF&CC	Details as per ToR Letter	ToR to be revised/ read as	Justification/ reason

1.	IA-J-11011/250/2021-IA-II(I) dated 24.06.2021	ToR Letter was issued for categories a) 4 (d) - Chlor-Alkali Industry & b) 5 (f) - Synthetic Organic Chemical Industry (Dyes and dye intermediate; bulk drug and intermediates excluding drug formulations, synthetic rubber, basic organic chemicals, other synthetic organic chemicals and Chemical Intermediates)	ToR Letter to be issued for 1 (d) - Thermal Power Plant Category also.	As project falls under 3 categories a) 4(d), b) 5(f) c) 1(d), which, includes addition of Captive Power Plant of 100 MW capacity.
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### 3. 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 submitted by the Project Proponent in desired form. The PP apprised that, while applying for ToR on PARIVESH, there was no provision to select category 1 (d) - Thermal Power Plants. Hence, the standard ToR was issued for category 4 (d) and 5 (f) only.

After detailed deliberations, the EAC **recommended** for amendment in the ToR for inclusion of the **Standard ToR for Thermal Power Plants [Annexure-II]**.

#### Agenda No. 39.8

**Proposed Paint Manufacturing Unit (Water based Paints - 1,20,000 KLPA) located at Plot No. A-1/1, Kosi Katwan Extension-2, UPSIDA Industrial Area, Tehsil Chata, District Mathura, Uttar Pradesh by JK Paints and Coating Limited – Consideration of EC.**

**[Proposal No. IA/UP/IND3/276804/2022; File No. IA-J-11011/194/2022-IA-II(I)]**

1. The proposal is for environmental clearance to the project for Proposed Paint Manufacturing Unit (Water based Paints - 1,20,000 KLPA) located at Plot No. A-1/1, Kosi Katwan Extension-2, UPSIDA Industrial Area, Tehsil Chata, District Mathura, Uttar Pradesh by JK Paints and Coating Limited.
2. The project/activity is covered under Category 'B' of item 5(h), Integrated Paint Industry of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended).

However, since the project site is located within 5 km of interstate boundary, the project attracts the general condition and considered as Category 'A' at Centre.

3. The PP applied for the ToR vide the proposal number IA/UP/IND3/276804/2022 dated 24.8.2022. and the standard ToR was issued by the Ministry, vide letter No. IA-J-11011/194/2022-IA-II(I) dated 25.5.2022. The PP submitted that Public Hearing is not required for the proposed project as it is located in notified Industrial area –industrial area of UPSIDA. The PP applied for Environment Clearance on 24.8.2022 in Form-2 and submitted EIA/EMP Report and other documents. Due to the shortcoming the proposal was referred back to PP 6.9.2022 and reply for the same was submitted on 15.9.2022. The PP in the Form-2 reported that it is a **Fresh EC**. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29-30 September, 2022, wherein the PP and an accredited Consultant, Kadam Environmental Consultants [Accreditation number NABET/EIA/2023/SA 0164 Valid up to 19.3.2023], 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 9.7126 Ha and no R& R is involved in the Project. The details of products are as follows:

Name of Product	Production capacity
Water based Paints	120,000

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and no direction is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger /Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. There is no forest land involved in the proposed project. The proposed project is located at an aerial distance of 95.03 km from the Taj Mahal and 55.40 km from the Mathura Refinery. 5 species of birds i.e. *Accipiter badius* (Shikra), *Circus aeruginosus* (Marsh harrier), *Falco jugger* (Laggar falcon), *Gyps bengalensis* (White backed vulture), and *Pernis ptilorhynchus* (Crested honey buzzard) Schedule-I species exist within the project area for which conservation plan has been prepared of Rs. 5.0 Lakhs and implemented for 5 Years.
7. The PP reported that Ambient air quality monitoring was carried out at 8 locations during 8<sup>th</sup> March 2022 to 6<sup>th</sup> June 2022 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (85-102 µg/m<sup>3</sup>), PM<sub>2.5</sub> (30-43 µg/m<sup>3</sup>), SO<sub>2</sub> (9.8-12.2 µg/m<sup>3</sup>) and NO<sub>2</sub> (12.07-17.5 µg/m<sup>3</sup>). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would 0.065 µg/m<sup>3</sup>, 0.015 µg/m<sup>3</sup> and 1.02 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). Noise level during day and night time in Industrial area were observed within the permissible standard limits for industrial area (75 dBA (d)) & 70 dBA (n)). Noise levels during day and night time in Industrial area were observed within the permissible standard limits for the commercial

area (65 dBA (d)) & 55 dBA (n)) and noise level during day and night time in Residential area were observed within the permissible standard limit for residential area (55 dBA (d)) & 45 dBA (n)).

8. **Water** – As per chemical analysis of groundwater, the quality of ground water for TDS is ranging from 916 mg/lit to 5012 mg/lit. Relatively High TDS is observed in (GW-1) Kotwan, (GW-3) Kharot, (GW-4) Hasanpur, (GW-7) Bathain Kalan, (GW-8) Hulwana samples, which could have been due to inherent salinity of upper aquifer, except these, all samples are in permissible and desirable limit.
9. **Soil**- The analysis of physico-chemical properties of soil samples collected from the surrounding area including site indicated that porosity ranged from 38 – 62 % and WHC varied from 32.42 – 52.85 %, while permeability ranged from 11.88 – 43.20 mm/hr. The good porosity and WHC as well as low permeability were on account of sandy to clay texture of soils. The EC (0.188– 0.456 dS/m) was low (<0.80 dS/m) and ESP (4.0 – 7.5) was well within the safe limits of 15. The soils were slightly alkaline (pH 7.56 to 8.52) due to predominance of Mg. Among water soluble cations predominance of Mg (13.61 to 21.87 meq/ 100 g) was seen followed by Ca (0.72 to 1.60 meq/100 g), Na (0.84 to 1.26 meq/100 g) and K (0.10 to 0.23 g/kg). The soils are categorized as moderately fertile based on CEC values (15.51 to 24.82 meq/100 g soil). However, nutrient status of soils showed that soils are low (<0.50 % OC) in organic carbon (0.23 to 0.47 % OC), indicating that soils are low in nitrogen status. The available phosphorus (15.0 to 27.3 kg/ha) was low (<28 kg P<sub>2</sub>O<sub>5</sub>/ha), whereas the potassium status (87.4 to 200.9 kg/ha) was low (<140 kg/ha) to medium (140 to 280 kg K<sub>2</sub>O /ha). Similar types of soils are reported in District Brochure of Mathura District, U.P. for Ground Water (A.A.P.: 2012-2013).
10. The PP reported that total fresh water requirement for proposed project is 347 KLD. Water source will be UP Jal Nigam and additional permission will be sought for ground water extraction. Effluent of 53 KLD quantity will be treated through the ETP and STP plant will be based on Zero Liquid discharge system.
11. The PP reported that Maximum power requirement for proposed project will be 6 MW which will be supplied by nearest substation. Rooftop solar power panels would be installed for renewable Energy generation and consumption.
12. **Details of Process Emissions Generation and their Management:** There will be no process Emissions Generation in the proposed unit.

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

S. No	Waste Description	Category	Sources of Generation	Quantity of HW Generation	Unit	Disposal Method
1	Used / Spent Oil	5.1	Used oil such as DG Oil Discarded	3	MT/Annum	Sent to SPCB



S. No	Waste Description	Category	Sources of Generation	Quantity of HW Generation	Unit	Disposal Method
						authorized recyclers
2	Process Waste, Sludge & Residue from production Ft industrial use of paint, pigments, varnishes, inks	21.1	Waste powder Test samples of RM, and paint waste/sludge, Gelled paint / paint with excess bacterial growth/ paint lumps) Scrappings of dried paint Spilled RM, Paper / paper cups / PPEs contaminated with Raw Materials/ Finished Goods SS / Heliflex /PVC / Cl /Cement/ HDPE / Rubber pipe contaminated with RM / FG	80	MT/Annum	Sale to authorized recyclers/ TSDF/ Co-processing
3	Wastes or residues such as filter aid	23.1	Discarded emulsion/ test samples; Scrapings of emulsion/ flakes of emulsion, Spilled emulsion. Used filter, Filter Bags, Waste filter cloth	0.5	MT/Annum	Sent to TSDF/ Co-processing / Sale to authorized recycler

S. No	Waste Description	Category	Sources of Generation	Quantity of HW Generation	Unit	Disposal Method
4	Chemical containing residue arising from decontamination	33.1	Leftover material from RM container (Barrel / Carboys / Drum/ Tote)	NIL	MT/Annum	Sent to TSDF/ Co-processing
5	Discarded containers / barrels contaminated with hazardous wastes / chemicals	33.1	All containers for RM, intermediates, Consumables( MS / HDPE/ Metal & Plastic Packing Materials	BARRELS 60000 NOS PER/year	MT/Annum	Sent to TSDF/ Co-processing / TSDF/ Sale to authorized recycler
8	Oil and Grease & skimming residue	35.4	Floating oil from ETP/STP	0.5	MT/Annum	Sent to TSDF/ Co-processing
9	Lead Acid Batteries	Class A	Used /Waste lead acid batteries from DG set	12	Numbers/Annum	Sale back to supplier/ PCB- Authorized recyclers
10	Spent Carbon	36.2	Used carbon granules from common scrubbers & STP/ETP	NIL	MT/Annum	Return to supplier for regeneration/ Co-processing

S. No.	Waste type	Total (kg/day)	Method of disposal
Construction Phase			
1	Organic	360	Will be composted at site in Organic Waste Converter and used as manure for green belt development during construction stage
2	Inorganic	as and when generated	Segregated and disposed through SPCB authorized recyclers
	Total	360	
Operation Phase			
1	Organic	180	Will be composted at site in Organic Waste Converter and used as manure for green belt development

2	Inorganic	As and when generated	Segregated and disposed through SPCB authorized Recyclers
	Total	540	

14. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 22.89 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 3.54 Lakh per annum, Industry proposes to allocate ₹ 5.71 Crore for 5 years towards CER.
15. The proposed unit will be developing 3.20 ha (33.0% of total plot area) green belt using 8465 trees/ large shrubs of various species considering 2500 trees per hectare which includes periphery plantation, road side plantation and plantation around various buildings.
16. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environment head- Environment in charge-site officer lab in charge for the functioning of EMC.
17. The PP reported that the proposed project is exempted from the Public Hearing as it is located in a Notified Industrial Area-industrial area of UPSIDA vide gazette dated 5.9.2001.
18. The PP reported the total power consumption expected in the plant operations = approx. 160000 units per month (145000 from grid and 15000 from DG) CO<sub>2</sub> emissions from delivered grid electricity =790 kg/Mwh. The total CO<sub>2</sub> emissions from grid power use = (0.79\*145000\*12) = 1374600 kg per annum. The DG set will be only used for lighting and emergency operations during power failure CO<sub>2</sub> emission from DG for 15000 units (0.25\*15000\*12) =45000 kg per annum. The total CO<sub>2</sub> emission from plant operations from power usage = 1419600 kg/annum. The total CO<sub>2</sub> emission from vehicular movement in plant for material transport = Approx. 300000 kg/Annum. The total CO<sub>2</sub> emission consolidated for plant = approx. 1719600 kg Avg. CO<sub>2</sub> absorption per plant per year =167 kg. No. of trees required for making plant carbon emissions complete neutral =8501 trees. Tree plantation planned inside plant premises =8015 no. Tree plantation required outside in nearby villages to neutralise the carbon emission fully = 486 (against requirement of we 486 we will plant 600 plants in nearby 3 villages, 200 per village).
19. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
20. The estimated project cost is Rs. 571 Crores Total Employment will be 400 persons as direct & 800 persons indirect after expansion.

## 21. **Deliberations by the EAC**

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

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

The EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The EAC deliberated on the proposed mitigation 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 the STP process flow diagram, APCM, plant layout/green belt and advised the PP to revise the same. The EAC also deliberated on the disaster management plan and advised the PP to revise it by making site-specific and including mitigation and control measures. Further, the EAC deliberated on the carbon footprint and sought the details. The same were submitted by the PP and the EAC found it to be satisfactory.

The PP Committed that the proposed unit will be developing 3.2060 ha (33.0% of total plot area) green belt using 8015 trees of various species considering 2500 trees per hectare and considering 20% mortality rate. Total 9618 nos. of plantations will be planted in 1<sup>st</sup> year of project after commencement which includes periphery plantation, roadside plantation and plantation around various buildings.

