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

Dated: 07.07.2023

MINUTES OF THE 53rd EXPERT APPRAISAL COMMITTEE (INDUSTRY-3 SECTOR) MEETING HELD ON 14th-16th June, 2023

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

Time: 10:30 AM onwards

(i) Opening Remarks by the Chairman

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

(ii) Details of Agenda items by the Member Secretary

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

(iii) Confirmation of Minutes of the 52nd EAC Meeting and Agenda No. 49.20

The EAC noted that the final minutes of the 52nd EAC meeting held on 30-31 May, 2023 were issued after incorporating the comments offered by the members and approved by the Chairman. The EAC confirmed the MoM with the following modifications (52.15 & 52.16) based on the request of the Project Proponents (PPs).

Agenda No. 52.15

Proposed Expansion of the Specialty Chemicals (Organic Products) Production Capacity: 2955 MT/Annum to 3020 MT/Annum and no change of Inorganic Products Production Capacity: 60300 MT/Annum & CPP in existing unit located at Plot Nos. 2, 4 to 13, 14/1, 2, 3, 19, 20 to 58, Surat Navsari Road, Village: Bhestan, Tehsil: Chorasi, District: Surat, Gujarat by M/s. Navin Fluorine International Ltd. - Consideration of EC

[Proposal No. IA/GJ/IND3/429642/2023; File No. IA-J-11011/181/2022-IA-II(I)]

1. The proposal was recommended by the EAC in its 52nd Meeting held on 30th-31st May, 2023 and the MoM were published on 12.6.2023. Subsequently, the PP vide e-mail dated 14.6.2023 requested the following modification in the MoM:

Point No. of EAC Recommendation	As recommended in the MoM	Correction Required	Remarks
Specific Condition (i) at Page no. 126	The PP shall develop Greenbelt over an area of at least 2,45,861.3 m^2 by planting 69066 number of trees within a period of one year of grant of EC.	The PP shall plant additional 6907 nos. of tree plantations within the existing greenbelt area of 2,45,861.3 m^2 in the plant premises within a period of one year of grant of EC	The PP has already developed green belt in an area of 2,45,861.3 m^2. The extra plantation will be done in the existing green belt area to increase the density.

2. The EAC deliberated on the above and recommended the same with the above remarks.

Agenda No. 52.16

Proposed synthetic organic chemical manufacturing Unit of production capacity 1007 MTPA located at plot No. 81- E, Jigani I Phase Industrial Area, Jigani village, Jigani Hobli, Anekal Taluka, Karnataka by M/s Roshel Omkar Laboratories Pvt. Ltd. - Consideration of EC

[Proposal No. IA/KA/IND3/425271/2023; File No. IA-J-11011/227/2022-IA-II(I)]

1. The proposal was recommended by the EAC in its 52nd Meeting held on 30th-31st May, 2023 and the MoM were published on 12.6.2023. Subsequently, the PP vide e-mail dated 15.6.2023 requested the following modification in the MoM:

Point No. of the MoM	As per the MoM	Correction Required	Remarks
No.3 at Pg No.129	List of by-products were missing in the MoM.	List of by-products shall be added in the MoM.	Typographical error and factual in nature

The details of by-products and their capacity are as under:

S. No.	Name of the product	Name of the By-Product	Quantity in Kg/Day
01	Paracetamol	Spent catalyst	30 Kg
02	Salbutamol	Spent catalyst	5 Kg

03	Isoxsuprine Hydrochloride	Spent catalyst	35 Kg
04	1,3 Cyclohexane dione	Spent catalyst	30 kg
05	Pregabalin	Spent catalyst	15 Kg
06	Tamsulosin	Spent catalyst	40 Kg
07	2,4,Diamine-6-Chloropyrimidine	Spent catalyst	5 Kg
08	2,4-Diam ino pyrimid ine-3-0xide and its intermediates	Spent catalyst, Potassium chloride	10 Kg
09	TERT-BUTYL(2S) -2-(PYRIDINE-3-YL) Pl PERIDIN E-1- CARBOXYLATE	Spent catalyst	5 Kg
10	TERT-BUTYL 3-(3-M ETHYLPYRID IN-2 -YL)BENZOATE	Spent catalyst	5 Kg
Note: The quantity of By-products based on respective products being manufactured.			

3. The EAC deliberated on the above and recommended the same with the above remarks.

Agenda No. 49.20

Proposed Expansion in Dyes and Pigments Manufacturing Unit of Production Capacity 10.6 MT/Month, located at Plot No.: 729, Ankleshwar GIDC Estate, Tal: Ankleshwar, Dist: Bharuch, Gujarat by M/S. Shree Ambe Colour Chem - consideration of ToR

[Proposal No. [IA/GJ/IND3/422087/2023, File No. IA-J-11011/114/2023-IA-II(I)]

The MS apprised the EAC that while processing the above proposal in the Ministry, it was noted that although the proposal is not a violation case, the specific ToR for violation proposals were also recorded in the MoM, which is a typographical error. The EAC endorsed the same and recommended that the specific ToR no. (i) to (ix) for violation proposals shall be deleted.

Agenda No. 53.1

Setting up Resin manufacturing unit of capacity 200 TPD at Village Hambran, Tehsil & District Ludhiana, Punjab by M/s Balaji Overseas – Reconsideration of Amendment in Environmental Clearance

[Proposal No. IA/PB/IND3/291955/2022, File No. IA-J-11011/56/2019-IA II (I)]

1. The proposal is for amendment in the Environmental Clearance (EC) accorded by the Ministry vide letter no. J-11011/56/2019-IA II (I) dated 13.10.2020 for the proposed unit of manufacturing Formaldehyde, Melamine Formaldehyde Resin, Phenol Formaldehyde Resin, Urea Formaldehyde Resin at Village Hambran, Near Murti Agro Foods, Hambran road, Tehsil & District Ludhiana, Punjab by M/s Balaji Overseas.

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	Detail as per EC Granted	To be revised/read as	Justification for amendment
1.	Total water requirement is estimated to be 258 cum/day, which includes fresh water requirement of 244 cum/day, proposed to be met from surface water (Kotli Miner 2-R Rajwaha Burji 9200 left side). Permission has been obtained	Use of surface Water with permission	Use of Ground water with permission	In the EIA/EMP report and the EC grant order, of the total water requirement of 258 cum/day, the fresh water 244 cum/day is to be met from surface water (Condition no. 12 (vii)) of Kotle Minor 2-R Sirhind canal for which necessary permission has already been obtained. Sirhind canal and the various miners originating from it are the major source of irrigation in the Malwa region of Punjab. It is highly likely that surface water from the Kotla miner may not be available for industrial use all around

S. No.	Particulars	Detail as per EC Granted	Additional detail for Amendment in EC	Detail after amendment
GENERALS				
1.	Land Area in acre	1.82	No Change	1.82
2.	Cost of the project	Rs 4.0 Cr.	No Change	Rs 4.0 Cr.
3.	Formaldehyde (37%)	100TPD	No Change	100TPD
4.	Melamine Formaldehyde Resin	42.5TPD	No Change	42.5TPD
5.	Phenol Formaldehyde Resin	15.0TPD	No Change	15.0TPD
6.	Urea Formaldehyde Resin	42.5TPD	No Change	42.5TPD
7.	Fresh Water Requirement	244KLD	No change	244KLD
8.	Source of water	Surface water	Ground water	Ground water

3. The proposal was earlier considered in the 41st EAC meeting held on 31st October-1st November, 2022 wherein the EAC deferred the proposal for want of requisite information. Reply to the same was submitted by the PP, which is as follows:

S. No.	Queries Raised by EAC	Reply by the PP	Observation of EAC
1.	The PP needs to first comply the greenbelt condition (@2500 per hectare) and submit the details of green belt developed/number of trees	1. Kono karplus = 120 2.Arjun = 35 3. Shisham = 35 4. Rakhi beil = 50 5. Sat patia = 50 6. Neem = 20 7. Dig = 35 8. Kachnar = 25 9. Safeda- 200 10. Chakrasia = 40 11. Kajrina = 50 12. Raat rani = 50	The EAC found the reply submitted by the PP satisfactory.

<table>
<tr><td></td><td>along with aerial photographs and video and with time bound action plan for proposed greenbelt in consultation with forest department.</td><td>13. Phycus = 50
14. Silver oak = 40
Total = 800 pc.</td><td></td></tr>
<tr><td>2.</td><td>Revised layout by revising the green belt plan</td><td>To increase the tree density beyond 2500 trees/ha, the width of green belt along the boundary will be increased accordingly.</td><td>The EAC found the reply submitted by the PP satisfactory.</td></tr>
<tr><td>3.</td><td>Details of rain water harvesting (roof top) proposed and accordingly, revised water requirement and water balance</td><td>
<table>
<tr><th>S. No.</th><th>Particulars</th><th>Catchment area in m^2 (A)</th><th>Runoff Coefficient (C)</th><th>Average Annual Rainfall</th><th>Discharge (m^3/annum) A*C*I= D</th></tr>
<tr><td>1.</td><td>Rooftop area</td><td>632.23</td><td>0.90</td><td>0.7</td><td>398</td></tr>
<tr><td colspan="5">Total</td><td>398</td></tr>
</table>
Rain water to be collected in a day – 398/90= 4.4KLD
Volume to be constructed for storage of water= 110m^3
Therefore, the capacity of the tank is sufficient to store the rain water for 25 Days. The water collected in tank will be treated through RO plant and then used in the process and utilities.
Water balance has been submitted. In case of steam condensation, the condensate will be contaminated with Formaldehyde to the extent upto 0.2% which will result in additional cost for further treatment and subsequent utilization.</td><td>The EAC found the reply submitted by the PP satisfactory</td></tr>
<tr><td>4.</td><td>Carbon footprint</td><td>The carbon footprint due to abstraction of groundwater may mainly be contributed by the energy consumption,</td><td></td></tr>
</table>

	details due to change in the source of water.	which is produced by using fossil fuel or any other fuel, to operate the submersible pump. In the present case, fresh water requirement will be 244KLD, which will be met by abstracting the ground water with the help of the submersible pump. The Govt. of Punjab is encouraging to install solar pumps for abstraction of groundwater. Therefore, the unit shall install solar energy based pumping system for abstraction of groundwater, as such, no energy produced with fossil fuel or any other fuel, will be used for abstraction of groundwater. Thus, there will not be any carbon footprint due to energy consumption for abstraction of groundwater.	

4. **Deliberations by the EAC**:

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

The EAC inter-alia, deliberated on the water balance, greenbelt development plan, carbon footprint due to change in source of water and advised the PP to submit the following:

- Revised water balance in case of steam condensation, the condensate will be contaminated with formaldehyde to the extent upto 0.2% recovery
- Carbon footprint due to change in source of water
- Details of greenbelt.

The PP submitted the revised/updated information/documents of the same and the EAC found it to be satisfactory.

5. After detailed deliberations, the EAC **recommended** the amendment in EC, subject to the following additional conditions:

(i) The total water requirement shall be 258 KLD in which fresh water requirement shall be 244 KLD, which shall be met from Ground water. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from the 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.

(ii) The PP shall develop Greenbelt by planting 2500/ha number of saplings within a period of one year from the grant of EC Amendment. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m) and 2 rows of trees along the boundary shall be planted. The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with

proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

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

(iv) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The Project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

Agenda No. 53.2

Setting up of Synthetic Organic Chemicals manufacturing plant at Pot No. C-1/340, Phase-I, G.I.D.C., Vatva, Ahmedabad by M/s Supreme Chemical Industries - Amendment in Environmental Clearance

[Proposal No. IA/GJ/IND3/293452/2022, File No. IA-J-11011/221/2023-IA-II(I))]

1. The proposal is for amendment in the Environmental Clearance (EC) granted by the SEIAA vide letter no. SEIAA/GUJ/EC/5(f)/590/2019 dated on 10th April, 2019 for the synthetic organic chemical manufacturing unit located at Plot No.: C-1/340, Phase No: II,GIDC-Vatva, Ahmedabad-382 445, Gujarat in favour of M/s. Supreme Chemical Industries.

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

Para of EC issued by MoEF&CC	Details as per EC	To be revised / read as	Justification reason
Condition no. A.1 (4), Page 1 :	Unit shall send waste water to common spray dryer only after achieving inlet norms to common spray dryer prescribed by GPCB ensuring content of effluent for COD so as not to get air borne during spray drying in order to achieve no adverse impacts on Environment and human health.	Unit shall send wastewater to CETP of M/s. Green Environment Services Co. Op. Society Ltd., Vatva for further treatment only after achieving inlet norms of CETP prescribed by GPCB.	**Due to change in MODE of Disposal from ZLD to CETP Vatva.**

Condition no. A.1 (5), page 1	Complete zero liquid discharge (ZLD) status shall be maintained all the time and there shall be no drainage connection from the premises.	Treated effluent shall be sent to CETP of M/s. Green Environment Services Co. Op. Society Ltd., Vatva for further treatment.	**Due to change in MODE of Disposal from ZLD to CETP, Vatva.**
Condition no. A.2 (11) under water act, page 2	Total water requirement for the project shall not exceed 85 KLD. Unit shall reuse 44 KLD of treated wastewater for process washing and boiler make-up. Hence, fresh water consumption shall not exceed 41 KLD & it shall be met through GIDC water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	Total water requirement for the project shall not exceed 85 KLD. Unit shall reuse 3 KLD treated domestic effluent for greenbelt maintenance outside the periphery of project. Hence, fresh water consumption shall not exceed 82 KLD & it shall be met through GIDC water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	**Due to change in MODE of disposal from ZLD to CETP Vatva, there will be reduction in reuse of water. The Unit will install modular STP for sewage treatment. The treated water will be reused in greenbelt.**
Condition no. A.2 (13) under water act, page 2:	Entire quantity of effluent (55 KLD) shall be treated in primary ETP followed by RO plant	Entire quantity of effluent (55 KLD) shall be treated in primary ETP followed by CETP discharge.	**There is change in the MODE of effluent discharge from ZLD to CETP discharge due to economical unviability.**
Condition no. A.2 (14) under water act, page 2: :	RO permeate of 44 KLD shall be reused within plant premises.	This condition will not be applicable.	**RO treatment is removed from effluent treatment.**
Condition no. A.2 (15) under water act, page 2: ::	RO Reject of 14.5 KLD shall be sent to common spray dryer of M/s. Chhatral Enviro management System P. ltd., Chhatral for further treatment and disposal	This condition will not be applicable.	**RO treatment is removed from effluent treatment. So, No RO reject will be generated.**
Condition no. A.2 (16) under water act, page 2: :	Unit shall provide adequate buffer storage facility to store waste water before	Unit shall provide adequate buffer storage facility to store waste	**Due to change in MODE of Disposal from**

	sending to common spray dryer	water before sending to CETP, Vatva	**ZLD to CETP Vatva.**
Condition no. A.2 (17) under water act, page 2:	Domestic wastewater generation shall not exceed 4 KLD and it shall be treated in soak pit / septic tank and the overflow shall be sent to ETP for further treatment	Domestic wastewater generation shall not exceed 4 KLD and it shall be treated in STP and the treated water shall be reused in greenbelt maintenance outside the periphery of project.	**After this proposed amendment unit will provide modular STP to treat domestic effluent.**
Condition no. A.2 (18) under water act, page 2:	The unit shall provide metering facility at the inlet and outlet of the ETP, RO, discharge line, reuse line and maintain records for the same.	The unit shall provide metering facility at the inlet and outlet of the ETP, discharge line to CETP, reuse line and maintain records for the same.	After this proposed amendment the unit will remove RO from the effluent treatment and the final discharge of industrial effluent will be CETP, Vatva.
Condition no. A.2 (19) under water act, page 2:	Proper logbooks of ETP, RO, chemical consumption, quantities and qualities of effluent discharge, reuse, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Proper logbooks of ETP, chemical consumption, quantities and qualities of effluent discharge, reuse, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	After this proposed amendment the unit will remove RO from the ETP unit.

3. **Deliberations by the EAC**:

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

The EAC inter-alia, deliberated on the greenbelt development plan, STP for domestic effluent, reuse of treated water from CETP and advised the PP to submit the following:

- Letter specifying the area and budget for greenbelt development outside the premisesand undertaking for the greenebelt developed as per the existing EC.
- STP for domestic effluent treatment and explore the possibility to reuse the treated water.

- Explore the possibility to reuse the treated water from CETP.

The PP submitted the revised/updated information/documents of the same and the EAC found it to be satisfactory.

4. After detailed deliberations, the EAC **recommended** the amendment in EC, subject to the following additional conditions:

(i) The PP shall develop Greenbelt over an area of 232 m^2 after the grant of EC Amendment. before the commencement of the production. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget Rs. 1,97,200 Lakhs earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

(ii) Modular STP of 5KLD capacity shall be installed for the treatment of 4KLD sewage generated. Treated water shall be reused in the greenbelt outside the periphery of the project. PP shall explore the possibility to reused the treated water from CETP.

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

(iv) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The Project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

Agenda No. 53.3

Setting up of a pesticide and pesticide intermediate manufacturing Units (Unit–I & II) at plot No. CH-21 (Dahej-1) and D3/1/1 (Dahej-3), G.I.D.C Estate, Dahej, Tehsil – Vagra, District Bharuch, Gujarat by M/s Insecticides India Limited – Amalgamation of Environmental Clearances

[Proposal No. IA/GJ/IND3/296777/2023; File No. J-11011/991/2008-IA II (I) & J-11011/192/2018-IA II (I)]

1. The proposal is for amalgamation and amendment in the Environmental Clearance (EC) granted by the Ministry to Insecticide India Ltd. (Unit-I) and Insecticide India Ltd. (Unit-II) vide letter

no. J-11011/991/2008-IA II (I), dated 17.03.2009 and J-11011/192/2018-IA II (I), dated 27.12.2019, respectively, for the projects of Pesticide and Pesticide Intermediates manufacturing plant located at Plot No. CH-21 & D-3/1/1, Dahej Industrial Estate, Tehsil: Vagra, Dist. Bharuch, Gujarat in favour of M/s. Insecticide India Ltd. (Unit-I).

2. The project proponent has requested for amendment in the ECs with the details as under:

Sr. No.	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/read as	Justification/ reasons
1.	--	--	The Proposal is for amalgamation and amendment of ECs of Insecticide India Ltd. (Unit-I) (Plot no. CH-21) and Insecticide India Ltd. (Unit-II) (Plot no. **D3/1/1**) by M/s. Insecticide India Ltd. (Unit-I)	Both the ECs are granted by MoEFCC, New Delhi for production of Technical Pesticide & Pesticide Specific Intermediates. Both the units are in the same name with same ownership. Both the land is owned by one owner **Insecticide India Limited.** Local Electricity Authorities did not agree to give separate electricity connection. Amalgamation will facilitate more scientific & effective EMS and operation of Plants and also minimize administrative problems. GIDC authority has already issued letter of amalgamation of plot No. **CH-21 & D-3/1/1** at Dahej Industrial Estate

3. **Deliberations by the EAC**:

The EAC inter-alia, deliberated on the Greenbelt development plan, layout, fuel, cumulative impacts and details of amalgamation, carbon sequestration study and sought the following requisite information/documents:

(i). Detailed greenbelt plan along with budgetary allocation for completion of greenbelt in one year after amalgamation. Action plan for high carbon sequestration species trees in the greenbelt needs to be submitted.

