

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

Dated: 26.09.2022

**MINUTES OF THE 38th EXPERT APPRAISAL COMMITTEE (INDUSTRY-3 SECTOR)
MEETING HELD ON SEPTEMBER 14-15, 2022**

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

Time: 10:30 AM onwards

(i) Opening Remarks by the Chairman

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 meeting.

(iii) Confirmation of Minutes of the 37th Meeting of the EAC (Industry-3 Sector) held during August 29- 30, 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 13.09.2022 and confirmed the minutes of meeting.

Agenda No. 38.1

Proposed establishment of Fine Chemicals and Organic Reagents manufacturing unit of production capacity of 490 TPM located at Plot no. 272, Kadechur industrial area, Yadagir Taluk & District, Karnataka by M/s SWETHARKA LABS PVT. LTD. – Consideration of EC.

[Proposal No. IA/KA/IND3/289071/2021; File No. IA-J-11011/475/2021-IA-II(I)]

1. The proposal is for environmental clearance for the proposed establishment of Fine Chemicals and Organic Reagents manufacturing unit of production capacity of 490 TPM located at Plot no. 272, Kadechur Industrial Area, Yadagir Taluk & District, Karnataka by M/s SWETHARKA LABS 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 proposed project attracts general condition (interstate boundary within 5

km) since the Karnataka - Telangana interstate boundary is at 3.72 km in South direction. Therefore, the project requires appraisal at the Central Level.

3. The PP applied for the ToR vide the proposal number IA/KA/IND3/238404/2021 dated 24.11.2021 and the standard ToR was issued by the Ministry, vide letter No. J-11011/475/2021-IA-II(I) dated 26.11.2021. The PP submitted that the Public Hearing is not required for the proposed project as it is located at KIADB, Industrial area – Kadechur Industrial Area. EC was granted by MOEFCC dated 14.10.2016. The PP applied for the Environment Clearance on 20.8.2022 in Form-2 and submitted EIA/EMP Report and other documents. The PP in the Form-2 reported that it is a **Fresh EC**. The proposal was placed in 38th EAC Meeting held on 14-15 September, 2022, wherein the PP and an accredited Consultant, AM Enviro Engineers [Accreditation number NABET/EIA/2023/SA0167 Valid up to 30.6.2023], 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 0.8100 Ha and no R&R is involved in the Project. The details of products and by-products are as follows:

S. No.	Name of Product	Qty. in TPM	CAS Number
Alkyl and Aryl Magnesium Halides			
1.	Allyl magnesium bromide	3	1730-25-2
2.	Allyl magnesium chloride	3	2622-05-1
3.	Benzyl magnesium chloride	3	6921-34-2
4.	4-Chloro benzyl magnesium bromide	3	622-95-7
5.	4-Chloro benzyl magnesium chloride	3	873-77-8
6.	n-Butyl magnesium bromide	3	693-03-8
7.	n-Butyl magnesium chloride	20	693-04-9
8.	Ethyl magnesium bromide	20	925-90-6
9.	Ethyl magnesium chloride	3	2386-64-3
10.	4-Fluoro phenyl magnesium bromide	3	352-13-6
11.	Hexyl magnesium bromide	3	3761-92-0
12.	Hexyl magnesium chloride	3	44767-62-6
13.	Iso-butyl aluminium di chloride	3	25455-67-8
14.	Iso-butyl magnesium bromide	3	926-62-5
15.	Iso-butyl magnesium Chloride	3	677-22-5
16.	Iso-propyl magnesium Bromide	3	920-39-8
17.	Iso-propyl magnesium chloride lithium chloride	3	807329-97-1
18.	Iso-propyl magnesium Chloride	3	1068-55-9
19.	Magnesium tert butoxide	20	32149-57-8
20.	2-Methoxy phenyl magnesium bromide	3	16750-63-3

21.	2-Methoxy phenyl magnesium chloride	3	16750-63-3
22.	3-Methoxy phenyl magnesium bromide	3	36282-40-3
23.	4-Methoxy phenyl magnesium bromide	3	13139-86-1
24.	Methyl magnesium bromide	20	75-16-1
25.	Methyl magnesium chloride	20	676-58-4
26.	Methyl magnesium iodide	3	917-64-6
27.	Octyl magnesium bromide	3	17049-49-9
28.	Octyl magnesium chloride	3	7786-30-3
29.	n-Propyl magnesium bromide	3	927-77-5
30.	n-Propyl magnesium chloride	3	2234-82-4
31.	Phenyl ethyl magnesium chloride	3	90878-19-6
32.	Phenyl magnesium bromide	20	100-58-3
33.	Phenyl magnesium chloride	20	100-59-4
34.	Sec-butyl magnesium chloride lithium chloride complex	3	943143-06-4
35.	Sec-butyl magnesium chloride	3	15366-08-2
36.	Tert-butyl magnesium chloride	23	677-22-5
37.	Tertiary butyl magnesium bromide	3	677-22-5
38.	O-Tolyl magnesium bromide	3	932-31-0
39.	P-Tolyl magnesium bromide	3	4294-57-9
40.	m-Tolyl magnesium chloride	3	121905-60-0
41.	Vinyl magnesium bromide	20	1826-67-1
42.	Vinyl magnesium chloride	3	3536-96-7
<u>Alkyl metal compounds</u>			
43.	n-Butyl lithium	40	109-72-8
44.	Ethyl lithium	5	811-49-4
45.	n-Hexyl lithium	15	21369-64-2
46.	Iso-butyl lithium	5	598-30-1
47.	Iso-propyl lithium	5	1888-75-1
48.	Lithium di-iso-propyl amide	10	4111-54-0
49.	Lithium ethoxide	5	2388-07-0
50.	Lithium HMDS	35	4039-32-1
51.	Lithium iso-propoxide	5	2388-10-5
52.	Lithium methoxide	10	865-34-9
53.	Lithium tert butoxide	10	1907-33-1
54.	Magnesium iso-propoxide	5	69207-83-6
55.	Methyl lithium bromide complex	15	332360-06-2

56.	Methyl lithium iodide complex	5	10377-51-2
57.	Phenyl lithium	5	85073-19-4
58.	Potassium ethoxide	5	917-58-8
59.	Potassium HMDS	15	40949-94-8
60.	Potassium methoxide	5	865-33-8
61.	Potassium tert-butoxide	15	865-47-4
62.	N-Propyl lithium	5	2417-93-8
63.	Sec-butyl lithium	15	598-30-1
64.	Sodium ethoxide	5	141-52-6
65.	Sodium HMDS	25	1070-89-9
66.	Sodium methoxide	5	124-41-4
67.	Tertiary butyl lithium	5	594-19-4
<u>Amines</u>			
68.	Dimethyl amine	5	124-40-3
69.	Ethyl amine	5	75-04-7
70.	Methyl amines	5	74-89-5
71.	Tri methyl amines	5	75-50-3
<u>Alkyl Aluminiums & Zinc (Halides & Hydrides)</u>			
72.	Di ethyl aluminium chloride	10	96-10-6
73.	Di iso-butyl aluminium chloride	7.5	1779-25-5
74.	di iso-propyl aluminium chloride	7.5	555-31-7
75.	Di iso-butyl aluminium hydride	150	1191-15-7
76.	Di methyl aluminium chloride	7.5	1184-58-3
77.	Di octyl aluminium chloride	7.5	7446-70-0
78.	Di propyl aluminium chloride	7.5	96-10-6
79.	Diethyl zinc	100	557-20-0
80.	Diphenyl aluminium chloride	7.5	7446-70-0
81.	Ethyl aluminium di chloride	10	563-43-9
82.	Iso-propyl aluminium di chloride	15	75-29-6
83.	Lithium tri-tert-butoxy aluminium hydride	30	17476-04-9
84.	Methyl aluminium di chloride	10	96-10-6
85.	Octyl aluminium di chloride	7.5	563-43-9
86.	Phenyl aluminium di chloride	7.5	7446-70-0
87.	Propyl aluminium di chloride	7.5	7446-70-0
88.	Sodium triacetoxo borohydride	30	56553-60-7
89.	Tri ethyl aluminium	30	93 97-93-8
90.	Tri iso-butyl aluminium	7.5	100-99-2
91.	Tri iso-propyl aluminium	7.5	555-31-7

92.	Tri methyl aluminium	10	75-24-1
93.	Tri octyl aluminium	7.5	1070-00-4
94.	Tri phenyl aluminium	7.5	841-76-9
95.	Tri propyl aluminium	7.5	102-67-0
<u>Borane Compounds</u>			
96.	Borane DMS Complex	25	13292-87-0
97.	Borane THF	25	14044-65-6
<u>Zirconium Compound</u>			
98.	Zirconium tetrakis (dimethylamide)	3	19756-04-8
	Total (10 products)	490 TPM	
Note: From the above list of products, any 10 products will be manufactured at a given point of time.			

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and no direction is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that the project site is not located within 10 km distance of national parks, sanctuaries, Biosphere Reserves, Migratory corridors of wild Animals. The nearest water bodies are Seasonal Nala - 110 m (SE), Kadechur Lake - 1.95 km (NE), Bhima River - 8.35 km (SW) and Krishna River – 13.2 km (SW). The PP reported that no Schedule-I species exist within 10 km study area of the project.
7. **Air** – The ambient air quality monitoring was carried out at 8 locations during December 2021 to February 2022 and the baseline data indicates the range of concentrations as: PM_{2.5} is 27.3 – 35.8 µg/m³, PM₁₀ is 66.1 – 70.7 µg/m³, SO₂ is 13.1 – 17.8 µg/m³, NO_x is 23.5 – 31.4 µg/m³. These results indicate that the overall air quality in the study area is within the NAAQS. **Noise** - The day-time noise levels at the project site were observed to be in the range of 49.3 dB (A) to 51.1 dB(A), which is below the permissible limits of 75 dB(A) for industrial zone. The night-time noise levels in the project site were observed to be in the range of 39.9 dB (A) to 43.7 dB (A), which is below the permissible limits of 70 dB (A) for industrial zone. **Water** - The pH of the ground water samples collected was in the range of 6.67 – 7.55. TDS in the ground water samples were in the range of 552 – 703 mg/l. Total hardness was found to vary between 290 - 410 mg/l. The chlorides concentration was found to vary between 110 – 170 mg/l. The sulphates concentration was found to vary between 34.8 – 53.7 mg/l. Fluoride concentration in all samples was found to be below acceptable limit of 1 mg/l. Most of the heavy metals were not detected. Overall, the ground water is potable and suitable for domestic use. The pH of surface water samples collected was in the range of 7.35 – 7.46. TDS in the samples were in the range of 270 - 430 mg/l. Total hardness was found to be between 90 - 150 mg/l. Chloride concentration was found to be between 60 - 70 mg/l. Fluoride concentration was found to be between 0.2 – 0.3 mg/l. Sulphate concentration was found to be between 9.0 – 13.6 mg/l. Each of the parameter analyzed confirms to all the class criteria. **Soil**- The topsoil of the study area is having higher proportion of sand and silt. The pH of the soil is slightly alkaline (7.15 - 7.57). Electrical conductivity of the sample varied from 168 to 396 µS/cm, which indicates, no salinity ingress in the study area. Percentage of Total Organic Carbon is observed in between 0.34% to 0.67% indicating average sufficiency in nature. The

concentration of available Nitrogen, Phosphorous and Potassium in the samples signifies that the soil has sufficient nutrient content, and the area is fertile.