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

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

22. The EAC, after detailed deliberations, **recommended the project for the grant of environmental clearance, subject to the compliance of the terms and conditions as under, and general terms and conditions in Annexure-I:**
- (i) The PP shall develop Greenbelt over an area of at least, 32,060 m<sup>2</sup> by planting 9618 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 2 m). In addition, the budget earmarked for the plantation shall be ₹ 0.24 Crore 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 by engaging Environment head-Environment In charge- site officer lab in charge 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 22.89 Lakh (Capital cost) and 3.54 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 PP reported that total fresh water requirement for proposed project is 347 KLD. Water source will be UP Jal Nigam. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining prior permission 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 project proponent shall comply with the environment norms for manmade fibre Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* G.S.R. 1241(E) dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.
- (viii) The species-specific conservation plan of Schedule-I species shall be implemented within time limit and as per the approval of the Chief Wildlife Warden of the State Government.
- (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. 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 53 KLD quantity will be treated through the ETP and STP.
- (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. 39.9**

**Proposed amendment of existing EC for increase in boiler capacity, change in fuel and increase in fresh water consumption for setting up pesticides technical and pesticide intermediates manufacturing plant located at Plot no. DP - 154, GIDC- Chemical zone, Saykha-II, Tal: Vagra, Dist: Bharuch, Gujarat by M/s. Dharmaj Crop Guard Limited (Unit-II)**

**[Proposal No. IA/GJ/IND3/291808/2022; File No. IA-J-11011/419/2019-IA-II(I)]**

1. The proposal is for amendment in the Environment Clearance (EC). The EC was granted by the Ministry vide letter IA-J-11011/419/2019-IA-II(I) dated 25.1.2021, for the project of setting up pesticides technical and pesticide intermediates manufacturing plant located at Plot. No. DP-154, GIDC Chemical Zone, Saykha-II, Taluka Vagra, District-Bharuch, Gujarat in favour of M/s Dharmaj Crop Guard Limited (Unit-II).
2. The PP reported that till the day, the Unit has not started any production activities of proposed project.
3. The PP applied for Amendment in the EC in Form-4 on 17.9.2022, the proposal was placed in the 39<sup>th</sup> EAC meeting held during September 29-30, 2022, wherein the PP and an accredited consultant, Eco Chem Sales & Services [Accreditation number

NABET/EIA/2023/SA 0156, valid up to 3.2.2023] made a presentation for the said proposal.

4. The project proponent has requested for amendment in the EC with the details as under:

S. no.	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/read as	Justification / reasons
1.	Sr. no. 6, page no. 5 of 11	Total fresh water requirement is estimated to be <b>450 cum/day</b> , which is proposed to be met from GIDC water supply. Effluent of 400 cum/day shall be treated through comprehensive effluent treatment comprising of Fenton Treatment, in-house MEE, SBT, Primary Treatment of ETP. Treated water of 375 cum/day shall be sent to CETP Saykha for final treatment & disposal. Domestic wastewater of 10 KLD will be disposed through Septic Tank/ Soak Pit.	Total fresh water requirement is estimated to be 500 cum/day, which is proposed to be met from GIDC water supply. Effluent of 400 cum/day shall be treated in effluent treatment consisting of primary ETP, Fenton Treatment Followed By Solvent treatment, MEE, and SBT. Treated water of 375 cum/day of treated waste water shall be sent to CETP Saykha for final treatment & disposal. Domestic wastewater of 10 KLD will be treated in STP Plant and treated Domestic waste water will be reused for gardening.	The water consumption will be increased by 50 KLD due to increase in the capacity of boiler.
2.	Para-3 of Sr. no.6, Page no-6 of 11	Unit shall install one Natural Gas fired Steam Boiler (8 TPH), one Natural Gas based Thermopack (2 x 1000 U) and 2 D. G. Sets (Diesel-200 Liter/Day). Stack of height of 11 m will be installed for controlling the particulate emissions within statutory limit of 150 mg/Nm <sup>3</sup> .	Unit shall install one Agro Briquettes/Imported Coal fired Steam Boiler having capacity of 20 TPH, and Two Nos of Agro Briquettes/Imported Coal based Thermopack having a capacity of each 1000 U and 2 D. G. Sets (2x250 KVA). ESP along with 40 m stack height will be provided to Boiler and Cyclone & Bag Filter along with 21 m stack height will be provided to Thermopack and Stack height of 11 m will be provided to DG Set for	Due to unavailability of Natural gas supply facilities in GIDC Saykha, hence we have amend fuel from Natural gas to Agro Briquettes/C oal for steam boiler and Thermopack.



			controlling the particulate emissions within statutory limit of 150 mg/Nm <sup>3</sup> .	
3.	<b>Point No. (xii) of Sr. no.12, Page no-8 of 11</b>	Total Fresh water requirement shall not exceed 450 cum/day proposed to be met from GIDC Water supply. Necessary permission in this regard shall be obtained from the concerned regulatory authority, and renewed from time to time.	Total Fresh water requirement shall not exceed 500 cum/day proposed to be met from GIDC Water supply. Necessary permission in this regard shall be obtained from the concerned regulatory authority, and renewed from time to time.	50 KLD water consumption will be increased due to increase in the capacity of boiler.

### 5. Deliberations by the EAC

The EAC noted that this proposal was earlier considered in the 33<sup>rd</sup> meeting held during June 20-22, wherein the EAC observed/recommended the following:

*“The EAC noted that, the PP requested to amend the Environmental Clearance w.r.t total and fresh water requirement, and fuel requirement for Boiler. i.e. Agro Briquettes/Coal shall be used in place of Natural Gas. The Committee is of the view that previous EC was granted considering the fuel as natural gas and this modification in fuel type require modification in the layout of the plant, pollution equipment, Environmental Management Plan etc. Further, the Committee observed that no serious efforts were made by the PP to escalate the matter to higher authorities in the Gujarat Gas Limited to obtain the gas connection. The Committee is also of the view that such type of proposal for fuel change needs to be supported by detailed scientific study.*

*Based on the discussion held and documents submitted, the EAC **deferred** the proposal and is of the view that the PP should first make serious efforts for obtaining the natural gas connection by escalating the matter to higher authorities in the Gujarat Gas Limited. In case, the Gujarat Gas Limited in writing commit that they are not able to provide gas connection at all or for a specific period of time, only in such case, the PP may approach this Committee with above documents”.*

Subsequently, the PP vide letter dated 15.09.2022, inter-alia, submitted that in Saykha industrial area, the pipelines for supply of Gas have not been initiated yet and not a single company is running their Boiler & other Utilities based on Gas but all units are using either Bio-Briquettes or Imported Coal as fuel for running their utilities. Gujarat Gas Ltd. (GGL) will lay pipe line & other infrastructure, provided industries confirm certain minimum book quantity of gas by chemical units. Not even a single kilo qty. has been booked by any of the industries of Saykha region for installation of gas piping facilities as well as Basic Infrastructure, even bare minimum quantity as indicated by GGL as 30,000 SCM/Hr which is required has not been booked.

GGL has not acquired land in Saykha Industrial Estate to install their Gas-Station and not even decided from which existing Gas Station point the Saykha Estate will be provided pipe lines & both current distance as Vilayat & Dahej GIDC which are appx 15/25 kilometres from Saykha Estate and it will take approximately one year for laying down pipe lines &

ultimately supply gas to member units. GGL has not even taken necessary permission from other Government Authorities such as Forest, GIDC etc. and not obtained NOC/approval till date. Even if any Unit sign commercial agreement now also, then bringing the Gas supply to unit would take at least one & half years as indicated verbally by GGL.

The PP had approached GGL and they are ready to lay down pipe line for supply of natural gas, but it will take time. Letter dated 27.06.2022 also issued by GGL. The production plant as well as EMS is ready for commission and plan to commission by January 2023. Civil Buildings & Infrastructure Completion Work Status Report dated 01.08.2022 obtained from a chartered engineer.

**The PP will use Agro Briquettes as principal fuel & coal shall be used only in emergency and also undertake that, we shall switch over to natural gas as and when we get the natural gas supply from Gujarat Gas limited.**

The EAC deliberated on the above submissions of the PP and advised the PP to continue to pursue the matter of availability of natural gas with GGL, GIDC etc. so that the natural gas is made available. Till then, the usage of Agro Briquettes as principal fuel & coal as an emergency fuel may be considered subject to submission of a detailed addendum EIA/EMP Report on the proposed change of fuel.

The EAC also deliberated on the enhancement of the boiler capacity and PP needs to include this in the addendum EIA/EMP Report with proper justification for enhancement of boiler capacity. Further, detailed water balance, details of green belt developed (justified by KML file and video) and carbon sequestration should be addressed in the addendum EIA/EMP Report.

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

### **Agenda No. 39.10**

**Proposed pesticides technical and pesticides specific intermediates (135 TPM) manufacturing unit located at Plot no. A2/441/6, Road no. 82/B, GIDC Sachin, Taluka: Choryasi, District: Surat, Gujarat by M/s. Rhythm Chemicals Pvt. Ltd. (Unit-II) - Consideration of EC.**

**[Proposal No. IA/GJ/IND3/245075/2021; File No. IA-J-11011/459/2021-IA-II(I)]**

1. The proposal is for environmental clearance for the proposed pesticides technical and pesticides specific intermediates (135 TPM) manufacturing unit located at Plot no. A2/441/6, Road no. 82/B, GIDC Sachin, Taluka: Choryasi, District: Surat, Gujarat by M/s. Rhythm Chemicals Pvt. Ltd. (Unit-II).
2. The project/activity is covered under Category 'B' of item 5(b) Pesticides industry and pesticide specific intermediates (excluding formulations), of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended). However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.

3. The PP applied for the ToR vide proposal number **IA/GJ/IND3/245075/2021** dated 15.12.2021 and the **standard ToR** was issued by the Ministry, vide letter No. IA-J- No. IA-J-11011/459/2021-IA-II(I) dated 23.12.2021. The PP reported that the proposed greenfield project is in Notified Industrial Area of –GIDC- Sachin and hence, Public Hearing is exempted. Sachin IDC is established before EIA notification 14.9.2006 and is declared as notified area dated 7.9.1993. The PP applied for Environment Clearance on 9.6.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP reported in Form-2 that it is a **Fresh EC**. Due to the shortcoming the Proposal was referred back to PP on 15.6.2022, 27.7.2022, 5.9.2022 and the reply for the same has been submitted on 18.7.2022, 20.8.2022, 17.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29-30 September, 2022, wherein the Project Proponent and an accredited Consultant, M/s. Aqua- air Environmental Engineers Pvt. Ltd. [Accreditation number NABET/EIA/2023/IA0062 (Rev.03) up to 7.10.2023, 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 0.1838 Ha and no R& R is involved in the Project. The details of products are as follows:

Sr. No.	Product Name	CAS No.	Quantity MT/Month	LD <sub>50</sub>	Category
<b>Group 1 - Technical Grade Pesticides</b>					
1	Acetamiprid	135410-20-7	50	184 mg/kg	5(b)
2	Imidacloprid	138261-41-3		5000 mg/kg	5(b)
3	Thiamethoxam	153719-23-4		4366 mg/kg	5(b)
4	Fipronil	120068-37-3		97 mg/kg	5(b)
5	Chlorantraniliprole	500008-45-7		>5000 mg/kg	5(b)
6	Difenthiuron	80060-09-9		1,950 mg/kg	5(b)
7	Thiophenate Methyl	23564-05-8		5000 mg/kg	5(b)
8	Chlormequat Chloride	999-81-5		> 2000 mg/kg	5(b)
9	Buprofezin	69327-76-0		>2000 mg/kg	5(b)
10	Metalaxyl	57837-19-1		669 mg/kg	5(b)
11	Hexaconazole	79983-71-4		2189 mg/kg	5(b)
12	Prothioconazole	178928-70-6		2806 mg/kg	5(b)
13	Cyproconazole	94361-06-5		183 mg/kg	5(b)
14	Difenoconazole	119446-68-3		>5000 mg/kg	5(b)
15	Propiconazole	60207-90-1		1,517mg/kg	5(b)
16	Metconazole	125116-23-6		1459 mg/kg	5(b)
17	Azoxystrobin	131860-33-8		>5000 mg/kg	5(b)
18	Picoxystrobin	117428-22-5		>5,000 mg/kg	5(b)
19	Pyraclostrobin	175013-18-0		> 2000 mg/kg	5(b)

20	Kresoxim-Methyl	143390-89-0		>5000 mg/kg	5(b)
21	Paclobutrazol	76738-62-0		1300 mg/kg	5(b)
22	Benalaxyl	98243-83-5		4200 mg/kg	5(b)
23	Imidaclothiz	105843-36-5		475 mg/kg	5(b)
24	Bifenthrin	82657-04-3		43 mg/kg	5(b)
25	Cyantraniliprole	736994-63-1		> 5000 mg/kg	5(b)
26	Dinotefuran	165252-70-0		2450 mg/kg	5(b)
27	Epoxiconazole	133855-98-8		>2200 mg/kg	5(b)
28	Flubendiamide	125225-28-7		2,000 mg/kg	5(b)
29	Ipconazole	24307-26-4		> 2000 mg/kg	5(b)
30	Mepiquate Chloride	24307-26-4		>2,000 mg/kg	5(b)
31	Novaluron	116714-46-6		> 5000 mg/kg	5(b)
32	Tebufenpyrad	119168-77-3		224 mg/kg	5(b)
33	Thiocyclam Oxalate	31895-22-4		540 mg / kg	5(b)
34	Tolfenpyrad	129558-76-5		77.2 mg/kg	5(b)
35	Tricyclazole	41814-78-2		250mg/kg	5(b)
36	Validamycin	37248-47-8		> 5000 mg/kg	5(b)
37	Thiabendazole	148-79-8		3810 mg/kg	5(b)
38	Triclopyr/Triclopyr Butotyl	55335-06-3		--	5(b)
39	Metaflumizone	139968-49-3		>5000 mg/kg	5(b)
40	Flonicamide	158062-67-0		884 mg/kg	5(b)
41	Nitenpyram	150824-47-8		1680 mg/kg	5(b)
42	Trifloxystrobin	141517-21-7		>2000 mg/kg	5(b)
43	Thifluzamide	130000-40-7		> 5000 mg/kg	5(b)
44	Thioclopid	111988-49-9		> 4000 mg/kg	5(b)
45	Ethiprole	181587-01-9		LD50 > 5000	5(b)
46	Pymetrozine	123312-89-0		>2000 mg/kg	5(b)
<b>Group 2 - Technical Grade Pesticides</b>					
47	Tebuconazole	107534-96-3	20	1615 mg/kg	5(b)
48	Clothianidin	210880-92-5		1216 mg/kg	5(b)
49	Chlorpyrifos	2921-88-2		1000 mg/kg	5(b)
50	Chlorpyrifos Methyl	5598-13-0		1828 mg/kg	5(b)
51	Bispyribac-Sodium	125401-92-5		>56200 mg/kg	5(b)
52	Imazethapyr	81335-77-5		>5000 mg/kg	5(b)