(ii). Layout plan with the requisite green belt for the proposed project.

(iii). Undertaking for use of Biomass as primary fuel.

(iv). The details of amalgamation. i.e physical changes, fuel, water, additional interventions etc.

(v). Details of reduction in the environmental parameters (emission, fuel, water, carbon footprint etc.) due to the proposed amalgamation.

(vi). The details of carbon foot prints and carbon sequestration study w.r.t. proposed project. Proposed mitigation measures also needs to be submitted for further appraisal of the EAC.

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

Agenda No. 53.4

Proposed expansion of Synthetic Organic Chemicals manufacturing facility by Debottlenecking of existing plants and establishing new plant by, Plot No. C-93, C-93 Part, C-GEN-20, 20A,20B, C-GEN-20, 20A,20B PART, TTC Industrial Area, Navi Mumbai, Dist. Thane, Maharashtra by Lubrizol India Pvt. Ltd. – Consideration of ToR (under violation category)

[Proposal No. IA/MH/IND3/412443/2023; File No. IA-J-11011/221/2023-IA-II(I))]

1. The proposal is for the ToR for preparation of EIA/EMP (**under violation category**) for the proposed expansion of Synthetic Organic Chemicals manufacturing facility by Debottlenecking of existing plants and establishing new plant by, Plot No. C-93, C-93 Part, C-GEN-20, 20A,20B, C-GEN-20, 20A,20B PART, TTC Industrial Area, Navi Mumbai, Dist. Thane, Maharashtra by Lubrizol India Pvt. Ltd.

2. The project/activity is covered under Category '**B**' of item 5(f) **Synthetic Organic Chemicals** of Schedule of Environment Impact Assessment (EIA) Notification. 2006 (as amended). However, since the **project site is located within a Critically Polluted Area (CPA),** the project attracts the general conditions and is considered as Category '**A'** at Centre.

3. The PP applied for the ToR vide proposal number No. IA/MH/IND3/412443/2023 dated 3.2.2023. The proposal is now placed in 53rd EAC Meeting held on14th-16th June, 2023, wherein the PP and an accredited Consultant, M/s Aditya Environmental Services Pvt. Ltd [Accreditation number –NABET/EIA/2225/RA 0262 Valid up to 18.10.2023] 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:

Name of Product	Existing	Proposed add.	Total in post expansion
	Quantity in MT/Month		
ZDDP and Its Derivatives	408	292	700
Detergents and Its Derivatives	938	562	1500

High Base Phenate and Its Derivatives	635	103	738
Magnesium Sulphonate and Its Derivatives	409	66	475
Dispersant and Its Derivatives	1118	1383	2501
Crude Flow Improver and Its Derivatives	104	0	104
DA- Dispersant and Its Derivatives	0	467	467
Salicylate	0	1300	1300
Sub total	**3612**	**4173**	**7785**
Blended products	4300	2967	7267
Relabelling and Repacking	0	1000	1000
By products			
Sodium Hydrogen Sulphide solution (Up to 35%)	291	131	422
33% Hydrochloric Acid	206	256	462

5. The PP reported that the total plot area is 144230.3 sq. m. and no R&R is involved in the Project.

6. The PP reported that LIPL enhanced production capacity in Year 2011 from 4300 to 5000 TPM including blended products after obtaining consent dated 08.11.2011 from MPCB. After violation, the PP has applied for CTO amendment (application no. MPCB-CONSENT-AMMENDMENT 0000007315, dated 18th October, 2021) for restricting the production at 4300 TPM i.e., capacity pre-EIA notification, 2006.

7. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, and Wildlife Corridors etc. within 10 km distance from the project site. Thane Creek Flamingo Sanctuary is located approx. 5.94 km to west from proposed project.

8. The PP reported that the total water requirement is 1598 cmd of which fresh water requirement is 954 cmd that will be met from MIDC and the balance (644 cmd) will be met by recycling condensate and treated domestic water. Trade effluent of 260 cmd will be treated through Effluent Treatment Plant comprising of Primary, Secondary and Tertiary units. Treated effluent of 260 cmd will be discharged to CETP as against granted discharge of 635 cmd. Domestic sewage (90 cmd) will be treated in STP and will be used in the green belt.

9. The PP reported that the Existing Power requirement will be 8723 KW and proposed additional power requirement will be 1477 KW. These will be sourced from MSEDCL grid. Existing 2 nos. of 1010 KVA capacity DG sets each (HSD- 209 Kg/Hr for each) will be used as emergency backup. In existing facility, Boiler of 10 TPH, 12 TPH and 20 TPH (Fuel- Natural gas/ Biofuel/ LSHS/ LDO based), Thermic Fluid Heaters of 10 and 20 Lakh Kcal/Hr, respectively, (Fuel- Natural gas/ LDO) are installed. 2 nos. of natural gas-based flare systems are installed.

10. The PP reported that the project, being in notified industrial area i.e., TTC Industrial area, vide Notification No. IDL. 2364/44619- IND –I dated 23.3.1965 is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA. II(I) dated 27.04.2018.

11. Industry has already developed a green belt over an area of 35409.93 sq. m within the plot. Industry has developed a green belt along MIDC road outside plot on area of 3920 sq. m. Industry has also made agreement with Navi Mumbai Municipal Corporation (NMMC) for development of green belt on Parsik Hill over an area of 24281.14 sq. m. Total greenbelt area will be developed on 44.1% of total plot area i.e. 63611.07 sq. m [within plot: 35409.93 (24.5%) + along MIDC road outside plot: 3920 (2.7) + on Parsik Hill outside plot: 24281.14 (16.8%)]

12. The estimated project cost is Rs. 90 Crores in addition to existing investment of Rs. 352.8691 Crores. Total Employment will be 930 persons (Existing- 850 & Proposed add. -80) as direct & indirect.

13. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the Greenbelt development plan, and the action plan proposed by the PP being located in CPA and advised the PP to submit the detailed Greenbelt Development Plan and compliance of OM dated 31.10.2019. The PP submitted the same and the EAC found it to be satisfactory.

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

(i). The PP shall follow the Standard Operating Procedure (SoP) issued by the Ministry on 07.07.2021 for handling of violation cases under EIA Notification, 2006.

(ii). The PP shall complete the impact assessment studies & submit Environmental Impact Assessment (EIA) report & Environmental Management Plan (EMP) (Damage Assessment, Remedial Plan and Community Augmentation Plan) in a time bound manner.

(iii). Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR).

(iv). The EMP shall comprise of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

(v). The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter (13) in the EIA report by the accredited consultants.

(vi). The budget for the remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be adequate and shall be used for completing the plans within three years.

(vii). The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.

(viii). The penalty amount shall be calculated as per provision of SOP dated 07.07.2021 (i.e. 1% of the total project cost incurred up to the date of filing of application along with EIA/EMP report PLUS 0.25% of the total turnover during the period of violation) with supporting documents. In addition to this, actual production vis-a-vis CTO capacity financial year wise in a tabular format with supporting documents.

(ix). The State Government/SPCB shall take action against the project proponent under the provisions of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC

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

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

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

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

(xiv). The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.

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

(xvi). Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.

(xvii). Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.

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

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

(xx). The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.

(xxi). The PP should develop Greenbelt over an area of 44.1% of total plot area i.e. 63611.07 sq. m [within plot: 35409.93 (24.5%) + along MIDC road outside plot: 3920 (2.7) + on Parsik Hill outside plot: 24281.14 (16.8%)] and shall be completed within 1 year, accordingly plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. Pnat species considering 80% survival rate shall be planted with a spacing of 2 m x 2 m.

(xxii). Plan for development of the green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted.

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

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

(xxv). The action plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources.

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

(xxvii). The PP shall prepare a detailed rain water harvesting plan so as to ensure that unit will become water positive i.e. able to recharge the quantity equivalent to fresh water requirement of the plant or use only re-charged/restored water as a fresh water requirement.

(xxviii). Detailed solvent recovery/solvent management plan

(xxix). Detailed Volatile Organic Compounds (VOCs)/Fugitive emissions control plan

Agenda No. 53.5

Manufacturing of Paper Sizing Chemical (Alkenyl Succinic Anhydride (ASA)) in the existing Paper Sizing Chemicals Manufacturing Unit located at Sy. No. 11, 16 & 18, Gumpam Village, Pusapatirega Mandal, Vizianagaram District, Andhra Pradesh by M/s IVAX Paper Chemicals Limited – Consideration of EC

[Proposal No. IA/AP/IND3/419302/2023; File No. IA-J-11011/140/2022-IA-II(I)]

The PP apprised the EAC that the Ministry vide O.M. dated 13.4.2023 has clarified that even though ASA is technically a synthetic organic chemical, however, considering its low environmental impact potential, it shall not attract the provisions of EIA Notification, 2006 requiring prior EC, provided that the above-said chemical is not part of a product mix which also contains other chemical(s) requiring prior EC. Since, the above project is fulfilling this criteria, it is requested to confirm the non-requirement of EC.

The EAC noted that as mentioned in Para 2 of the said O.M., it had appraised the subject matter in detail in the 34th and 39th meetings held in July, 2022 and September, 2022 respectively based on the request of this PP for the above project. Hence, the said O.M. is applicable for the above project and EC is not required. However, as mandated in the said O.M., other requisite clearances, as applicable, under the provisions of the Air Act, 1981 and Water Act, 1974 etc. shall be obtained.

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

Agenda No. 53.6.

Clarification on the applicability of Environment Clearance for Green Hydrogen and Green Ammonia Projects.

1. The proposal was earlier considered in the 48th EAC meeting held on 9th -10th & 13th March, 2023, the MoM of which are as follows:

"M/s ReNew Power, IGH$_2$PA, ESSAR, IOCL have submitted their justification/understanding regarding the requirement of Prior EC for proposed Green Hydrogen and Green Ammonia Projects and sought clarification of the same from MoEF&CC. Accordingly, the matter was placed before the EAC, wherein the PPs (M/s ReNew Power, ESSAR and IOCL) made a presentation on the production process, environmental parameters etc., the brief of which are as follows:

IOCL (The proposed Green Hydrogen will be used as a fuel for the existing Panipat Refinery, for which ECs were issued earlier):

- Utilisation of Green Hydrogen in refineries is an environmental improvement project being implemented to meet Government of India's National Green Hydrogen Mission - January, 2023 and is in line with the national policy. Additionally, in the Environmental Clearance dated 03.12.2021 for the project "Panipat Refinery Capacity Expansion from Existing 15 MMTPA to 25 MMTPA within the Existing Refinery Complex", IOCL committed to comply with the policy of Government on Green Hydrogen.
- The Capacity of the Green Hydrogen plant proposed in Panipat Refinery and Petrochemical complex is 7 KTA. The land required for the proposed project is 20 acres and the greenbelt area proposed for the proposed project is 1.5 acres. The water requirement of 80 m^3/hr will be sourced from irrigation canal.
- The process involves producing green hydrogen by electrolysis from renewable sources which involves breaking down water molecules (H_2O) into oxygen (O_2) and hydrogen (H_2). The power requirement of 56 MW will be met from renewable power source (hybrid renewable power comprising of Solar and Wind Power plants) via CTU.
- The process utilities are as follows:

Cooling water	For cooling the electrolyser as electrolysis is an exothermal reaction via exchangers embedded in the EPU.
Chilled water system	To cool gases and condense the main fraction of the water content in each electrolyser and in the PDU.
Demineralized water production system	As a feedstock for the electrolysis reaction from raw water. By-product is either brine or usable water; ion concentration of the effluent depends on the raw water quality. DM water is then stored in a tank before being pressurized and injected into the electrolyser.
Instrument air system	Necessary for the actuation of the pneumatic valves.
Nitrogen system	For the system start-up, commissioning and during maintenance only, for purging and flushing purposes. The electrolyser operates in normal operation, hot-standby state or cold stand-by without nitrogen consumption
KOH storage and pumping system for	This consists of the equipment necessary to store and handle the electrolyte (KOH - potassium hydroxide) 30%-wt solution. This system is used during the lifetime of the unit to fill or replace the KOH electrolyte. It is composed of KOH tanks for the used

Alkaline Electrolysers	electrolyte and of a second tank for preparing and injecting the new electrolyte. A dedicated pump is used to transfer the electrolyte to the electrolyser module.

- Wastewater to the tune of approximately 15 m^3/hr is estimated to be generated from the plant which shall be treated in ETP followed by RO plant and the reject shall be processed in upcoming ZLD plant. There shall be no gaseous emissions during production of green hydrogen.

ReNew Power (Green Ammonia will be sent to fertilizer plants (export/domestic) as a raw material)

- ReNew Power has always been at the forefront of innovation and has expanded its business foraying into new age clean energy solutions, including Green Hydrogen-based Standalone Ammonia projects in India.
- Green ammonia is produced using nitrogen and green hydrogen. Green hydrogen is produced through electrolysis of water using renewable electricity. Thus, this technique of producing green hydrogen and its derivatives is a carbon-free method.
- Most of the Ammonia is traditionally produced through Hydrogen by breaking down hydrocarbons followed by reaction of Hydrogen with Nitrogen (Steam Methane Reforming Process), which leads to high carbon and effluent emissions. Such Ammonia is called Grey Ammonia, whereas, Green Ammonia is an innovative technique of producing Ammonia using Green Hydrogen, which is produced through electrolysis of water using renewable energy (solar, wind & small hydel projects). Thus, Green Ammonia production technique involves zero GHG emissions and limited effluent discharges than Grey Ammonia.
- The proposed green ammonia facility will be a Standalone Ammonia Production facility. Environmental clearance may not be required as ammonia is an intermediate inorganic chemical, and it is input to fertilizers and not a fertilizer itself. Moreover, as per EIA Notification 2006 and amendments thereof, standalone ammonia project is not included in the schedule of projects/activities which require environmental clearance.
- Government of India under its National Green Hydrogen Mission (Jan. 2023) has announced massive support & incentives for green hydrogen and its derivatives, including ammonia. Hence, Green ammonia production is thus expected to grow exponentially in India and a standardized & fast permits/clearances mechanism is required to be set in order to ensure faster project execution.

Essar (Green Ammonia will be exported to Essar's facilities in the UK — EOUK & Vertex Hydrogen)

- India's Green Hydrogen Policy is a major enabler to help India reach its climate targets and become "A global hub for Green Hydrogen and Green Ammonia production." The objective is for our country to emerge as an export Hub for Green Hydrogen and Green Ammonia. Development of green hydrogen/green ammonia will also ensure substantial energy security for the country.

- EET Future Energy Limited (EET FE) is planning to setup a 100% export oriented, 1GW electrolyser capacity & 2200 TPD Ammonia Project generating Green Hydrogen (150,000 MTPA), & Green Ammonia 800,000 MTPA at Salaya, Near Jamnagar, Gujarat as part of Phase — 1 fully owned by Essar Group. The entire Green Ammonia produced will be exported to Essar's facilities in the UK — EOUK & Vertex Hydrogen. The associated renewable power capacity (Solar + Wind Hybrid) is estimated to be —4.4 GW and is proposed to be developed along with reputable RE Developer. This would be one of the earliest firm Green Hydrogen projects in India that is fully integrated with downstream captive markets.

Deliberations by the EAC:

The EAC inter-alia, noted that the issues of hazards for green ammonia may not be greener, these may be similar to that of black or grey ammonia. It is incorrect to state that ammonia is not a fertilizer. Ammonia is also a fertilizer, except that its use requires adequate preacautions due to its toxic nature.

Regarding exporting of green ammonia, the EAC opined that, why produce in India and export to UK, why not produce in UK and use in UK to reduce carbon footprint and cost? The proposed shipment from the place of manufacture (near sea-coast) to far of places will require use of tankers propelled by diesel oil leading to add to carbon foot-print. *Proper assessment of carbon foot print shall have to be done.*

There is no indigenous capability for making electrolysers. The country will be depending on import of foreign technology and units and their components. The membranes used in electrolysers are patented items.

On cloudy days/during rains and during night, the solar power conversion to electricity will be quite low and may not be sufficient eough for the electrolysers to operate, thus grid power from TPP may be required. The output from wind mills too will be variable. *All such limitations require proper and careful assessment.*

The basic information on various aspects (techno-economic feasibility report, raw materials, material balance, water balance, electrolysers, energy consumption, possible environmental and hazard issues etc.) are yet to be properly analysed, for an assessment w.r.t the environmental impact/requirement of EC.

Further, considering the impact on the sea microbiota and other species, and since the sea water too will have to be conditioned to make it suitable for electrolyser, usage of treated wastewater as a feed shall be examined. The Life Cycle Analysis of the Projects are also required.

The EAC sought the above information/documents, for further deliberations".