8. The PP reported that the source of water will be KIADB and the industry will not be utilizing ground water. The total water consumption is estimated around 61.6 KLD including domestic consumption of 2 KLD. Fresh water is consumed for washing, domestic consumption, and gardening. Treated water from CETP will be utilized for boiler feed and Cooling tower makeup, which comes around 46.3 KLD. Thus, freshwater consumption is reduced to 15.3 KLD. The proposed project generates total effluent of quantity 8.8 KLD. The industrial effluent is from boiler bleed off, cooling tower blow down and washing, and this will be of low concentration with respect to TDS. The low TDS effluent of 7.1 KLD (excluding domestic sewage) will be collected and neutralized in Equalization and Neutralization tank of capacity 20 KLD each and later on, will be sent to CETP. The industry has obtained CETP Agreement for treatment and disposal of industrial effluent with M/s. Mother Earth Environ Tech Pvt Ltd on 12th August 2022, The domestic sewage, which is LTDS stream of 1.7 KLD, will be sent to septic tank (as per IS:2470 Part-I) followed by multigrade filter. The supernatant liquid will be used for gardening.
9. The PP reported that the source of power supply is from GESCOM. Power requirement for the project is 250 KVA and DG set of 1 X 250 KVA capacity is proposed as power backup in case of emergency.
10. The unit has proposed 2 TPH Briquettes or Coal fired boiler. Briquettes will be the major fuel for generating steam. During monsoon season, when moisture content in briquettes will be more, coal will be used as an alternative fuel.
11. **Details of Process Emissions Generation and their Management:** The emissions from the proposed project includes Hydrogen, Carbon Dioxide and Oxygen. The oxygen and carbon dioxide will be dispersed into the atmosphere, whereas the hydrogen gas will be dispersed into atmosphere through flame arrester with nitrogen gas. The quantity of emission of each gas and its disposal method is as follows:

S. No.	Name of the Gas	Quantity in kg/day	Disposal Method
1.	Hydrogen	2.5	Dispersed into atmosphere through flame arrester with nitrogen gas
2.	Oxygen	450	Dispersed into atmosphere

12. Details of Solid Waste Generation and its Management:

S. No.	Category of the HW	Name of the Hazardous Waste	Quantity	Disposal Method
Hazardous Waste Generation from Plant				
1.	5.1	Waste oils & Grease/ Used Mineral oil	0.2 KL/Annum	Agencies authorized by KSPCB

2.	5.2	Oil-Soaked Cotton	2 kg/month	KSPCB authorized Vendor
3.	28.4	Off Specification Products	1 TPM	Store in secured manner and hand over to authorized cement industry for Co-processing/TSDf
4.	28.5	Date expired products	500 kg/month	Store in secured manner and hand over to authorized cement industry for Co-processing/TSDf
5.	33.1	Detoxified-Container & Container Liners of Hazardous Chemicals and Wastes	300 No's/month	After complete detoxification, shall be disposed to the outside agencies/buyers.
6.	33.2	Contaminated cotton rags or other cleaning materials	25 kg/month	Store in secured manner and hand over to KSPCB Authorized Incinerators/TSDf
7.	A1160	Used Lead Acid batteries	2 No's/Annum	Returned back to dealer/Supplier
Other & Miscellaneous Solid Wastes				
8.	--	Coal ash	560 kg/day	Sent to Brick Manufacturers
9.	--	Briquette ash	1560 kg/day	Sent to fertilizer industries
10.	--	Used PPE	6 kg/Month	Sent to authorized vendor
11.	--	E- Waste	150 kg/annum	Authorized recyclers
12.	--	Plastic Waste	200 kg/annum	Authorized recyclers
13.	--	Metal Scrap	3 TPA	Sale to outside agencies/recyclers
14.	--	Used Filters (HEPA filters, Oil Filters etc.)	25 Nos /year	Sent to TSDf

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 72.3 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 20.5 Lakh per annum. The industry proposes to allocate ₹ 10 lakhs towards CER for providing sanitation facility and equipment for Schools, providing rain water harvesting facility to Hospitals and Plantation along the buffer area of seasonal nala. 1000 trees will be planted (Cost of one sampling is ₹ 500/-).
14. The total plot area is 8100 m² (2 acres). Out of the total project area, 2832 m² (35 %) shall be developed as greenbelt.
15. The PP proposed to set up an Environment Management Cell (EMC) consisting of Vice President, HOD (Environment & safety), Dy. Manager (Env.), Assistant Manager (safety), Officer (safety) for the functioning of EMC.
16. The PP reported that the floristic composition for the proposed green belt area would be 13 native tree species which are fast growing and with high carbon sequestration capacity.

Total number of tree species proposed for greenbelt	13
Total number of individual trees proposed in the greenbelt	708
Mean height (ft)	4
Mean DBH (cm)	18.4
Above ground carbon (tons)	1610.2
Below ground carbon (tons)	562.6
Total live Tree Carbon Stock (tons)	2172.8

17. The PP submitted the onsite and offsite disaster management plans in the EIA report.
18. The estimated project cost is ₹ 5.0 Crores. The industry proposes to have 45 nos. of manpower among which are skilled 10 nos., semi-skilled 15 nos. and unskilled 20 nos. The impact on human settlement is expected to be positive, as apart from some people being directly employed, many others will get indirect employment.
19. **Deliberations by the EAC:**

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

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

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

The EAC deliberated on the fuel, water consumption and effluent generation and suggested the PP to submit an undertaking for utilisation of briquettes as primary fuel for Boilers and revise the water balance so that CETP treated water can be used for gardening. The EAC also deliberated on the drainage pattern, slope of industrial area and the activities proposed under Corporate Environment Responsibility (CER) and suggested to revise, so as to include development of plantation along the buffer area of seasonal nala located at a distance of 110 m from the project site. The PP committed for the same.

The EAC deliberated on the Greenbelt/plantation and suggested the PP to submit a commitment stating that the development of greenbelt along the plant periphery will start along with the start of construction activities and to revise the cost for Environmental Management Plan (EMP) by changing the investment cost for Environment Management Cell. The PP committed the same.

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

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

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

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

- (i) The PP shall develop Greenbelt over an area of at least 2832 m² by planting 900 number of trees of which 60% shall be planted within a period of one year of grant of EC and remaining 40% during the 2nd year, considering the forth coming seasons. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹ 15 Lakh and shall be kept in a separate account and should be audited annually. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of

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

- (ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. The PP shall engage HOD (Environment & safety) and Dy. Manager (Env.). In addition, one safety & health officer as per the qualification given in Factories Act, 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (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 proposed under EMP is ₹ 72.3 Lakh (Capital cost) and ₹ 20.5 Lakh (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (iv) As committed by the PP, Industry shall use Briquettes as a primary fuel for boiler and only during the unavailability of Briquettes, the PP shall use coal as an alternative fuel.
- (v) The PP shall carry out detailed Phyto and Zooplankton studies of the Nala water passing through the industrial area during non-monsoon season and submit the report within one year for its appraisal before the EAC.
- (vi) The total water consumption is estimated around 61.6 KLD and will be met from KIADB. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawal only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year
- (vii) 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.
- (viii) 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.
- (ix) 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.

- (x) 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.
- (xi) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
- (xii) The low TDS effluent of 7.1 KLD (excluding domestic sewage) will be collected and neutralized in Equalization and Neutralization tank of capacity 20 KLD each and later on, shall be sent to CETP
- (xiii) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xiv) 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.
- (xv) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
- (xvi) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xvii) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.
- (xviii) The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xix) The 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.

- (xx) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
- (xxi) The 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.

Agenda No. 38.2

Proposed establishment of synthetic organic chemicals of production capacity of 30 TPM located at Plot No. E-128, MIDC Tarapur, Taluka & District: Palghar, Maharashtra by M/s ROYAL PHARMACEUTICALS INDUSTRIES PRIVATE LIMITED - Consideration of TOR

[Proposal No. IA/MH/IND3/289503/2022; File No. IA-J-11011/330/2022-IA-II(I)]

1. The proposal is for the establishment of synthetic organic chemicals of production capacity of 30 TPM located at Plot No. E-128, MIDC Tarapur, Taluka & District: Palghar, Maharashtra by M/s ROYAL PHARMACEUTICALS INDUSTRIES PRIVATE LIMITED.
2. The project/activity is covered under Category 'A' of item 5(f), of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by Expert Appraisal Committee (EAC). **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**
3. The PP applied for the ToR vide proposal number No. IA/MH/IND3/289503/2022 dated 22.8.2022 The proposal was referred back to the PP on 31.8.2022 and its reply was submitted on 1.9.2022. The proposal is now placed in 38th EAC Meeting held on 14th- 15th September, 2022, wherein the PP and an accredited Consultant, M/s. Sadekar Enviro Engineers Pvt. Ltd. [Accreditation number – NABET/EIA/2124/SA0146, Valid up to 18.4.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

Sr. No.	Therapeutic Category	Product Name	Quantity in MT/M
1	Anti-Diabetic	Sitagliptin and Its Intermediates	3
2		Vildagliptin and Its Intermediates	3
3		Empagliflozin and Its Intermediates	1
4		Dapagliflozin and Its Intermediates	1
5		Canagliflozin and Its Intermediates	1
6		Benfotiamine and Its Intermediates	5
7		Bicalutamide and Its Intermediates	4

8		Enzalutamide and Its Intermediates	2
9		Palbociclib and Its Intermediates	1
10		Ibrutinib and Its Intermediates	1
11	Oncology	Nintedanib and Its Intermediates	1
12		Olaparib and Its Intermediates	1
13		Sorafenib and Its Intermedites	1
14		Cabozantinib and Its Intermediates	1
15		Imatinib and Its Intermediates	1
16		Ribociclib and Its Intermediate	1
17		Fluvoxamine Maleate and Its Intermediates	5
18		Duloxetine and Its Intermediates	5
19	Anti-Depression	Mirtazepine and Its Intermediates	2
20		Trazodone and Its Intermediates	5
21		Aripiprazole and Its Intermediates	3
22		Carisoprodol and Its Intermediates	3
23		Ziprasidone and Its Intermediates	1
24		Ezetimibe and Its Intermediates	3
25		Amiodarone Its Intermediates	4
26		Dronedarone and Its Intermediates	2
27		Spironolactone and Its Intermediates	3
28	Cardiovascular	Clopidogrel and Its Intermediates	3
29		Ticargel and Its Intermediates	1
30		Dabigatran and Its intermediates	4
31		Fenofibrate and Its Intermediates	2
32		Nifedipine and Its Intermediates	3
33		Apixaban and Its Intermediates	5
34	Blood Thinners	Rivaroxaban and Its Intermediates	10
35		Warfarin and Its Intermediates	3
36		Deferasirox and Its Intermediates	3
37		Piroxicam and Its Intermediates	3
38		Meloxicam and Its Intermediates	3
39	NSAID	Celecoxib and Its Intermediates	2
40		Metaxolone and Its Intermediate	5
41		Montelukast and Its Intermediates	1
42		Diethyl cyclopropane-1,1-dicarboxylate (DCD)	1
43		Betahistain	3
44	Other APIs	Baclofen and Its intermediates	1
45		Imiquimod and Its Intermediates	1
46		RND Product (APIs and Its Intermediates)	10
47		2-Chloro-1,4-Naphthoquione	3
48		Atv Main Chain	4
49		Nitro Biphenyl (Eltrombopag)	0.5
50	Other Intermediates and Custom Synthesis Products	Elt - Side Chain	0.5
51		Amino Hydroxy Pyridine	0.5
52		Diphenyl Propyl Amine	3
53		N-Methyl Pentyl Amine (NMPA)	0.5

54		Pentanone	0.5
55	Local Anaesthetic	Benzocaine and Its Intermediates	3
56	Anti-Spasmodic	Mebeverine and Its Intermediates	5
57		Drotaverine and Its Intermediates	5
58	Anti-Parasitic	Nitazoxanide and Its Intermediate	3
59	Anti-Parkinson	Entacapone and Its Intermediates	5
60	Anti-Gout	Allopurinol and Its Intermediates	5
61		Febuxostat and Its Intermediate	5
62	Anti-Pneumonia	Atovaquone and Its Intermediates	5
63	Anti-Inflammatory	Diacerein and Its Intermediates	5
64	Anti-Microbial	Bronopol	5
65	NNRTI's	Reltagravir	1
66		Rilpivirine	1
67	Alpha -Blockers	Silodosine	1
68		Tamsulosin	1
69	Kinase Inhibitor	Dasatinib	1
70		Bosutinib	1
TOTAL			30
<i>Note: The total production quantity will be restricted to 30 MT/M</i>			