53	Pyrifluquinazone	337458-27-2		1,322 mg/kg	5(b)
54	Myclobutanil	88671-89-0		510 mg/kg	5(b)
<b>Group 3 - Pesticides Specific Intermediates</b>					
55	CCMT (2-Chloro 5-Chloromethyl Thiazole)	105827-91-6	50	--	5(b)
56	MNIO (3 - Methyl 4 - Nitroimiono 1,3,5 Oxidiazine)	696-23-1		--	5(b)
57	CCMP as well as Benzyl Chloride	70258-18-3		--	5(b)
58	Nitro Imino Imidazolidine (NII)	5465-96-3		--	5(b)
59	1-(4-Phenoxypropenoxy)-2-Propanol	57650-78-9		> 2000 mg/kg	5(b)
60	4- Bromo 2- Chloro Phenol	3964-56-5		--	5(b)
61	4 - 4' Thio Di Phenol	2664-63-3		3362 mg/kg	5(b)
62	2-[2-(4-Chlorophenyl) Ethyl]-2-(1,1-Di Methyl Ethyl) Oxinane	80443-63-6		--	5(b)
63	CCA/CMBC	52123-54-3		--	5(b)
64	(t-Butyl Iso Thiocyanate Amino Iso Propionate (BTU)	590-42-1		--	5(b)
65	1,2,4 Triazole	288-88-0		1750 mg/kg	5(b)
66	2-Chloro-4-(4-Chlorophenoxy) Acetophenone/4-Acetyl-3,4'-Dichloro Diphenyl Ether	6842-62-2		--	5(b)
67	Methyl Benzilate	76-89-1			5(b)
68	Diethyl Maleate	141-05-9		5,000 mg/kg	5(b)
69	Diethyl Oxalate	95-92-1		400 mg/kg	5(b)
70	Bronopol	52-51-7		1600 mg/kg	5(b)
71	6-Benzyl Amino Purine	1214-39-7		--	5(b)
72	Bifenthrin Alcohol	76350-90-8		53 mg/kg	5(b)
73	Metaisopropoxy Aniline (MIPA)	41406-00-2		--	5(b)
74	DIPPT	135252-10-7		2100 mg/kg	5(b)
75	EMCA	127892-62-0		140 mg/kg	5(b)
76	Dimethyl Fumarate	624-49-7		2240 mg/kg	5(b)
77	Diethyl Fumarate	623-91-6		2240 mg/kg	5(b)
<b>Group 4 - Pesticides Specific Intermediates</b>					

78	PEG / PMG Ester	143390-89-0	10	--	5(b)
79	Lambda Acid	72748-35-7		--	5(b)
80	2' 4' Dichloro Acetophenone	2234-16-4		--	5(b)
81	2-Hydrazinyl-4-Methyl Benzothiazole (HMBT)	20174-68-9		--	5(b)
<b>Group 5 - Research &amp; Development Based Products</b>					
82	R & D & Pilot Plant Products		5	--	--
<b>Total</b>			<b>135</b>	<b>/Month</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 there are no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from site. No forest land is involved for the proposed project. River Mindhoda is flowing at distance of 4.90 Km in south-west direction. Five schedule-I species exist in the 1 Km study area, for which copy of conservation plan has been submitted to PCCF and chief wildlife warden dated 4.4.2022 for 2 years.
7. The PP reported that the ambient air quality monitoring was carried out at 10 locations during March, 2021 to May, 2021 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (73.08 – 79.26 µg/m<sup>3</sup>), PM<sub>2.5</sub> (41.23 – 46.29 µg/m<sup>3</sup>), SO<sub>2</sub> (13.27 – 17.24 µg/m<sup>3</sup>) and NO<sub>2</sub> (14.15 – 19.55 µg/m<sup>3</sup>) respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 0.081 µg/m<sup>3</sup>, 0.310 µg/m<sup>3</sup> and 0.112 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). The Ground Water quality monitoring was carried out at 10 locations during March, 2021 to May, 2021 and the baseline data indicates the ranges of concentrations as: pH (7.10 – 7.99), Total Dissolved Solids (586 – 1912 mg/l), Total Hardness (116.4 – 722.9 mg/l), Chlorides (122.9 – 659.7 mg/l), Fluoride (<0.05 - <0.05 mg/l) and Zinc (<0.05 - <0.05 mg/l). Surface Water quality monitoring was carried out at 7 locations during March, 2021 to May, 2021 and the baseline data indicates the ranges of concentrations as: pH (7.72 – 8.18), Dissolved Oxygen (6.94 – 7.24 mg/l), Chemical Oxygen Demand (1.33 – 2.88 mg/l), Bio-Chemical Oxygen Demand (0.38 – 3.62 mg/l). Soil quality monitoring was carried out at 10 locations during March, 2021 to May, 2021 and the baseline data indicates the ranges of concentrations as pH (7.55 – 8.59), Nitrogen (652.2 – 2301.7 mg/kg), Phosphorus (8.02 – 17.15 mg/kg), Potassium (0.5 – 8.76 mg/kg) and Electric Conductivity (0.11 – 1.89 mS/cm). The noise level monitoring was carried out at 9 Residential locations, 7 Commercial locations and 7 Industrial locations during March, 2021 to May, 2021. The baseline data indicates the ranges of concentrations for Industrial Location Leq (Day) (60.1 – 67.8 dB(A)) and Leq (Night) (61.3 – 64.8 dB(A)). Residential Location Leq (Day) (50.3 – 54.5 dB(A)) and Leq (Night) (40.1 – 44.4 dB(A)). Commercial Location Leq (Day) (60 – 63.1 dB(A)) and Leq (Night) (49.3 – 52.8 dB(A)).

8. The PP reported that the total water requirement is 76.35 KLD of which fresh water requirement of 37.51 KLD and will be met from GIDC Water Supply vide letter no. C.O./N.A./SCN/2166 dated 22/04/2022. Effluent of 32.0 KLD will be treated through Primary ETP, RO and then sent to CMEE system at Detox India Pvt. Ltd. for further treatment and disposal. Total wastewater generations will be 35.5 KLD (33.5 KLD Industrial + 2.0 KLD Domestic). Stream I- 20 KLD Wastewater (Process effluent) shall be treated at Primary Treatment after primary Treatment will be forwarded to CMEE system at Detox India Pvt. Ltd. for further treatment and disposal. Stream II- Total 10.0 KLD effluent (3.0 KLD from Boiler + 4.0 KLD from Cooling Tower + 3.0 KLD from Floor/ Equipment Washings) will be treated at Primary Treatment after that it will be send to RO system where RO permeate 7.0 KLD will be reused in industrial purpose and RO reject 3.0 KLD will be forwarded for water recovery whereby 2.85 KLD water is recovered & reused in Process and 150 Kg Solid Waste as Bottom Sludge is collected & disposed of to TSDF Site. Domestic Waste water generation will be 1.6 KLD. Domestic Waste Water will be treated in to STP and then reused in gardening. Company will send 20 KLD treated Waste Water to M/s. Detox India Pvt. Ltd. which is Zero Liquid Discharge Unit.
9. The PP reported that Power requirement will be 150 KVA and will be met from Dakshin Gujarat Vij Company Limited (DGVCL). Unit will have 2 Nos. DG sets of 100 KVA capacity, additionally DG sets are used as standby during power failure. Stack (height 11 m) will be provided as per CPCB norms to the proposed DG sets. Unit will have 1 TPH of 1 No. of Steam Boiler & 2.0 Lac Kilo Cal/ hr of 1 No. of Thermo Pack will be installed. Adequate Stack Height of 20 m will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm<sup>3</sup> for the proposed boilers

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

##### 1) Flue Gas Stack

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Name of the fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	APCM
1.	Steam Boiler (1.0 TPH)	20	Natural Gas	1920 SCM/Day	SPM < 150 mg/Nm <sup>3</sup> SO <sub>2</sub> < 100 ppm NO <sub>x</sub> < 50 ppm	Adequate stack height
2.	Thermo Pack (2.0 Lac Kilo Cal/ hr.)	20	Natural Gas	400 SCM/Day		Adequate stack height
3.	D.G. set – Stand by (100 KVA * 2 Nos.)	11	HSD	200 Liter/Day		Adequate stack height

**NOTE: - Steam will be purchase from common steam house (M/s. Steamhouse India Ltd.).**

##### Process Stack

Sr. No.	Vent Attached To	Vent Height	Pollutants	Air Pollution Control System	Permissible Limit
1.	Process Vent - 1	11	NH <sub>3</sub> NO <sub>x</sub>	Two Stage Scrubber System	175 25

2.	Process Vent – 2	11	SO2 HCl Cl2	Two Stage Alkali + one stage Water Scrubber	40 20 9
3.	Process Vent - 3	11	HBr	Two Stage Water Scrubber	5

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

33 Categories of Hazardous/Solid Wastes shall be generated from this Unit.

##### Hazardous/Solid Wastes

S. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Total Quantity MT/Annum	Management of HW
1	Discarded Containers / Bags / Liners	Storage & handling of Raw Materials	Sch-I / 33.1	10.0	Collection, Storage, Transportation, Decontamination & Disposal by selling to registered recycler.
2	Used / Spent Oil	Equipment & Machineries	Sch-I / 5.1	2.0	Collection, Storage, Transportation and reused for Machine Lubrication / Given to GPCB registered reprocessor.
3	ETP Sludge	Effluent Treatment Plant/ Process (Diethyl Oxalate)	Sch-I / 35.3	60.0	Collection, Storage, Transportation and Disposal at Common nearest TSDF Site
4	Inorganic Mixed Salt / Mix Salt	Process (Thiocloprid, Bispyribac-Sodium)	Sch-I / 28.1	1509.6	Collection, Storage, Transportation and Disposal at Common nearest TSDF Site
5	Potassium Salt	Process (Methyl Benzilate)	Sch-I / 28.1	204.0	



6	Recovered/ Spent Solvent	Process(Acetamiprid, Imidacloprid, Thiomethoxam,Chlorantrani liprole,Difenthiuron, Thiophenate Methyl, Chlormequat Chloride, Buprofezin, Metalaxyl, Hexaconazole, Prothioconazole, Cyproconazole, Difenoconazole, Propiconazole, Metconazole, Azoxystrobin, Picoxystrobin, Pyraclostrobin, Kresoxim Methyl, Paclobutrazol, Benalaxyl, Imidaclothiz, Bifenthrin,Cyantraniliprole, Dinotefuran, Epoxyconazole, Flubendiamide, Ipconazole, Mepiquate Chloride, Novaluron, Tebufenpyrad, Thiocyclam Oxalate, Tolfenpyrad, Tricyclazole, Validamycin, Thiabendazole, Triclopyr, Metaflumizone, Fonicamid, Nitenpyram, Trifloxystrobin, Thifluzamide, Thiacloprid, Ethiprole, Tebuconazole, Pymetrozine, Clothianidin, Chlorpyrifos Ethyl, Chlorpyrifos Methyl, Bispyribac Sodium, Imazethapyr, Pyrifluquinazone, Myclobutanil)	Sch-I / 28.6	62551.56	Collection, Storage, Management & Recovery within the premises and will reuse in plant premises.
7	Distillation Residue/ Organic Residue/Ta rry waste	Process (Acetamiprid, Imidacloprid, Thiamethoxam,Chlorantrani liprole, Difenthiuron, Chlormequat Chloride, Buprofezin,Hexaconazole,P rothioconazole,Tebuconazo le, Difenoconazole, Propiconazole, Azoxystrobin, Picoxystrobin, Pyraclostrobin, Kresoxim Methyl, Paclobutrazol, Imidaclothiz, Bifenthrin,	Sch-I / 36.1	299.64	Collection, Storage, Transportation and sent for co- processing in cement industries or nearest incineration site.