2. ReNew Power and ESSAR had submitted their reply to the above observations of the EAC and accordingly, the subject matter is considered in this meeting, wherein the PPs had inter-alia, submitted the following:

Earlier observation of EAC	Reply by ReNew Power	Reply by Essar
The EAC inter-alia, noted that the issues of hazards for green ammonia may not be greener, these may be similar to that of black or grey ammonia. It is incorrect to state that ammonia is not a fertilizer. Ammonia is also a fertilizer, except that its use requires adequate preacautions due to its toxic nature.	❖ Greener aspect of green ammonia lies in the method of production, which typically involves using renewable energy sources and green hydrogen, resulting in negligible carbon emissions and environmental impact. ❖ Green ammonia itself is not directly used as a fertilizer, its production and utilization as a feedstock for sustainable fertilizer manufacturing contribute to more environmentally friendly agricultural practices.	
Regarding exporting of green ammonia, the EAC opined that, why produce in India and export to UK, why not produce in UK and use in UK to reduce carbon footprint and cost? The proposed shipment from the place of manufacture (near sea-coast) to far of places will require use of tankers propelled by diesel oil leading to add to carbon foot-print.	Not applicable for this Project	National Green Hydrogen Mission Plans to make India energy-independent, decarbonise major sectors of the economy, and to turn the country into a global hub to produce, utilise and export the alternative fuel & its derivatives with a target to generate 5 MMT of Green hydrogen by 2030. India is still a supply driven market and demand side market is yet to be matured enough to utilise the green hydrogen generated from India. We are planning to use the green hydrogen generated from this Phase I project for our captive requirements in

		the Stanlow refinery, UK. The hydrogen generated from the subsequent phases will be supplied to the Indian market, with the consideration that the suitable demand is created in another 2 to 3 years.
The proposed shipment from the place of manufacture (near sea-coast) to far of places will require use of tankers propelled by diesel oil leading to add to carbon foot-print. *Proper assessment of carbon foot print shall have to be done.*	The emissions considered for Environment Clearance are on "Gate to Gate" basis as the scope of EIA study is limited to the emissions from the plant only. Further, MNRE's draft proposal on Green Hydrogen definition stipulates that the non-biogenic greenhouse gas emissions arising on Gate-to-Gate basis from Water treatment, electrolysis, gas purification and drying and compression of hydrogen shall not be greater than 2 kg CO_2 eq/kg Hydrogen for the hydrogen production from electrolysis to be eligible as Green Hydrogen. ReNew would comply with the applicable regulations. It would be worthwhile to note that the emissions from production of Green Hydrogen (GH)/ Green Ammonia (GA) projects are negligible.	We are in discussion with some shipping as well as marine engine manufacturers for the ships using green fuel such as methanol and ammonia. Though this is at preliminary stage, it is expected to gain momentum in the coming years. We would comply with any stringent regulations on the carbon emission from transportation as well though there are no stringent regulations on the transportation currently.
There is no indigenous capability for making electrolysers. The country will be depending on import of foreign technology and units and their components. The membranes used in	Looking at the Green Hydrogen ecosystem being developed in India, many companies are setting up base in India for manufacturing and plan to build giga scale factories: ▪ Ohmium – 2 GW	The electrolyser manufacturing in India is at nascent stage currently but is expected to grow at rapid pace after the announcement of SIGHT program. We are planning to use the electrolyser manufactured

electrolysers are patented items. On cloudy days/during rains and during night, the solar power conversion to electricity will be quite low and may not be sufficient eough for the electrolysers to operate, thus grid power from TPP may be required. The output from wind mills too will be variable. *All such limitations require proper and careful assessment.*	▪ John Cockerill (Belgium) – 2 GW; Partnered with Greenko to manufacture Alkaline Electrolyser ▪ L&T (Partnered with Hydrogen Pro) – 1 GW ▪ Adani is setting up a 5 GW electrolyzer manufacturing plant in India. Technology partner is Cavendish Renewable (Australian) for development of Alkaline Electrolyzer, Proton exchange membrane, Anion exchange and C Cell technology. ▪ Stiesdal – 1 GW; Partnered with Reliance New Energy ▪ Avaada – plan to set up 1 GW capacity ▪ BARC has developed the alkaline electrolyzer technology; BPCL partnered with BARC for scaling up capacity Optimal mix of Solar and Wind capacities along with required capacity of battery storage will be made available for power requirement of Green ammonia plant. Same has been covered in feasibility study submitted by ReNew.	from other countries for the first phase. Once the electrolyser manufacturing is established in India, we will start using these electrolysers manufactured out of India. We are planning to develop a Hybrid RE project (Solar+wind) to supply power to this project. Solar and wind project is designed in such a way that some amount of RE power will be available throughout the day. Further, the GOI has announced the banking of RE power for 30 days for the Green Hydrogen projects. We will oversize the RE project capacity and bank the excess power. This will be drawn when the sufficient power from the RE project is not available.
The basic information on various aspects (techno-economic feasibility report, raw materials, material balance, water balance, electrolysers, energy consumption, possible environmental and hazard issues etc.) are yet to be properly analysed, for an assessment w.r.t the	✓ Feasibility Study for the Project at Paradeep (Odisha) is carried out and the same has been provided: ❖ Part A covers the Feasibility Study for setting up Ammonia Project ❖ Part B focuses on site specific studies.	Detailed Techno-economic feasibility report for this Green Hydrogen/Ammonia Project was prepared by Fichtner Consulting Engineers and the same has been provided. The report includes Technology selection of Electrolyzer & Ammonia plant, material balance, water balance, power consumption, equipment/system

environmental impact/requirement of EC.		description, Environmental aspects, Project cost details and Financial analysis etc.
Further, considering the impact on the sea microbiota and other species, and since the sea water too will have to be conditioned to make it suitable for electrolyser, usage of treated wastewater as a feed shall be examined.	Not applicable for this Project being set up at Paradeep in Odisha. Renew will be utilizing raw water allotted by state government which will be further treated in the DM water plant inside the Green Hydrogen/Green Ammonia plant	We will try to use the treated waste water to the maximum to minimize the impact on the sea microbiota and other species. At the FEED stage we will evaluate it thoroughly.
The Life Cycle Analysis of the Projects are also required.	❖ The emissions considered for Environment Clearance are on "**Gate to Gate" basis** as the scope of EIA study is limited to the emissions from the plant only. ❖ Further, MNRE's draft proposal on Green Hydrogen definition stipulates that the non-biogenic greenhouse gas emissions arising on Gate-to-Gate basis from Water treatment, electrolysis, gas purification and drying and compression of hydrogen shall not be greater than 2 kg CO_2 eq/kg Hydrogen for the hydrogen production from electrolysis to be eligible as Green Hydrogen. ❖ ReNew would comply with the applicable regulations. It would be worthwhile to note that the emissions from production of Green Hydrogen (GH)/ **Green Ammonia (GA) projects are negligible**.	MNRE has specified the threshold carbon emissions of 2 kg of CO_2 per kg of H_2 in the Draft Green hydrogen standard to be qualified as a Green Hydrogen and is expected to be finalised shortly. The Guidelines are meant for carbon emission from the Green Hydrogen/derivatives project right from the sea water desalination plant (incase sea water is used), water treatment plant, H_2 generation process, purification, compression, H_2 storage, Ammonia generation and storage. Our project will strictly compliance with this standard and the carbon emissions will be well below the threshold limit of 2 kg of CO_2 per kg of H_2. We are also evaluating to transport the Green Hydrogen/derivatives by ships using greener fuel to reduce the carbon foot print. As per environmental guidelines, the carbon

		emission from the project is only evaluated and the TOR is issued for carrying out Environmental impact assessment to assess the overall environmental impact of products, processes or services involved only in the project. Life Cycle Assessment (LCA) may be required for pesticide and other most polluting industries.

3. The office bearers of Solar Power Developers Association (SPDA) had also made a presentation before the EAC justifying the exemption of EC for green hydrogen and green ammonia projects. An estimate of section-wise emissions and liquid effluent streams along with a tentative list of clearances for Green Hydrogen/Ammonia Plant were also presented.

4. The EAC also noted that MNRE has also requested MoEF&CC to exempt Green Hydrogen/Ammonia Projects from the purview of EC in-line with the renewable energy projects.

5. **Deliberations by the EAC**:

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

- Energy consumption
- Carbon footprint of overall process
- Amount of CO_2 generated per kg of electricity for the Green Hydrogen Production
- Life cycle assessment (cradle to grave instead of gate to gate) for a holistic environmental benefit.
- Harnessing the oxygen produced from electrolysis along with hydrogen.

The EAC also noted that the expert committee for streamlining the EC procedures and the MoEF&CC in the year 2019, has clarified that stand alone ammonia project/activity is not covered under the provisions of the EIA, Notification, 2006 (as amended).

After detailed deliberations, based on the current available information and since Green Hydrogen/Ammonia will definitely contribute to the reduction of Carbon Footprint, the EAC recommended that EC shall not be required for the stand alone green hydrogen and green ammonia projects, also similar to the clarification provided for the stand alone ammonia project/activity.

The EAC also recommended the following:

- The requisite consents, as applicable, under the provisions of the Air Act, 1981 and Water Act, 1974 etc. shall be obtained.
- Along with hydrogen, harnessing the oxygen produced from electrolysis may also be explored.
- Life Cycle Analysis (cradle to grave) of the Various methods of Hydrogen Generation as a comparative study to assess the overall Environmental benefit of the proposed methods of Green Hydrogen and Ammonia Synthesis may be taken up separately in due course under the guidance of MNRE.

Agenda No. 53.7.

Proposed Expansion of Agrochemicals, Fine Chemicals, Biotech based Organic Chemicals, Establishment of Pharmaceutical Unit, Coal based Co-generation Plant, Chloralkali Unit and Desalination Plant along with inlet and outlet pipeline at Kesavaram village, Venkatanagaram Post, Payakaraopeta Mandal, Visakhapatnam District, Andhra Pradesh by M/s Deccan Fine Chemicals (India) Pvt. Ltd. - Amendment in Environmental Clearance

Proposal No. IA/AP/IND3/430384/2023; File No. J-11011/657/2007-IA II (I)]

1. The proposal is for amendment in the Environmental Clearance (EC) granted by the Ministry vide letter no. J-11011/657/2007-IA II (I) dated 06.03.2017 for the Proposed Expansion of Agrochemicals, Fine Chemicals, Biotech based Organic Chemicals, Establishment of Pharmaceutical Unit, Coal based Co-generation Plant, Chloralkali Unit and Desalination Plant along with inlet and outlet pipeline at Kesavaram village, Venkatanagaram Post, Payakaraopeta Mandal, Visakhapatnam District, Andhra Pradesh by M/s Deccan Fine Chemicals (India) Pvt. Ltd.

2. The PP reported that there is a need for change in boilers configuration, fresh water requirement and wastewater generation in existing EC issued for expansion of Agrochemicals, Fine Chemicals, establishment of pharmaceutical unit, coal-based Co-Generation Power Plants, Chlor-Alkali Plant and Desalination plant along with inlet and outlet pipeline.

3. Accordingly, the project proponent has requested for amendment in the EC with the details as under:

S. No	EC Reference	As mentioned, in EC order dt. 06.03.2017	To be amended as	Justification
1	Page No. 4 of 10. Point No. 3.0 Paragraph 1	The total power requirement will be met from co-generation power plants of 1 x 12 MW and 3 x 25 MW capacity.	The total power requirement will be met from co-generation power plants of **1 x 37 MW** and **2 x 25 MW** capacity.	Change in Boiler Configuration. **Reduced** total steam required- from 730 TPH to 720 TPH. Retaining total power requirement of 87 MW.

2	Page No. 4 of 10. Point No. 3.0 Paragraph 1	Coal will be used for fuel for proposed 3 x 160 TPH, 1 x 80 TPH, 2 x 75 TPH boilers.	Coal will be used for fuel for proposed **1 x 160 TPH, 1 x 130 TPH, 1 x 185 TPH, 3 x 75 TPH boilers**.	Change in Boiler Configuration. **Reduced** total steam required from 730 TPH to 720 TPH.
3	Page No. 4 of 10. Point No. 3.0 Paragraph 1	Consumption of Coal is 108 MT/hr	Consumption of Coal is **106.5 MT/hr**	Change in Boiler configuration **reduced,** coal consumption quantity.
4	Page No. 4 of 10. Point No. 3.0 Paragraph 2	The Total water requirement will be 24.37 MLD (Phase I: 10.07 MLD and Phase II: 14.30 MLD)	The Total water requirement will be **28.113 MLD** (Phase I: **13.85 MLD** and Phase II: **14.263 MLD**)	The site is very close to the Sea and water is drawn from desalination plant. The yield from the desalination plant is 34.6% instead of 30% as envisaged initially. As a result, there will not be any increase in Sea Water intake quantity.
5	Page No. 4 of 10. Point No. 3.0 Paragraph 2	The required water drawn from proposed desalination plant using seawater through water pipeline as input with capacity of 33.567 MLD for Phase I 47.677 MLD for Phase II	The required water drawn from proposed desalination plant using seawater through water pipeline as input with capacity of **46.10 MLD** for Phase I **35.144 MLD** for Phase II	
6	Page No. 5 of 10. Point No. 3.0 Paragraph 1	Total quantity of treated effluent discharged to the sea through marine outfall facilities will be 11749 KLD	Total quantity of treated effluent discharged to the sea through marine outfall facilities will be **15426 KLD**.	Increase in cooling tower blow downs due to increase in thermal efficiency throough the adoption of water-cooled condenser (WCC) for Co-generation plants.
7	Page No. 5 of 10. Point No. 3.0 Paragraph 1	Quantity of RO Rejects from desalination plants discharged to the sea through marine outfall facilities will be 56874 KLD (Phase I: 23497 KLD Phase II: 33377 KLD)	Quantity of RO Rejects from desalination plants discharged to the sea through marine outfall facilities will be **53131 KL**D (Phase I: **32250 KLD** Phase II: **20881 KLD**)	Slight reduction in quantity of RO rejects due to usage of high efficiency membranes as a result **permeate quantity increased from 30% to 34.6%.**

8	Page No. 6 of 10. A. Specific condition vi point	Total fresh water requirement from sea shall not exceed 33.567 MLD for phase I, 47.677 MLD for phase II and prior permission shall be obtained from the concerned authority.	Total fresh water requirement from sea shall not exceed **46.10 MLD** for Phase I, **35.144 MLD** for Phase II and prior permission shall be obtained from the concerned authority.	There is a slight increase in fresh water requirement due to usage of water-cooled condenser instead of air-cooled condenser. However, there is no increase in the quantity of intake water and discharge water in to the Sea due to usage of high efficiency imported membrane systems used in Desalination Plants.

Boiler Configuration

S. No	Description	Total as Per EC Dt. 06.03.2017		After Amendment	
		Capacity (TPH)	Power (MW)	Capacity (TPH)	Power (MW)
1	Coal Fired Boiler	3 x 160	3 x 25	1 x 160	1 x 25
2	Coal Fired Boiler	-----	-----	1 x 130	1 x 25
3	Coal Fired Boiler	-----	-----	1 x 185	1 x 37
4	Coal Fired Boiler	1 x 80	1 x 12	1 x 75	-----
5	Coal Fired Boiler	2 x 75	-----	2 x 75	-----
6	Coal Fired Boiler	1 x 20	-----	1 x 20	-----
	Total	**730**	**87**	**720**	**87**

Desalination Plant Intake and Rejects

S. No	Purpose	Quantity (MLD)					
		EC Dt. 06.03.2017			After Amendment		
		Phase I	Phase II	Total	Phase I	Phase II	Total
1	Sea Water Intake	33.567	47.677	81.244	46.10	35.144	81.244
2	**Permeate used in Plant Operations and Process**	**10.07**	**14.30**	**24.37**	**13.85**	**14.263**	**28.113**
3	RO Rejects	23.497	33.377	56.874	32.25	20.881	53.131
	RO Permeate Efficiency %			**30%**			**34.6%**

Total Water Required and Effluent Generation

S. No	Purpose	Quantity (MLD)			
		Fresh Water		Effluent	
		EC Dated 06.03.2017	After Amendment	EC Dated 06.03.2017	After Amendment
1	Process Water - Argo Chemicals and Fine Chemicals	1.856	1.856	2.237	2.237
2	Process Water - Active Pharma Ingredients	0.912	0.912	0.98	0.98
3	Cooling Towers	13.195	16.95	7.248	10.928
4	Co-generation Power Plant	5.275	5.275	0.48	0.48

5	Boiler	0.856	0.844	0.214	0.211
6	Chlor-Alkali Plant	2.1	2.1	0.49	0.49
7	Domestic	0.12	0.12	0.1	0.1
8	Horticulture	0.056	0.056	----	---
	Total – I	**24.37**	**28.113**	**11.749**	**15.426**
	Desalination Plant Rejects - II			**56.874**	**53.131**
	Grand Total (I + II)			**68.623**	**68.557**

4. **Deliberations by the EAC**:

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

The EAC inter-alia, deliberated on the details of existing greenbelt, change of fuel for boilers from coal to gas and response from competent authority of fuel supply in future and advised the PP to submit the following:

- Details of existing greenbelt developed.
- Plan to change the fuel of boilers from coal to gas and response from competent authority for fuel and supply in future.

The PP submitted the revised/updated information/documents of the same and the EAC found it to be satisfactory.

5. After detailed deliberations, the EAC **recommended** the amendment in EC, subject to the following additional condition:

   The PP shall also explore possibility of using clean fuels and adopt latest technologies to optimise energy consumption and reduction of CO_2 emissions in a phased manner.

Agenda No. 53.8

Establishment of Drug Intermediates manufacturing unit of production capacity 13.5 TPM located at Plot No. 40, Kadechur Industrial area, Yadagir Taluk & District, Karnataka by M/s. Dorasani Life Sciences Pvt. Ltd. - Consideration of EC

[Proposal No. IA/KA/IND3/430025/2023; File No. IA-J-11011/26/2023-IA-II(I)]

The PP vide email dated 12.6.2023 informed that due to unavoidable circumstances, they/ Consultant would be unable to attend the meeting and requested to defer the proposal.

The proposal was accordingly, **deferred.**

Agenda No. 53.9

Expansion of Chemical Manufacturing Unit (capacity from 91,338 TPA to 183,272 TPA) located at Plot no. 112, 20/1 & OS-2, MIDC Dhatav, Raigad, Maharashtra by M/s Excel Industries - Amendment in EC

[Proposal No. IA/MH/IND3/430361/2023; File No. IA-J-11011/139/2020-IA-II(I)]

1. The proposal is for amendment in the Environmental Clearance granted by Ministry, vide File No.- J-11011/139/2020-IA-II(I) dated 24.12.2020 and further Amendment in Environmental Clearance granted by Ministry vide file no. J-11011/139/2020-IA-II(I) dated 19.05.2021 for the project "Expansion of Chemical Manufacturing Unit" at Plot no. 112, 20/1 & OS-2, MIDC Dhatav, Tehsil- Roha, District- Raigad, Maharashtra - 402116 by M/s Excel Industries Limited.

2. The project proponent has requested for further Amendment in Environmental Clearance with the details as under.

S. No.	Para of EC issued by MoEF&CC	Details as per the EC	To be revised/added/read as	Justification/reasons
1	EC granted dated 24.12.2020 - Page no. 2, Table given at Point no. 3, S.No. A-19 for details of products and capacity	Hydrochloric Acid concentration has been given as 20%-30% Solution.	Hydrochloric Acid concentration to be revised to **32% Solution.**	Due to modification in the scrubbing system, the concentration of Hydrochloric acid will be changed to 32%.
2	Amendment in EC granted dated 19.05.2021 - Page no. 9, Condition number (c) Para 12, A. Specific Condition (iv) for ZLD	*The proposed expansion shall be on Zero Liquid Discharge (ZLD) and no waste/ treated water shall be discharged outside the premises. However, the existing unit shall continue to discharge their excess treated*	*Zero Liquid Discharge (ZLD)* to be applicable for the proposed phase only and the existing part shall discharge excess treated water to CETP and continue without ZLD.	There will be a lower consumption of steam, coal, & power, lower MEE Salt generation, lower transportation requirement and reduced CapEx & OpEx of wastewater management/treatment due to implementation of proposed system (i.e. partial reuse if treated water) as opposed complete ZLD system (i.e. 100% treated water reuse) mandated in

		water to CETP as per CTE/ CTO and shall convert into ZLD within a span of 3 years from the date of issue of the clearance. The Compliance of the same may be submitted to the concerned Regional Office of this Ministry".		earlier Amendment in EC granted. Correspondingly, there will be reduction in generation of carbon emissions of water management/treatment due to implementation of proposed system (i.e. partial reuse if treated water) as opposed complete ZLD system (i.e. 100% treated water reuse) mandated in earlier Amendment in EC granted. Thus, it is requested that ZLD be applicable for the proposed phase only and the existing part shall discharge excess treated water to CETP and continue without ZLD.
3	Amendment in EC granted dated 19.05.2021 - Page no. 2, Table given at point no. 3(A)(ii) for non-hazardous waste	Not mentioned	The insulation & other waste material (100 TPA) & PP/FRP scrap material (75 TPA) shall be generated as non-hazardous waste and both the waste shall be disposed of to CHWTSDF.	The insulation & other waste material (100 TPA) & PP/FRP scrap material (75 TPA) was not accounted for in the earlier EIA report submitted. Thus, now we wish to add the same under the non-hazardous waste category along with the other waste.
4	Amendment in EC granted dated 19.05.2021 - Page no. 7, 8 & 9, Table given at point no. 3(B), Row no. 18, 19, & 21 for existing process emissions & row no. 23 &	The type of fuel given for the Oil heating units (thermic fluid heaters) and P2S5 plants is Furnace oil	Fuel type for Oil heating units (thermic fluid heaters) will be LDO having quantity - 1 TPD in existing phase & 1 TPD in proposed phase. Fuel type for P2S5 plants will be LDO having quantity - 3	LDO is considered a comparatively cleaner fuel than Furnace oil and also furnace oil has been banned. Thus, it is required to change the type of fuel to LDO.