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 4320 m² and no R&R is involved in the Project.
7. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act, 1980, Wildlife (Protection) Act, 1972 and C.R.Z notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. Upper Banganga River is at an aerial distance of 1.71 km from the project site in NW direction, Jununa River is at an aerial distance of 3.59 km from the project site in SSE direction, Dudh River is at an aerial distance of 5.34 km from the project site in South direction, Ucheli Creek is at an aerial distance of 4.73 from the project site in NNW direction, Satpati Creek is at an aerial distance of 9.14 km from the project site in West direction, Surya River is at an aerial distance of 10.56 km from the project site in East direction, Tembhi Lake is at an aerial distance of 3.28 km from the project site in WSW direction, Shirgaon Lake is at an aerial distance of 11.87 km from the project site in SSW direction, Nandgaon Lake is at an aerial distance of 6.33 km from the project site in SW direction, Alewadi Lake is at an aerial distance of 2.94 km from the project site in SW direction, Arabian Sea is at an aerial distance of 5.11 km from the project site in West direction.
8. The PP reported that the total water requirement of the proposed project for its domestic and industrial activities during the operational phase will be 108.4 CMD (during dry season) and 102.7 CMD (during wet season). The water requirement will be fulfilled from Tarapur MIDC. ETP of 80 CMD comprising of Primary, Secondary and Tertiary system will be provided for Industrial Effluent along with Stripper of 50 CMD, MVR of 70 CMD, ATFD of 20 CMD and R.O. system of 70 CMD respectively. As a contingency provision, membership of High COD Effluent Treatment Facility of M/s Sadekar Enviro Engineers Pvt. Ltd. will be taken, from where the treated effluent will be reused back within the plot premises. The HCOD/HTDS effluent stream from Process (45 CMD), Reactor washing (1.7 CMD) and Scrubber (2 CMD)

will be subjected to Stripper followed by MVR & ATFD. The LCOD/LTDS effluent stream from boiler blowdown (1.68 CMD) and cooling tower blowdown (8.5 CMD) will be treated in a full-fledged ETP with primary, secondary and tertiary treatment along with MVR condensate. The domestic effluent (4 CMD) will be sent to septic tank followed by aeration tank of the ETP. The treated effluent from the ETP will be further subjected to RO treatment. RO permeate will be used for reactor washing, scrubber, boiler and in cooling tower makeup. RO reject will be sent back to the MVR for further treatment. About 48.3 CMD treated water will be reused at site.

9. The PP reported that the power demand will be around 800 KVA for proposed unit and will be supplied by MSEDCL.
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. Green belt will be developed inside plot premises i.e. 1751.00 m² and outside the plot premises i.e. 146.00 m².
12. The estimated project cost is ₹ 25 Crores. The PP reported that the total manpower will be 100 in number. Industry proposes to allocate ₹ 1 crore towards the CER.

13. **Deliberations by the EAC:**

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

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

- (i) The status of 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 & 24.10.2019.
- (iii) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
- (iv) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. the proposed project. The Action Plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources shall also be prepared and submitted.
- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring

station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.

- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules needs to be submitted.
- (vii) The PP need to conduct the Life Cycle Assessment including the impact on flora and fauna.
- (viii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (ix) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (x) The PP shall submit an undertaking to the effect that the project is not a violation proposal in pursuant to the S.O. 804(E) dated 14.03.2017 and SoP dated 07.07.2021.
- (xi) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xii) Provision for Reuse/recycle of treated wastewater, wherever feasible shall be made. The PP shall explore the possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal. A detailed water harvesting plan also needs to be prepared and submitted. Provision for Zero Liquid Discharge whenever techno-economically feasible shall be included. The PP shall make necessary provisions for continuous monitoring of the effluent quality/quantity.
- (xiii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiv) As this is an existing unit, the PP shall comply the Greenbelt related condition mentioned in the previous EC. In additional, the PP should develop 40% Greenbelt of the total land area, accordingly the plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. 570 number of trees have to be planted with spacing of 2m x 2m and number of trees has to be calculated accordingly.
- (xv) Plan for development of green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted.
- (xvi) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.

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

Agenda No. 38.3

Expansion of Caustic Soda production capacity from 150 TPD to 250 TPD by bi-polar membrane cell process in the existing Heavy Chemicals Division Plant (HCD Plant) located at Manali Industrial Area, Village: Manali, Taluk: Ambattur, District: Thiruvallur, Tamil Nadu by M/s TAMIL NADU PETRO PRODUCTS LIMITED - Consideration of ToR

Proposal No. IA/TN/IND3/291253/2022; File No. IA-J-11011/20/99-IA-II(I)]

1. The proposal is for the Expansion of Caustic Soda production capacity from 150 TPD to 250 TPD by bi-polar membrane cell process in the existing Heavy Chemicals Division Plant (HCD Plant) located at Manali Industrial Area, Village: Manali, Taluka: Ambattur, District: Thiruvallur, Tamil Nadu by M/s TAMIL NADU PETRO PRODUCTS LIMITED
2. The project/activity is covered under Category 'A' of item 4(d), of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by Expert Appraisal Committee (EAC). **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**
3. The PP applied for the ToR vide proposal number No **IA/TN/IND3/291253/2022**. dated 2.9.2022. The proposal is now placed in 38th EAC Meeting held on 14th- 15th September, 2022, wherein the PP and an accredited Consultant, M/s. Eco Chem Sales & Services. [Accreditation number NABET/EIA/2023/RA 0181, Valid up to 3.2.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:
4. The PP reported the product details are as follows:

S. No.	Product	Capacity as per EC 1997	Capacity as per EC 1999	Capacity as per CTO (MTPA)	Actual capacity (MTPA)	Proposed Capacity (MTPA)	Total capacity (MTPA)
1	Caustic Soda	Total caustic soda production 200 TPD and corresponding quantities of Cl ₂ , H ₂ , NH ₄ Cl & HCl.	Total caustic soda production 250TPD based only on membrane cell technology, mercury cell plant will totally shut off.	82,500	49,500	33,000	82500
2	Liquid Chlorine			49,992	49,992	6108	56100
3	Hydrochloric Acid			49,500	49,500	0	49500
4	Ammonium Chloride*			21,456	21,456	-21,456	0
5	Bottled Hydrogen			1,248	1,248	0	1248
6	Sodium			4,128	4,128	0	4128

5. The PP reported that there is no violation as per the EIA notification, 2006, and **NGT Case no. 256 of 2020 (SZ) is in progress**. The referred case is a Suo-Moto case taken up by Hon'ble NGT (SZ) on 15.12.2020, based on the original article of Chennai Climate Action Group (CCAG) published in News Desk magazine dated 11-11-2020.

- 1) Air Pollution and Industries, "These six Industries in North Chennai are polluting the air for more than half the year, The North Chennai Thermal Power Station along Ennore Port." - Order dated 15.12.2020
- 2) The Hon'ble NGT appointed a Joint Committee and they carried out inspection & sampling during Feb 2021. There were no findings unfavorable to the PP.
- 3) Counter affidavit was filed before the Hon'ble NGT, with justifications for no exceedance in emissions and requested to discharge the PP from this case on 23-07-2021
- 4) No final / interim order given.
- 5) Last heard on 23.08.2022
- 6) Next hearing is scheduled on 13.09.2022

2. TNPCB Direction - 1

- Direction received from TNPCB, imposing an interim environmental compensation of Rs 100 Lacs, based on NGT order OA 1038/2018, for non-compliance.
- The PP has requested TNPCB to waive the interim environmental compensation levied and to withdraw the order.
- The above notice was issued to all industries which are present in the identified Polluted Industrial Areas (PIA).
- However, Hon'ble Supreme Court has issued order staying the compensation levied, vide Civil Appeal Diary No. 19271/2020.
- Based on the above stay order, MoEF& CC has issued an O.M. vide reference F. No. 22-23/2018-IA.III dated 28-01-2021, keeping in abeyance the two earlier issued O. Ms vide reference F. No. 22-23/2018-IA.III dated 31-10-2019 & 30-12-2019.
- Abeyance imposed vide OM dated 28.01.2021 was lifted by MOEFCC vide OM dated 05.07.2022.
- Reply yet to receive from TNPCB.

3. TNPCB Direction- 2

- Notification issued by TNPCB vide reference TNPCB/DD (L)/02151/2019 dated 20-10-2021 regarding Retrofitting of Emission Control Device in DG sets with capacity up to 800 kW, to reduce PM.
- Retrofitting Equipment was installed in 1x500 KVA emergency DG Sets during October 2021.
- Retrofitting Equipment will be installed in 1x437.50 KVA emergency DG sets by 2022-23.
- TNPCB has extended the time limit up to 30.09.2022 to install Retrofit Engine in DG Sets.

6. The PP reported that Environmental Clearance obtained for conversion of 100 TPD mercury cell process to 100 TPD (33,000 TPA) membrane cell process along with 30 MW DG sets vide EC No. J-11011/20/99-IA.II(I) dated 22.07.1999. With reference to above EC, conversion of mercury to membrane cell process was not carried out and only 18 MW DG sets were

installed during 2000. However, 100 TPD mercury cell process was stopped and demolished on 20.05.1998. Currently, the unit is manufacturing 150 TPD (49,500 TPA) by membrane cell process.

7. The existing land area is 33.19 Acres (134315.16 m²). The proposed expansion project will be carried out within the existing premises. Hence, **no additional land** is required.
8. The PP reported that the proposal does not involve Approval/Clearance under Forest (Conservation) Act,1980, Wildlife (Protection) Act,1972 and C.R.Z notification, 2011 as amended. There is no forest, Eco sensitive areas/National Park/Wildlife Sanctuary in 10 km radius of the site. The project doesn't fall within the CRZ boundaries. The nearest water bodies are Korttalaiyar/Kosisttalaiyar R/Redhills Surplus Canal (RSC)-0.39 N, Buckingham Canal-27 E, Periyathoppu Lake-2.02 W, Lake near Sekkadu-2.40 WSW, Kadapakkam Lake -3.3 NW, Bay of Bengal-3.57 ESE, Kodungaiyur Canal-4.45 SSW, Captain Cotton Canal-5.15 S, MadavaramEri/Retteri Lake-6.44 WSW, Ennur Creek-7.18 NE, OtteriNala-7.34 S, Korattur Eri Canal-8.06 WSW, Pulal/Red Hills Lake-8.59 W and Korattur Tank 10.05 WSW 15.
9. The PP reported that the total water requirement is **1710 m³/day** (Existing 1170 m³/day & Proposed 540 m³/day) of which fresh water requirement of **1690 m³/day** (Existing 1154 m³/day & Proposed 536 m³/day) will be met from CMWSSB-City Sewage TTR0. Effluent of **185 m³/day** (Existing 125 m³/day & Proposed 60 m³/day) quantity will be treated through ETP capacity of **350 m³/day** and is being neutralised with Acid/Alkali and treated effluent will be utilised in ECH PO Process and Zero Liquid Discharge will be achieved.
10. The PP reported that the existing power requirement of 18 MW is being met through TNEB Power (12MW) and through wind power 6 MW. Proposed 10 MW power requirement will be met through wind power (8 MW) and Solar Power (2 MW).
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 total project area is 33.19 Acres (134315.16 Sq.mt) and since the unit is located in critically polluted area, 40% Greenbelt is required. The total Green Belt area is 14 Acres (42.18% of total project area) of which Green Belt area of 5 Acres (15.06%) inside the plant premises and 7 Acres (21.09%) outside the plant premises (TPL – Polymer Plant) has been developed. 2 Acres (6.03%) proposed Green Belt area will be developed outside the plant premises (TPL – Polymer Plant).
13. The estimated project cost is ₹ 165.17 Crores. The PP reported that the total manpower of proposed project for operational phase will be 271 Nos. As per O.M. No. 22-65/2017-IA.III dated 01.5.2018, the CER is 0.75 % of the project cost i.e., Rs. 1.24 Crores). Since Manali Industrial Area attracts a CEPI score of 84.15 as per 2018 CEPI monitoring by CPCB, as per MoEF&CC OM No. 22-23/2018-IA.III (Pt) dated 31.10.2019 for CPA, the CER percentage may be at least 2 times i.e. (165.17x2x0.75% =2.5 Crores).