		Cyantraniliprole, Epoiconazole, Flubendiamide , Mepiquate Chloride, Novaluron, Tebufenpyrad,Thiocyclam Oxalate, Thiabendazole, Triclopyr, Nitenpyram, Trifloxystrobin, Bispyribac- sodium ,Imazethapyr, Pyrifluquinazone, Mycobutanil, CCMT, CCMP, 1-(4- phenoxyphenoxy) Phenoxy) -2-propanol, 4- Bromo 2- Chloro Phenol , 2-[2-(4- chlorophenyl) Ethyl]-2-(1,1- dimethyl Ethyl) Oxirane , 2- chloro-4-(4-chlorophenoxy) Aceto Phenone/4-acetyl- 3,4'-dichloro Diphenyl Ether , Diethyl Oxalate, Bronopol, Bifenthrin Alcohol , Metapropoxy Aniline, DIPPT, EMCA, Dimethyl Fumarate, Diethyl Fumarate, PEG / PMG Ester, Lambda Acid , 2,4- dichloro Aceto phenone, 2- Hydrazinyl -4-methyl Benzo Thiazole (HMBT).			
8	Spent Catalyst	Process (Triclopyr, Difeno conazole, Propiconazole, Ipconazole, Pymetrozine, Pyrifluquinazone)	Sch-I / 28.1	22.56	Collection, Storage, Transportation & send to regenerator.
9	Solid Waste to Incineration	Process (Thiophenate Methyl)	Sch-I / 26.1	225.6	Collection, Storage, Transportation and Disposal at Common Incineration Site.
10	Ammonium Sulphate Sol.40%	Process (2- Hydrazinyl-4- Methyl Benzo Thiazole (HMBT))	Sch-I / 28.1	827.28	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

11	28 -30 % HCl Solution	Process (Metalaxyl, Hexaconazole, Prothioconazole, Difenoconazole, Propiconazole, Metconazole, Pyraclostrobin, Kresoxim-Methyl, Paclobutrazol, Benalaxyl, Bifenthrin, Epoxiconazole, Ipconazole, Tebufenpyrad, Fonicamid, Nitenpyram, Trifloxystrobin, Ethiprole, Pyrifluquinazone, CCMT (2-Chloro 5-Chloromethyl Thiazole), 4 - 4' Thio Di Phenol, CCA ,2-Chloro-4-(4-Chlorophenoxy) Acetophenone/ 4-Acetyl-3, 4'-Dichloro Diphenyl, 6-Benzyl Amino Purine, EMCA, Lambda Acid, 2,4-Dichloro Acetophenone, HMBT)	Sch-I / 28.1	2329.44	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
12	20 % Aluminium Chloride Soln	Process (Hexaconazole, Difenoconazole, Propiconazole, Epoxiconazole, 4-Acetyl-3,4'-Dichloro Diphenyl Ether, 2, 4-Dichloro Acetophenone)	Sch-I / 28.1	6228.0	
13	Potassium Bromide	Process (Difenthiuron, Hexaconazole, Difenoconazole, Propiconazole)	Sch-I / 28.1	255.0	
14	27% HBr Solution	Process (Difenthiuron, Hexaconazole, Difenoconazole, Propiconazole, Paclobutrazol, Mycobutanil, 4- Bromo 2- Chloro Phenol)	Sch-II / Class B (15)	1155.0	
15	Sodium Carbonate	Process (Azoxyastrobin, Picoxyastrobin)	Sch-I / 28.1	390.0	
16	Sodium Bi Sulphate	Process (Kresoxim-Methyl)	Sch-I / 26.1	247.8	

17	Sodium Chloride Salt & Sodium Bicarbonate Salt	Process (Imidacloprid, Azoxystrobin, Kresoxim-Methyl, Tebufenpyrad, Nitenpyram, Trifloxystrobin, 1-(4-Phenoxyphenoxy)-2-Propanol, Metapropoxy Aniline)	Sch-I / 28.1	811.92	user registered under Rule-9.	
18	Ammonium Chloride	Process (Kresoxim-Methyl, Flonicamid, PEG / PMG Ester)	Sch-II / Class B (15)	295.8		
19	Potassium Chloride	Process (Thiophenate Methyl, Difenconazole, Azoxystrobin, Picoxystrobin, Kresoxim-Methyl, Epoxiconazole)	Sch-I / 28.1	301.2		
20	Potassium Bisulphate	Process (Epoxiconazole)	Sch-I / 28.1	142.8		
21	Recovered Formic Acid	Process (MNIO, 1,2,4 Triazole, Tricyclazole)	Sch-I / 28.1	2805.0		
22	Recovered Acetic Acid	Process (Pyrifluquinazone, CCMP)	Sch-I / 26.1	966.0		
23	Sodium Sulfate 20%	Process (Flonicamid, Trifloxystrobin, EMCA)	Sch-I / 28.1	2117.4		
24	28 % Sodium Sulfite Soln	Process (Tebufenpyrad, Flonicamid, CCMT)	Sch-I / 26.1	4011.6		
25	Phosphoric Acid	Process (CCMP)	Sch-I / 28.1	1566		Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
26	Recovered Liq Ammonia	Process (1,2,4 Triazole)	Sch -I / 26.1	2255.4		
27	Sodium Bromide Solution	Process (Paclobutrazol, Bronopol)	Sch-I / 28.1	1145.4		
28	Magnesium Bromo Chloride	Process (Bifenthrin Alcohol)	Sch-I / 28.1	463.8		

29	Magnesium Chloro Oxide	Process (Bifenthrin Alcohol)	Sch-I / 28.1	254.4	
30	Sodium Methyl Sulfate	Process (Tebufenpyrad, Bispyribac-Sodium)	Sch-I / 28.1	762.0	
31	Methyl Bisulfate	Process (Trifloxystrobin)	Sch-I / 28.1	180.0	
32	Methyl Acetate	Process (Pymetrozine)	Sch-I / 28.1	82.8	
33	Off-specification /Date expired products	Process	SCH-I / 29.3	14	Collection, Storage, Transportation and dispose to co-processing / CHWIF.

12. The **Budget** earmarked towards Environmental Management Plan (EMP) is ₹ 1.10 Crore (capital) and the Recurring cost (operation and maintenance) will be about ₹ 0.89 crore per annum. The industry proposes to allocate ₹ 24 Lakh will be allocated toward CER which will be utilized in next five year after obtaining statutory clearance & commissioning of plant.
13. Industry will develop Greenbelt in an area of 33 % i.e., 602 m<sup>2</sup> out of total area of the project. Unit will develop additional 1000 sq. meter area as greenbelt in the GIDC area i.e. 54.4% of the total plant area.
14. The PP reported that Unit is located in the notified industrial estate of GIDC Sachin and hence, Public Hearing is exempted. Sachin GIDC was established before EIA Notification 14/09/2006 and is declared as Notified area dated 07/09/1993.
15. The PP proposed to set up an Environment Management Cell (EMC), it is proposed to engage EHS manager – safety manager-EHS manager – FMO- safety executive and EHS executive –OHS Executive-Fire man –ETP operator for the functioning of EMC.
16. The PP reported that total tonnes of CO<sub>2</sub> emission will be **6715.92 MT/Annum**. 151 nos. of trees will be planted within premises & remaining 500 nos. of trees will be planted outside the premises within 1 year, which will sequester **13.43 tCO<sub>2</sub>/annum** in 1<sup>st</sup> year, further **19.74 tCO<sub>2</sub>/annum** in 2<sup>nd</sup> year, **38.67 tCO<sub>2</sub>/annum** in 5<sup>th</sup> year & **86.64 tCO<sub>2</sub>/annum** in 10<sup>th</sup> year. Total Carbon load from energy will be **1515.6 tCO<sub>2</sub>/annum** equivalent and by using alternate energy sources, 16.5% of total power will be used from Solar Power and 35 Nos. of Solar LED lights will be installed instead of conventional light in all premises and that will be reduced to **250 tCO<sub>2</sub>/annum** Equivalent. Total tonnes of CO<sub>2</sub> emission will be **6715.92 tCO<sub>2</sub>/annum** and company will sequester **263.43 tCO<sub>2</sub>/annum** within one year.

17. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
18. The estimated project cost is Rs. 6.0 crore. Total employment will be 30 persons as direct.
19. **Deliberations by the EAC:**

The EAC constituted under the provisions of the EIA Notification, 2006 comprising expert members/domain experts in various fields, examined the proposal submitted by the 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 EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The Committee deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The Committee suggested that the storage of toxic/explosive raw materials/products shall be undertaken with utmost precautions and following the safety norms and best practices.

The EAC deliberated on the Green Belt Development Plan and advised the PP to revise it. The PP committed that total 1838 sq.m land area is available at site; out of this area about 602 sq. meter (33 %) area will be developed as greenbelt. Trees will be planted with spacing of 2m x 2m and Approx. 182 numbers of trees will be planted in the plant premises considering 80% survival rate of trees. Unit will also plant 500 no. of trees in the GIDC allocated land and 200 no. of trees in Umber village. Additionally, 5500 no. of trees will be planted in the villages within 5 years. Unit will plant total 6382 nos. of trees.

The PP committed that at a time, 3 Nos. of products will be manufactured in plant. The EAC also noted that the PP has proposed to purchase ready to use steam from common steam house. i.e., M/s. Steamhouse India Ltd, which they have committed to withdraw from the EC proposal. Accordingly, the domestic water consumption will be 2 KLD and domestic wastewater generation will be 1.6 KLD. Domestic wastewater will be treated in STP and then reused in gardening. The revised water balance diagram was also submitted.

The EAC deliberated on the water balance and advised the PP to remove scrubber media from water balance diagram. Accordingly, the PP submitted that wastewater generation will be decreased by 3.5 KLD i.e. from 35.5 KLD to 32.0 KLD. Further, as stated above, 0.4 KLD of domestic wastewater will be reduced. Hence, the total wastewater generation will be 31.6 KLD.

Regarding the higher values of BOD and COD in the RO permeate, the PP confirmed the same from the RO suppliers. However, the PP will explore possibility for the improvement of RO permeate quality in future.

The EAC also deliberated on the proposed compliance submitted by the PP for CEPI OM Dated 31/10/2019 regarding mechanism for environmental management of critically and severely polluted areas and the EAC found it to be satisfactory.

The EAC deliberated on the Onsite and Offsite Emergency plans and various mitigation measures to be proposed during implementation 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 EAC is of the view that its recommendation 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.

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

- (i) Adequate stack height of 20 m shall be provided for Boiler & TFH and two stage scrubbers with adequate stack height of 11 m shall be provided to all the process vents. Stack emission levels shall be stringent than the existing standards prescribed by CPCB i.e., 80% of existing flue gas and process gas emission standards.
- (ii) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
- (iii) The PP shall explore transportation of materials by rail/belt conveyor.
- (iv) Natural gas shall be used as a fuel in Boiler & Thermopack Units.

- (v) The Best available technology shall be used. Further, continuous Research & Development shall be carried out for process optimization, waste minimization, cleaner production, resource and energy conservation.
- (vi) The PP shall develop Greenbelt over an area of at least 602 m<sup>2</sup> (33 %) by planting approx. 182 numbers of saplings (with a spacing of 2m x 2m) in the plant premises considering 80% survival rate of trees within a year of grant of EC. The Unit shall also plant 500 no. of saplings in the GIDC allocated land and 200 no. of saplings in Umber village. The saplings selected for the plantation should be of sufficient height, preferably 6-ft. The budget earmarked for the plantation 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 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.
- (vii) In addition to the above, approx. 5500 no. of saplings shall be planted in the villages within 5 years.
- (viii) The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.
- (ix) The treated wastewater from STP (1.6 KLD) shall be reused for gardening. 20 KLD of process effluent after treatment shall be forwarded to CMEE system. The balance treated effluent from ETP (9.85 KLD) followed by RO and water recovery system shall be reused/recycled for industrial purpose.
- (x) Roof top rain water and shall be collected in collection tank and reused within premises.
- (xi) The hazardous waste shall be disposed to GPCB approved TSDF/CHWIF site
- (xii) Tarry waste and Off-specification/Date expired products shall be collected, stored, transported, and disposed to Co-processing facility. Other possibilities for disposal of waste generated shall be explored, to be preferably utilized in co-processing.
- (xiii) Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.
- (xiv) Plantation at Umber village and providing 10 KW Solar systems in the Bhatha & Umber villages shall be done under the CER.
- (xv) 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 EHS manager – safety manager-EHS manager – FMO- safety executive and EHS executive –OHS Executive-Fire man –ETP 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. 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 previous year.

- (xvi) 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 ₹ 1.10 Crore (Capital cost) and ₹ 0.89 crore per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.
- (xvii) Total water requirement is 76.36 KLD of which fresh water requirement of 35.91 KLD and will be met from GIDC Water Supply vide letter no. C.O./N.A./SCN/2166 dated 22/04/2022. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (xviii) 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.
- (xix) The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (xx) 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.
- (xxi) 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.