	30 for proposed process emissions		TPD in existing phase & 1.5 TPD in proposed phase.	

3. **Deliberations by the EAC**:

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

The EAC inter-alia, deliberated on the water balance, greenbelt development plan, reuse treated water from CETP and advised the PP to submit the following:

- Revised Water Management & Balance showing provision of STP of 100 KLD for treatment of domestic water and re-use of STP treated water for gardening to the extent possible and excess treated water to ETP along with the PFD of STP and revised EMP budget.
- Undertaking for commitment of Rs. 2.0 crores towards plantation of 1,00,000 saplings for green belt development in the nearby area along with revised EMP budget.
- Undertaking for exploring the possibilities of reusing treated water from CETP of RIA Co-operative Society Limited.

The PP submitted the revised/updated information/documents of the same and the EAC found them to be satisfactory.

4. After detailed deliberations, the EAC **recommended** the amendment in EC, subject to the following additional conditions:

(i) STP of 100 KLD capacity shall be installed for treatment of domestic water and reuse the treated water for gardening to the possible extent and excess treated water to ETP along with the PFD of STP.
(ii) Rs. 2.0 crores shall be allocated towards the plantation of 1,00,000 saplings in the nearby area & shall explore of possibility to reused the treated water from CETP of RIA Co-operative Society Limited.

Agenda No. 53.10

Proposed Synthetic Resin and additive manufacturing unit of production capacity 2400 TPA located at plot no. G1-294, RIICO Industrial Area, Khushkhera, Bhiwadi, Tehsil Tijara, Dist. Alwar, Rajasthan by M/s Pine Coatings India Private Limited - Consideration of ToR (under violation category)

[Proposal No. IA/RJ/IND3/430859/2023; File No. IA-J-11011/213/2023-IA-II(I)]

1. The proposal is for the issue of ToR for preparation of EIA/EMP for Proposed Synthetic Resin

and additive manufacturing unit of production capacity 2400 TPA located at plot no. G1-294, RIICO Industrial Area, Khushkhera, Bhiwadi, Tehsil Tijara, Dist. Alwar, Rajasthan by M/s Pine Coatings India Private Limited. **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**

2. The project/activity is covered under Category 'B' of Item 5(f), 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) Notification2006 (as [amended). However, since the project site is located within a critically polluted area, it attracts the general conditions and is considered as Category 'A' at Centre.

3. The PP applied for the ToR vide proposal number No. IA/RJ/IND3/430859/2023. The proposal is considered in the 53rd EAC meeting held on 14th- 16th June, 2023 wherein the PP and the accredited Consultant M/s Parivesh Environmental Engineering Service, Lucknow, having NABET Accreditation vide letter No. NABET/EIA/2124/IA 0092(Rev.02) Valid till 11.11.2024 made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

S. No.	Product Details	CAS No	Capacity (TPA)	Uses
1.	Synthetic Resins/Additive		2400	
(i)	Alkyd Resin	63148-69-6		High quality decorative paints, industrial and architecture paints, Stoving enamel, automotive refinishing enamels, furniture enamels
(ii)	Polyester Resin	113669-95-7		In coil coating, powder coating, Inks, adhesives
(iii)	Amine Synergist	159034-91-0		UV coating and inks for printing industries
(iv)	Rosin Modified Maleic Resin	94581-16-5		Paint and ink industries (making varnishes, nc lacquers)
(v)	Estergum	8050-31-5		Ink industries, adhesive industries
(vi)	Polyamide Resin	63428-84-2		Ink industries, adhesive industries, 2 pack epoxy system
(vii)	Polyurethane Resin	9063-87-0		Wood finishes, ink industries, Paints, Adhesives
(viii)	Rosin Modified Phenolic Resin	68152-70-5		Printing ink (offset inks, web set inks, flexo& gravure inks)

(ix)	Acrylic resin	9011-13-6		Printing ink (Flexo and gravure inks), Paints, construction industry
(x)	Ultra Violet Curing Monomers	42978-66-5		UV coating and inks for printing industries, coatings and paints
(xi)	Ultra Violet Curing Oligomer	71281-65-7		UV coating and inks for printing industries, coatings and paints
(xii)	Adhesion Promoter	109037-78-7		Ink industries (flexo and gravure inks)
(xiii)	Wax Compound	Mixing and blending		Ink and coating industries

4. The PP reported that the total land area of the project is 1000 m^2.

5. The PP reported that Construction of Working shed, office an area of 496.82 sq.m has been started without obtaining EC/CTE/CTO.

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. Sahibi River is flowing at a distance of 3.8 (SW); Chaondi Nadi -9 km (S).

7. The PP reported that the total water requirement is 14.5 KLD of which fresh water requirement of 10 KLD will be met from ground water. Recycled water will be 4.5 KLD. Effluent of 5 KLD quantity will be treated through ETP followed by RO. Permeate from RO will be re-used in boiler make-up and reject from RO will be subjected to evaporation. The plant will be based on Zero Liquid discharge system. Domestic waste water (1.6 KLD) will be treated in STP.

8. The Power requirement will be 450 kVA and will be met from JVVNL. 1x62.5 kVA DG sets will be used as standby during power failure. Stack (height-5m) will be provided as per CPCB norms to the proposed DG sets.

9. The PP reported that the project, being in notified industrial area i.e., RIICO Industrial Area, Khushkhera vide Notification No. Va.4 (80) Udhyog/189 dated 16.4.1991 is exempted from the public hearing as per the Ministry's O.M. J-11011/321/2016-IA. II(I) dated 27.04.2018.

10. Industry will develop greenbelt in an area of 40% i.e 400 m^2 (inside project site 337.82 $m^2$and 64 m^2 outside of the plant) out of total area of project.

11. The estimated project cost is Rs 332.70 Lakhs. The PP reported that Total Employment will be 30 persons as direct & 10-20 persons indirect.

12. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the greenbelt development plan, and advised the PP to submit the revised greenbelt development plan. The PP submitted the same and the EAC found it to be satisfactory.

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

(i). The PP shall follow the Standard Operating Procedure (SoP) issued by the Ministry on 07.07.2021 for handling of violation cases under EIA Notification, 2006.

(ii). The PP shall complete the impact assessment studies & submit Environmental Impact Assessment (EIA) report & Environmental Management Plan (EMP) (Damage Assessment, Remedial Plan and Community Augmentation Plan) in a time bound manner.

(iii). Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR).

(iv). The EMP shall comprise of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.

(v). The remediation plan and the natural and community resource augmentation plan shall be prepared as an independent chapter (13) in the EIA report by the accredited consultants.

(vi). The budget for the remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be adequate and shall be used for completing the plans within three years.

(vii). The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.

(viii). The penalty amount shall be calculated as per the provisions of SOP dated 07.07.2021 (i.e. 1% of the total project cost incurred up to the date of filing of application along with EIA/EMP report PLUS 0.25% of the total turnover during the period of violation) with

supporting documents. In addition to this, actual production vis-a-vis CTO capacity financial year wise in a tabular format with supporting documents.

(ix). The State Government/SPCB shall take action against the project proponent under the provisions of the Environment (Protection) Act, 1986, and further no consent to operate to be issued till the project is granted EC

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

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

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

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

(xiv). The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.

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

(xvi). Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plans shall be prepared and submitted.

(xvii). Undertaking from the PP and the consultant in pursuant of the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.

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

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

(xx). The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.

(xxi). The PP should develop Greenbelt over an area of 400 m^2 (337.82 m^2 inside and 65 m^2 outside of the plant) and shall be completed within 1 year, accordingly plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. Approx. 100 number of plant species have to be planted considering 80% survival rate and with a spacing of 2 m x 2 m.

(xxii). Plan for development of the green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted.

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

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

(xxv). The action plan for utilization of modern technologies for capturing carbon emitted and developing carbon sink/carbon sequestration resources.

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

(xxvii). The PP shall prepare a detailed rain water harvesting plan so as to ensure that unit will become water positive i.e. able to recharge the quantity equivalent to fresh water requirement of the plant or use only re-charged/restored water as a fresh water requirement.

(xxviii). Detailed solvent recovery/solvent management plan

(xxix). Detailed Volatile Organic Compounds (VOCs)/Fugitive emissions control plan

Agenda No. 53.11

Proposed Bulk Drugs & Drug Intermediates manufacturing unit of production capacity 110.00 TPM located at Plot No. F-19, MIDC-Chincholi Industrial Area, Chincholi Village, Mohol Taluk, Solapur District, Maharashtra by Levo Chemi LLP - Consideration of EC

[Proposal No. IA/MH/IND3/430998/2023; File No. IA-J-11011/223/2022-IA-II(I)]

1. The proposal is for the environmental clearance for Bulk Drugs & Drug Intermediates manufacturing unit of production capacity 110.00 TPM located at Plot No. F-19, MIDC-

Chincholi Industrial Area, Chincholi Village, Mohol Taluk, Solapur District, Maharashtra by Levo Chemi LLP.

2. The project/activity is covered under Category 'B' of Item 5 (f)-Synthetic Organic Chemicals Industries(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) Notification2006 (as [amended) and requires appraisal at the Central Level by the Expert Appraisal Committee (EAC) as General condition is applicable Great Indian Bustard (GIB) Wildlife Sanctuary, Kondi Gut No. 106 at a distance of 2.49 Km towards ESE direction.

3. The ToR was issued by the Ministry, vide letter no. IA-J-11011/223/2022-IA-II(I) dated 20.2.2023. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a Fresh EC case. The proposal is placed in this 53rd EAC meeting on14th -16th June, 2023, wherein the PP along with accredited Consultant, M/s Rightsource Industrial Solutions Pvt. Ltd. [Accreditation number NABET/EIA/2124/RA0248 (Rev. 01) valid till 29.10.2024] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported that the proposed land area of the project is 10681.00 m^2 and no R& R is involved in the Project. The details of products to be manufactured are as follows:

S. No.	Product Name	Quantity in TPM	CAS No	Therapeutic Category
1	Albendazole	25.00	54965-21-8	Anthelmintic
2	Biperidine Hydrochloride	0.083	1235-82-1	Used to treat Parkinson disease
3	Buparvaquone	1.00	88426-33-9	Anti-protozoal drug
4	Clorsulon	2.00	60200-06-8)	Anthelmintic
5	Closantel	2.00	57808-65-8	Anthelmintic
6	Closantel sodium dihydrate	2.00	61438-64-0	Anthelmintic
7	Dabigatran Etexilate Mesylate	0.083	872728-81-9	Anti-coagulants
8	Eletriptan	0.083	143322-58-1	Used to treat Migraines
9	Fenbendazole	0.833	98 43210-67-9	Anthelmintic
10	Fenofibrate	5.00	49562-28-9	Anti-lipemic Agents
11	Isometamidium chloride	0.083	34301-55-8	Used In Veterinary Medicine
12	Monobenzone	0.167	103-16-2	Used as a depigmenting agent
13	Niclosamide	10.00	50-65-7	Anthelmintic
14	Niclosamide Piperazine	2.083	34892-17-6	Anthelmintic
15	Nitroxinil	5.00	1689-89-0	Anthelmintic

S. No.	Product Name	Quantity in TPM	CAS No	Therapeutic Category
16	Oxfendazole	0.833	53716-50-0	Anthelmintic
17	Oxyclozanide	25.00	2277-92-1	Anthelmintic
18	Parvaquone	1.00	4042-30-2	Anti-protozoal Drug
19	Rafoxanide	2.00	22662-39-1	Anthelmintic
20	Ricobendazole	0.833	54029-12-8	Anti-parasitic
21	Triclabendazole	5.00	68786-66-3	Anthelmintic
22	Trioxasalen	0.083	3902-71-4	Used in the treatment of vitiligo
23	Vilazodone Hydrochloride	0.083	163521-08-2	Anti depressant
24	2-(4-amino-2-chloro-5-methylphenyl)-2-(4-chlorophenyl)acetonitrile (Closantel intermediate)	10.00	61437-85-2	Closantel Intermediate
25	2-(4-Cyanophenylamino) acetic acid (Dabigatran intermediate)	5.00	42288-26-6	Dabigatran Intermediate
26	2-Amino-4,6-dichlorophenol (Oxyclozanide intermediate)	10.00	527-62-8	Oxyclozanide Intermediate
27	2-hydroxy-3,5-diiodo benzoic acid (Closantel intermediate)	10.00	133-91-5	Closantel Intermediate
28	2-nitro-4-(propylthio) aniline (Albendazole intermediate)	10.00	54393-89-4	Albendazole Intermediate
29	2-nitro-4-thiocyanatoaniline (Albendazole intermediate)	4.167	54029-45-7	Albendazole Intermediate
30	2-Nitro-5-(phenylthio)aniline (Fenbendazole intermediate)	5.00	43156-47-4	Fenbendazole Intermediate
31	3-(1,2,2-trichlorovinyl)aniline (Clorsulon intermediate)	4.167	81972-27-2	Clorsulon Intermediate
32	3-Chloro-4-(4-chlorophenoxy)aniline (Rafoxanide intermediate)	5.00	24900-79-6	Rafoxanide Intermediate
33	4-(phenylthio)benzene-1,2-diamine (Fenbendazole intermediate)	5.00	3016417	Fenbendazole Intermediate

S. No.	Product Name	Quantity in TPM	CAS No	Therapeutic Category
34	4-(propylthio)benzene1, 2-diamine (Albendazole intermediate)	5.00	66608-52-4	Albendazole Intermediate
35	4,5-dichloro-2-nitroacetanilide (Triclabendazole intermediate)	10.00	5462-30-6	Triclabendazole Intermediate
36	4-amino-6-(trichloroethyl)-3-benzenedisulfonamide (Clorsulon intermediate)	2.00	654-62-6	Clorsulon Intermediate
37	4-Chloro-4hydroxybenzophenone	8.33	42019-78-3	Fenofibrate Intermediate
38	4-Chloro-5(2,3-dichlorophenoxy)-2-niroaniline (Triclabendazole intermediate)	4.00	118353-04-1	Triclabendazole Intermediate
39	4-hydroxy-3-iodobenzonitrile (Nitroxinil intermediate)	5.00	2296-23-3	Nitroxinil Intermediate
40	4-hydroxy-3-nitrobenzonitrile (Nitroxinil intermediate)	5.00	98 3272-08-0	Nitroxinil Intermediate
41	4-hydroxybenzonirtile (Nitroxinil intermediate)	5.00	767-00-0	Nitroxinil Intermediate
42	4-Methylamino-3-nitrobenzoic acid (Dabigatran intermediate)	4.17	41263-74-5	Dabigatran Intermediate
43	5-Aminoindole (Vilazodone intermediate)	0.167	5192-03-0	Vilazodone Intermediate
44	5-Bromoindole (Eletriptan intermediate)	0.833	10075-50-0	Eletriptan Intermediate
45	5-chloro-2-nitroaniline (Fenbendazole intermediate)	10.00	1635-61-6	Fenbendazole Intermediate
46	6-chloro-5(2,3-dichlorophenoxy)-1H-benzimidazole-2(3H)-thione (Triclabendazole intermediate)	10.00	68828-69-3	Triclabendazole Intermediate
47	5-Chloro-6-(2-3-dichlorophenoxy)-2-(methylthio)-1H-benzimidazole	5.00	68786-66-3	Triclabendazole Intermediate

S. No.	Product Name	Quantity in TPM	CAS No	Therapeutic Category
	(Triclabendazole intermediate)			
48	5-Chlorosalicylic acid (Niclosamide intermediate)	10.00	321-14-2	Niclosamide Intermediate
49	5-Cyanoindole (Vilazodone intermediate)	0.833	15861-24-2	Vilazodone Intermediate
50	5-Nitroindole (Vilazodone intermediate)	0.167	6146-52-7	Vilazodone Intermediate
51	Ethyl 3-(2-((4-cyanophenylamino) methyl)-1-1methyl-N-(pyridine-2-yl)-1H-benzo(d)imidazole-5-carboxamido)propanoate (Dabigatran intermediate)	0.500	211915-84-3	Dabigatran Intermediate
52	Ethyl 3-(3-amino-4-(methylamino)-N-(pyridine-2-yl)benzamido) Propanoate (Dabigatran intermediate)	1.00	212322-56-0	Dabigatran Intermediate
53	Ethyl3-(pyridine-2-amino)propanoate (Dabigatran intermediate)	2.00	103041-38-9	Dabigatran Intermediate
54	Fenofibric acid (Fenofibrate intermediate)	10.00	42017-89-0	Fenofibrate Intermediate
55	Piperidine HCl (Biperiden HCl intermediate)	10.00	6091-44-7	Biperidine HCl Intermediate
Total (Any 8 products will be manufactured at any given point of time)		**110.00**		

LIST OF BY- PRODUCTS & ITS QUANTITIES

S. No	Name of the product	Name of the By-Product	Quantity in Kg/Day
1	Albendazole	Ammonium chloride	615.10
		Sodium bromide	508.10
		Sodium dithionate	672.30
2	Fenofibrate	Potassium Bromide	74.20
3	Oxyclozanide	Sodium dithionate	516.30
4	2-Amino-4,6-Dichlorophenol (oxyclozanide intermediate)	Sodium dithionate	344.30
5	2-Nitro-4-(Propylthio)Aniline (Albendazole intermediate)	Ammonium chloride	227.20
		Sodium bromide	187.70
6	2-Nitro-4-Thiocyanatoaniline	Ammonium chloride	89.80

S. No	Name of the product	Name of the By-Product	Quantity in Kg/Day
	(Albendazole intermediate).		
7	3-(1,2,2-trichlorovinyl)aniline (Clorsulon intermediate)	Phosphorous oxy chloride	150.30
8	4-(Propylthio) Benzene1-,2-Diamine (Albendazole Intermediate)	Ammonium chloride	158.80
		Sodium dithionate	300.10
9	5-Chloro-2-nitroaniline (Fenbendazole intermediate)	Acetic acid	136.40
10	Eletriptan	Sodium Bromide (After neutralization of HBr & CH_3Br with Caustic Lye solution)	65.20
	Isometamidium chloride		
	Parvaquone		
	5-Bromoindole		
	Trioxasalen		
11	Niclosamide	Hydrochloric acid (15%)	8033.30 Ltrs/day

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, and Wildlife Corridors etc. within 10 km distance of the project site. Great Indian Bustard (GIB) Wild Life Sanctuary, Kondi – 2.49 Km distance towards ESE direction. There is no forest land involved in the proposed project. No Schedule-I species were observed in the 10 km radius from the proposed project.