14. **Deliberations by the EAC:**

The committee deliberated on the various environmental aspects such as air emission and its mitigation measures, water balance, sludge processing, CRZ and action plan proposed by the PP being in a critically polluted area. The Committee also deliberated on the issue of the greenbelt/plantation.

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

- (i) The status of action plan, if any, prepared by the State Government/SPCB for the CPA needs to be provided.
- (ii) The PP needs to submit the action plan with respect to mitigative measures for CPA mentioned in the Ministry's OMs dated 31.10.2019 & 24.10.2019.
- (iii) Being in a Critically Polluted Area (CPA), the PP need to submit alternative site analysis and Environmental Cost Benefit analysis in the EIA report.
- (iv) The PP shall submit the details of carbon foot prints and carbon sequestration study w.r.t. the proposed project. The Action Plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources shall also be prepared and submitted.
- (v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.
- (vi) Details of Onsite and Offsite emergency plans as per the provisions of the MSIHC Rules needs to be submitted.
- (vii) The PP need to conduct the Life Cycle Assessment including the impact on flora and fauna.
- (viii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.
- (ix) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.
- (x) The PP shall submit an undertaking to the effect that the project is not a violation proposal in pursuant to the S.O. 804(E) dated 14.03.2017 and SoP dated 07.07.2021.
- (xi) Action Plan for the management of hazardous waste and provision for its utilization in co-processing if applicable shall be prepared and submitted.
- (xii) Provision for Reuse/recycle of treated wastewater, wherever feasible shall be made. The PP shall explore the possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal. A detailed water harvesting plan also needs to be prepared and submitted. Provision for Zero Liquid

Discharge whenever techno-economically feasible shall be included. The PP shall make necessary provisions for continuous monitoring of the effluent quality/quantity.

- (xiii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.
- (xiv) As this is an existing unit, the PP shall comply the Greenbelt related condition mentioned in the previous EC. In additional, the PP should develop 40% Greenbelt of the total land area, accordingly the plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. 1700 number of trees have to be planted with spacing of 2m x 2m and number of trees has to be calculated accordingly.
- (xv) Plan for development of green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted.
- (xvi) Assessment of the carrying capacity of transportation load on roads inside the notified industrial premises shall be carried out and submitted.
- (xvii) In addition to above, the EIA/EMP report shall also address issues such as i) Effective fugitive emission control measures for process, transportation, packing etc. ii) use of cleaner fuels and iii) best available technology for the plant.

Agenda No. 38.4

Expansion for manufacturing of Synthetic Organic Chemicals (Resins) with production capacity of 1000 TPM located at Survey No. 172, Paiki-1, Village-Manaba, Taluka-Maliya, District-Morbi, Gujarat by M/s. MAMA LAMINATES LLP - Consideration of EC

[Proposal No. IA/GJ/IND3/244967/2021; File No. IA-J-11011/517/2021-IA-II(I)]

1. The proposal is for the environmental clearance to expansion for manufacturing of Synthetic Organic Chemicals (Resins) with production capacity of 1000 TPM located at Survey No. 172, Paiki-1, Village-Manaba, Taluka-Maliya, District-Morbi, Gujarat
2. The project/activity is covered under Category 'A' of item 5(f) (Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of Schedule of Environment Impact Assessment (EIA) Notification,2006 (as amended) as the project is located outside the notified industrial area and requires appraisal at Central Level by Expert Appraisal Committee (EAC).
3. The PP applied for the ToR vide proposal number IA/GJ/IND3/244967/2021 dated 24.12.2021 and the standard ToR was issued by the Ministry, vide letter No. J-11011/517/2021-IA-II(I) dated 5.1.2022. The PP reported that Public Hearing was conducted on 7.4.2022 which was presided by the Sub Divisional Magistrate – Halvad, Representative of District Collector. The PP applied for Environment Clearance on 8.8.2022

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 22.8.2022 and reply to the same was submitted on 6.9.2022. The proposal is now placed in 38th EAC Meeting held on 14-15 September, 2022, wherein the Project Proponent and an accredited Consultant, T. R. Associates. [Accreditation number NABET/EIA/1922/SA0153 (Rev.01), valid up to 8.4.2023] made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the proposed land area is 1.558 Ha and no R& R is involved in the Project. The details of products are as follows:

Sr. No.	Name of Product	Production Capacity	CAS No.	End use
1	Melamine Formaldehyde Resin	350 MT/Month	9003-08-1	Laminate sheet production
2	Urea Formaldehyde Resin		9011-05-6	Laminate sheet production
3	Melamine Urea Formaldehyde Resin		50-00-0	Laminate sheet production
4	Cardanol Phenol Formaldehyde	650 MT/Month	--	Laminate sheet production
5	Phenol Formaldehyde Resin		9003-35-4	Laminate sheet production
TOTAL		1000 MT/Month		

Note: Unit will manufacture laminate sheets (3, 00,000 Nos. /Month) and it does not attract EIA notification 2006 & its amendments. However, unit has obtained CTE from GPCB for laminate sheet unit. Copy is attached as Annexure – 15. Resin will be used for captive consumption (750 MT/Month) as well as for sale purpose (250 MT/Month).

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and no direction is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that currently, the Unit is in the process of installation of laminate sheet's Plant & machineries, once installation is completed then unit will apply for CTO (Consent to Operate) for laminate sheets production and for that, Resin is the intermediate product, which will be purchased from the open market.
7. The PP reported that the industry had obtained CTE for laminate sheets production (3,00,000 Nos./Month) from Gujarat Pollution Control Board with a specific condition that unit will not manufacture Resin without Prior Environmental Clearance.
8. The PP reported that there are no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from site. However, Wild Ass Sanctuary is located at 35.42 km in ENE direction. Manaba River is 1.38 km away in WNW direction and three Schedule-I species i.e. Indian Peafowl, Water Birds-Gull-Billed Tern and

Eurasian Spoonbill exist within 10 km study area of the project, conservation plan is submitted to PCCF and Chief wildlife warden on 17.2.2022 with budgetary provision of ₹ 5.0 Lakh. The PP committed to implement the plan in five years.

9. The PP reported that Ambient air quality monitoring was carried out at **8 locations** during **October 2021 to December 2021**. The baseline data indicates the range of concentrations as: PM₁₀ (**55.14 µg/m³ to 86.10 µg/m³**), PM_{2.5} (**29.87 µg/m³ to 59.54 µg/m³**), SO₂ (**2.09 µg/m³ to 19.91 µg/m³**) and NO₂ (**17.49 µg/m³ to 37.57 µg/m³**). AAQ modelling study for point source emissions indicates that the maximum incremental GLCs after the proposed expansion project would be **0.04 µg/m³**, **0.3 µg/m³** and **0.005 µg/m³** with respect to PM₁₀, SO₂ and NO₂. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).
10. **Noise Monitoring:** The PP reported that the maximum noise level measured in the study area was 73.8 dB (A) in day time and 65.4 dB (A) in night time near Project Site, which were below the stipulated standards. The noise levels (Leq) of the residential area within the impact zone varied from 49.5 – 51.6 dB (A) in the day time and 40.7 – 41.7 dB (A) in the night time.
11. **Ground water monitoring:** The PP reported that pH is found higher than acceptable limit at almost all locations except Borewell near project site (8.20) and Vadharva (8.46). Chloride is found higher than the acceptable limit but below the permissible limit at only Rohishala (325 mg/L). Total hardness is found higher than the acceptable limit at all the locations but all are below the permissible limit except Jetpar (180 mg/L). Magnesium is found higher than acceptable limit at Khakhrechi, Rohishala, Vadharva & Manaba. Calcium is found higher than the acceptable limit at Khakhrechi (76.2 mg/L) & Vadharva (80.2 mg/L) but is well within permissible limit. Sulphate is found well within the acceptable limit at all locations except Vadharva (217 mg/L). TDS is found higher than the acceptable limit at all the locations but are well within permissible limit. Fecal Coliform is observed only at Bore well near project site & Khakhrechi, which may be due to sewage disposal through soak pit and that water contaminated the bore well water. Ground water is suitable for domestic and agricultural purpose after adequate treatment such as primary treatment and disinfection. Alkaline pH indicates that due to some organic matter in ground water, CO₂ gas produced due to anaerobic degradation and so it has leached out the bicarbonates and carbonates from soil.
12. **Surface water Monitoring:** The PP reported that pH is found higher than the acceptable limit at all the locations because of the domestic activities such as washing of clothes, utensils etc. Chlorides is found higher than acceptable limit at Jetpar pond (360 mg/L), Vaghpar pond (268 mg/L) & Manaba pond (324 mg/L) but are well within permissible limit. Total hardness & Magnesium is found higher than acceptable limit at all the locations. Sulphate is found within the acceptable limit at all the locations except Manaba pond (258 mg/L). TDS is also found higher than acceptable limit at all the locations but are well within permissible limit at all the locations. Chloride, Magnesium, Total hardness, Sulphate is found within the acceptable limit at all the locations. Total coliform was not found in all villages but Fecal Coliform were found at Rohishala pond, Vaghpar pond & Manaba pond may be due to the cattle washing, use of water for domestic activities, which may impact on health of persons who will use this water. Thus, surface water can be used for agricultural purpose after adequate primary treatment. DO is found low because of washing activity carried out

at the bank of pond. COD is found high in Manaba pond as stagnant water and algae was found on its bank.

13. Soil Monitoring: Results of soil analysis reveal that soils of project area are neutral in reaction, have normal EC and have high organic carbon content. A possible explanation for high organic carbon content would be that the farmers would have buried crop residues after harvest of crops as well as use of organic manures. CEC value ranged from 20.81 as the lowest and 31.49 as the highest. The soils of Sultanpur and Aniyari villages have medium CEC, whereas soils of other sampling locations have high CEC. A possible explanation of CEC value would be high organic carbon content, fertilization and irrigation. Nutrient availability of soil samples reveals that soils of project area are medium in N, low in P₂O₅ and high in K₂O. All the soil samples have more than critical level of Ca (>300ppm) and mg (>120ppm) salts. As the CaCO₃ is more than critical level, soils seem to be calcareous in nature. Soils of the project area are Loamy sand and sandy loam. SAR values ranged from low to medium and sodium values ranged from 1.96 to 3.50. Bulk density shows the compactness of soil. A compact soil has higher value. Bulk density value ranged from 1.50 to 2.71 soils seems to be light texture and hence easily cultivable. By and large, soils of the project area are sandy loam and calcareous with good water holding capacity, high organic matter content, low in P₂O₅ and easily cultivable.

14. The PP reported that total water requirement for manufacturing of laminate sheets would be 52.64 KLD (Fresh: 40.74 KLD and reuse: 11.9 KLD) and for the proposed resin plant would be 25.55 KLD (Fresh: 20.5 KLD and 5.05 KLD). After expansion, the total water requirement would be 66.88 KLD (Fresh: 49.91 KLD and Reuse: 16.97 KLD) which will be sourced from Bore well. The domestic wastewater will be treated in STP and reused in gardening. The effluent generated from Boiler, Cooling Tower, RO reject, Washing, Scrubbing and Process will be treated in ETP followed by evaporator. The condensate from evaporator will be recycled and Zero Liquid Discharge will be maintained.

15. The PP reported that laminate sheet plant will require 400 KVA electricity load, which will be procured through Paschim Gujarat Vij Company Limited. Proposed resin plant will use electricity load from same load.

16. Fuel: Indonesian Coal/Briquettes will be used in Boiler & HSD will be utilized for D. G. Set. Fuel will be purchased from the nearby trader.