- (xxii) 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.
- (xxiii) 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.
- (xxiv) 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.
- (xxv) 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.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) 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. 39.11**

**Proposed expansion of API Manufacturing from 466.05 MTPA to 3581 MTPA located at Plot No. E-292, Phase-I, RIICO Industrial Area, Village: Bhiwadi, Taluka: Tijara, Dist. Alwar, Rajasthan by M/s. Dalas Biotech Ltd. - Consideration of ToR**

**[Proposal No. IA/RJ/IND3/289033/2022; File No. J-11011/11/2003-IA-II(I)]**

1. The proposal is for the expansion of API Manufacturing of total production capacity 3581 TPM located at Plot No. E-292, Phase-I, RIICO Industrial Area, Village: Bhiwadi, Taluka: Tijara, Dist. Alwar, Rajasthan by M/s. Dalas Biotech Ltd.
2. The project/activity is covered under Category 'B' of item 5(f) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended). However, since the project site is located in a critically polluted area and inter-state boundary is within 5 km, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number No. **IA/RJ/IND3/289033/2022** dated 18.08.2022. The proposal was referred back to the PP on 31.8.2022 and its reply was submitted on 17.9.2022. The proposal is now placed in 39<sup>th</sup> EAC Meeting held on 29<sup>th</sup>- 30<sup>th</sup> September, 2022, wherein the PP and an accredited Consultant, M/s. Aqua Air Environmental Engineers Pvt. Ltd. [Accreditation number – NABET/EIA/2023/IA0062, Valid up to 7.10.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details as follows:

S. No	Name of product	CAS no.	Type of Product	Quantity (MT/Annum)			End use of products
				Existing	Proposed	Total	
1	PGA Enzyme	--	--	3.9	31.1	35	--
2	6 APA	551-16-6	API Intermediates	157.5	-157.5	0	Precursor of Ampicillin and Amoxycillin
3	7 ADCA	26395-99-3	API Intermediates				Precursor of Cephalosporin
4	Amoxycillin	26787-78-0	API	63.8	2876	3000	Use to treat bacterial infections
5	Ampicillin	69-53-4	API	60.2			Use to treat infections of the throat, sinuses, lungs, reproductive organs, urinary tract and gastrointestinal tract
6	Cloxacillin	61-72-3	API	138.7	167.3	306	Use to treat bacterial infections

7	Cephalexin	15686 -71-2	API	23.7	-23.7	0	Use to treat bacterial infections
8	Cephradroxil	66592 -87-8	API	17.3	-17.3	0	Use to treat bacterial infections such as infections of the skin, throat, tonsils, and urinary tract
9	Cefixime	79350 -37-1	API	0.73	-0.73	0	Use to treat bacterial infections such as bronchitis, gonorrhoea and infections of the ears, throat, tonsils, and urinary tract
10	Simvastatin	79902 -63-9	API	0.22	-0.22	0	Use to lower cholesterol
11	Citicoline Sodium	33818 -15-4	API	0	240	240	Central nervous system medicine
12	Hydroxy Chloroquine Sulphate	747- 36-4	API				Anti-Malarial medicine
<b>Total</b>				<b>466.05</b>	<b>3114.95</b>	<b>3581</b>	

5. The PP reported that there is no violation as per the EIA notification, 2006, no court case is pending against the proposal and no direction issued under E(P) Act/Air Act/Water Act.
6. The PP reported that Ministry had issued EC earlier vide letter no. IA-J-11011/11/2003-IA-II(I), dated 05.06.2003 to the existing project in favour of M/s. Dalas Biotech Ltd. Unit has obtained Certified Compliance Report from Integrated Regional Office, MoEF&CC, Jaipur dated 12.10.2021. Total 17 conditions (**6 Specific conditions, 11 General conditions**) given in earlier EC and unit has complied 14 EC conditions, 2 Partially Complied and 1 non complied. Action Taken Report of partially complied and agreed to comply points are submitted to IRO-MoEFCC, Jaipur.
7. The PP reported that the proposed land area is 4000 m<sup>2</sup> and no R&R is involved in the Project.

8. 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. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries.
9. The PP reported that Construction Phase: Total water requirement for construction purpose will be 2-5 KLD; which will be fulfilled from RIICO Water supply. Operation Phase: At present, total water requirement (Industrial + Domestic + Greenbelt) is 16.95 KLD. After expansion; water requirement will be increased up to 167.0 KLD; out of which 79.0 KLD will be fresh water requirement and 88.0 KLD will be recycle/treated water. Unit is being and will be satisfying fresh water requirement from RIICO water supply. At present Domestic Sewage (1.69 KLD) is disposed in Soak pit. After expansion, Domestic Sewage (8.0 KLD) will be treated in STP and treated water will be utilized for greenbelt development. Industrial Effluent: After expansion, total industrial wastewater generation from project will be 87.5 KLD. Sources of industrial effluent generation will be from process, lab, washing and utilities. Total effluent will be treated in ETP. Effluent from ETP will further passed through RO and MEE/ATFD. RO Permeate (65 KLD) and condensate from the MEE (15 KLD) will be reused/recycled. Thus, achieving Zero Liquid Discharge (ZLD).
10. The PP reported that Total power requirement is sourced from Jaipur Vidyut Vitran Nigam Limited (JVVNL). Existing power demand is 750 kVA, which will be increased up to 1275 kVA after expansion. At present, stand by D.G. Set of 125 kVA and 1250 kVA are installed, which will be used in case of power failure from grid.
11. The PP reported that the project being in notified industrial area is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA.II(I) dated 27.04.2018.
12. The PP reported that the project is already developed and located in RIICO Industrial Estate. Total area of the project is 4000 m<sup>2</sup> is already developed.
13. The estimated project cost is ₹ 32.0 crore including existing investment of Rs. 20.0 Crore. The PP reported that Total Employment will be 180 Persons after expansion. Industry proposes to allocate ₹ 24.0 crore towards the CER.

14. **Deliberations by the EAC:**

The committee deliberated on the various environmental aspects such as gaseous & fugitive emission control measures, water balance, rain water harvesting, carbon emissions etc. The EAC also deliberated on the certified compliance of the existing EC conditions which were not complied and action plan & compliance of Ministry's OM 31.10.2019 being in a critically polluted area. The EAC also deliberated on the issue of the existing and proposed greenbelt/plantation and advised the PP to complete the primary and secondary greenbelt within 1 year.

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 mitigation measures for CPA mentioned in the Ministry's OMs dated 31.10.2019.
- (iii) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. the proposed project. The Action Plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources shall also be prepared and submitted.
- (iv) 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.
- (v) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules needs to be submitted.
- (vi) 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.
- (vii) 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.
- (viii) 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.
- (ix) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (x) 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, if techno-economically feasible, shall be included. The PP shall make necessary provisions for continuous monitoring of the effluent quality/quantity.
- (xi) 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.

- (xii) As this is an existing unit, the PP shall comply the Greenbelt related condition mentioned in the previous EC. In addition, 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. The saplings have to be planted with a spacing of 2m x 2m within 1 year.
- (xiii) 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.
- (xiv) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xv) 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. 39.12**

**Proposed amendment in the existing EC for merger of Plot No. C-150 with Plot No. C/151 for setting up of specialty chemicals & pesticides manufacturing unit located at Sayakha Industrial Estate, Village: Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited**

**[Proposal No. IA/GJ/IND3/291928/2022; File No. IA-J-11011/460/2021-IA-II(I)]**

1. The proposal is for amendment in the Environment Clearance (EC) granted by the Ministry vide letter IA-J-11011/460/2021-IA-II(I) dated 14.3.2022, for the setting up of Specialty Chemicals and Pesticides Manufacturing Unit of production capacity 3950.00 TPM along with formulations production capacity of 1725.00 TPM, located at Plot No. C/151, GIDC Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited. The PP submitted the EC application vide proposal number IA/GJ/IND3/237124/2021 dated 29.01.2022.
2. The PP applied for **Amendment in the EC** in Form-4 on 20.9.2022. The proposal was earlier placed in the 37<sup>th</sup> EAC meeting held on August 29-30, 2022 and was deferred for compliance of green belt, details of carbon foot prints and carbon sequestration study, details of onsite and offsite emergency plans and revised water balance. The PP submitted the same and accordingly, the proposal is placed in this 39<sup>th</sup> EAC meeting held during September 29-30, 2022, wherein the PP and an accredited consultant, Shree Green Consultants. [Accreditation number NABET/EIA/2124/IA0072, valid up to 24.2.2024] made a presentation for the said proposal.
3. The project proponent has requested for amendment in the EC with the details as under:

S. No.	Para of ToR/EC issued by MoEF&CC	Details as per the ToR/EC	To be revised/ read as	Justification/reasons
1.	Point No.1	The Ministry of Environment, Forest and climate change had examined the proposal for Setting up of Specialty Chemicals and Pesticides Manufacturing Unit of production capacity 3950.0 TPM along with formulations production capacity of 1725.0 TPM, located at Plot No. C/151, GIDC Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited	The Ministry of Environment, Forest and climate change had examined the proposal for Setting up of Specialty Chemicals and Pesticides Manufacturing Unit of production capacity 3950.0 TPM along with formulations production capacity of 1725.0 TPM, located at <b>Plot No. C-150 &amp; C/151</b> , GIDC Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited	As per the proposal for EC amendment we would like to add a plot no. (C-150) in our existing EC, Land document for the same is enclosed. Accordingly, there are changes in our plot area and green belt area. <b>Total Plot area – 10755.47 m<sup>2</sup></b> (Area of Plot No. C/151 is 5755.472 m <sup>2</sup> + Area of Plot No. C -150 is 5000.00 m <sup>2</sup> ).  Total Greenbelt area will become <b>3570.02 m<sup>2</sup></b> after merging the Plot No. C/150.  Land area breakup is enclosed.
2.	Point No.6	The PP reported that land area 5755.472 m <sup>2</sup> will be use for proposed project. Industry will develop greenbelt in an area of 33% i.e 1931.472 m <sup>2</sup> out of total area 5755.472 m <sup>2</sup> of the project. The estimated project cost is 8.0 Crores. Total Capital cost earmarked towards environmental pollution control	The PP reported that land area <b>10755.47 m<sup>2</sup></b> will be use for proposed project industry will develop greenbelt in an area of 33 % i.e <b>3570.02 m<sup>2</sup></b> out of total area 10755.47 m <sup>2</sup> of the project. The estimated project cost is 8.0 Crores. Total Capital cost earmarked towards environmental pollution control measures is Rs.	



S. No.	Para of ToR/EC issued by MoEF&CC	Details as per the ToR/EC	To be revised/ read as	Justification/reasons
		measures is Rs. 1.55 crores Annum. Total Employment will be of 100 person. Industry proposes to allocate Rs. 16 Lakhs towards CER.	1.55 crores Annum. Total Employment will be of 100 person. Industry proposes to allocate Rs. 16 Lakhs towards CER.	
3.	Point No.9	The total water requirement will be <b>150 m<sup>3</sup>/day</b> of which fresh water requirement of <b>150 m<sup>3</sup>/day</b> will be met from Sayakha GIDC water Supply. Effluent of <b>23.60 m<sup>3</sup>/day</b> quantity will be given primary treatment in proposed in house ETP and primary treated water will then be sent to the Sayakha CETP facility for further treatment. Domestic waste water generated in the plant will be treated in the ETP along with industrial effluent.	The total water requirement will be <b>155.60 m<sup>3</sup>/day</b> of which fresh water requirement of <b>150 m<sup>3</sup>/day</b> will be met from Sayakha GIDC water Supply. Effluent of <b>18 m<sup>3</sup>/day</b> quantity will be given primary treatment in proposed in house ETP and primary treated water will then be sent to the Sayakha CETP facility for further treatment. Domestic waste water will be treated in modular STP and treated water will be reused for gardening purpose.	The additional water requirement of 5.6 KLD for increased green belt will be met from the treated domestic wastewater in modular STP.
4.	Point No. 18	Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-3 Sector), the Ministry of Environment,	Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-3 Sector), the Ministry of Environment,	As per the proposal for EC amendment we would like to add a plot no. (C-150) in our existing EC, Land document for the same is enclosed. Accordingly, there are changes in our plot area and green belt area.

S. No.	Para of ToR/EC issued by MoEF&CC	Details as per the ToR/EC	To be revised/ read as	Justification/reasons
		Forest and Climate Change hereby accords the Environmental clearance to the project for setting up of Specialty Chemicals and Pesticides Manufacturing Unit of production capacity 3950.0 TPM along with formulations production capacity of 1725.0 TPM, located at Plot No. <b>C/151</b> , GIDC Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited	Forest and Climate Change hereby accords the Environmental clearance to the project for setting up of Specialty Chemicals and Pesticides Manufacturing Unit of production capacity 3950.0 TPM along with formulations production capacity of 1725.0 TPM, located at Plot No. <b>C-150 &amp; C/151</b> , GIDC Sayakha, Taluka: Vagra, District: Bharuch, Gujarat by M/s. Finor Piplaj Chemicals Limited	<b>Total Plot area – 10755.47 m<sup>2</sup></b> (Area of Plot No. C/151 is 5755.472 m <sup>2</sup> + Area of Plot No. C -150 is 5000.00 m <sup>2</sup> ).  Total Greenbelt area will become <b>3570.02 m<sup>2</sup></b> after merging the Plot No. C- 150.
6.	Specific conditions (vii)	The treated effluent of <b>23.60 KLD</b> proposed to discharge to the CETP. 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.	The treated effluent of <b>18 KLD</b> proposed to discharge to the CETP. 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.	As per EIA/EMP and EC, domestic wastewater (5.6 KLD) generated in the plant was to be treated in the ETP along with industrial effluent.  It is now proposed to treat domestic wastewater in modular STP and reuse the treated water for green belt.
7.	Specific Conditions (xviii)	The green belt of at least 5-10 m width shall be developed in at least 33% of	The green belt of at least 5-10 m width shall be developed in at least 33% of	As per the proposal for EC amendment we would like to add a plot no. (C-150) in our existing EC, Land document

S. No.	Para of ToR/EC issued by MoEF&CC	Details as per the ToR/EC	To be revised/ read as	Justification/reasons
		<p>the total project area, mainly along the plant periphery/ additional land. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Records of tree canopy shall be monitored through remote sensing map. Trees have to be planted with spacing of 2m x 2m ratio and as committed by PP shall plant <b>482 number of trees</b> in first year itself and subsequent years the green belt shall be monitored. The plant species can be selected that will give better carbon sequestration.</p>	<p>the total project area, mainly along the plant periphery/ additional land. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Records of tree canopy shall be monitored through remote sensing map. Trees have to be planted with spacing of 2m x 2m ratio and as committed by PP shall plant <b>900 number of trees</b> in first year itself and subsequent years the green belt shall be monitored. The plant species can be selected that will give better carbon sequestration.</p>	<p>for the same is enclosed. Accordingly, there are changes in our plot area and green belt area. <b>Total Plot area – 10755.47 m<sup>2</sup></b> (Area of Plot No. C/151 is 5755.472 m<sup>2</sup> + Area of Plot No. C -150 is 5000.00 m<sup>2</sup>).  Total Greenbelt area will become <b>3570.02 m<sup>2</sup></b> after merging the Plot No. C/150.</p>

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

The EAC deliberated on the greenbelt and advised the PP to plant 1116 number of saplings by considering the survival rate of 80 %. The PP committed the same. After detailed deliberations, the EAC **recommended** the proposal for the Amendment in EC, as detailed in above mentioned table. The EAC also recommended the following additional specific conditions:

- (i). About 1116 number of saplings shall be planted with a spacing of 2m x 2m within 1 year.
- (ii). 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.