7. The PP reported that Ambient Air Quality monitoring was carried out at **8 locations** during **Winter Season (December, 2022 to February, 2023)** baseline data indicates the ranges as: **PM_{10} (34.1 to 65.2 µg/ m^3), $PM_{2.5}$ (13.0 to 27.3 µg/ m^3), SO_2 (5.1 to 18.7 µg/ m^3), NO_2 (8.5 to 22.6 µg/ m^3), CO (<0.1 to 0.55 mg/m^3)** respectively. AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be **PM_{10}, $PM_{2.5}$, SO_2 & NO_2** 0.122 µg/ m^3, 0.029 µg/ m^3, 0.558 µg/ m^3 & 0.677 µg/ m^3, respectively**.** The resultant concentrations are within the National Ambient Air Quality Standards (NQQS). **Ground Water Quality-** Ground water samples were collected at 8 locations & Surface water samples were collected at 7 locations in the study area. These samples were analyzed for physical and chemical parameters to ascertain the Baseline status in the existing surface water and ground water bodies. **Noise-** Noise level monitoring was carried out at eight locations, **Daytime Noise Levels (Lday) Industrial Zone:** The day time noise level at the Project site was 62.3 dB (A), which is well below the permissible limits of 75 dB (A). Residential Zone: The daytime noise levels in all the residential locations were observed to be in the range of 47.4 dB (A) to 54.2 dB (A). The noise levels at all the locations were below the permissible limits of 55 dB (A). Silence Zone: The day time noise level at the GIB Wildlife sanctuary was 43.1 dB (A), which is well below the permissible limits of 50 dB (A). **Night time Noise Levels (Lnight) Industrial Zone**: The night time noise level at the

Project site was observed be 50.1 dB (A), which is well below the permissible limits of 70 dB (A). Residential Zone: The nighttime noise levels in all the residential locations were observed to be in the range of 37.7 dB (A) to 43.3 dB (A). The noise levels were below the permissible limits of 45 dB (A) in nighttime at all the locations. Silence Zone: The night time noise level at the GIB Wildlife sanctuary was observed be 35.9 dB (A), which is well below the permissible limits of 40 dB (A). Soil- Based on the baseline data, the soil results were found to be normal.

8. The PP reported that the total water requirement is 124.80 m^3/day and will be met from MIDC water supply. The effluent generation will be 51.18 KLD which is from process, washings, cooling towers bleed off, boiler blow down, scrubber and domestic usage. The generated effluent will be sent to ZLD.

9. The Power requirement will be 600 kVA and will be met from Maharashtra State Electricity Distribution Company Limited (MSEDCL). The unit is proposed to install 1 x 320 kVA & 1 x 125 kVA DG Sets, Stacks (heights of 8.0 mts & 6.0 mts) will be provided as per CPCB norms to the proposed DG sets respectively.

10. The industry is proposed to install 1 x 3.0 TPH Biomass Briquettes/ Coal fired boiler & Additional 1 x 2.0 TPH Biomass Briquettes/ Coal fired boiler will be kept as stand-by. Cyclone separator followed by bag filters will be installed for the proposed boiler for controlling the particulate emissions (within statutory limit of 115 mg/ Nm^3). 1 x 2.0 Lakh K. Cal/ Hr. Thermic fluid heater is proposed with stack height of 11 mtrs and Cyclone separator will be installed separately for controlling the particulate emissions (within statutory limit of 115 mg/ Nm^3).

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

S. No.	Name of the Gas	Quantity in Kg/Day	Treatment Method
1	Hydrogen	22.00	Diffused by using Nitrogen through Flame arrestor to avoid the formation of explosive mixture
2	Ammonia	236.00	Scrubbed by using chilled water media
3	Oxygen	244.00	Dispersed into the atmosphere
4	Nitrogen	4.00	Dispersed into the atmosphere
5	Hydrogen Bromide	50.00	Scrubbed by using C. S. Lye solution
6	Hydrogen Chloride	1205.00	Scrubbed by using chilled water media
7	Methyl Bromide	1.50	Scrubbed by using C. S. Lye solution
8	Hydrogen Iodide	103.00	Scrubbed by using C.S. Lye Solution
9	Carbon dioxide	481.00	Dispersed into the atmosphere
10	Sulphur dioxide	596.00	Scrubbed by using C.S. Lye Solution
Note: Greenhouse gases such as CO_2 & SO_2 and emissions from the manufacturing unit are given in the above Table			

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

S. No	Name of the Waste	Quantity	Category (As per schedule)	Disposal Method
Hazardous Waste Details				
1	Organic solid waste	2674 Kg/Day	28.1 of schedule-I	Will be sent to Cement Industries
2	Spent Carbon	70 Kg/Day	28.3 of Schedule-I	
3	Solvent Distillation Residue	483 Kg/Day	36.1 of Schedule-I	
4	Organic Distillate from MEE Stripper	250 Kg/Day	36.1 of Schedule-I	
5	Inorganic Solid Waste	143 Kg/Day	28.1 of schedule-I	Will be sent to TSDF
6	ETP Sludge	30 Kg/Day	35.3 of schedule-I	
7	MEE Salts	2722 Kg/Day	28.1 of schedule-I	
8	Used Oils	90 Ltrs/ Annum	5.1 of schedule-I	Will be sent to SPCB Authorized Agencies for Reprocessing/ Recycling
9	Detoxified Containers/ Container liners	1200 No's / Month	33.1 of Schedule-I	After Detoxification will be sent to authorized agencies.
10	Used Lead Acid Batteries	4 No's/ Annum	9.1 of Schedule-I	Send back to suppliers for buyback of New Batteries
Solid waste details				
11	Ash from boiler operations (During usage of Biomass Briquettes)	450 Kg/Day	---	Will be sent to Brick Manufacturers
12**	Ash from boiler operations (During usage of Coal)	4.55 TPD	---	

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 197.0 Lakhs (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 32.0 Lakhs per annum. Industry proposes to allocate Rs. 20.70 Lakhs towards Corporate Social Responsibility.

14. Industry will develop greenbelt over an area of 3639.62 Sq.m which is 34.08 % out of 10681.00 Sq. m of the total project area.

15. The PP reported that the project, being in notified industrial area MIDC - Chincholi (**Notification No. IDC. 2187/ (10514)-IND. 14 dated 12.05.1988)** is exempted from the public hearing as per the Para 7.III. Stage (3) (i) (b) of the EIA Notification, 2006 and O.M. No. J-111011/321/2016-IA. II(I) dated 27.04.2018

16. The PP proposed to set up an Environment Management Cell (EMC) by engaging Manager EHS- Assistant manager- Env- Assistant manager- Safety- Executive supervisior- workmen helpers for the functioning of EMC.

17. The PP reported that the ne Hectare will plant approximately 2500 Trees will sequester atmospheric carbon dioxide at an average of 50 pounds (22.67 Kg) of carbon dioxide per tree per year CO_2 absorption at the average rate of 22.67 Kg of Carbon / tree/year CO_2 equestrian by 2070 trees grown by the PP along the roads of MIDC-Chincholi = 2070 x 22.67 = 46926.9 kg ≈ 46.93 Tons/ Annum. CO_2 sequestration by 1092 trees grown within the industry by PP = 1092 x 22.67 = 24755.64 kg ≈ 24.76 Tons/ Annum. Total CO2 sequestration = 46.93 + 24.76 = 71.69 Tons/ Annum

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

19. The proposed project cost is about Rs. 10.35 Crores. Total proposed employment will be 90 persons.

20. **Deliberations by the EAC:**

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

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

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

The EAC inter-alia, deliberated on the fuel, Greenbelt development plan along with number of plant species, compliance of OM dated 18.5.2023, compliance to CPA OM dated 31.10.2019, and advised the PP to submit the following:

- Commitment on change of Boiler fuel.
- Revised Greenbelt development plan along with number of plant species.

- Supporting documents of the compliance of OM dated 18.5.2023 regarding the verification of the consultant.

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

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

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

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

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

(i) The PP shall develop Greenbelt over an area of at least, 3639.62 m^2 (by planting 1092 number of trees within the premises and 2070 number of plants outside the plant beside the MIDC road) within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

(ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. The PP shall engage Manager EHS- Assistant manager- Env- Assistant

manager- Safety- Executive supervisior- workmen helpers. 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 [₹197.0 Lakhs (Capital cost) and ₹ 32.0 Lakhs per annum (Recurring cost)] shall be kept in a separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

(iv) The total water requirement shall not exceed 124.80 m^3/day and shall be met from MIDC water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be 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.

(v) 3.0 TPH Boiler shall be installed for which 15 TPD of biomass briquette shall be used as the primary fuel.

(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) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules,

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

(x) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out. The PP shall explore possibilities for recycling and reusing of treated water in the unit to reduce the fresh water demand and waste disposal.

(xi) The effluent generation shall be 51.18 KLD which is from process, washings, cooling towers bleed off, boiler blow down, scrubber and domestic usage. The generated effluent shall be sent to ZLD.

(xii) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.

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

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

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

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

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

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

(xix) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.

Agenda No. 53.12

Proposed new manufacturing unit of Synthetic Organic Chemicals (Bulk Drug, Bulk Drug Intermediates and Specialty Chemicals) and Pesticide Specific Intermediates (excluding formulations) of total production capacity 79,000 MT/Annum & 720 MT/Annum R&D located at Plot No. 14 + 15, GIDC Panoli Industrial Estate, Ankleshwar, Dist. Bharuch, Gujarat by M/s. Aether Industries Limited (Unit-6) - Consideration of ToR

[Proposal No. IA/GJ /IND3/428332/2023; File No. IA-J-11011/216/2023-IA-II(I)]

1. The proposal is for the proposed new manufacturing unit of Synthetic Organic Chemicals (Bulk Drug, Bulk Drug Intermediates and Specialty Chemicals) and Pesticide Specific Intermediates (excluding formulations) of total production capacity 79,000 MT/Annum & 720 MT/Annum R&D located at Plot No. 14 + 15, GIDC Panoli Industrial Estate, Ankleshwar, Dist. Bharuch, Gujarat by M/s. Aether Industries Limited (Unit-6). **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**

2. The project/activity is covered under Category 'B' of Item 5(b) Pesticide Industry, 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) Notification2006 (as [amended). However, since the project site is located in a critically polluted area, the project attracts the general condition and considered as Category 'A' at Centre.

3. The PP applied for the ToR vide proposal number No. **IA/GJ /IND3/428332/2023.** The proposal is now placed in 53rd EAC Meeting held on14th -16th June, 2023, wherein the PP and an accredited Consultant, /s. ENPRO Enviro Tech and Engineers Pvt Ltd. (NABET Accreditation No.: NABET/EIA/2225/RA 0236_Rev 01 Valid Up to 12.1.2025] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

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

S. No.	Name of Product	CAS Number	Proposed Manufacturing Capacity (MT/Annum)	End-Use

Group 1	Active Pharmaceutical Ingredients (APIs)			
G1-1	Metopropol succinate	98418-47-4	**1000**	Anti-hypertensive, anti-anginal, anti-arrhythmic
G1-2	Metoprolol tartrate	56392-17-7		Anti-hypertensive, anti-anginal, anti-arrhythmic
G1-3	Memantine HCl	41100-52-1		Neuroprotective, anti-spasmodic
G1-4	Ambroxol HCl	18683-91-5		Mucolytic
G1-5	Atovaquone	95233-18-4		Anti-pneumocystis
G1-6	Carbamazepine	298-46-4		Anti-convulsant
G1-7	Oxcarbazepine	28721-07-5		Anti-convulsant
G1-8	Quetiapine hemifumarate	111974-72-2		Anti-psychotic
G1-9	Clopidogrel hydrogen sulfate	120202-66-6		Anti-thrombotic
G1-10	Citalopram HBr	59729-32-7		Anti-depressant
G1-11	Irbesartan	138402-11-6		Anti-hypertensive
G1-12	Losartan potassium	124750-99-8		Anti-hypertensive
G1-13	Olmesartan medoxomil	144689-63-4		Anti-hypertensive
G1-14	Telmisartan	144701-48-4		Anti-hypertensive
G1-15	Valsartan	137862-53-4		Anti-hypertensive
G1-16	Candesartan cilexetil	145040-37-5		Anti-hypertensive
G1-17	Aceclofenac	89796-99-6		Anti-inflammatory, analgesic
G1-18	Duloxetine HCl	136434-34-9		Anti-depressant
G1-19	Hydroxyzine	2192-20-3		Anxiolytic, anti-histaminic
G1-20	Levocetrizine di-HCl	130018-87-0		Anti-allergic
G1-21	Apixaban	503612-47-3		Anti-thrombotic

G1-22	Rivaroxaban	366789-02-8		Anti-thrombotic
G1-23	Amisulpride	53583-79-2		Atypical anti-psychotic, anti-depressant
G1-24	Dolutegravir sodium	1051375-19-9		HIV anti-viral
G1-25	Paroxetine HCl hemihydrate	110429-35-1		Anti-depressant
G1-26	1-[4-[2-(cyclopropylmethoxy) ethyl] phenotype]-3-(propan-2-ylamino) propan-2-ol (Betaxolol)	63659-18-7		Anti-hypertensive
G1-27	Meglumine	6284-40-8		API excipient
G1-28	Canagliflozin	842133-18-0		Anti-diabetes
G1-29	L-Phenylalanine, N-(3,3-dimethylbutyl)-L-α-aspartyl-, 2-methyl ester	165450-17-9		Artificial sweetener
G1-30	Metronidazole	443-48-1		Anti-biotic
G1-31	Opipramol API	909-39-7		Anti-depressant
Group -2	**Agrochemical Technicals**			
G2-1	Bifenthrin	82657-04-3	**2000**	Insecticide
G2-2	Methoxyfenozide	161050-58-4		Pesticide
G2-3	Halauxifen-methyl	943831-98-9		Herbicide
G2-4	Florpyrauxifen-benzyl	1390661-72-9		Herbicide
G2-5	Spiropidion technical	1229023-00-0		Insecticide
G2-6	Urea, N-[2-fluoro-4-[1-[4-(trifluoromethoxy)phenyl]-1H-1,2,4-triazol-3-yl]phenyl] -N'-[3-[5-methyl-2-[(2,2,2-trifluoroethoxy)methyl] phenyl]-4-oxo-2-thiazolidinylidene]-, (1Z)-	2583740-14-9		Insecticide
G2-7	Propanamide, N-[3-chloro-1-(3-pyridinyl)-1H-pyrazol-4-yl]-2-(methylsulfonyl)-	2396747-83-2		Insecticide

G2-8	Diafenthiuron technical	80060-09-9		Insecticide
G2-9	1-[(2-Chloro-1,3-thiazol-5-yl) methyl]-3-(3,5-dichlorophenyl)-9-methyl-4-oxo-4H-pyrido[1,2-a] pyrimidin-1-ium-2-olate / Dichloromezotiaz	1263629-30-5		Insecticide
G2-10	Pinoxaden technical	243973-20-8		Herbicide
G2-11	4H-1,3-Oxazin-4-one, 3-[1-(3,5-dichlorophenyl)-1-methylethyl]-2,3-dihydro-6-methyl-5-phenyl- / Oxaziclomefone technical	153197-14-9		Herbicide
G2-12	Silthiofam technical	175217-20-6		Fungicide
G2-13	N-(((2-fluoro-3,5-dichloro-4-(1,1,2,3,3,3-hexafluoropropoxy) phenyl)-amino) carbonyl)-2,6-difluorobenzamide / Noviflumuron technical	121451-02-3		Insecticide
G2-14	Fluxapyroxad title	907204-31-3		Fungicide
G2-15	Boscalid Technical	188425-85-6		Fungicide
Group -3	**Pharmaceutical Advanced Intermediates**			
G3-1	10,11-Dihydro-5H-dibenz[b,f]azepine	494-19-9	**5000**	Carbamazepine / Oxcarbazepine APIs
G3-2	10-Methoxyiminostilbene OR 10-Methoxy-5H-diben[b,f]azepine	4698-11-7		Carbamazepine / Oxcarbazepine APIs
G3-3	Iminostilbene OR 5H-Dibenzo[b,f]azepine	256-96-2		Carbamazepine / Oxcarbazepine APIs
G3-4	Iminostilbene Carbonyl Chloride OR 5H- Dibenz[b, f]azepine-5-carbonyl chloride	33948-22-0		Carbamazepine / Oxcarbazepine APIs
G3-5	5-Acetyl-10,11-dihydro-3-nitro-5H-Dibenz[b,f]azepine	79752-03-7		Carbamazepine / Oxcarbazepine APIs
G3-6	10,11-Dibromoiminodibenzyl carbonyl chloride	40421-03-2		Carbamazepine / Oxcarbazepine APIs

G3-7	N-[(2'-Cyano[1,1'-biphenyl]-4-yl) methyl]-L-valine methyl ester hydrochloride (CMVEH)	482577-59-3		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G3-8	L-valine, methyl estser, HCl	6306-52-1		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G3-9	4'-Methylbiphenyl-2-carboxylic acid methyl ester	114772-34-8		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G3-10	4'-Bromomethylbiphenyl-2-carboxylic acid methyl ester	114772-38-2		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G3-11	5-[4'-(Bromomethyl) [1,1'-biphenyl]-2-yl]-1-(triphenylmethyl)-1H-tetrazole	124750-51-2		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G3-12	4-(2-methoxy ethyl)-phenoxy-2,3-epoxy propane	56718-70-8		Metoprolol API
G3-13	1-[4-(2-methoxyethyl) phenotype]-3-(propan-2-ylamino) propan-2-ol	51384-51-1		Metoprolol API
G3-14	2-acetylthiophene	88-15-3		Duloxetine API
G3-15	Thiophene-2-ethylamine	30433-91-1		Clopidogrel / Ticlopidine APIs
G3-16	4,5,6,7-Tetrahydrothieno[3,2-c] pyridine Hydrochloride	28783-41-7		Clopidogrel / Ticlopidine APIs
G3-17	Aminoacetaldehyde dimethyl acetal	22483-09-6		Praziquantel / Dolutegravir APIs
G3-18	O-tert-Butyl-L-threonine-tert-butyl ester	5854-78-4		New Insulin API
G3-19	dl-2,2-Dimethyl cyclopropane-1-carboxylic acid	75885-59-5		Cilastatin API
G3-20	2(1H)-Pyridinone, 3-chloro-5,6-dihydro-1-(4-nitrophenyl)-	536760-29-9		Apixaban API
G3-21	2(1H)-Pyridinone, 5,6-dihydro-3-(4-morpholinyl)-1-(4-nitrophenyl)-	503615-03-0		Apixaban API
G3-22	2(1H)-Pyridinone, 1-(4-aminophenyl)-5,6-dihydro-3-(4-morpholinyl)-	1267610-26-3		Apixaban API