S. No.	Particular	Resin plant	Laminate sheet plant	Resin plant	Laminate sheet plant
1	Steam Boiler (5 TPH)	Briquettes (6.87 MT/day) / Indonesian Coal (4.99 MT/day)	Briquettes (10.30 MT/day) Indonesian coal (7.49 MT/day) #	8 hrs	12 hrs
2	Thermic Fluid Heater (15,00,000 Kcal/Hr.)	-	Briquettes (4.5)	-	12 hrs

			MT/day) Indonesian coal (3.27 MT/day)#		
3	D. G. Set (1 * 500 KVA)*	HSD (100 Lit/Hr.)		In case of power failure	

17. Details of Process emissions generation and its management: Not Applicable for Resin plant.

18. Details of Solid and Hazardous Waste Generation and its Management:

S. No.	Description	Category	Laminate sheet hazardous waste Quantity (MT/Annum)	Resin hazardous waste Quantity (MT/Annum)	Laminate + Resin hazardous waste Quantity (MT/Annum)	Mode of Disposal
1	ETP Sludge	35.3	12.04	8.11	20.15	Collection, storage and disposal at approved TSDF site
2	Evaporation Residue	35.3	36.13	24.34	60.47	Collection, storage and disposal at approved TSDF site
3	Used Oil	5.1	0.05	0.05	0.1	Collection, storage and used within premises as a lubricant / sold to registered recycler
4	Discarded Plastic Bags /Barrels	33.1	--	75.05	75.05	Collection, storage & sold to authorized vendor
5	Resin Residue	23.1	--	16.8	16.8	Collection, storage and disposal at approved CHWIF site
6	Spent Carbon	35.1	230.4	--	230.4	Collection, storage and disposal at

						approved CHWIF site
7	Edge cutting waste	23.1	612	--	612	Collection, storage and disposal at approved CHWIF site

19. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 90.58 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 110.88 Lakhs per annum. Industry proposes to allocate ₹ 1.6 Lakh towards CER such as Installation of solar lights.

20. The PP reported that the advertisement for Public Hearing was published in two newspapers viz. "The Times of India" dated 07.04.2022 and in Gujarati in "Fulchhab" dated 07.04. 2022. The Public Hearing for the project was conducted by the Gujarat Pollution Control Board on **12.5.2022**, which was presided by Sub Divisional Magistrate – Halvad, Representative of District Collector as per S.O. 2163(E). 9.5.2022. The main issues raised during the public hearing were employment and wastewater disposal mechanism.

21. The PP reported that out of total plant area of 15580 m², the Unit will develop greenbelt in 5431.16 m² (34.85%) Area.

22. The PP proposed to set up an Environment Management Cell (EMC) by engaging Environment Engineer, chemist, safety and health officer for the functioning of EMC.

23. The PP submitted that Net CO₂ emitted = 1533 MT/year (Approx.), Production per year 26400 MT/year, Net CO₂ emitted per ton of product = 0.0581 MT or 58.1 kg. Total CO₂ to be sequestered by plantation and from Renewable source of energy is **608.55 MT / 40%**.

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

25. The estimated project cost is **Rs 1410 lakhs (Laminate unit – 1320.12 lakhs + Resin unit – 82.06 lakhs)**. Total direct employment will be 90 persons (For Laminate unit – 80 + for resin unit – 10).

26. Deliberations by the EAC

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

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

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

The EAC deliberated on the water balance and suggested the PP to revise the water balance of existing laminated sheet plant. The PP submitted that the total water requirement for existing laminated sheets plant would be 52.64 KLD (40.74 KLD fresh water and 11.9 KLD treated water from STP and ETP). The EAC also deliberated on Public Hearing action plan and suggested to revise the same. The PP submitted the revised action plan as suggested by the EAC.

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

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

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

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

- (i) The PP shall develop Greenbelt over an area of at least 5431.16 m² by planting 1628 number of trees within a period of one year grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹ 9.55 Lakh and shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

- (ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Environment Engineer, chemist. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st 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 proposed under EMP is ₹ 90.58 Lakh (Capital cost) and ₹ 110.88 Lakh (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (iv) The total water requirement after expansion would be 66.88 KLD (Fresh: 49.91 KLD and Reuse: 16.97 KLD) which will be fulfilled by Borewell. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (v) 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) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

- (ix) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
- (x) The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xi) As committed by the PP, Zero Liquid Discharge shall be ensured and the ETP sludge along with evaporation residue from evaporator will be disposed of at TSDF site.
- (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 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.
- (xix) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted

within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.

- (xx) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
- (xxi) The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.

Agenda No. 38.5

Proposed Project of Single Super Phosphate(SSP), Granulated Single Super Phosphate(GSSP), Sulphuric Acid & LABSA located at Plot No. C-2/2, Additional MIDC Phase III, Industrial Area, Jalna, Maharashtra by M/s RAJURESHWAR INDUSTRIES PRIVATE LIMITED - Consideration of EC.

[Proposal No. IA/GJ/IND3/259423/2022; File No. IA-J-11011/82/2022-IA-II(I)]

1. The proposal is for the environmental clearance for the Proposed Project of Single Super Phosphate(SSP), Granulated Single Super Phosphate(GSSP), Sulphuric Acid & LABSA located at Plot No. C-2/2, Additional MIDC Phase III, Industrial Area, Jalna, Maharashtra by M/s RAJURESHWAR INDUSTRIES PRIVATE LIMITED.
2. The project/activity is covered under Category 'A' of item 5(a) (**Chemical fertilizers**) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) as the project is located outside the notified industrial area, so requires appraisal at Central Level by Expert Appraisal Committee (EAC).
3. The PP applied for the ToR vide proposal number IA/MH/IND3/259423/2022 dated 16.3.2022 and the ToR was issued by the Ministry, vide letter No. J-11011/82/2022-IA-II(I) dated 16.3.2022. The PP reported that Public Hearing is exempted as the proposed project site is located in a Notified MIDC Industrial Area. The PP applied for Environment Clearance on 14.7.2022 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 some shortcomings, the Project was referred back to PP on 19.7.2022, 20.8.2022 & 23.8.2022 and reply to the same was submitted on 22.7.2022, 23.8.2022 & 6.9.2022. The proposal is now placed in 38th EAC Meeting held on 14-15 September, 2022, wherein the Project Proponent and an accredited Consultant, Mantec Consultants Pvt. Ltd. [Accreditation number NABET/EIA/2023/RA 0205, valid up to 20.4.2023] made a detailed presentation on the salient features of the project and informed the following:
4. The PP reported that the proposed land area is 4.5 Ha and no R& R is involved in the Project. The details of products are as follows:

S. No.	Product Details	Proposed Quantity, MTPA
1	Single Super Phosphate (SSP)	1,32,000
2	Granulated Single Super Phosphate (GSSP)	1,32,000
3	Sulphuric Acid	49,500
4	LABSA	16,500

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. The nearest water bodies are Kundalika River – 5.00 km NW, Ghanewadi Nala - 3.00 km NE and Sina River - 3.50 km SE and no Schedule-I species exist within the 10 km study area.
7. The PP reported that the ambient air quality monitoring was carried out at 8 locations during March 2022 to May 2022 and the baseline data indicates the range of concentration as: PM₁₀ (42.00 - 78.0 µg/m³), PM_{2.5} (23.0 – 51.0 µg/m³), SO₂ (4.0-18.0 µg/m³), CO (0.30 – 0.89 µg/m³) and NO₂ (12.0 – 28.0 µg/m³). The AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 9.0E-05 µg/m³, 4.0E-05 µg/m³ and 9.0E-05 µg/m³ with respect to SO₂, NO_x & PM₁₀ respectively.
8. **Noise:** The noise levels at all locations are well below the prescribed limit.
9. **Ground Water Monitoring:** The PP reported that the analysis results indicate the pH value is in the range of 7.31 to 7.42, TDS-171 to 465 mg/L, chloride-22 to 65 mg/L, sulphate-32 to 49mg/L, total hardness-113 to 331 mg/L, COD-34 to 40 mg/L and BOD-5 to 8 mg/L.
10. **Surface Water Monitoring:** The PP reported that the analysis results indicate that the pH value is in the range of 7.29 to 7.51, TDS-358 to 387 mg/L, chloride-52 to 65 mg/L, sulphate-31 to 39 mg/L and total hardness-209 to 262mg/L.
11. **Soil Monitoring:** The analysis results show that soil is basic in nature as pH value ranges from 7.46 to 7.62 with organic matter 0.89% - 2.34%. The concentration of Nitrogen (12.7 mg/100g to 18.68mg/100g), Phosphorus (0.57 to 0.98mg/100gm) and Potassium (8.56 to 10.4 mg/100g) has been found to be in good amount in the soil samples. The soil is found to be suitable for agricultural purpose. The soil quality of the area will not be affected by the proposed project and its allied activities.
12. The PP reported that the water requirement of the proposed project will be met from MIDC, Jalna and net water requirement is 461 KLD. Total wastewater generation will be 31 KLD, which will be treated in ETP of capacity of 40 KLD (29.03% buffer capacity). The proposed project is based on the concept of “Zero Liquid Discharge”.
13. The PP reported that the total power requirement is 1135 KW/1336 KVA sourced from Maharashtra State Electricity Distribution Company Limited (MSEDCL). Waste heat recovery boiler is proposed at the project site which will capture steam from the acid plant

and generate the power of 720 KW/847 KVA. It is proposed to buy additional power of 800 KW/1000 KVA from MSPDCL whose state grid connection of express feeder is available near the project site. DG set is also proposed of the capacity of 625 KVA.

14. Details of Process emissions generation and its management: Major pollutant emitted from various operations is sulphur dioxide (SO₂). Other emissions of minor importance include particulates, oxides of nitrogen (NO₂), carbon monoxide (CO), Hydrocarbons (HC) etc. Sources of SO₂ are mainly boilers, different process heaters and flares. The primary pollutant in the DG Set will be SO₂ with traces of NO_x & CO. Good housekeeping, adequate air pollution control measures and stack of adequate height will be provided.

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

Category of waste	Type of solid waste	Quantity	Treatment
26.2	ETP waste	195 kg/day	To approved TSDF site for secured land filling. Mostly Gypsum with free moisture
26.1	Process Waste Sludge (Sulfur Sludge)	37.5 MT/Annum	To approved TSDF site for secured land filling. Sulphur content with other in organic impurities.
5.1	Spent/Used Oil	105 L/Year	MOEF Approved recyclers or Incineration.
33.3	Discarded Barrels/Liners/Containers	270 Nos./year	To approved recycler

16. The Budget earmarked towards Environmental Management Plan (EMP) is ₹ 119 Lakh (capital) and the Recurring cost will be about ₹ 13.00 Lakhs per annum. The project proponent is committed towards the Enterprise Social Commitment (ESC) i.e. to spend 2.5% of the cost of project (Rs. 4023 lakhs).

17. The PP reported that the total project site area is 4.5 Ha/45,000 sq.m from which 33% i.e. 1.48 Ha area will be developed as a greenbelt within the project site. Local and native trees such as Neem, Jamun, Karanj, Kadamb, Ashoka, Mango etc. will be preferred for plantation within the project site.

18. The PP proposed to set up an Environment Management Cell (EMC) by engaging Health Safety and Environment (HSE) officers and supporting staff for maintenance for the functioning of EMC.

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

20. The estimated project cost is ₹ 40.23 Crore. There will be total 100 Nos. of workers (during Construction phase) and 80 Nos. of employees (during operation phase).

21. Deliberations by the EAC:

The EAC constituted under the provisions of the EIA Notification, 2006 and comprising of Experts 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 noted that the presentation circulated before the meeting and that made during the meeting are different. Further, the presentation is incomplete, inconsistent and incomprehensible. The EAC observed several deficiencies in the proposal w.r.t conservation plan for Schedule-I species (to be re-studied as peacock is expected), surface and ground water parameters standards, fugitive emissions, Greenbelt density, the onsite and off-site disaster management plans, OHS budget, EMC, environment policy, rain water harvesting plan, soil micro biology, impact on flora and fauna etc. **The EAC warned the Consultant and the PP for the same.**

After detailed deliberations, the EAC **deferred** the proposal for submission of the following by the PP:

- (i) Conservation plan for Schedule-I species and its proof of submission to CWLW for approval
- (ii) Surface and Ground Water quality data with their applicable standards
- (iii) Details of fugitive emissions generation and their control measures.
- (iv) On-site and off-site disaster management plans specific to the proposal
- (v) Greenbelt development plan (@ of 2500 trees per hectare) with high carbon sequestration species along with budgetary allocation, for completion within a period of one year of grant of EC.
- (vi) OHS budget based on the relevant guidelines
- (vii) Detailed Rain water harvesting plan
- (viii) Soil micro biology and impact on flora and fauna
- (ix) Revised EMC and Environment Policy
- (x) Details of carbon foot prints and carbon sequestration
- (xi) Proposed water and energy conservation measures

Agenda No. 38.6.