- (iii). The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.

### **Agenda No. 39.13**

#### **Proposed amendment in the existing EC for manufacturing of Ammonium Bicarbonate of 21900 MTPA capacity located at Village Piprola, Shahjahanpur, UP by M/s. KRIBHCO FERTILIZERS LIMITED**

#### **[Proposal No. IA/UP/IND3/291684/2022; File No. J-11011/53/2008-IA.II(I)]**

1. The proposal is for amendment in the EC granted by the Ministry vide letter J-11011/53/2008-IA.II(I) dated 11.6.2008 for the Expansion of Ammonia/urea plant at Village and Post Piprola, Shahjahanpur, Uttar Pradesh by M/s. KRIBHCO Shyam Fertilizers Ltd.
2. The PP applied for **Amendment in the EC** in Form-4 on 21.9.2022 and the proposal is placed in this 39<sup>th</sup> EAC meeting held during September 29-30, 2022, wherein the PP and an accredited consultant, Mantec Consultants Pvt. Ltd. [Accreditation number NABET/EIA/2023/RA/0205, valid up to 20.4.2023] made a presentation for the said proposal.
3. The project proponent has requested for amendment in the EC with the details 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.	Subject	Expansion of Ammonia/Urea plant at village and post piprola, Shahjahanpur, Uttar Pradesh by M/s. Shyam Fertilizers Ltd.	Installation of facilities for manufacturing Ammonium bicarbonate Design capacity-21900 MTPA within existing ammonia/urea premises at Village Piprola, Shahjahanpur, UP	As ammonium bicarbonate does not fall under any schedule of EIA notification, 2006 but it is planned to develop within the existing premises so we are applying for EC modification /amendment

			by M/s. KRIBHCO Fertilizers Limited	
2.	Production details	1. Ammonia: 6,57,000 MTPA 2. Urea: 10,95,000 MTPA	1. Ammonia: 6,57,000 MTPA 2. Urea: 10,95,000 MTPA 3. Ammonium Bicarbonate : 21,900 MTPA	

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

The EAC deliberated on the water balance and green belt and advised the PP to submit revised water balance for existing fertilizer plant & proposed Ammonium Bicarbonate plant and an undertaking for time-bound Greenbelt development. The PP submitted the revised water balance and an undertaking that green belt was developed in 294 acres (>33% i.e. 257.6 acres) and further 10 acres will be developed as green belt within one year of undertaking i.e. 03.10.2023. The EAC found it to be satisfactory.

5. After detailed deliberations, the EAC **recommended** the proposal for Amendment in EC, as detailed in above mentioned table. The EAC also recommended the following additional specific conditions:

- (i). About 12,500 number of saplings shall be planted in the additional 10 acres of proposed green belt with a spacing of 2m x 2m within one year of undertaking i.e. 03.10.2023.
- (ii). 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.
- (iii). The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.

#### **Agenda No. 39.14**

**Proposed amendment in the existing EC for change in fuel and mode of disposal of effluent for Setting up of various insecticides for veterinary animal health and household use manufacturing unit of capacity 757.2 TPM located at Plot No. 8, Survey No. 300, Village Indrad, Taluka Kadi, District Mehsana Gujarat by M/s Synergia Sciences Pvt. Ltd.**

**[Proposal No. IA/GJ/IND3/291490/2022; File No. IA-J-11011/197/2019-IA II(I)]**

1. The proposal is for amendment in the Environment Clearance (EC). The EC was granted by the Ministry vide letter IA-J-11011/197/2019-IA-II(I) dated 1.12.2020, for setting up of various Insecticides for veterinary animal health & household use manufacturing unit of capacity 757.2 MT/Annum located at plot No. 18, Survey No. 300, Village Indrad, Taluka Kadi, District Mehsana, Gujarat in favour of M/s Synergia Sciences Pvt. Ltd.
2. The PP applied for **Amendment in the EC** in Form-4 on 6.9.2022, due to the shortcomings proposal was refereed back to PP on 7.9.2022 and reply for the same has been submitted on 22.9.2022 and now the proposal was placed in the 39<sup>th</sup> EAC meeting held during September 29-30, 2022, wherein the PP and an accredited consultant, Envisafe Environmental Consultants. [Accreditation number NABET/EIA/1922/RA0178, valid up to 28.11.2022] made a presentation for the said proposal.
3. The PP submitted the chronology of earlier applications and compliances of earlier deliberations:

S. No.	Application No. & Agenda	EAC Deliberations	Compliance/ Remarks
1	Proposal No. IA/GJ/IND3/202465/2021 Agenda 11.10 31/05/2021	The Committee is of the view that recycle/reuse of treated water shall be encouraged, and desired that the PP shall submit a detailed techno-economic feasibility report on the viability of the effluent treatment system.	Detailed techno-economic feasibility report on the viability of the effluent treatment system was submitted. Detailed evaluation of CAPEX and OPEX of effluent treatment prepared by M/s. Projectplus Consultants LLP.
2	Proposal No. IA/GJ/IND3/222368/2021 Agenda 18.7 05/10/2021	The Committee desired to know the timeline by which the unit would achieve ZLD. The Committee further decided that the project proponent shall submit the revised waste water treatment scheme to that extent.	<u>Within the two years</u> after commission of the project, means by <u>December-23</u> , we will advance our plant in such a way that the effluent disposal will exceed the 15.0 KLD and by that time we will install our in-hose MEE to achieve the zero liquid discharge and stop sending our effluent for Common Spray Drying at Chhatral Enviro Management System Pvt. Ltd. (CEMSPL).
		Now in continuation, as discussed in the meeting, EAC has asked us to submit revised presentation with comparison of Energy requirement and environmental impact.	We have submitted summary of Energy Requirement and Environmental Impact on 06/10/2021.

3	Proposal No. IA/GJ/IND3/222368/2021 Agenda 24.10 13/01/2022	The Committee advised PP to submit First compliance status of the EC conditions and submit the certified compliance status of earlier EC conditions granted to the project, afterwards the EAC may deliberate the proposal	We have submitted the certified compliance report issued by IRO-Gandhinagar (MoEF&CC) vide letter no. J-11/43-2022-IROG NR dated 22/08/2022.
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4. The project proponent has requested for amendment in the EC with the details as under:

Sr. No.	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/ read as	Justification/ reasons
1.	Specific Condition A (ii) at Page 2 of 7	As already committed by the project proponent, zero liquid discharge shall be ensured and no waste/treated water shall be discharge outside the premises. Treated effluent shall be reused in the process/utilizes. Treated industrial effluent shall not be used for gardening/greenbelt development/horticulture.	During initial phase of the project till the primary treated high concentration effluent with RO Reject effluent reaches 15.0 KLD, it will be sent for Common Spray Drying at <b>Chhatral Enviro Management System Pvt. Ltd. (CEMSPL)</b> . As the project gradually advances and high concentration effluent generation increases beyond 15 KLD, unit will switch over to in-house MEE treatment system and will achieve Zero Liquid Discharge.	<ul style="list-style-type: none"> <li>○ It is not technically feasible and economically viable to achieve zero liquid discharge within plant premise during initial phase till the effluent quantity reaches 15 KLD.</li> <li>○ Energy requirement for in-house system will be more compared to spray drying (CEMPSL) as a result; carbon emissions and impact on environment will be more in in-house system compared to common spray drying (CEMPSL)</li> <li>○ Unit operating cost for spray drying is more economical compared to treatment in in-house system. Summary of techno-economic feasibility of the effluent treatment system.</li> <li>○ The detailed evaluation of CAPEX</li> </ul>

				and OPEX of effluent treatment prepared by <b>M/s. Projectplus Consultants LLP has been submitted.</b>
				<ul style="list-style-type: none"> <li>○ Membership certificate of CEMPSL and CTE and CC&amp;A of CEMPSL from Gujarat Pollution Control Board (GPCB)</li> </ul>
2.	--	Biofuel (Agrowaste) &/OR Coal @7 TPD will be used as a fuel for steam boilers (2 TPH) and thermic fluid heater (1 Lacs Kcal/ hr).	Biofuel (Agrowaste) @7.5 TPD will be used as a fuel for steam boilers (2 TPH) and thermic fluid heater (1 Lacs Kcal/hr).	<ul style="list-style-type: none"> <li>○ Biofuel (Agrowaste) is found to be a better fuel and carbon emissions will be less compared to use of Biofuel (Agrowaste) &amp;/OR Coal.</li> <li>○ Further it will also reduce the dust emission while fuel handling.</li> <li>○ The details of fuel requirement have been submitted.</li> </ul>

## 5. Deliberations by the EAC:

The EAC noted that the PP could not provide any proof for the green belt development undertaken. Hence, the PP needs to first comply w.r.t greenbelt condition and submit the details of green belt developed along with aerial photographs and video.

The EAC also noted that as per the monitoring report of the IRO, non-compliance was observed w.r.t Wildlife Conservation plan, Rain Water Harvesting and budget spent for issues raised during the Public Hearing. Hence, the PP also needs to submit the compliance of these.

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.

In view of above, the EAC recommended to **defer** the proposal.

### Agenda No. 39.15

**Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing Units located at Penta Division at Plot**



**No. B5–B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited**

**[Proposal No. IA/TN/IND3/288480/2017; File No. IA-J-11011/283/2021-IA II(I)]**

1. The proposal is for the environmental clearance for Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing Units located at Penta Division at Plot No. B5–B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited.
2. The project/activity is covered under Category 'B' 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). However, since the project site is located in a severely polluted area, the project attracts the general condition and considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number IA/TN/IND3/219681/2021 dated 10.1.2022 and the ToR was issued by the Ministry, vide letter No. IA-J-11011/283/2021-IA-II(I) dated 10.1.2022. The PP reported that Public Hearing was exempted as it is located in the notified industrial area designated by SIPCOT. The PP applied for Environment Clearance on 12.8.2022 in Form-2 and submitted the 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 23.8.2022, 22.9.2022, 22.9.2022 and reply to the same was submitted on 10.9.2022, 22.9.2022,23.9.2022 The proposal is now placed in 38<sup>th</sup> EAC Meeting held on 14-15 September, 2022, wherein the Project Proponent and an accredited Consultant, ABC Techno Labs India Pvt. Ltd. [Accreditation number NABET/EIA/1922/RA0155 valid up to 7.11.2022] 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 11.82 Ha and no R& R is involved in the Project. The details of products are as follows:

S. No	Product Details (complete name)	CAS NO.	Existing Quantity	Proposed Quantity	Total Quantity	Uses
1	Pentaerythritol (Powder & Solution)	115-77-5	730	1500	2230	Polyfunctionalized derivatives
2	Sodium Formate (Powder & solution)	141-53-7	480	1050	1530	Industrial applications and the production of other chemicals
3	Formaldehyde (100% concentration)	50-00-0	675	1800	2475	Industrial fungicide, germicide, and disinfectant and as a

						preservative in mortuaries and medical laboratories
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5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and no direction is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that certified compliance report has been issued by the IRO, Chennai vide F. No. EP/12.1/2021-22/SEIAA/11/TN dated 12.10.2021. Most of the conditions are complied and a few generic conditions are agreed to comply.
7. The PP reported that National Green Tribunal (South Zone) in the judgement dated 4th May 2022, has dismissed the appeal citing that there is no merit in the appeal and cleared that the EC is considered valid and the appeal fails
8. The PP reported that there are no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from site. Gadilam River – 0.5 Km (E) Bay of Bengal – 1.9 Km (E), Capper Hills Lake – 4.5 Km (NE) Perumal Lake – 8.8 Km (SE) and no Schedule-I species exist within 10 km study area of the project.
9. The PP reported that the ambient air quality monitoring was carried out at 8 locations during 5<sup>th</sup> April 2021 to 26<sup>th</sup> June 2021 and the baseline data indicates the ranges of concentrations as: PM<sub>10</sub> (41.0 -70.0 µg/m<sup>3</sup>), PM<sub>2.5</sub> (19.0-34.0 µg/m<sup>3</sup>), SO<sub>2</sub> (5.8-14.2 µg/m<sup>3</sup>) and NO<sub>2</sub> (12.9-23.6 µg/m<sup>3</sup>). The AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 71.29 µg/m<sup>3</sup>, 19.06 µg/m<sup>3</sup> and 24.03 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). The ambient noise level monitoring was carried out at 8 locations and the baseline data indicates the ranges of daytime noise levels as 47.5 – 63.2 dB(A) and Night time noise levels as 42.7 – 53.6 dB(A). The ground water quality monitoring was carried out at 8 locations during 27<sup>th</sup> May 2021 to 28<sup>th</sup> May 2021 and the baseline data indicates the ranges of pH varied from 7.58 to 8.04. TDS varied between 266 to 2648 mg/l. Total Hardness varied from 117 mg/l to 820 mg/l. Chloride varied from 68 mg/l to 1253 mg/l and Nitrate varied from 2 to 17 mg/l. Heavy metals like Arsenic, Manganese, Chromium, Lead, Mercury, and Cadmium were found to be below detection limit at all locations. Total coliform found to be <2 to 4 MPN/100ml. The surface water quality monitoring was carried out at 8 locations during 27<sup>th</sup> May 2021 to 28<sup>th</sup> May 2021 and the baseline data indicates the ranges of pH varied from 7.76 to 8.22. Turbidity varied between 1.8 to 14 NTU. TDS varied from 231 to 32278 mg/l. BOD found between <2 mg/l to 5.4 mg/l. Dissolved Oxygen varied from 4.5 mg/l to 5.9 mg/l. Heavy metals like Chromium, Mercury and Lead were found to be below detection limit at all locations. Total Coliform count varies between 80 to >1600 MPN/ 100ml. Soil quality monitoring was carried out at 8 locations during 25<sup>th</sup> May 2021 to 28<sup>th</sup> May 2021 and the baseline data indicates the ranges of pH varied from 7.51 to 8.41. Electrical conductivity found within a range from 0.17 to 1.02 mS/cm. The texture of soil is predominantly clay in most of the places with loamy sand in some locations. Available Nitrogen ranged from 159 kg/ha to 264 kg/ha, Potassium ranged from 272 ha to 560 kg/ha, Available Phosphorus ranged from 18.8 kg/ha to 42.4 kg/ha. Soil organic content varied from 0.5% to 0.87%, which indicates moderate fertility.

10. The PP reported that the total water requirement is 1694 KLD of which fresh water requirement is 1500 KLD and will be met from SIPCOT water supply. The total effluent generated would be 295 KLD (Process & Utility – 250; Domestic – 45). The treated effluent (Process & Utility) of 194 KLD from ETP, RO and MEE will be reused in the process and the treated effluent from the STP (41 KLD) will be used for green belt etc. The plant will be based on Zero Liquid Discharge.

11. The PP reported that the power requirement will be met using the proposed in-house 3.5 MW Captive Power Plant. Additional power requirement will be met from TNEB & Diesel generator in case of emergency. Existing unit has DG sets of 1 no. of 500 kVA & 1 no. of 600 kVA capacity, additionally DG sets are used as standby during power failure. Stack (12m) will be provided as per CPCB norms to the proposed DG sets.

12. **Details of process emissions generation and its management:** Point sources emission of pollutant into air from the proposed project after expansion will be through the dryers, DG sets which run on HSD and the boilers (34 TPH), which operate on coal/lignite/biomass and through process vents. Adequate stack height of DG set will be maintained and Multicyclone with wet scrubber will be installed at dryers, Multi cyclone separators and bag filters to boilers to control pollutant emission under norms. Solvent recovery system will be related to VOC control system and finally to activated carbon adsorption system to avoid release any solvent vapours/fumes in the atmosphere. There may be possible VOC emissions from the process and the control measures adopted is Tank vents are connected to blower suction. The proposed air emissions generated from the above process will be treated in the existing Air Pollution Control (APC) Systems. The adequacy of the existing APCs will be sufficient for the proposed activities as they will be APC facilities will be part of new facilities.

13. **Details of Solid and Hazardous Waste Generation and its Management:** The hazardous waste generated from the site/process units consist of used/spent oil from maintenance activities. The wastes will be classified as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and Solid Waste Management Rules 2016 and be collected, stored, treated and disposed as per rules.

S. No	Hazardous Waste type	Category	Quantity		Mode of disposal
			Existing	Expected Quantity (after expansion)	
1	ETP Sludge (TPA)	35.3	172	355	TSDF Gummidipoondi/ any Cement industry
2	Waste from Lime (TPA)	20.4	0	850	TSDF / any cement industry
3	Used or spent oil (TPA)	5.1	0.9	2.6	To authorized recyclers
4	Wastes or	5.2	0.3	2.2	To authorized

	residues containing oil (TPA)				recyclers
5	Spent Carbon (TPA)	36.2	7.78	16	To authorized waste processing agency / cement industry
6	Distillation residue (TPA)	20.3	2640	6000	Authorized agency for co fuel manufacture
7	Spent Ion exchange resin (TPA)	35.2	9.6	19.75	TSDf
8	Spent solvent-Mother liquor (TPA)	20.2	0	1000	Co fuel in Boiler/ authorized agency
9	Spent solvent-Recovered Methanol from off gas (TPA)	20.2	0	100	Co fuel in Boiler
10	Asbestos-containing residues (TPA)	15.2	0	20	TSDf

#### Details of Solid Waste Generation Details and Disposal Methods

S. No	Waste type	Quantity (Tons/Annum)		Mode of disposal	Physical status
		Existing	After Expansion		
1	Used HDPE bags	5.2	15.0	Registered recycler	Solid
2	Used filter clothes	3.0	7.0	Registered recycler	Solid
3	Canteen Waste/biodegradable	1.0	5.0	Onsite composting for green belt	Solid
4	Wooden scrap / broken pallet	4.2	10.0	Domestic usage	Solid

5	Paper Waste	0.5	5.0	Municipal agency	Solid
6	Plastic bag / Plastic	0.5	10.0	Registered recycler	Solid
7	Waste				
8	Used insulation material	4.1	20	TSDF	Solid
9	Miscellaneous Garbage, Broken packaging	1.0	10.0	Registered recycler	Solid

14. The **Budget** earmarked towards Environmental Management Plan (EMP) is ₹ 432 lakhs (capital) and the Recurring cost (operation and maintenance) will be about ₹ 681.97 lakhs per annum. Industry proposes to allocate ₹17 lakhs towards CER.

15. The PP reported that Public Hearing is exempted since the project site is located in the notified Industrial area.

16. The PP reported that APL-Penta Division will continue to maintain existing green belt in the plant premises which is about 37% (43722.2 sq.m) with survival rate of 75-80%. Also developed 0.85 Acres (3540 sq.m) of area as Garden and lawn which accounts for about 2.92%. Total 12894 no.s of trees are present within the plant premises as green belt with a spacing of 2.0 x 2.0 m. APL-Penta Division also planted about 1405 trees outside plant premises from 2018 under Corporate Environmental Responsibility (CER).

17. The PP proposed to set up an Environment Management Cell (EMC) by engaging Senior Manager – Environment & Quality Assurance, Senior Executive Environment, Manger safety, safety engineer, Environment Lab Officer for the functioning of EMC.

18. The PP submitted that the total GHG emissions estimated for Existing operations under Scope 1, Scope 2 and Scope 3 are 44572.1 tCO<sub>2</sub> eq./Annum and for additional expansion the total GHG emissions estimated are 47666 tCO<sub>2</sub> eq./Annum. Thus, Total GHG Emissions from both existing operations and additional expansion will be: **92238.1 tCO<sub>2</sub> eq/ Annum**. APL-Penta Division implemented several activities which lead to reduction in thermal and power consumption for manufacturing process and utilities. For existing operations, Net GHG emission Reduction is estimated to be 2704.63 tCO<sub>2</sub> eq./Annum and for additional expansion will be 5786.4 tCO<sub>2</sub> eq./Annum. Thus, Total GHG emission reduction will be 8491.03 tCO<sub>2</sub> eq./Annum. Reduction in CO<sub>2</sub> emission due to process schemes and Carbon sequestration will be 8777.03 tCO<sub>2</sub> eq./Annum. Total Carbon Footprint of the Penta plant activities after expansion has been estimated as 92238.1 tCO<sub>2</sub> eq./Annum. Total Carbon Footprint with mitigations (Process emission reduction and Carbon Sequestration) will be 83461.07 tCO<sub>2</sub> eq./Annum. Thus, GHG reduction will be about 9.52% after expansion.

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

**20.** The cost for the proposed expansion is estimated at INR **16.43** Crores. The existing manpower is 123 Nos. However, additional manpower is anticipated up to 17 Nos.

### **21. Deliberations by the EAC**

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

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

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

The EAC inter-alia, deliberated on and sought the following:

- Compliance of Ministry's O.M. dated 31.10.2019 regarding mitigation measures for projects located in CPAs and SPAs
- Methodology adopted for estimation of Carbon Sequestration.
- Justification for inclusion of captive power plant in the proposal since it was not mentioned in the ToR.
- Justification for reduction in fresh water requirement.

The PP submitted the same and EAC found it to be satisfactory.

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

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

The EAC is of the view that its recommendation and grant of environmental clearance by regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to

approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

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

- (i) The operating parameters shall be maintained so that the stack emissions comply with the prescribed norms i.e. PM < 50 ppm; SO<sub>x</sub> < 600 mg/Nm<sup>3</sup>; NO<sub>x</sub> < 300 mg/Nm<sup>3</sup>. Boiler stack emissions shall be maintained as per TPP guidelines for units installed after 1<sup>st</sup> Jan. 2003 to 31<sup>st</sup> Dec. 2016.
- (ii) Continuous online (24x7) monitoring system for stack emissions shall be provided for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers.
- (iii) Cyclone separators and Bag filters shall be provided for effective fugitive emission control. Covered pneumatic system and Silo shall be provided for transport and storage of ash.
- (iv) The transportation of materials shall be by rail/belt conveyor, to the extent feasible.
- (v) Industry shall use biomass as Primary Fuel for Boiler and only in case of shortage of Briquettes, coal/lignite may be used as secondary fuel. Further, efforts shall be made for the usage of natural gas.
- (vi) The PP shall ensure that best available technology is used.
- (vii) The PP shall increase the existing greenbelt of 37% to at least 40 % of total area by planting 570 number of trees within a period of one year from grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹ 2 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.
- (viii) In addition to the above, 1200 number of saplings shall be planted in the next 2 years such as avenue plantation, plantation in vacant areas, social forestry, etc.
- (ix) The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.

- (x) The treated effluent (Process & Utility) from ETP, RO and MEE shall be reused in the process and the treated effluent from the STP shall be used for green belt etc. Zero Liquid Discharge shall be maintained.
- (xi) Continuous monitoring of effluent quality/quantity shall be provided along with installation of web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- (xii) 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.
- (xiii) Fly ash shall be utilized as per the fly ash utilization notification from time to time.
- (xiv) Distillation residue/ spent carbon shall be sent for co-processing as per Hazardous waste authorisation. Used or spent oil / waste or residue containing oil shall be sent to authorised recyclers as per Hazardous waste authorisation.
- (xv) Monitoring of compliance of EC conditions shall be submitted with third party audit every year.
- (xvi) Provision of Safe drinking water supply, sanitation & medical facilities, promoting eco-friendly behaviour through use of Green Energy in schools etc. shall be done within the study area under the CER.
- (xvii) 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 Senior Manager – Environment & Quality Assurance, Senior Executive Environment, Manger safety, safety engineer, Environment Lab Officer. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (xviii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is ₹ 432 lakh (Capital cost) and ₹ 681.97 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.

- (xix) The total water requirement of 1694 KLD, of which fresh water requirement is 1500 KLD shall be met from SIPCOT water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during the previous year.
- (xx) 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.
- (xxi) 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.
- (xxii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.
- (xxiii) 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.
- (xxiv) 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.
- (xxv) 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.
- (xxvi) 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.

- (xxvii) 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.
- (xxviii) 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.
- (xxix) 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.
- (xxx) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
- (xxxi) 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.
- (xxxii) 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.

**Any other item with permission of the Chair**

**Agenda No. 39.16** (earlier 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. Crognosys 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)]**

The proposal was earlier considered in 36<sup>th</sup> EAC Meeting held on 16-17<sup>th</sup> August, 2022, wherein the Committee recommended the proposal. The Minutes of Meeting (MoM)

were published on 29.8.2022. Upon reference from the Ministry, the EAC recommended for inclusion of following additional specific conditions w.r.t to this proposal

- (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) Natural gas fired steam boiler (3 TPH) shall only be used instead of steam from common steam generator M/s Vapi Eco energy limited, GIDC Vapi.
- (iii) Stringent flue gas stack emissions i.e. PM < 50 mg/Nm<sup>3</sup>, SOx < 25 ppm; NOx < 20 ppm shall be complied.
- (iv) Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.
- (v) The PP shall explore transportation of materials by rail/belt conveyor.
- (vi) The PP shall ensure that best available technology is used.
- (vii) An additional greenbelt shall be developed in 186.0 m<sup>2</sup> within the plant premises to meet the criteria of 40% greenbelt.
- (viii) In addition to above, greenbelt shall be developed outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.
- (ix) The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.
- (x) Solvent stripper followed by Mechanical Vapor Recompression (MVR) system shall be installed for effluent treatment. Condensate from MVR shall be recycled to the process. There shall be no discharge of any industrial effluent and Zero Liquid Discharge (ZLD) shall be maintained.
- (xi) 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.
- (xii) Domestic wastewater (12 KLD) shall be treated in STP and treated water shall be utilized for Gardening/ toilet flushing.
- (xiii) Organic distillation residue and Off-specification & date expired products shall be utilized in co-processing.
- (xiv) Monitoring of compliance of EC conditions shall be submitted with third party audit every year.