G3-23	2(1H)-Pyridinone, 5,6-dihydro-3-(4-morpholinyl)-1-[4-(2-oxo-1-piperidinyl) phenyl]-	545445-44-1		Apixaban API
G3-24	Acetic acid, 2-chloro-2-[2-(4-methoxyphenyl) hydrazinylidene]-, ethyl ester	27143-07-3		Apixaban API
G3-25	1-[2-(2-Hydroxyethoxy)-ethyl] piperazine	13349-82-1		Quetiapine API
G3-26	Dibenzo[b,f][1,4]thiazepine, 11-(1-piperazinyl)-, hydrochloride (1:1)	753475-15-9		Quetiapine API
G3-27	5-Chloro-2-thiophenecarboxylic acid	24065-33-6		Rivaroxaban API
G3-28	Tert-butylchloroacetate	107-59-5		Aceclofenac API
G3-29	1-Hydroxy-3,5-dimethyladamantane	707-37-9		Memantine API
G3-30	7-Ethyl Tryptophol	41340-36-7		Etodolac API
G3-31	2-Butyl-4-chloro-5-formylimidazole	83857-96-9		Sartan APIs
G3-32	Sulfamide	7803-58-9		Famotidine API
G3-33	4-Pyridinecarboxaldehyde	872-85-5		Donepazil API
G3-34	5-nitrosalicylic acid	96-97-9		Mesalamine API
G3-35	L-Mandelic acid	17199-29-0		Various APIs
G3-36	((4R,6R)-6-(Cyanomethyl)-2,2-dimethyl-[1,3] dioxan-4-yl)acetic acid tert-butyl ester	125971-94-0		Atorvastatin API
G3-37	3-Azabicyclo [2.2.1] hept-5-en-2-one	49805-30-3		Abacavir API
G3-38	5-Fluorocytosine	2022-85-7		Flucytosine
G3-39	Cytosine	71-30-7		Lamivudine API
G3-40	MRT84905	2771307-60-7		New API
G3-41	Pyrido[3,4-d]pyrimidine-7(6H)-carboxylic acid, 2,4-dichloro-5,8-dihydro-, 1,1-dimethylethyl ester	916420-27-4		New API
G3-42	(2S)-1-Methyl-2-pyrrolidinemethanol	34381-71-0		New API
G3-43	1-Bromo-8-chloronaphthalene	20816-79-9		New API

G3-44	5-Ethoxy-1,3-dimethyl-2-indolinone	87234-59-1		New API
G3-45	(S)-(-)-3-(N-Methylamino)-1-(2-thienyl)-1-propanol	116539-55-0		Duloxetine API
G3-46	5-Tert-butyl-2-(chloromethyl)-1,3-dimethylbenzene	19387-83-8		Xylometazoline API
G3-47	(4-Tert-butyl-2,6-dimethylphenyl) acetonitrile	84803-57-6		Xylometazoline API
G3-48	(S)-(+)-2-aminobutanamide HCl	7682-20-4		Levetiracetam API
G3-49	(1S,6S)-2,8-Diazabicyclo [4.3.0] nonane	151213-40-0		Moxifloxacin API
G3-50	2-[(4- Aminopentyl) ethylamino]ethanol	69559-11-1		Hydrochloroquine sulfate API
G3-51	4-(4-Methylpiperazinylmethyl) benzoyl chloride dihydrochloride	106261-64-7		Imatinib API
G3-52	4-tert-Butyl-2,6-dimethyl-3-hydroxyphenylacetonitrile	55699-10-0		Oxymetazoline HCl API
G3-53	6-tert-Butyl-3-(chloromethyl)-2,4-xylenol	23500-79-0		Oxymetazoline HCl API
G3-54	2-cyanothiophene	1003-31-2		Olanzapine
G3-55	1-(3-chlorophenyl)piperazine HCl	13078-15-4		Trazodone API
G3-56	1-(3-chlorophenyl)-4-(3-chloropropyl)piperazine	39577-43-0		Trazodone API
G3-57	N,N-Dimethylformamide dimethyl acetal	4637-24-5		Dolutegravir API
G3-58	1-(2,3-Dichlorophenyl) piperazine	41202-77-1		Aripiprazole API
G3-59	1-(2,3-Dichlorophenyl) piperazine HCl	119532-26-2		Aripiprazole API
G3-60	1-(3-Chlorophenyl) piperazine	6640-24-0		Trazodone API
G3-61	1-(3-chlorophenyl)-4-(3-chloropropyl)piperazine HCl	52605-52-4		Trazodone API
G3-62	1,2,4-Triazolo[4,3-a] pyridin-3(2H)-one	6969-71-7		Trazodone API
G3-63	1-Phenyl piperazine	92-54-6		Levodropropizine
G3-64	1-BOC piperazine	57260-71-6		Vortioxetine API

G3-65	2-(2-Chloroethoxy) acetic acid	14869-41-1		Levocetirizine API
G3-66	Ethyl-(2-chloroethoxy) acetate	17229-14-0		Levocetirizine API
G3-67	2-(4-Bromophenoxy) tetrahydropyran	36603-49-3		Ospemifine API
G3-68	2-(2,6-Dichlorobenzyloxy) ethanol	85309-91-7		Vilantrol API
G3-69	1-Phenyl oxindole	3335-98-6		Oxcarbazepine API
G3-70	L-DOPA	59-92-7		Anti-Parkinson's Drug
G3-71	Methyl-DOPA	555-30-6		Anti-hypertensive's drug
G3-72	(S)-N,N-Dimethyl-3-(2-thienyl)-3-hydroxypropanamine	132335-44-5		API Intermediate of Duloxetine
G3-73	(S)-(+)-N,N-Dimethyl-3-(1-naphthalenyloxy)-3-(2-thienyl)propanamine oxalate	132335-46-7		Impurity Duloxetine
G3-74	6-Chloro-2-hexanone	10226-30-9		Synthesis of 7-(oxoalkyl)theophyllines
G3-75	3-Chloroiminodibenzyl	32943-25-2		Intermediate of Desipramine and Clomipramine
G3-76	3-Chloro-5-acetyliminodibenzyl	25961-11-9		Intermediate of Clomipramine
G3-77	3,3-Dimethylbutyraldehyde	2987-16-8		Intermediate of Omadacycline and Neotame.
G3-78	1-N-Formyl-3,5-dimethyladmantane	351329-88-9		Memantine Impurity
G3-79	5-(3-Chloropropyl)-5H-dibenz[b,f]azepin	51551-40-7		Pharmacokinetics and Pharmacodynamics of drugs
G3-80	3-Chloro-N,N-dimethylpropylamine hydrochloride	5407-04-5		Intermediate of Acepromaxine, Amitriptyline, Bencyclane, Benzydamine, Chlorpromazine, Citalopram, Clomiphene, Clomipramine, Dibenzepin,

				Dimetacrine, Imipramine, Promazine, Prothipendyl, Triflupromazine
G3-81	3-Chloro-N,N-dimethylpropylamine	109-54-6		Intermediate of 3-Chloro-N, N-dimethyl propylamine hydrochloride
G3-82	(S)-(+)-Mandelic acid	17199-29-0		Chiral Resolution
G3-83	D-(-)-Tartaric Acid	147-71-7		Chiral Resolution and Food Additive
G3-84	5-Aminosalicylic Acid	89-57-6		Final API for IBD and colitis
G3-85	5-Nitrosalicylic Acid	96-97-9		5-Aminosalicylic Acid Intermediate
G3-86	5-Chlorosalicylic Acid	321-14-2		N-aryl-salicylamide derivatives as antitumor agents.
Group -4	**Agrochemical Advanced Intermediates**			
G4-1	Benzenamine, 2-fluoro-4-[1-[4-(trifluoromethoxy)phenyl] -1H-1,2,4-triazol-3-yl]-	2583738-83-2	**5000**	New insecticide
G4-2	4-Thiazolidinone, 2-imino-3-[5-methyl-2-[(2,2,2-trifluoroethoxy)methyl] phenyl]-	2583742-37-2		New insecticide
G4-3	4-Nitro-1H-pyrazole	2075-46-9		New insecticide
G4-4	2-(Methylsulfonyl)propanoic acid	809280-27-1		New insecticide
G4-5	Propanamide, N-(3-chloro-1H-pyrazol-4-yl)-2-(methylsulfonyl)-	2805299-30-1		New insecticide
G4-6	2-Chloro-6-fluoroanisole	53145-38-3		New herbicide
G4-7	(2-Chloro-4-fluoro-3-methoxyphenyl) boronic acid	943831-11-6		New herbicide
G4-8	2-Bromo-5-chloro-1,3-dimethylbenzene	103724-99-8		New insecticide
G4-9	4-Chloro-2,6-dimethylbenzeneacetic acid	186748-50-5		New insecticide

G4-10	1-Methoxypiperidin-4-one	102170-24-1		New insecticide
G4-11	4-[[2-(4-Chloro-2,6-dimethylphenyl) acetyl] methylamino]-1-methoxy-N-phenyl-4-piperidinecarboxamide	1644459-63-1		New insecticide
G4-12	3,5-Dimethylbenzoyl chloride	6613-44-1		Methoxyfenozide
G4-13	3,5-Dimethylbenzoic acid	499-06-9		Methoxyfenozide
G4-14	Tert-butylhydrazine, HCl	7400-27-3		Methoxyfenozide
G4-15	1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone	66346-01-8		Tebuconazole
G4-16	2-Methoxy-6-chlorotoluene	3260-88-6		Methoxyfenozide
G4-17	2-Isothiocyanato-1,3- bis(1-methylethyl)-5-phenoxybenzene	80058-93-1		Diafenthiuron
G4-18	N-[2,6-Bis(1-methylethyl)-4-phenoxyphenyl] thiourea	135252-10-7		Diafenthiuron
G4-19	4-Fluoro-3-phenoxybenzaldehyde	68359-57-9		Cyfluthrin / Silafluofen
G4-20	3-Phenoxybenzaldehyde	39515-51-0		Agrohemical intermediate
G4-21	3-Phenoxytoluene	3586-14-9		Agrohemical intermediate
G4-22	4-Fluorophenol	371-41-5		Various actives
G4-23	2-Fluorophenol	367-12-4		Various actives
G4-24	4-Fluoroaniline	371-40-4		Various actives
G4-25	2-Fluoroaniline	348-54-9		Various actives
G4-26	2-Chloro-4-fluorophenol	1996-41-4		Various actives
G4-27	3,4,5-Trifluorophenol	99627-05-1		New agrochemical
G4-28	(2R)-2-(4-Hydroxyphenoxy) propanoic acid	94050-90-5		FOP herbicides
G4-29	(2R)-2-(4-Hydroxyphenoxy) propanoic acid methyl ester	96562-58-2		FOP herbicides
G4-30	(2R)-2-(4-Hydroxyphenoxy) propanoic acid ethyl ester	71301-98-9		FOP herbicides
G4-31	(2R)-2-(4-Hydroxyphenoxy) propanoic acid butyl ester	87129-32-6		FOP herbicides
G4-32	4-Phenoxy-2,6-diisopropylaniline	80058-85-1		Diafenthiuron

G4-33	4-chlorophenyl benzene butane nitrile	?		Agrohemical intermediate
G4-34	2,6-Diethyl-4-methylbenzeneacetic acid	886230-72-4		Pinoxaden
G4-35	N-[(2-Chloro-5-thiazolyl) methyl]-3-methyl-2-pyridinamine	1263089-45-7		New agrochemical
G4-36	Propanedioic acid, 2-(3,5-dichlorophenyl)-	1443412-41-6		New agrochemical
G4-37	Sodium 2-(3,5-dichlorophenyl) propanedioate (2:1)	1443329-74-5		New agrochemical
G4-38	7H-Pyrazolo[1,2-d][1,4,5] oxadiazepin-7-one, 8-(2,6-diethyl-4-methylphenyl)-1,2, 4,5-tetrahydro-9-hydroxy-	243973-19-5		Pinoxaden
G4-39	1,4,5-oxadiazepane dihydrochloride	405281-14-3		Pinoxaden
G4-40	2-Amino-1,3,4-triazole	61-82-5		Ametoctradin
G4-41	Methyl (2S)-5-chloro-2,3-dihydro-2-hydroxy-1-oxo-1H-indene-2-carboxylate	173903-18-9		New agrochemical
G4-42	Piperonyl butoxide	51-03-6		Agrochemical excipient
G4-43	3-Bromo-5,5-dimethyl-2-isoxazoline	882697-80-5		New agrochemical
G4-44	3-Bromo-1-(3-chloropyridin-2-yl)-1H-pyrazole-5-carboxylic acid	500011-86-9		New agrochemical
G4-45	1,2,4-trichloro-2-methylpentan-3-one	145556-04-3		New agrochemical
G4-46	(R)-N-(1-methoxypropan-2-yl)-2,4-dimethylthiophen-3-amine	1932043-64-5		New agrochemical
G4-47	1-hydroxy-2-methylpentan-3-one	27970-79-2		New agrochemical
G4-48	3',4',5'-Trifluoro[1,1'-biphenyl]-2-amine	915416-45-4		Fluxapyroxad
G4-49	2-(3,5-Dichlorophenyl)-2-propanol	68575-35-9		Oxaziclomefone
G4-50	2-(3,5-Dichlorophenyl) propan-2-amine	129960-45-8		Oxaziclomefone
G4-51	5-Amino-2,3-dihydrothiophene-4-carbonitrile	52989-46-5		New agrochemical

G4-52	2,2-Dimethylcyclobutanone	1192-14-9		New agrochemical
G4-53	Cyclopropyl methyl ketone	765-43-5		Cyclaniliprole
G4-54	(Z)-9-Tricosene	25719-02-4		Natural pheromone insecticide
G4-55	TRF-58	NA		Intermediate to an herbicide.
Group -5	**Material Science / Other Intermediates**			
G5-1	2,4-Hexadienoic acid, 1,1'-[2-ethyl-2[[(1-oxo-2,4-hexadien-1-yl) oxy] methyl]-1,3-proanediyl] ester	347377-00-8	**5000**	Material science intermediate
G5-2	N, N'-(2-(4-(2-aminobenzamido) butyl) pentane-1,5-diyl) bis(2-aminobenzamide)	Not available		Material science intermediate
G5-3	Converge CPX 2520-112	Not available		Polymer product
G5-4	Converge CPX 2520-56	Not available		Polymer product
G5-5	Converge CPX 2530-112	Not available		Polymer product
G5-6	2,4,6-triaminopyrimidine	1004-38-2		Material science intermediate
G5-7	1-Tert-butoxy-4-chlorobenzene	18995-35-2		Material science intermediate
G5-8	N, N'-Di-tert-butyl-1,2-ethanediamine	4062-60-6		Material science intermediate
G5-9	N, N'-Dimethyl-1,2-ethanediamine	110-70-3		Material science intermediate
G5-10	Boron trichloride-N, N-dimethyloctylamine	34762-90-8		Material science intermediate
G5-11	1,4-Naphthoquinone	130-15-4		Basic intermediate
G5-12	1,1-Dimethyl-2-phenylethyl acetate	151-05-3		Flavour / fragrance intermediate
G5-13	Sodium tetraphenylborate	143-66-8		Material science intermediate
G5-14	4,4-Biphenyl-dicarboxylic acid	787-70-2		Material science intermediate
G5-15	4-Ethylbenzyl chloride	1467-05-6		Material science intermediate
G5-16	1,2-Bis(3-indenyl) ethane	18657-57-3		Material science intermediate

G5-17	3-Aminophenyl boronic acid	30418-59-8		Material science intermediate
G5-18	Poly[oxy(1-oxo-1,6-hexanediyl)], α - [2-[4-[5,7-bis (1,1-dimethylethyl)-2,3-dihydro-2-oxo-3-benzofuranyl] phenotype] ethyl]-ω-hydroxy-	893443-52-2		Speciality polymer
G5-19	Tert-butyl alcohol	75-65-0		Basic intermediate
G5-20	LP2010	Not available		Speciality polymer
G5-21	CE 41284	Not available		Speciality polymer
G5-22	1-Methoxy-2-methyl-1-(trimethylsiloxy)propene	31469-15-5		Material science intermediate
G5-23	Silicon based macromonomers (Si-500)	N/A		Speciality polymer
G5-24	Silicon based macromonomers (Si-1000)	N/A		Speciality polymer
G5-25	Silicon based macromonomers (Si-2000)	N/A		Speciality polymer
G5-26	N-ethylcaprolactam	19797-08-1		Material science intermediate
G5-27	Benzophenone-3,3',4,4'-tetracarboxylic dianhydride	2421-28-5		Material science intermediate
G5-28	4,4'-Dihydroxy[1,1'-biphenyl]-3,3'-dicarboxylic acid	13987-45-6		Material science intermediate
G5-29	sec-Butyl benzoate	3306-36-3		Material science intermediate
G5-30	N, N-dimethylneodecanamide	Not available		Material science intermediate
G5-31	(5Z)-5-decene	7433-78-5		Material science intermediate
G5-32	bis(2-chloroethoxy) methane	111-91-1		Basic intermediate
G5-33	4,5-Difluoro-2,2-bis(trifluoromethyl)-1,3-dioxole	37697-64-6		Material science intermediate
G5-34	(3-Acryloxypropyl) trimethoxysilane	4369-14-6		Material science intermediate
G5-35	Benzenepropanol, 5-(1,1-dimethylethyl)-2-hydroxy-	1000573-70-5		Material science intermediate
G5-36	6,12-Epoxy-6H,12H-dibenzo [b,f][1,5]dioxocin, 4,10-bis	1369533-27-6		Material science intermediate