Amendment in EC for Expansion of Pesticide Technical and Intermediates Manufacturing Unit at Plot No. 3816 opposite ETL, GIDC estate Ankleshwar, District-Bharuch (Gujarat) by M/s Uma Organics and Chemicals

[Proposal No. IA/GJ/IND3/289814/2022; File No. IA-J-11011/40/2019-IA-II (I)]

1. The proposal is for amendment in the EC granted by the Ministry vide letter no. IA-J-11011/40/2019-IA-II(I) dated 26.11.2019 for the project of Expansion of Pesticide Technical and Intermediates Manufacturing Unit located at Plot no. 3816, GIDC Estate Ankleshwar, District Bharuch, Gujarat, in favour of M/s. Uma Organic & Chemicals.
2. 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.	11 (b)	Point no. 11 (b)	Point no.	1. Existing products are low

		mentioned in Specific condition states that: As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.	11 (b) mentioned in Specific condition should be replaced with: <u>Unit shall maintain existing discharge of 3.5 KLD and Unit shall maintain ZLD for proposed agrochemical project.</u>	value products and profit margin is very less. 2. CETP has obtained EC and CTE for the expansion. Unit will get additional membership after EC for discharge will be granted. 3. If existing discharge is surrendered, no possibility to get discharge in future. According to advisory no. 28-58/1/2022-IFC-CPC issued by Government of India, Ministry of Chemicals and Fertilizers, Department of Chemicals and Petrochemicals, Industry Facilitation Cell dated 29 th July 2022, ZLD is not a compulsory condition. Project Proponents can approach EAC/MoEF&CC for seeking an amendment in EC, if it is not feasible for that project.
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Deliberations by the EAC:

The EAC deliberated on the issue and observed that expansion of EC was granted by the Ministry vide letter no. IA-J-11011/40/2019-IA-II(I) dated 26.11.2019. The conditions stipulated in the EC and CTO were not complied, especially the green belt, which is 40% of the project area, due to Critically Polluted Area. The PP needs to first comply with the existing EC condition w.r.t green belt and also the mitigative measures for CPA stipulated in the Ministry's O.M dated 31.10.2019. The PP also have to submit the details of carbon foot prints and carbon sequestration study w.r.t. proposed project and details of onsite and offsite emergency plans.

The EAC advised the PP and the consultant that in future, they should ensure the compliance of existing EC including green belt before applying for amendment in EC.

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

Agenda No. 38.7

Proposed expansion for manufacturing of Synthetic Organic Chemicals located at Plot No. 288/1, & 288/2, Phase II, GIDC Vatva, Ahmedabad, Gujarat by M/s. J.J. Nitro Products Pvt. Ltd. - Consideration of TOR

[Proposal No. IA/GJ/IND3/287713/2022; File No. IA-J-11011/193/2020-IAII(I)]

1. The proposal is for the expansion for manufacturing of Synthetic Organic Chemicals located at Plot No. 288/1 & 288/2, Phase II, GIDC Vatva, Ahmedabad, Gujarat by M/s. J.J. Nitro Products Pvt. Ltd
2. The project/activity is covered under Category 'A' of item 5(f), of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) and requires appraisal at Central Level by Expert Appraisal Committee (EAC). **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**
3. The PP applied for the ToR vide proposal number No. **IA/GJ/IND3/287713/2022** dated 9.8.2022 The proposal was referred back to the PP on 19.8.2022, 31.8.2022 and its reply was submitted on 30.8.2022, 6.9.2022. The proposal is now placed in 38th EAC Meeting held on 14th- 15th August, 2022, wherein the PP and an accredited Consultant, M/s. Ramans Enviro Services Pvt. Ltd. [Accreditation number NABET/EIA/2023/SA 0151, Valid up to 12.10.2023] 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-

Product Details (complete name)	CAS NO.	Existing Quantity	Proposed Quantity	Total Quantity	Uses
PNTOSA (Para Nitro Toluene Ortho Sulphonic Acid)	121.03.9	600.00 MT/Month	650.00 MT/Month	1250.00 MT/Month	Intermediates for dyestuff

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 unit has obtained EC from SEIAA, Gujarat vide order no.: **SEIAA/GUJ/EC/5(f)/798/2018** dated 31.07.2018 for manufacturing of PNTOSA with a capacity 600 MT/Month and subsequently obtained CTO from GPCB. The unit is holding a valid Consolidated Consent & Authorization (CC&A) vide order no. **AWH- 98151** from GPCB for manufacturing of **PNTOSA @ 600 MT/Month** and it is valid up to 30.09.2023. The unit has also obtained EC transfer and Amendment vide order no. **SEIAA/GUJ/EC/5(f)/1351/2021** dated **2.7.2021** in the name of **M/S. J.J. Nitro Products Pvt. Ltd.** and **addition of plot no. 288/2 adjacent to present plot no. 288/1** at the present location. The unit has also obtained certified EC compliance from MoEF&CC, Integrated Regional Office, Gandhinagar vide letter no.: **J-11/12-2022-IROG NR dated 26/04/2022.**

7. The PP reported that the proposed land area is 1815 m² 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 additional water requirement due to the expansion will continue to be satisfied through GIDC Vatva. **Existing:** Industrial: 19.52 KLD & Domestic: 3.0 KLD **Ultimate:** Industrial: 38.54 KLD & Domestic: 5.0 KLD. The industrial wastewater from utility is stored in collection tank and is being recycled back in process as makeup water for dumping without resorting to any treatment. Domestic sewage is being treated in STP and treated sewage is utilized for Gardening/Toilet Flushing.
10. The PP reported that Existing power requirement is 95 KW and being met through Torrent Power Ltd, Ahmedabad, Gujarat. After expansion, the power requirement will be 150 KW. The additional power requirement will also be met through Torrent Power Ltd, in continuance with the current practice. One no. of existing DG set @ 75 kVA will be discontinued and another one no. of DG set @ 125 kVA will be installed to take care of emergency in case of power supply failure. The fuel consumption of diesel for the same will be @ 25 Liter/Hr.
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 unit has developed total 213.8 m² area as a greenbelt within the premises. However, as the unit falls under critically polluted area of Vatva, GIDC area and with respect to OM dated 24.10.2019 to comply with the conditions mentioned to increase of green belt cover by 40% of the total land area, the unit will develop green belt @ 500.00 m² outside the premises to compensate the need for balance green belt area.
13. The PP reported that the estimated project cost for the proposed expansion is ₹ 202.15 Lakhs. Since this is an expansion project at the existing premises, increase in employment prospects will be limited between 25 to 30 persons. Industry proposes to allocate ₹ 4.75 Lakhs towards the CER.

14. **Deliberations by the EAC:**

The EAC observed that EC was accorded by SEIAA, Gujarat dated 31.07.2018 for **expansion** in manufacturing of Synthetic Organic Chemicals plant at plot no 288/1, Phase II, GIDC Vatva, Ahmedabad, Gujarat. Thereafter, also obtained transfer and amendment of EC from SEIAA Gujarat vide letter dated 2.7.2021, that "*M/s Jayshree Enterprise is hereby transferred to M/s J.J Nitro Product Private Ltd. and plot no. 288/2 adjacent to existing plot no. 288/1 shall be utilized for storage of spent acid generated from PNTOSA-600 MT/Month and raw material including oleum (23%) storage which is being used for PNTOSA production only and **no expansion activity shall be executed in this plot as per undertaking submitted by PP***". The EAC recommended that the PP shall submit the existing and proposed layout clearly depicting the existing and proposed facilities in the plot no. 288/2.

The EAC noted that since the unit is located in a Critically Polluted Area, 40% greenbelt is required. The PP needs to first comply with this and also the mitigative measures

for CPA stipulated in the Ministry's O.M dated 31.10.2019. The PP also have to submit the details of carbon foot prints and carbon sequestration study w.r.t. proposed project and details of onsite and offsite emergency plans.

The EAC advised the PP and the consultant that in future, they should ensure the compliance of existing EC including green belt before applying for amendment in EC.

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

Agenda No. 38.8.

Amendment in EC for expansion for setting up manufacturing plant of synthetic organic chemicals [API & Intermediates] at Plot no. 7901/A + 7901/B + 7901/C/1/1 + 7901/A + 7901/B + 7901/C/1/2 + 7901/A + 7901/B + 7901/C/1/3+ 7901/A + 7901/B + 7901/C/1/4, 7901/A + 7901/B + 7901/C/2 GIDC Estate Ankleshwar, Tal: Ankleshwar, Dist: Bharuch- 393002, Gujarat by M/s Dhiraj Can Co. Pvt. Ltd.

[Proposal No. IA/GJ/IND3/290881/2022; File No. IA-J-11011/364/2022-IA-II(I)]

1. The proposal is for amendment in the EC for expansion of setting up manufacturing plant of (Synthetic Organic Chemicals" [API and its intermediate] at Plot No. 7901/A+B+C/1, GIDC Estate Ankleshwar, Tal. Ankleshwar, Dist.: Bharuch-Gujarat, granted by the SEIAA, Gujarat vide letter no. SEIAA/GUJ/EC/5(f)/1925/2021 dated 15.12.2021, in favour of M/s. Dhiraj Can Co. Pvt. Ltd.
2. The project proponent has requested for amendment in the EC with the details as under:

S. No	Para of EC issued by MoEF&C	Details as per the EC	To be revised/ read as	Justification/ reasons
1.	Project Address	<p>Project Name: M/s. Dhiraj Can Co. Pvt. Ltd.</p> <p>Address: Plot No.: 7901/A+7901/B+7901/C/1, GIDC Estate Ankleshwar, Tal.: Ankleshwar-393002, Dist.: Bharuch.</p>	<p>Project Name: M/s. Ninay Lifescience</p> <p>Address: Plot No.: 7901/A + 7901/B + 7901/C/1/1 + 7901/A + 7901/B + 7901/C/1/2 + 7901/A + 7901/B + 7901/C/1/3 + 7901/A +</p>	<p>Earlier, M/s. Dhiraj Can Co. Pvt. Ltd has owned Plot No.: 7901/A+7901/B+7901/C/1 vide FSO No.: GIDC/RM/ANK/SD/FSO/ANK1/16 Dated: 26/10/2019.</p> <p>They got EC vide letter No.: SEIAA/GUJ/EC/5(f)/1925/2021 dated: 15/12/2021 on the name of Dhiraj Can Co. Pvt. Ltd.</p> <p>Later on, M/s. Dhiraj Can Co. Pvt. Ltd. has decided to sub-divide Industrial Plot and got Plot No.: 7901/A + 7901/B + 7901/C/1/1 + 7901/A + 7901/B + 7901/C/1/2 + 7901/A + 7901/B +</p>