- (xv) The details of the activities carried out and those proposed to be carried out under Corporate Environment Responsibility (CER) shall be submitted to IRO, MoEF&CC within six months from the grant of EC. The budget earmarked for CER 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 activities carried out, amount spent etc. to the IRO, MoEF&CC before 1<sup>st</sup> July of every year for the activities carried out during previous year.

### **Agenda No. 39.17**

#### **Clarification for applicability of Environmental Clearance for manufacturing of Alkenyl Succinic Anhydride (ASA), a paper sizing chemical by M/s IVAX Paper Chemicals Ltd., Gumpam Village, Pusapatirega Mandal, Vizianagaram District, Andhra Pradesh**

1. The subject matter was earlier deliberated in the 34<sup>th</sup> meeting held during 12-13 July, 2022 while considering ToR for the project under violation category. The EAC inter-alia observed the following:

*“The EAC observed that although the ASA is a synthetic organic chemical attracting schedule 5 (f) of the EIA Notification, 2006, it’s an additive product and its manufacturing process is a closed loop system resulting in very low emissions and pollution load, which was also justified by the PP and through their expert opinion provided.*

*Since all the synthetic organic chemicals, irrespective of their pollution load, require EC as per schedule 5 (f) of the EIA Notification, 2006, the EAC recommends ToR for preparation of EIA/EMP for this project under the current rule position. However, from the pollution load and environmental impacts, the EAC, prima-facie, is of the view that the manufacture of ASA may not require EC, but requires further deliberation for quantification of the pollution load before a final decision is made”.*

2. Subsequently, the PP vide e-mail dated 21.09.2022 further justified their case in support of non-applicability of EC to ASA. The PP inter-alia, submitted the following:

- As per the term “Environment Clearance”, requirement of EC for any product, process or Industry, should be based on the threat caused by it to the Environment in terms of Pollution Load in any form, damage to flora and fauna and finally impact on the human community around. While going through the EIA Notification in detail, we noticed that on first page itself of Notification it is mentioned that “certain restrictions and prohibitions on new projects or activities, or on the expansion or modernization of existing projects or activities based on their potential environmental impacts”.
- Regarding the potential environmental impacts by manufacturing of ASA, we again highlight as below:
  - a. Pollution Load** – We have already submitted minimal pollution load details from utilities from ASA manufacturing and based on that also submitted the Pollution Index calculation which has been done based on CPCB guidelines and as per that ASA product falls under “White Category” which itself exempts it from EC. In this regard we also wrote a request letter to Member Secretary – APPCB on 07.08.2022 for categorization of our Industry based on CPCB guidelines and followed up

personally with them, but there is no response even after six weeks. We had again sent reminder on 15.09.2022 but no reply. During discussions we came to know that APPCB in past has never done Categorization of any Industry so far and very likely they will say no to us also. However, we are waiting for their official reply.

- b. Impact on Flora and Fauna** – As demonstrated to EAC Members through online live Google Image, our plant is located in a remote village surrounded by farmers agricultural fields all around. If there had been any impact on their fields due to any sort of pollution from our plant whether air or water, they would have not allowed us to run our factory since last seven years. Moreover, we ourselves have around 40% of plant area covered under green belt where all types of seasonal fruits and vegetables are grown. Regarding impact on fauna, we have our own Goushala in our plant where 7 cows are leaving a healthy life. Even farmers cows and goats roam around our plant and there has been no incident of any harm to any animal in last seven years.
- c. Impact on Human Community** – The nearest village to our plant is hardly 700 metres, Moreover, around 150 members reside in colony within our plant including all ages right from new born to 75 years old people. All are leaving a healthy life. We are proud to inform that since first outbreak of Corona Virus in 2020, there has not been a single Corona case in our factory premises, just because of the cleanliness and healthy environment being maintained
- In order to further justify our case, we would like to bring forward two cases of EC exemption by MoEF&CC as below:
    - (i) Linear Alkyl Benzene Sulfonic Acid (LABSA) - Exempted from EC vide MoEF&CC Office Memorandum dated 22.04 2022.** LABSA is produced as defined as, *“Linear alkyl benzene sulfonic acid are complex mixtures of homologues of different alkyl chain lengths (C10 to C13 or C14) and phenyl positional isomers of 2 to 5-phenyl in proportions dictated by the starting materials and reaction conditions, each containing an aromatic ring sulfonated at the para position and attached to a linear alkyl chain at any position with the exception of terminal one (1-phenyl)”*.  
Similar to LABSA, our ASA is also produced by adding two organic chemicals, namely Olefin and Maleic Anhydride. If LABSA is not included in synthetic organic chemicals as per MoEF&CC O.M. dated 22.04 2022, as cited above, then even ASA by its name, is not included in synthetic organic chemicals.
    - (ii) Polyurethane Foam (PUF) - Exempted from EC vide MoEF&CC Office Memorandum dated 24.05 2022.** Manufacturing of PUF involves two reactions in which CO<sub>2</sub> is also evolved in 2<sup>nd</sup> reaction causing air pollution. ASA manufacturing involves only single reaction, and no air emissions are there. In fact, ASA reactor is not connected any stack at all. Also, in the above O.M., it is mentioned that *“the said activity has low pollution potential”*. Our ASA has almost negligible. But may be because PUF industry has a consortium of almost 850 companies, so they could put up their point with more authority, and we unfortunately (fortunately for us), are the only manufacturer of ASA in India and hence are not able to put up our point. Here again we would like to reiterate that our unit is having negligible pollution and it falls under the green category as per norms laid down by CPCB and right from commissioning of the plant even earlier in Hyderabad and later on in Andhra Pradesh for more than 20 years not a single complaint neither from state pollution

control board, vigilance team nor residents in the vicinity had ever been registered against the company.

3. Accordingly, the subject matter is placed in this meeting, wherein the PP along with their consulted expert made a detailed presentation justifying their case.

#### 4. Deliberations by the EAC:

The EAC deliberated on the matter and advised the PP to submit the following:

- Detail manufacturing process with list of raw materials used per kg of final product.
- Pollution potential of Air, waste water, HW including characterization both in load base/concentration base.
- Production data kg/Ton per day/Month
- Characterization of raw materials and final product
- Monitoring data of SPCBs in last one years
- Pollution control system adopted for air, water and Hazardous waste.
- Stoichiometric equations with molecular weight.
- Sources of energy boiler/DG sets and type of fuel used etc.
- Comparison of pollution potential per ton of the three non-EC products with ASA.
- Comparison of manufacturing details and pollution potential of LABSA & PUF with ASA.

The PP has submitted the above and the EAC has deliberated on the same. The EAC has also deliberated on the MoM dated 11.10.2018 of the Expert Committee (Policy) wherein the applicability of EC to LABSA was discussed and it was recommended that the manufacturing of LABSA doesn't require EC. **It was also clarified that all projects and activities involving single unit operation such as sulphonation, sulfation, chlorination etc. need not be regulated under 5(f).**

**In view of the above, the EAC recommended that even though the ASA is a synthetic organic Chemical, but not listed specifically like LABSA, considering its potential environmental impact, it should not attract the provisions of EIA Notification, 2006 (as amended) and hence, may be exempted from the requirement of EC.**

**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 up to 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xii. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land. Documents related to conversion of land for Industrial purpose.
- xiii. R&R details in respect of land in line with state Government policy

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

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
- ii. Land-use map based on High resolution satellite imagery of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*)
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the PP shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area

- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
- vii. Recommendations and NOC from the concerned State/UT Coastal Zone Management Authority on CRZ angle

## **6) Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
  - AAQ data (except monsoon) at 8 locations for PM10, PM2.5, 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(b) CATEGORY - PESTICIDES INDUSTRY AND PESTICIDE SPECIFIC INTERMEDIATES (EXCLUDING FORMULATIONS)**

- a. Commitment that no banned pesticides will be manufactured.
- b. Details on solvents to be used, measures for solvent recovery and for emissions control.
- c. Details of process emissions from the proposed unit and its arrangement to control.
- d. Ambient air quality data should include VOC, other process-specific pollutants\* like NH<sub>3</sub>\*, chlorine\*, HCl\*, HBr\*, H<sub>2</sub>S\*, HF\*, CS<sub>2</sub>etc.,(\*-as applicable)
- e. Work zone monitoring arrangements for hazardous chemicals.
- f. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.
- g. Action plan for odour control to be submitted.
- h. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
- i. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
- j. Material Safety Data Sheet for all the Chemicals are being used/will be used
- k. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
- l. Details of incinerator if to be installed.
- m. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
- n. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.
- o. Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spelled out. Proposed mitigation measures also needs to be analysed and submitted for further appraisal of the EAC.

**C. 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.

**D. STANDARD TOR FOR EIA STUDIES FOR 1(d) CATEGORY - THERMAL POWER PLANTS**

1. The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
2. Vision document specifying prospective long term plan of the project shall be formulated and submitted.
3. Latest compliance report duly certified by the Regional Office of MoEF& CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
4. The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
5. Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
6. Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
7. The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.

8. Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
9. Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
10. Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
11. If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
12. The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
13. Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
14. Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.
15. Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.
16. A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
17. A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
18. Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.
19. The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents.



20. Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
21. It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
22. Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted.
23. Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
24. Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
25. Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.
26. Feasibility of near zero discharge concept shall be critically examined and its details submitted.
27. Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.
28. Plan for recirculation of ash pond water and its implementation shall be submitted.
29. Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
30. Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
31. Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
32. If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
33. A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based

- assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
34. While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.
  35. R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
  36. Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
  37. Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conductive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.
  38. One complete season site specific meteorological and AAQ data (except monsoon season) as per latest MoEF Notification shall be collected and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration of the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre-dominant downwind direction at a location where maximum ground level concentration is likely to occur.
  39. In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).
  40. A list of industries existing and proposed in the study area shall be furnished.
  41. Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modeling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The

- windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
42. Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
  43. Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
  44. Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
  45. Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
  46. For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
  47. Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
  48. EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
  49. A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Mock drills shall be suitably carried out from time to time to check the efficiency of the plans drawn.
  50. The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.
  51. Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary with tree density of 2000 to 2500 trees per ha with a good survival rate of around 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO<sub>2</sub> and other gaseous pollutants and hence a stratified green belt should be developed.
  52. Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District

Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months.

53. Corporate Environment Policy

- a. Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- b. 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.
- c. 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.
- d. Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.

54. Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.

**Additional TOR for Coastal Based Thermal Power Plants Projects (TPPs):**

- a) Low lying areas fulfilling the definition wetland as per Ramsar Convention shall be identified and clearly demarcated w.r.t the proposed site.
- b) If the site includes or is located close to marshy areas and backwaters, these areas must be excluded from the site and the project boundary should be away from the CRZ line. Authenticated CRZ map from any of the authorized agencies shall be submitted.
- c) The soil leveling should be minimum with no or minimal disturbance to the natural drainage of the area. If the minor canals (if any) have to be diverted, the design for diversion should be such that the diverted canals not only drains the plant area but also collect the volume of flood water from the surrounding areas and discharge into marshy areas/major canals that enter into creek. Major canals should not be altered but their embankments should be strengthened and desilted.
- d) Additional soil required for leveling of the sites should as far as possible be generated within the site itself in such a manner that the natural drainage system of the area is protected and improved.
- e) Marshy areas which hold large quantities of flood water to be identified and shall not be disturbed.
- f) No waste should be discharged into Creek, Canal systems, Backwaters, Marshy areas and seas without appropriate treatment. Wherever feasible, the outfall should be first

treated in a Guard Pond and then only discharged into deep sea (10 to 15 m depth). Similarly, the Intake should be from deep sea to avoid aggregation of fish and in no case shall be from the estuarine zone. The brine that comes out from Desalinization Plants (if any) should not be discharged into sea without adequate dilution.

- g) Mangrove conservation and regeneration plan shall be formulated and Action Plan with details of time bound implementation shall be specified, if mangroves are present in Study Area.
- h) A common Green Endowment Fund should be created by the project proponents out of EMP budgets. The interest earned out of it should be used for the development and management of green cover of the area.
- i) Impact on fisheries at various socio economic level shall be assessed.
- j) An endowment Fishermen Welfare Fund should be created out of CSR grants not only to enhance their quality of life by creation of facilities for Fish Landing Platforms / Fishing Harbour / cold storage, but also to provide relief in case of emergency situations such as missing of fishermen on duty due to rough seas, tropical cyclones and storms etc.
- k) Tsunami Emergency Management Plan shall be prepared wherever applicable and Plan submitted prior to the commencement of construction work.
- l) There should not be any contamination of soil, ground and surface waters (canals & village pond) with sea water in and around the project sites. In other words necessary preventive measures for spillage from pipelines, such as lining of Guard Pond used for the treatment of outfall before discharging into the sea and surface RCC channels along the pipelines of outfall and intake should be adopted. This is just because the areas around the projects boundaries could be fertile agricultural land used for paddy cultivation.

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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: ab.pandit@ictmumbai.edu.in	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
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**MOM approved by**



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

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