	(3-bromopropy))-2,8-bis (1,1-dimethylethyl)-			
G5-37	2-[2-(Diethylamino)ethoxy] ethanol	140-82-9		Material science intermediate
G5-38	Tolyltriazole	29385-43-1		Material science intermediate
G5-39	Glycidyl sorbate	22544018		Material science intermediate
G5-40	3,3-Dimethylbutyraldehyde	2987-16-8		Basic intermediate
G5-41	tert-Butylacetylene	917-92-0		Basic intermediate
G5-42	tert-Butylacetic acid	1070-83-3		Basic intermediate
G5-43	BOC-anhydride	24424-99-5		Basic intermediate
G5-44	4-Acetoxy-4-methyl-2-propyltetrahydro-2H-pyran	131766-73-9		Flavour and fragrance intermediate
G5-45	2,5-Dimethylindanone	89044-48-4		Flavour and fragrance intermediate
G5-46	3-Methyl-5-phenyl-1-pentanol	55066-48-3		Flavour and fragrance intermediate
G5-47	3-Methyl-4-octanolide	39212-23-2		Flavour and fragrance intermediate
G5-48	Dihydroisojasmonate	37172-53-5		Flavour and fragrance intermediate
G5-49	1-(5,6,7,8-Tetrahydro-3,5,5,6,8,8-hexamethyl-2-naphthalenyl) ethanone	21145-77-7		Flavour and fragrance intermediate
G5-50	2,6-Dimethyl-7-octen-2-ol	18479-58-8		Flavour and fragrance intermediate
G5-51	2-Methyl-3-(2-penten-1-yl)-2-cyclopenten-1-one	11050-62-7		Flavour and fragrance intermediate
G5-52	Trans-2-Hexenol	6728-26-3		Flavour and fragrance intermediate
G5-53	2-Methyl-4-(1,1,2-trimethylpropyl) Cyclohexanone	4736-45-2		Flavour and fragrance intermediate
G5-54	Trans-2-hexenyl acetate	2497-18-9		Flavour and fragrance intermediate
G5-55	1-[4-(1,1-dimethylethyl)-2,6-dimethylphenyl] ethanone	2040-10-0		Flavour and fragrance intermediate
G5-56	Terpinyl acetate	80-26-2		Flavour and fragrance intermediate
G5-57	Scanning Compound 4	NA		Ink Intermediate
G5-58	Scanning Compound 6	NA		Ink Intermediate

G5-59	Scanning Compound 27	NA		Ink Intermediate
G5-60	Scanning Compound 19	NA		Ink Intermediate
G5-61	2-Hexyne	764-35-2		Metal Ligand
G5-62	Heavy HC C10-C15 alcohol	NA		Detergent and Surfactant
G5-63	5-Amino-N,N-bis(2,3-dihydoxypropyl)-1,3-benzendicarboxamide	NA		Preparation of non-ionic X-ray contrast agents
G5-64	Lithium hexafluorophosphate	21324-40-3		one of the essential elements for a lithium-ion secondary battery cell and a lithium polymer battery cell.
G5-65	Lithium bis(fluorosulfonyl)imide	171611-11-3		Used as an electrolyte material in lithium-ion batteries and other applications.
G5-66	Dimethyl carbonate	616-38-6		Methylating agent
G5-67	Ethyl methyl carbonate	623-53-0		Methyl ethyl carbonate is one of important solvent of lithium-ion battery electrolytes
G5-68	Vinylene carbonate	872-36-6		Plasticizer
G5-69	Methyl acetate	79-20-9		-
G5-70	Butanoic acid, 4-[(9,10-dihydro-4-hydroxy-9,10-dioxo-1-anthracenyl)oxy]-	NA		Pharma intermediate
G5-71	4-Hydroxymandelic Acid	1198-84-1		Atenolol API
Group -6	**Grignard chemistry product**			
G6-1	2-Ethyl-2-methylbutanoic acid	19889-37-3	**5000**	Isoxaben agrochemical
G6-2	trans-4-(4-Chlorophenyl) cyclohexane carboxylic acid	49708-81-8		Atovaquone API
G6-3	4-(2-hydroxyethyl) phenol	501-94-0		Betaxolol API
G6-4	4,4’-dimethylbiphenyl	613-33-2		Basic intermediate
G6-5	2-(4-Fluorophenyl) thiophene	58861-48-6		Canaglifozin API
G6-6	4-Phenylbenzonitrile	2920-38-9		Material science intermediate
G6-7	2-Methyl-[1,1'-biphenyl]-3-yl) methanol	76350-90-8		Bifenthrin agrochemical
G6-8	3-Chloro-2-methyl-1,1'-biphenyl	20261-24-9		Bifenthrin agrochemical

G6-9	Cyclopropylacetylene	6746-94-7		Efavirenz API
G6-10	3-Methoxy-2-methylbenzoyl chloride	24487-91-0		Methoxyfenozide agrochemical
G6-11	3-Methoxy-2-methylbenzoic acid	55289-06-0		Methoxyfenozide agrochemical
G6-12	4-Chlorostyrene	1073-67-2		Pyrioxazole agrochemical
G6-13	4-Acetoxystyrene	2628-16-2		Material science intermediate
G6-14	4-(Tert-butoxy)styrene	95418-58-9		Material science intermediate
G6-15	4-(Dimethylethanoyl)styrene	570383-95-8		Flavour and fragrance intermediate
G6-16	4'-Chloro-2-nitro-1,1'-biphenyl	6271-80-3		Boscalid agrochemical
G6-17	Thiophene-2-carboxylic acid chloride	5271-67-0		Tioxazafen agrochemical
G6-18	Thiophene-2-carboxylic acid	527-72-0		Thifensulfuron-methyl agrochemical
G6-19	4-(2-methoxyethyl)phenol	56718-71-9		Metoprolol API
G6-20	Thiophene-2-ethanol	5402-55-1		Clopidogrel API
G6-21	2-Cyano-4'-methylbiphenyl	114772-53-1		Sartan APIs
G6-22	Benzonitrile	100-47-0		Citalopram API
G6-23	2,4-Difluorobiphenyl	37847-52-2		Diflunisal API
G6-24	Triphenylphosphine	603-35-0		Basic intermediate
G6-25	Maltol	118-71-8		Maltol API / other APIs
G6-26	2,6-Diethyl-4-methylbenzeneethanol	1441023-36-4		Pinoxaden agrochemical
G6-27	Trimethyldihydroisoquinoline	79023-51-1		Material science intermediate
G6-28	4-Chloro-2,6-dimethylbenzeneethanol	2103944-86-9		New insecticide
G6-29	1,1-Dimethyl-2-phenylethanol	100-86-7		Material science intermediate
G6-30	4-Penten-1-ol	821-09-0		Basic intermediate
G6-31	3-Butyn-1-ol	927-74-2		Basic intermediate
G6-32	1-Chloro-6,6-dimethyl-2-hepten-4-yne	126764-17-8		Terbinafine API

G6-33	3,4,5-Trifluorophenyl boronic acid	143418-49-9		Fluxapyroxad agrochemical
G6-34	N-allyl-3-(trimethylsilyl)propiolamide	251911-61-2		Material science intermediate
G6-35	1-Octyn-3-ol	818-72-4		Flavour and fragrance intermediate
G6-36	3,3-Dimethylbutanol	624-95-3		Basic intermediate
G6-37	4-tert-butoxybenzaldehyde	57699-45-3		Material science intermediate
G6-38	3-(2-Methoxyethoxy)-2-methyl-4-(methylsulfonyl)benzoic acid	942053-16-9		Tolpyralate agrochemical
G6-39	3,4-Difluoro-2'-aminobiphenyl	873056-62-3		Agrochemical intermediate
G6-40	2-(3,4-difluorophenyl)-1,3-dioxolane	773101-62-5		Agrochemical intermediate
G6-41	1-(3,4-Dimethoxyphenyl)-acetone	776-99-8		DOPA APIs
G6-42	1,1-Dimethoxy-4-methyl-2-pentanamine	NA		-
G6-43	3-Hydroxystyrene	620-18-8		Intermediate in the preparation of polymers and copolymers useful in coatings, electronic applications, ion exchange resins, photoresists, etc.
Group -7	**Hydrogenation chemistry products**			
G7-1	(R)-3-Amino-1-butanol	61477-40-5	**5000**	Dolutegravir API
G7-2	N-octyl-d-glucamine	23323-37-7		Naproxen API
G7-3	N-methyl-d-glucamine	6284-40-8		Meglumine API
G7-4	N-ethyl-d-glucamine	14216-22-9		Elgumine API
G7-5	2-Aminomethyl-1-ethylpyrrolidine	26116-12-1		Amisulpride API
G7-6	DL-2-amino-1-butanol	96-20-8		Ethambutol API
G7-7	1,3-Dimethyladamantane	702-79-4		Memantine API
G7-8	(R)-2-hydroxy-4-phenylbutanoic acid ethyl ester	90315-82-5		Enalapril / Delapril APIs

G7-9	Trans-4-aminocyclohexanol	27489-62-9		Ambroxol API
G7-10	4-Piperidinecarboxamide	39546-32-2		Revefanacin / Pipamazine APIs
G7-11	Trans-4-isopropylcyclohexane carboxylic acid	7077-05-6		Nateglinide API
G7-12	Ethyl 4-oxocyclohexanecarboxylate	17159-79-4		Tranexamic acid API
G7-13	5-Aminosalicyclic acid	89-57-6		Mesalamine API
G7-14	4'-Chloro-[1,1'-biphenyl]-2-amine	1204-44-0		Boscalid agrochemical
G7-15	4-Pyridinecarboxaldehyde	872-85-5		Donepezil API
G7-16	1,1-Dimethyl-3-phenyl-1-propanol	103-05-9		Fragrance intermediate
G7-17	4-Cyclohexyl-2-methyl-2-butanol	83926-73-2		Fragrance intermediate
G7-18	1,5-Pentanediol	111-29-5		Basic intermediate
G7-19	2-(4-Aminophenyl)-1H-benzimidazol-6-amine	7621-86-5		Material science intermediate
G7-20	1,4-trans-Diaminocyclohexane	2615-25-0		Material science intermediate
G7-21	Cyclopentane	287-92-3		Basic intermediate
G7-22	Cyclopentene	142-29-0		Basic intermediate
G7-23	4-Isopropyl cyclohexylamine	52430-81-6		Basic intermediate
G7-24	2,5-Dimethylfuran	265-86-5		Basic intermediate
G7-25	Branched alkane (C15-C30)	Not available		Material science intermediate
G7-26	4,4'-Diaminocyclohexylmethane	1761-71-3		Material science intermediate
G7-27	2-Methylindoline	6872-06-6		Pharmaceutical intermediate
G7-28	3-Isobutylaniline	131826-11-4		Agrochemical intermediate
G7-29	2-tert-butylcyclohexanol	13491-79-7		Flavour and fragrance intermediate
G7-30	2-tert-butylcyclohexanol acetate	88-41-5		Flavour and fragrance intermediate
G7-31	4-tert-butylcyclohexanol	98-52-2		Flavour and fragrance intermediate
G7-32	4-tert-butylcyclohexanol acetate	32210-23-4		Flavour and fragrance intermediate

G7-33	3-(5,5,6-Trimethylbicyclo [2.2.1] hept-2-yl) cyclohexanol	3407-42-9		Flavour and fragrance intermediate
G7-34	1,2-Pentanediol	5343-92-0		As a plasticizer in cellulose products and adhesives, in dental composites and in brake fluid compositions and as a preservative for grain.
G7-35	D-Glucamine	488-43-7		It is used as an osmotic agent to increase the volume of blood and fluids in patients with acute kidney injury, hepatic failure, or burns
Group -8	**Catalysis chemistry products**			
G8-1	1H-Pyrrole	109-97-7	**6000**	Ketorolac API
G8-2	2-Chlorobenzonitrile	873-32-5		Basic intermediate
G8-3	1-Methoxy-2-propylamine	37143-54-7		Agrochemical intermediate
G8-4	Bicyclo[4.2.0]octa-1,3,5-triene [Benzocyclobutene]	694-87-1		Material science intermediate
G8-5	Tetrahydro-2H-pyran-2-one	542-28-9		Basic intermediate
G8-6	3,4-Dihydro-2H-pyran	110-87-2		Basic intermediate
G8-7	Gamma-valerolactone	108-29-2		Basic intermediate
G8-8	2,3-Dihydrofuran	1191-99-7		Etodolac API
G8-9	Isobutylene oxide	558-30-5		Basic intermediate
G8-10	4-Chlorobenzonitrile	623-03-0		Basic intermediate
G8-11	2,6-Dichlorobenzonitrile	1194-65-6		Basic intermediate
G8-12	2,3,4,5,6,7,8,9,10,11,12,13-Dodecahydro-2-methyl-1H-cyclopentacyclododecene	21890-09-5		Fragrance intermediate
G8-13	3,3-Dimethyl-1-butene	558-37-2		Material science intermediate
G8-14	Piperazine	110-85-0		Basic intermediate
G8-15	1-Methylpiperazine	109-01-3		Basic intermediate
G8-16	2,5-Dimethylpyrrole	625-84-3		Basic intermediate
G8-17	2-Ethyl-2-oxazoline	10431-98-8		Material science intermediate
G8-18	Pyrrolidine	123-75-1		Basic intermediate

G8-19	1-Octene	111-66-0		Basic intermediate
G8-20	2,2,3-Trimethylbutane	464-06-2		Material science intermediate
G8-21	5-p-Tolyl-2-pentene	828-17-1		Agrochemical intermediate
G8-22	N-ethylcaprolactam	19797-08-1		Material science intermediate
G8-23	Diethyl Ketone	96-22-0		Basic intermediate
Group -9	**Halogenation chemistry products**			
G9-1	2-Chlorothiophene	96-43-5	**10000**	Dithiaden / Cephalothin APIs
G9-2	1-Chloro-3,5-dimethyladamantane	707-36-8		Memantine API
G9-3	1-Bromo-3,5-dimethyladamantane	941-37-7		Memantine API
G9-4	Chloroacetaldehyde dimethyl acetal	97-97-2		Praziquantel / Acalabrutinib APIs
G9-5	5-Chlorovaleryl chloride	1575-61-7		Apixaban API
G9-6	5-Bromovaleric acid	2067-33-6		Apixaban API
G9-7	2-Chloro-1,4-naphtoquinone	1010-60-2		Atovaquone API
G9-8	4'-Bromomethylbiphenyl-2-carbonitrile	114772-54-2		Sartan series APIs (Valsartan / Losartan / Telmisartan)
G9-9	3-Chloroiminodibenzyl	32943-25-2		Clomipramine
G9-10	3-Chlorothiophene	17249-80-8		Basic intermediate
G9-11	2,5-Dichlorothiophene	3172-52-9		Basic intermediate
G9-12	2,6-dichlorotoluene	118-69-4		Basic intermediate
G9-13	2,4-dichlorotoluene	95-73-8		Basic intermediate
G9-14	2,5-dichlorotoluene	19398-61-9		Basic intermediate
G9-15	2,3-dichlorotoluene	32768-54-0		Basic intermediate
G9-16	3,4-dichlorotoluene	95-75-0		Basic intermediate
G9-17	2-Chloroethanol	107-07-3		Basic intermediate
G9-18	4-Bromo-2,6-diisopropylaniline	80058-84-0		Diafenthiuron agrochemical
G9-19	Methyl (chloroacetyl)acetate	32807-28-6		Dolutegravir API

G9-20	4,4'-Bis(chloromethyl)-1,1'-biphenyl	1667-10-3		Material science intermediate
G9-21	Tert-butyl chloride	507-20-0		Basic intermediate
G9-22	Methyl 4-chloroacetoacetate	32807-28-6		Dolutegravir API
G9-23	Ethyl bromide	74-96-4		Basic intermediate
G9-24	Butyl bromide	109-65-9		Basic intermediate
G9-25	Decyl bromide	112-29-8		Basic intermediate
G9-26	1,2-Dibromoethane	106-93-4		Basic intermediate
G9-27	2-Bromopropionic acid	598-72-1		Basic intermediate
G9-28	1-Bromo-3-chloropropane	109-70-6		Basic intermediate
G9-29	6-Bromo-1-hexanol	4286-55-9		Basic intermediate
G9-30	N-Bromosuccinimide	128-08-5		Basic intermediate
G9-31	N-Chlorosuccinimide	128-09-6		Basic intermediate
G9-32	5-Bromovaleryl chloride	4509-90-4		Apixaban API
G9-33	Chloroethylene carbonate	3967-54-2		Plasticizer
G9-34	Flouroethylene carbonate	114435-02-8		Plasticizer
G9-35	1-Chloro-2-methyl-2-propanol	558-42-9		Lercanidipine API
Group-10 EO and PO chemistry products				
G10-1	2-Chloroethanol	107-07-3	**15000**	APIs / basic intermediate
G10-2	2-(2-Chloroethoxy)ethanol	628-89-7		Quetiapine API
G10-3	2-[2-(2-chloroethoxy)ethoxy]ethanol	5197-62-6		Material science intermediate
G10-4	1-Piperazineethanol	103-76-4		Material science intermediate
G10-5	2-Isopropoxyethanol	109-59-1		Bisoprolol API
G10-6	2-Acetylbutyrolactone	517-23-7		Basic intermediate
G10-7	2-(Tert-butylamino) ethanol	4620-70-6		Basic intermediate
G10-8	2-(Diisopropylamino)ethanol	96-80-0		Basic intermediate
G10-9	Diethanol-m-toluidine	91-99-6		Basic intermediate
G10-10	2-(2-tert-Butylaminoethoxy) ethanol	87787-67-5		Material science intermediate
G10-11	1-Butoxy-2-propanol	5131-66-8		Material science intermediate
G10-12	Dipropylene glycol mono-n-butylether	29911-28-2		Material science intermediate

G10-13	1-Hexylglycol	112-25-4		Material science intermediate
G10-14	Diethylene-glycol-monohexylether	112-59-4		Material science intermediate
G10-15	2-[2-(Diethylamino) ethoxy] ethanol	140-82-9		Material science intermediate
G10-16	Vanillin 6EO	Not availalbe		Speciality polymer
G10-17	Allyl-EO-PO-Block-Copolyester	9041-33-2		Speciality polymer
G10-18	2-Chloroethylphosphonic acid	16672-87-0		Agrochemical intermediate
G10-19	Poly ethylene glycols	N.A.		Polymer application
G10-20	EO PO co polymers	N.A.		Polymer application
G10-21	Poly propanol amines	N.A.		Polymer application
G10-22	Tri ethanol amines	N.A.		Basic intermediate
G10-23	Phenoxy ethanol	N.A.		Basic intermediate
G10-24	Di ethyl amino ethanol	N.A.		Basic intermediate
G10-25	Di methyl amino ethanol	N.A.		Basic intermediate
G10-26	Hydroxy ethyl piperidine	N.A.		Basic intermediate
G10-27	Hydroxy ethyl morpholine	N.A.		Basic intermediate
G10-28	Hydroxy ethyl pyrollidine	N.A.		Basic intermediate
G 10-29	Ethylene Carbonate	96-49-1		Plasticizer
G 10-30	1,3,2-Dioxathiolane-2,2-dioxide	1072-53-3		Electrolyte additives for K-metal cells.
G 10-31	BJAM3763	N.A.		Oil and Gas
Group-11				
G11-1	MK345	N.A.	**20000**	Oil and Gas
G11-2	PAO88063	N.A.		Oil and Gas
G11-3	PA032930	N.A.		Oil and Gas
G11-4	M2294	N.A.		Oil and Gas
G11-5	MD1504K	N.A.		Oil and Gas
G11-6	M2606	N.A.		Oil and Gas

G11-7	MK22K	N.A.		Oil and Gas
G11-8	MK211K	N.A.		Oil and Gas
G11-9	MK325K	N.A.		Oil and Gas
G11-10	MK34K	N.A.		Oil and Gas
G11-11	MD1504XK	N.A.		Oil and Gas
G11-12	MK319K	N.A.		Oil and Gas
	Total (MT/Annum)		**79000**	
	R&D (MT/Annum)		**720**	

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 total area for proposed project is 1,25,874.64 m^2, no additional land will be used for proposed expansion 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. Kharod Lake at a distance of approx. 1 km in North direction.