		<p>7901/B + 7901/C/1/4, 7901/A + 7901/B + 7901/C/2 GIDC Estate Ankleshwar , Tal.: Ankleshwar -393002, Dist.: Bharuch.</p>	<p>7901/C/1/3+ 7901/A + 7901/B + 7901/C/1/4 Now, we purchased all four plots from M/s. Dhiraj Can Co. Pvt. Ltd. and transferred on the name of Ninay Lifescience. We also Owned adjoining plot (Plot No.: 7901/A + 7901/B + 7901/C/2) on the name of M/s. Ninay Lifescience. Both Plots are amalgamated (Plot No.: 7901/A + 7901/B + 7901/C/1/1 + 7901/A + 7901/B + 7901/C/1/2 + 7901/A + 7901/B + 7901/C/1/3+ 7901/A + 7901/B + 7901/C/1/4 & Plot No.: 7901/A + 7901/B + 7901/C/2) on the name of Ninay Lifescience.</p> <p>Plot No.: 7901/A + 7901/B + 7901/C/1/1 + 7901/A + 7901/B + 7901/C/1/2 + 7901/A + 7901/B + 7901/C/1/3+ 7901/A + 7901/B + 7901/C/1/4 & Plot No.: 7901/A + 7901/B + 7901/C/2) on the name of Ninay Lifescience.</p> <p>Amalgamation vide Order No.: GIDC/RM/ANK/AM/FO/ANK1/6 0 Dated: 18/05/2022 & Corrigendum Vide order No.: GIDC/RM/ANK/ALT/1175 dated: 06.06.2022 and applied for Amendment in existing environmental clearance. This proposal is for the addition of the adjoining plot along with change of the Unit & Management without change in product profile & Production capacity. This proposal is for providing better work Environment as after this addition of plot; Production area, Raw material Storage, Utility will be distributed in both the plot.</p>
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2.	A2 Water/ Condition no. 25	Total water requirement for the project shall not exceed 153 KLD . Unit shall reuse 73.70 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 79.30 and it shall be met through tankers only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	Total water requirement for the project shall not exceed 155.4 KLD . Unit shall reuse 73.70 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 81.7 KLD and it shall be met through GIDC Water Supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	After addition of the adjoining Plot, there shall be increase in Greenbelt area. We have Proposed 40% of greenbelt (i.e., 2315.89 m ²) of total plot area. Hence, the Fresh Water consumption will increase.
3.	B.2.7 Greenbelt and other Plantation/ Condition no. 129	The PP shall develop green belt within premises (1167.79 Sq. m. i.e., 33% of the total Plot area) as committed before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of Operation phase in consultation with GPCB.	The PP shall develop green belt within premises (2315.89 Sq. m. i.e., 40% of the total Plot area) as committed before SEAC. Green belt shall be developed	Greenbelt area increased due to addition of the adjoining Plot (Plot No.: 7901/A + 7901/B + 7901/C/2)

			with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of Operation phase in consultation with GPCB.	
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3. Deliberations by the EAC:

The EAC deliberated on the issue and observed that the existing EC was granted by the SEIAA, Gujarat vide letter no. SEIAA/GUJ/EC/5(f)/1925/2021 dated 15.12.2021 in favour of M/s Dhiraj Can Co. Pvt. Ltd. The PP now requested for amendment in EC to add adjoining Plot along with name change & change in management of the company. The EAC recommended that the PP shall first apply for transfer of EC from **M/s Dhiraj Can Co. Pvt. Ltd to M/s. Ninay Lifescience** and subsequently, the new PP, **M/s. Ninay Lifescience** shall apply for amendment in EC.

The EAC also advised the PP and the consultant that, before applying for amendment in EC, they should ensure that they have complied with the conditions of the existing EC.

The Committee therefore, **returned** the proposal in its present form.

Agenda No. 38.9.

Proposed Synthetic Organic Chemical (Formaldehyde, Para Formaldehyde, Hexamine, Resins and Urea Formaldehyde Concentrate) Manufacturing Unit with production capacity of 17,200 MTM located at Survey No. 442p, Kadadra, Zak Kadadra Road, Taluka Dehgam, District Gandhinagar, Gujarat by M/s. VISHVAM FORMALIN - Consideration of Environmental Clearance

[Proposal No. IA/GJ/IND3/251319/2022; File No. IA-J-11011/12/2022-IA-II(I)]

1. The proposal is for the environmental clearance for the proposed Synthetic Organic Chemical (Formaldehyde, Para Formaldehyde, Hexamine, Resins and Urea Formaldehyde Concentrate) Manufacturing Unit with production capacity of 17,200 MTM located at Survey No. 442p, Kadadra, Zak Kadadra Road, Taluka Dehgam, District Gandhinagar, Gujarat by M/s. VISHVAM FORMALIN.

2. The project/activity is covered under Category 'A' of item 5(f), Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) as the project is located outside the notified industrial area. Therefore, the project requires appraisal at Central Level.
3. The PP applied for the ToR vide proposal number IA/GJ/IND3/251319/2022 dated 21.1.2022 and the standard ToR was issued by the Ministry, vide letter No IA-J- -11011/12/2022-IA-II(I) dated 26.1.2022. The PP submitted that Public hearing is conducted on 28.6.2022 which was presided by the Sub-Divisional Magistrate, Gandhinagar, Representative of District Collector and District magistrate, Gandhinagar. The PP applied for Environment Clearance on 28.8.2022 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 6.9.2022, and reply to the same was submitted on 7.9.2022. The proposal is now placed in 38th EAC Meeting held on 14-15 September 2022, wherein the Project Proponent and an accredited Consultant, T.R. ASSOCIATES, [Accreditation number NABET/EIA/1922/SA0153, valid upto 8.4.2023], made a detailed presentation on the salient features of the project and informed the following:
4. The PP reported that the proposed land area is 0.9858 Ha and no R& R is involved in the Project. The details of products and by-products are as follows:

S. No.	Name of Product	Group	Production Capacity (MT/M)	CAS No.	END-USE
1	Formaldehyde (37 %)	--	6000	50-00-0	disinfectant
2	Para Formaldehyde (92-96 %)	--	1500	30525-89-4	disinfectant
3	Hexamine	--	200	100-97-0	curing agent for resins
4	Melamine Formaldehyde Resin Liquid	Group A	9000	9003-08-1	jointing of plywood
5	Melamine Formaldehyde Resin Powder			9003-08-1	production of synthetic gums and UFCs.
6	Urea Formaldehyde Resin Liquid			9011-05-6	molding material for adhesives and protective finishes
7	Urea Formaldehyde Resin Powder			9011-05-6	manufacture of adhesives, finishes, molded objects, as glue particleboard, medium-density fiberboard (MDF)

8	Melamine Urea Formaldehyde Resin Liquid			25036- 13-9	automotive surface coatings.
9	Melamine Urea Formaldehyde Resin Powder			25036- 13-9	plywood and particleboard adhesives
10	Phenol Formaldehyde Resin Liquid			9003- 35-4	wood adhesives for plywood and particleboard
11	Phenol Formaldehyde Resin Powder			9003- 35-4	used as the glue or binder
12	Urea Formaldehyde Conc.	--	500	9011- 05-6	adhesives for the bonding of plywood, particleboard, and other structured wood products.
Total			17200		

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. Narmada Canal 1.14 Km in North Direction. Kadadara pond 0.72 km in ESE Direction The PP reported that no forest area is involved in the proposed project and two Schedule-I species i.e. Indian Peafowl and Shikra exist within 10 km study area of the project, for which conservation plan is submitted to PCCF and chief wildlife warden on 19.5.2022 with budgetary provision of Rs. 8.0 Lakh for five years.
7. **Ambient Air:** The PP reported that **ambient air** quality monitoring was carried out at **8 locations** during **December 2021 to February 2022**. The baseline data indicates the range of concentrations as: PM₁₀ (**63.24 µg/m³ to 88.29 µg/m³**), PM_{2.5} (**34.17 µg/m³ to 51.41 µg/m³**), SO₂ (**4.07 µg/m³ to 23.45 µg/m³**) and NO₂ (**19.23 µg/m³ to 48.62 µg/m³**). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be **0.58 µg/m³, 0.84 µg/m³, 0.005 µg/m³ and 2.44 µg/m³** with respect to PM₁₀, SO₂, NO₂ and NH₃. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise:** The maximum noise level measured in the study area was 73.5 dB (A) in day time and 62.4 dB (A) in night time at project site, which is below the stipulated standards in day time as well as in night time. Also, the Leq value of the same is within stipulated norms. The noise levels (Leq) of the residential area within the impact zone varied from 49.7 – 50.3 dB (A) in the day time and 40.1 – 40.8 dB (A) in the night time.
8. **Ground Water:** The PP reported that pH is found between 8.48 to 9.76. pH was higher than acceptable limit at all locations except Karoli (8.48). The possible reason for high alkaline pH may be due to ground water formation as western part of Gandhinagar district has calcareous sediments. Chloride is found higher at Vahelal (230 mg/l) and Kubadthal village (185 mg/l) but well within acceptable limits. Total hardness is found higher than the acceptable limit at all locations Project site, Vasana Rathod, Mota Jalundra, Kadadara, Karoli, Harsoli and

Vahelal. Magnesium is found higher than acceptable limit at all the locations except Project Site, Karoli and Harsoli. Calcium is found below acceptable limit at all the locations. It may be due to geological formation, seepage and runoff from soil and from salts of Calcium & magnesium. TDS is found higher than acceptable limit at all the locations. It may be due to salts from soil and also domestic sewage may percolate into the groundwater. Dissolved oxygen is observed lowest 3.1 mg/l at Harsoli and highest 4.6 mg/l at Karoli among 8 locations. COD is observed lowest 8.6mg/l at Mota Jalundara and highest 41.7 mg/l at Vasana Rathod. Also, BOD is found lowest 2.4 mg/l at Mota Jalundara and highest 16.2 mg/l at Vasana Rathod. It was observed during site visit i.e. washing activities of clothes and utensils near bore well may have caused slightly higher values of COD and BOD. Total Coliform is observed at Vahelal which may be due to wastewater from septic tanks seepage near rural area. Ground water is suitable for domestic and agricultural purpose after primary treatment and disinfection.

9. **Surface water:** The PP reported that pH is found between 8.16 to 10.97. It is within acceptable limit only at Vasna Rathod pond. It may be due to detergents/soaps and washing activities. Chloride is found to be higher than acceptable limit at Vasana Rathod pond, Kadadara pond, Vahelal pond and Karoli pond. Total hardness is found higher than acceptable limit at all locations except Narmada canal near Mota Jalundara. It may be due to the presence of alkaline earth metals such as calcium and magnesium. Magnesium is found higher than acceptable limit at all the locations except Meshwo River, Harsholi and Narmada canal near Mota Jalundara. Calcium is found higher than the acceptable limit at all locations except Narmada canal near Mota Jalundara. TDS is higher than acceptable limit at all the locations, which may be due to sewage, urban and agricultural run-off, and industrial wastewater. Dissolved oxygen is observed lowest i.e. 3.6 mg/l at Vasana Rathod pond and highest 5 mg/l at Vahelal Pond. COD is observed lowest i.e. 24.6 mg/l at Mota Jalundara pond and highest 62.7mg/l at Vasana Rathod pond. Similarly, BOD is observed lowest i.e. 8.9 mg/l at Mota Jalundara and highest 22.0 mg/l at Kubadthal pond. The COD and BOD values may be due to animal bathing activities as per primary data collection. Total coliform was found in Vasana Rathod pond, Narmada canal near Mota Jalundara, Vahelal Pond, Karoli pond and Meshwo River, Harsholi, which may be due to the cattle washing, presence of algae, and use of water for domestic activities and may impact the health of persons who will use this water. Thus, surface water can be used for domestic and agricultural purpose after primary treatment as well as after disinfection.
10. **Soil:** The PP reported that the results of soil analysis reveals that the soil of project is neutral in reaction, have normal EC and low to high organic carbon content. Explanation for high organic carbon may be that the farmers would have buried the crop residues after harvest of crops and or used organic manures. The CEC values of all soil sampling locations are found to be medium. This is an indicative of the fact that the soil of project would be with low to medium soil fertility level i.e. sandy to sandy loam type of soil. The Ca content in soil was found to be below critical level i.e. <25% of CEC and Mg content in soil is more than critical level i.e. >4% of CEC value. Nutrient availability of soil samples reveals that the soil is low to medium in N₂, low in P₂O₅ & high in K₂O. The results of soil samples reveal that soil have relatively sandier to sandy loam and therefore, water holding capacity was found to be medium. The SAR values were found low which reveals that soils are not salt affected. Bulk density values ranged from 1.55 to 2.81 (g/cm³), which implies that the soil is less compact and thereby easily cultivable. To sum up, the soil of project is normal, sandy to sandy loam in nature with medium soil fertility as well as good moisture holding capacity.

11. The PP reported that the total water requirement is 104.13 KLD (Fresh water 94 KLD + Recycled water 10.13 KLD) and the fresh water will be met from Bore well. Total domestic wastewater of 3.25 KLD will be treated in STP and reused in gardening. Total industrial effluent of 7.98 KLD will be treated in ETP followed by evaporator. The condensate from evaporator will be recycled and Zero Liquid Discharge will be maintained.
12. The PP reported that the proposed project will require 400 KVA electricity load and will be procured through Uttar Gujarat Vij Company Limited.
13. The PP reported that Industry will provide one steam boiler of 1.5 TPH [Fuel: Briquettes/Agro waste (1.54 Ton/Month) or Indonesian Coal (1.12 Ton/Month)]. Multicyclone separator followed by bag filter followed by water scrubber with stack height of 30 m will be installed with Boiler. 2nd steam boiler of 0.8 TPH [Fuel: Diesel (0.3 KL/day)] will be provided with Alkali scrubber as an APCM and Hot Air Generator of 2,00,000 kcal/hr [Fuel: Briquettes/Agro waste (0.3 Ton/Month) or Indonesian Coal (0.21 Ton/Month)] will be provided with Multicyclone separator followed by water scrubber as an APCM for controlling the particulate emissions within the statutory limit.

14. Details of Process Emissions Generation and their Management:

S. No.	Stack attached to	Height of the stack (m)	Expected Pollutant	APC System	GPCB Limit
1	Final scrubber	11	Traces of Formaldehyde and CO	Activated Carbon Column/ Bio Filters	As per GPCB Norms
2	Hexamine Reactor	11	Ammonia	Dual stage Scrubber system	As per GPCB Norms
3	Spray Dryer (1*500 kg/hr and 1*800 kg/hr)	11	PM	Bag Filter	As per GPCB Norms
4	Spray Dryer (1*800 kg/hr)	11	PM	Bag Filter	As per GPCB Norms

15. Details of Solid Waste Generation and its Management:

Sr. No.	Description	Category	Quantity (MT/Annum)	Mode of Disposal
1.	ETP Sludge	35.3	14.36	Collection, storage and disposal at approved TSDF site
2.	Evaporation Residue	35.3	43.092	Collection, storage and disposal at approved TSDF site
3.	Used Oil	5.1	0.5	Collection, storage and used within premises as a lubricant / sold to registered recycler
4.	Resin Residue	23.1	162	Collection, storage and disposal at approved CHWIF site

5.	Discarded drums and bags	33.1	642.13	Collection, storage and sale to authorized register recycler
6.	Bleed liquor (20% NH ₃ solution from Hexamine)	35.1	378	Collection, storage and reuse in process
7.	Spent carbon	35.1	86.4	Collection, storage and disposal at approved CHWIF site

16. The budget earmarked towards Environmental Management Plan (EMP) is ₹ 115 Lakh (capital) and the Recurring cost (operation and maintenance) will be about ₹ 115.36 Lakh per annum. The PP proposes to allocate ₹ 25.12 Lakhs (2% of total project cost) towards Corporate Environment Responsibility (CER).

17. The PP reported that the advertisement for Public Hearing was published in two newspapers i.e. "Business standard and Gujarat Samachar" on 27.5.2022 and the Public Hearing for the project was conducted by the Gujarat Pollution Control Board on 28.6.2022, which was presided by Sub-Divisional Magistrate, Gandhinagar, Representative of District Collector and District Magistrate, Gandhinagar. The main issues raised during the public hearing are related to air pollution in surrounding area, green belt plan and CER Activities.

18. The PP reported that out of total plant area of 9858.00 m², Unit will develop greenbelt in 3948.47 m² Area.

19. The PP proposed to set up an Environment Management Cell (EMC) by engaging Senior Environmental Engineer, Chemist and Safety & Health Officer for the functioning of EMC.

20. The PP reported that Net CO₂ emitted = 2181 MT/year, Production per year = 2,06,400 MT/year and Net CO₂ emitted per ton of product = 0.0106 ton or 10.6 kg. The proposed mitigation measures are as follows:

Activities help to reduce carbon emission	Capacity of renewable energy installation	CO ₂ to be sequestered/reduced from Renewable source of energy and plantation	Percentage of CO ₂ to be sequestered/reduced from Renewable source of energy and plantation
1st step towards carbon reduction/sequestration after the Plant Commencement			
Renewable source of energy	Solar Panel 150 kW at rooftop of industrial shed inside the premises within 5 years	152 MT CO ₂ emission reduction per year (1,92,000 units year per annum generated.)	7.0 %
CER activity for renewable source of energy (18 kW solar panel)	Solar panel (18 kW) in Zak and Kadadra within 3 years.	18.2 MT CO ₂ emission reduction per year (23040 units year per annum generated)	0.8 %

Rain water harvesting system to reduction of fresh water consumption from ground water	Details of Rain water harvesting is given in EIA report.	0.75 MT CO ₂ emission reduction per year (944 units year per annum reduced from total electricity generation)	0.03 %
Greenbelt (within Premises) according greenbelt plan	982 no. of trees will be planted in 3270.43 m ² area within the premises.	164 MT CO ₂ per year sequestrate (after 5 years when tree will be matured)	7.5 %
Tree plantation for conservation of Schedule-I Species	Approx. 800 nos. of tress will be planted for conservation of Schdeule-1 species (Indian peafowl) in nearby villages.	133 MT CO ₂ per year sequestrate (after 5 years when tree will be matured)	6.1 %
Mango farm at Village- Reladani, Taluka-Bhuj- District-Kutch, Gujarat	3200 nos. of tress have been planted at Kutch since 2012.	534 MT CO ₂ per year sequestrate Photographs and KML file	24.5 %
Total CO₂ to be sequestrated by plantation and reduced from Renewable source of energy		1001.95 MT	45.93 %

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

22. The estimated project cost is ₹ **12.56 crore**. Total direct employment will be **50** persons.

23. Deliberations by the EAC:

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

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

The 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 fuel and suggested the PP to use Indonesian coal only in case of emergency and on unavailability of Briquettes. The PP has committed to increase the proposed greenbelt area from 33.17% to 40.05% and also submitted the revised greenbelt plan, EMP breakup, area breakup and water balance. The PP confirmed that the available water is sufficient for the extra greenbelt and the implementation period of conservation plan of Schedule-I species is five years, which was also incorporated in the revised EMP.

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

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

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

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, 3948.47 m² by planting 1184 number of trees within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹ 6.69 Lakh and shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions by engaging Environment Engineer-Chemist. In addition to this,

one safety & health officer as per the qualification given in Factories Act, 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

- (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 proposed under EMP [₹ 115 Lakh (Capital cost) and ₹ 115.36 (Recurring cost)] shall be kept in a separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (iv) As committed by the PP, Industry shall use Indonesian coal only in case of emergency and unavailability of Briquettes
- (v) Total water requirement is 104.13 KLD (Fresh water 94 KLD + Recycled water 10.13 KLD) and the fresh water will be met from Bore well. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawal only after obtaining prior permission from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year
- (vi) No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.
- (vii) The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (viii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608(E), dated 21.07.2010 under the provisions of the Environment (Protection) Rules, 1986.
- (ix) The 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.
- (x) 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.

- (xi) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out. The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.
- (xii) As committed by the PP, Zero Liquid Discharge shall be ensured. Total domestic wastewater of 3.25 kl/day shall be treated in STP and reused in gardening.
- (xiii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- (xiv) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
- (xv) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xvi) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.
- (xvii) The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xviii) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xix) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
- (xx) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors.

(e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.

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

GENERAL EC CONDITIONS

- No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- The PP shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.
- The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- A copy of the clearance letter shall be sent by the PP to concerned Panchayat, ZillaParishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- The PP shall also upload/submit six monthly reports on Parivesh Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail.
- The PP shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in

two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.

- The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

STANDARD TERMS OF REFERENCE 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 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, copy of the latest CTO and status of compliance of Consent to Operate for the ongoing/existing operation of the project from SPCB shall be attached with the EIA-EMP report.
 - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4) Site Details

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

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

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable)
- ii. Land-use map based on High resolution satellite imagery of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*)
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the PP shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
- vii. Recommendations and NOC from the concerned State/UT Coastal Zone Management Authority on CRZ angle

6) Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
 - AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO₂, NO_x, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests. Study should indicate minimum, maximum value of different parameters for the period (3 months) collected. Collected data should be supported by the reference data of either CPCB or SPCB. AAQ data & GLC of pollutants from stack emissions should suggest technology/ measures- Best Practiced Technology (BPT) indicating best achieved results.
- ii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iii. Surface water quality of nearby River (100m upstream and downstream of discharge point) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- iv. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC, if yes give details.
- v. Ground water monitoring at minimum at 8 locations shall be included.
- vi. Noise levels monitoring at 8 locations within the study area.
- vii. Soil Characteristic as per CPCB guidelines.
- viii. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- ix. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- x. Socio-economic status of the study area.

7) Environment Impact and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality Modelling – in case of discharge in water body
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled

and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules 1986.

- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8) Occupational health

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

9) Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest

- norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
- iv. Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
- v. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

10) Corporate Environmental Responsibility (CER)

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

11) Additional studies/Measures to be considered

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

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

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

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

1. Details on solvents to be used, measures for solvent recovery and for emissions control.
2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, other process-specific pollutants* like NH₃*,chlorine*,HCl*,HBr*,H₂S*,HF*,*etc.*,(*-as applicable)
4. Work zone monitoring arrangements for hazardous chemicals.
5. Detailed effluent treatment scheme including segregation of effluent streams for units adopting 'Zero' liquid discharge.
6. Action plan for odour control to be submitted.
7. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
8. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
9. Action plan for utilization of MEE/dryers salts.
10. Material Safety Data Sheet for all the Chemicals are being used/will be used.
11. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
12. Details of incinerator if to be installed.
13. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
14. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.

C. SPECIFIC TERMS OF REFERENCE FOR EIA STUDIES FOR 4(D) CHLOR-ALKALI INDUSTRY

1. Details on demand of the product – chlorine and its associated products.
2. Details on raw materials used in the production of chlorine (sodium chloride, potassium chloride, etc.), its storage and handling.
3. Details of proposed source-specific pollution control schemes (salt washing, filtration, cell ventilation as, chlorine handling and safety, etc.) and equipments to meet the national standards.
4. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.
5. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
6. Details on products to be made and handling—chlorine, caustic soda, etc.
7. Details on tail gas treatment.
8. Details on requirement of energy and water alongwith its source and authorization from the concerned department.
9. In case of modernization of existing mercury based chlor-alkali plants with membrane cell Process (MBCP) industries or new unit in the existing industry premises, remediation measures adopted to restore the environmental quality of the ground water, soil, crop, air, etc., are affected due to salinity and a detailed compliance to the prior environmental clearance/ consent conditions.
10. Details on ground water quality and surface water quality of nearby water sources and other surface drains. The parameters of water quality may include Residual chlorine*, TDS*, alkalinity*, pH* &Mercury* (in water & sediment), etc. (*- As applicable)
11. Details on existing ambient air quality and expected, emissions for PM10, PM2.5, SO2*, NOx*, CO2*, CO*, Chlorine*, acid mist* etc., and evaluation of the adequacy of the proposed pollution control devices to meet standards for point sources and to meet AAQ standards. (*-As applicable))
12. Specific programme to monitor safety and health protection of workers.
13. Risk assessment using advanced/latest models should also include leakages and location near to caustic soda plant & proposed measures for risk reduction
14. Details of the emergency preparedness plan for chlorine/ Hydrogen storage, handling and transportation and on- site and off- site disaster management plan.
15. Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to be spelled out. Proposed mitigation measures also needs to be analysed and submitted for further appraisal of the EAC.

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

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

8.	Shri Dinabandhu Gouda Additional Director, DH IPC-I, Room No. 309A, Third Floor, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi – 110032 E-mail: dinabandhu.cpcb@nic.in	Member
9.	Dr. M. Ramesh Scientist 'E' Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Room No. A-233, Agni Wing, Jor Bagh Road, New Delhi-110003 Tel. 011-20819249 E-mail: ramesh.motipalli@nic.in	Member Secretary

MOM approved by



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