8. The PP reported that the total water requirement is 4529.5 m^3/day (4278.5 m^3/day for industrial activities + 75 m^3/day for domestic activities + 176 m^3/day for gardening activities) out of which 4281 KLD will be recycled and reused. Hence, the freshwater requirement will reduce to 248.5 m^3/day, same will be met from Panoli GIDC. Total effluent generation due to propose new manufacturing project will be 2187.5 m^3/day (2119.5 m^3/day from industrial activities + 68 m^3/day from domestic activities). There shall be stream segregation in the wastewater generated from process & other industrial activities based on the wastewater characteristics i.e., Concentrated Stream & Dilute Stream. Concentrated stream will be generated from process & Dilute stream will be generated from Utilities. Furthermore, concentrated stream generated from process will also be segregated into two streams (i) Concentrated stream from other pharmaceutical production activities & (ii)Concentrated stream from Agrochemical production activities based on its wastewater characteristics.

9. The PP reported that the Power requirement will be 22000 KVA which will be met from Dakshin Gujarat Vij Company Limited (DGVCL). As power back up unit will install 12 numbers of D.G Sets with capacity of 2250 KVA. Stack (30 m) will be provided as per CPCB norms to the proposed DG set.

10. The PP reported that the Public hearing is exempted as per the Para 7.III. Stage (3) (i) (b) of the EIA Notification, 2006 as the project site is located within GIDC Panoli which is declarted as

notified industrial area vide notification number No. GHU-98 (64)- GID-1098-2094-G dated 18th November, 1998.

11. Industry will develop greenbelt over an area of 40.2 % i.e., 50,654 m^2 out of total area of the project.

12. The estimated project cost is Rs. 900 Crores. The PP reported that the Total Employment will be 1000 persons as direct & indirect. Industry proposes to allocate Rs. 36 Crore towards CER.

13. **Deliberations by the EAC:**

The EAC inter-alia, deliberated on the Boiler capacity, greenbelt development plan, calculation of water consumption wastewater generation, Hazardous waste generation and emission of pollutants from the stacks, stack height of boiler, Compliance to OM dated 31.10.2019 for projects falling within CPA, and advised the PP to submit the following:

- Updated Capacity of boiler which is a typographical error.
- Revised greenbelt development plan and commitment for the maintenace and development of Greenbelt along with survival rate.
- Calculation of water consumption wastewater generation, Hazardous waste generation and emission of pollutants from the stacks considering in worst case scenario only.
- Stack height of boiler.

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

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

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

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

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

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

(v) The PP should submit the photographs of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this, the PP should submit the original test reports and certificates of the labs which have analyzed the samples.

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

(vii) Activity-wise, a time bound action plan along with budgetary provisions for occupational health & surveillance, environment management plan, and green belt development plan shall be prepared and submitted.

(viii) Undertaking from the PP and the consultant in pursuant to the O.M. No. J-11013/41/2006-IA. II(I) dated 04.08.2009 and J-11013/41/2006-IA. II(I) dated 5.10.2011.

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

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

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

(xii) The PP shall clarify whether project involves ground water utilization. In case of ground water abstraction, a copy of application made to concerned authorities for the same need to be submitted.

(xiii) Three number of boiler shall be installed for which natural gas shall be used as a primary fuel.

(xiv) The PP should develop Greenbelt over an area of 50, 654 m^2 of the total land area within one year as soon as the construction begins. Accordingly, the plant species selected for greenbelt should have greater ecological value and should be of great utility value to the local population with emphasis on local and native species and the species which are tolerant to air pollution. Approx. 12664 number of plantations have to be planted considering 80% survival rate and with a spacing of 2 m x 2 m.

(xv) Plan for development of the green belt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc. shall be prepared and submitted.

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

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

Agenda No. 53.13

Proposed Manufacturing of Dye and dyes intermediates plant with production capacity of Para Aminoazobenzene 4 sulfonic acid (PAABSA-120 TPA); N-METHYLE J ACID (60 TPA); Diamino stilbene disulfonic acid (DASDA-240 TPA); Meta Phenylene Diamine 4-Sulphonic Acid (MPDSA-60 TPA); 4 NAP (60 TPA); Diphenyl Diamine (300TPA) (Total Capacity-840 TPA) located at Survey/Khasra no. 123 M2 and 124 M2, Village Maheshpuriya, Tehsil-Jawad, District-Neemuch, Madhya Pradesh by M/s New Babji Industries - Consideration of EC

[Proposal No. IA/MP /IND3/422286/2023; File No. IA-J-11011/158/2021-IA-II(I)]

The PP vide email dated 14.6.2023 informed that due to casaulty in the family of the consulant, they would be unable to attend the meeting and requested to defer the proposal.

The proposal was accordingly, **deferred.**

Agenda No. 53.14

Proposed Expansion project for manufacturing of various synthetic organic chemicals i.e. Unsaturated Polyester Resins and Alkyd Resins with production capacity from 3500 TPM to 10,000 TPM located at S. No. 443 of Bhimasar Village on Anjar-Bhimasar Road in Anjar Taluka of District Kutch, Gujarat by Natural Petrochemicals Pvt. Ltd. – Consideration of EC

[Proposal No. IA/GJ/IND3/427800/2023; File No. J-11011/329/2012-IA-II(I)]

1. The proposal is for the environmental clearance for the proposed Expansion project for manufacturing of various synthetic organic chemicals i.e. Unsaturated Polyester Resins and Alkyd Resins with production capacity from 3500 TPM to 10,000 TPM located at S. No. 443 of Bhimasar Village on Anjar-Bhimasar Road in Anjar Taluka of District Kutch, Gujarat by Natural Petrochemicals 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).

3. The Standard ToR has been issued by the Ministry, vide letter no. IA-J-11011/329/2012-IA-II(I) dated 28.8.2020. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is an **Expansion case.** The proposal is placed in this 53rd EAC meeting on14th -16th June, 2023, wherein the PP along with accredited Consultant, M/s. Envisafe Environment Consultants [Accreditation number NABET/EIA/2023/SA 0188, valid till 25.11.2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported that Existing land area is 42,290 m^2, the proposed expansion will be carried out in 2,505 m^2 of undeveloped land in existing premises. The details of products to be manufactured are as follows:

Sr. No	Name of Products	CAS No.	*Capacity, TPM			End Use of Products
			E	P	T	
1.	Unsaturated Polyester Resin	100-42-5	3,500	6,500	10,000	FRP, Fibre Glass industry, Encapsulating electrical components, Concrete coating, Synthetic marble
2.	Alkyd Resin	63148-69-6				Paint and Coatings
***E: Existing as per CC&A Granted, P: Proposed, T: Total after proposed expansion**						

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 Ministry had issued EC earlier vide letter no. J-11011/329/2012-IA II (I); dated 16/09/2015 to the existing project of manufacturing of synthetic organic chemicals (3,500 TPM) in favour of M/s Natural Petrochemicals Pvt. Ltd. The unit has obtained certified compliance report of existing Environment clearance vide File No. J-11/79-2022-IROGNR on 18/11/2022 from IRO MoEF&CC, Gandhinagar and certified compliance report of existing CC&A from GPCB vide letter no. PC/CCA-Kutch-360(4)/GPCB ID-17815/738302 on 03/04/2023

7. The PP reported that unit complies with all the conditions stipulated in current CC&A except 2 conditions which are partly complied. Out of these, 1 condition is about submission of hazardous waste details and 1 condition is about submission of annual returns. Action taken report has been submitted to GPCB vide letter dated 8.4.2023.

8. The PP reported that there are no National parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River Sang is flowing at a distance of 8.5 km in south direction. There is no forest land involved in the proposed project. Schedule-I species i.e Shikra, Black Winged Kite, Black Kite & Indian Peafowl and two reptilian species, Indian Flapshell Turtle and Bengal Monitor Lizard, were observed in the 10 km radius from the proposed project for which Conservation plan has been prepared and submitted to PCCF and chief wildlife warden dated 22.6.2021.

9. The PP reported that **Ambient air quality monitoring** was carried out at 8 locations during October 2020 to December 2020 and the baseline data indicated the ranges of concentration as: PM_{10} (58.0 to 94.0 µg/m^3), $PM_{2.5}$ (19.9 to 45.1 µg/m^3), SO_2 (13.9 to 35.0 µg/m^3), NO_2 (16 to 41.0 µg/m^3) and CO (0.9 to 2.2 mg/m^3). AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 1.8498 µg/m^3, 2.3822 µg/m^3 and 0.4852 µg/m^3 with respect to PM_{10}, SO_2 and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise quality monitoring** was carried out at 8 locations during October 2020 to December 2020 and the baseline data indicated the ranges of noise level in residential area as: Day time (35.5 to 53.9 dBA), and night time (32.8 to 43.5 dBA). The concentrations are within the standards prescribed by MoEF&CC. **Ground water quality** monitoring was carried out at 5 locations during October 2020 to December 2020 and the baseline data indicated the ranges of as: Dissolve solids (324 to 1522 mg/l), Total Hardness (92 to 604 mg/l), pH (7.56 to 7.89), electrical conductivity (1.54 to 2.61 ms/cm) Toxic Substances (BDL). The concentrations are within the IS: 10500 standard limits for drinking water except total hardness at Padana village. Surface water quality monitoring was carried out at 8 locations during October 2020 to December 2020 and the baseline data indicated the ranges of concentration as: Turbidity (1.1 to 6.9 NTU), pH (7.7 to 8.36), DO (0 to 3.6 mg/l), BOD (6 to 36 mg/l) and Toxic Substances (BDL). The concentrations are within the IS: 10500 standard limits for drinking water except turbidity, dissolved solids, total hardness, calcium magnesium & sulphate at Sang river. **Soil quality monitoring** was carried out at 8 locations during October 2020 to December 2020 and the baseline data indicated the ranges as: moisture content (5.65 to 9.19 %), Available Nitrogen (36.7 to 68.5 mg/kg), pH (7.75 to 8.35), SAR (2.7 to 4.7) and electrical conductivity (0.15 to 0.8 µs/cm).

10. The PP reported that the total water requirement will be 67 m^3/day including existing 49.5 m^3/day requirement. Only fresh water will be used which will be sourced from GWIL. Total effluent of 20 m^3/day quantity including 5 m^3/day existing quantity will be treated through Primary ETP followed by thermic fluid-based evaporator. Plant will be based on Zero Liquid Discharge system.

11. The Power requirement after expansion will be 875 KVA including existing 575 KVA and will be met from Pashchim Gujarat Vij Company Ltd. (PGVCL). Existing unit has DG sets of 380 KVA & 250 KVA capacity, additionally 400 KVA DG sets are used as standby during power failure. Stack (11 m height) will be provided as per CPCB norms to the proposed DG sets.

12. The existing unit has two 6 Lac Kcal/Hr LDO fired thermic fluid heater and one 15 Lac Kcal/Hr Agrowaste/Firewood fired thermic fluid heater. Additionally, 25 Lac Kcal/Hr TPH Agrowaste/Firewood fired thermic fluid heater will be installed. Multi cyclone separator followed by bag filter with a stack of height of 31m will be installed for controlling the particulate emissions within the statutory limit of 150 mg/Nm3 for the proposed thermic fluid heater. Details of flue gas stacks are given below:

Sr. No.	Stack Attached to	Status		Height & Dia. (m)	Type of Emission & Permissible limit	APCM
		Existing	Proposed			
1	Thermic Fluid Heater-1 (6 Lac Kcal/Hr)	Stand By	Stand By	30 & 0.55	PM ≤ 150 mg/Nm^3	Adequate Stack Height
2	Thermic Fluid Heater-2 (6 Lac Kcal/Hr)			30 & 0.55	SO_2 ≤ 100 ppm	Adequate Stack Height
3	Thermic Fluid Heater-3 (15 Lac Kcal/Hr)	Working	Working	31 & 0.60	NO_X ≤ 50 ppm	Multi Cyclone Separator followed by Bag Filter
4	Thermic Fluid Heater-4 (25 Lac Kcal/Hr)	---	**Working**	31 & 0.60		Multi Cyclone Separator followed by Bag Filter
5	D.G. Set-1 (380 KVA)	Stand By	Stand By	11 & 0.15		Adequate Stack Height
6	D.G. Set-2 (250 KVA)	Stand By	Stand By	11 & 0.15		Adequate Stack Height
7	D.G. Set-3 (400 KVA)	---	**Stand By**	11 & 0.15		Adequate Stack Height

13. **Details of Process Emissions Generation and its Management:** There will not be any process gas emissions from any of the proposed products

14. **Details of Solid Waste/ Hazardous Waste Generation and its Management:** Hazardous waste to be generated from proposed expansion will be managed as per Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016.

Type of waste	Category	Quantity per Annum			Method of Disposal
		Existing	Proposed	Total	
Chemical sludge & Evaporation Residue	Sch-1 35.3	3.35 MT	21.65 MT	25 MT	Collection, Storage, Transportation, and Disposal by land filling at GPCB approved TSDF site.
Discarded drums/ container / Barrels	Sch-1 33.1	4,000 Nos.	8,000 Nos.	12,000 Nos.	Collection, Storage, Decontamination and Reuse / Sell to Scrap Vendor.

Used oil/ spent oil	Sch-1 5.1	0.15 KL	4.85 KL	5 KL	Collection, Storage, Transportation, sell to MoEF&CC approved recyclers OR Reused as Lubricant within premises

15. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 68 Lakhs (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 96.54 Lakhs per annum. Industry proposes to allocate Rs. 38.2 lakhs towards Corporate Social Responsibility.

16. Industry has already developed Greenbelt over an area of 33.0 % i.e. 14,000 m^2 out of total area of the project.

17. The PP reported that the Public Hearing for the proposed project has been conducted by the Gujarat Pollution Control Board on on 14.10.2022 which was presided by the Sub Divisional Magistrate.

Major issues raised	**Response/Commitment from Project Proponent**	**Action plan with time frame and budget**
What will be the impact of increasing the capacity on the surrounding areas? surrounding villages should not be affected by chemicals or bad odour.	There has been no accident since 2005 in this industry. There is no process gas emission from unit. Adequate precautionary measures are being taken to control the flue gas emissions and the same will be upgraded as required.	**Budget-** Rs. 70 Lac for implementation of EMP. **Time Frame-** Pollution control equipment will be installed before commissioning the plant.
Employment to the surrounding villagers	Preference will be given to the people of surrounding villages for employment as far as possible on the basis of their skills	Preference to nearby villagers will be given based on educational qualification and experience.
CSR	28 lakh rupees have been spent in the last four years as part of CER. CER activities will be continued for environment as per their capacity	**Budget-** Rs. 38.2 Lakhs for conducting of CER activities. **Time Frame-** Within 5 years after commissioning of the proposed expansion project.
No damage should be done to the check dams and lakes around	There is no effluent disposal as unit maintains zero liquid discharge, therefore, there will be no damage in the surrounding villages or lakes or reservoirs	Existing ETP and Evaporator are adequate to treat additional effluent and maintain ZLD after proposed expansion.
Pay attention to tree planting activities	Plantation will be done under CER activity in the surrounding village and trees will be maintained until they grow up to suitable height	Tree planting activities will be done as a part of CER activities.

18. The PP proposed to set up an Environment Management Cell (EMC) by engaging Director-Head of EHS- Supervisiors- operators for the functioning of EMC.

19. The PP reported that the Thus, the net carbon emission from the project after proposed expansion will be 22,337 TPA. (23,487 less 1,150).

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

21. The estimated project cost is Rs 78.38 Crores including existing investment of Rs 40.18 crores. Total Employment will be 133 persons after expansion.

22. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance 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.

EAC deliberated on the Supporting documents of the compliance of OM dated 18.5.2023 regarding the verification of the consultant and found it to be satisfactory.

The EAC inter-alia, deliberated on the layout, stack height, maximum distance of occurrence of ground level of concentration of pollutants from the stack emission, Compliance of guideline for storage and handling of stryene monomer, STP, Greenbelt, carbon footprint, Environment Monitoring Program, fuel, details of carbon sequestration, solar panesls installation, compliance of OM dated18.5.2023 and advised the PP to submit the following:

- Plant layout with clearly marked existing area, proposed area and greenbelt are in different colors. Development of greenbelt around the periphery of west side wall.

- Stack height of proposed TFH shall be rechecked with guidelines.
- Recheck distance of occurrence of maximum ground level concentration of pollutants from the stack emission.
- Provision of STP in place of soak pit.
- Revised green belt development plan considering 80% survival rate.
- Revised Environment Monitoring Program.
- Undertaking for the fuel.
- Revised details of carbon sequestration

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

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

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

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

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

(i) The PP shall develop Greenbelt over an area of at least, 14,000 m^2 by planting 3244 number of trees within a period of monsoon season of 2023. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional

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

(ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Director-Head of EHS- Supervisiors- operators. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(iii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is Rs. 68 Lakhs (Capital cost) and ₹ 96.54 Lakhs per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(iv) The total water requirement shall not exceed 67 m^3/day including existing 49.5 m^3/day requirement. Only fresh water shall be used which will be sourced from GWIL. 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) Total effluent of 20 m^3/day quantity including 5 m^3/day existing quantity shall be treated through Primary ETP followed by thermic fluid-based evaporator. The Plant shall be based on Zero Liquid Discharge system. Total domestic water generated shall be treated in STP and reused for gardening.

(vi) Stack height of 31 m with TFH-4 (25 LKcal/hr) shall be mainbtained.

(vii) Industry shall comply the recommendations of CPCB to the unit handling styrene monomer as mentioned in NGT O.A. No. 73 of 2020.

(viii) Agrobriquettes shall be used as the primary fuel, coal shall be used as the secondary fuel during the emergency and in the next coming 4 years after the comissiong of the project usage of coal shall be stopped.

(ix) 200 nos. of solar panels shall be installed within plant premises.

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

(xi) The project proponent shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 608 (E), dated 21. 7.2010 under the provisions of the Environment (Protection) Rules, 1986.

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

(xiii) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

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

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

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

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

(xviii) The unit shall make the arrangement for 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 PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.

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

Agenda No. 53.15

Proposed Synthetic Organic Chemicals (6000 MT/Month) Manufacturing Unit located at Plot No. 204-C/1, 204-C/2/1, 204-C/2/2, 204-C/2/3, G.I.D.C Panoli Industrial Estate, Panoli GIDC Tal: Ankleshwar, Dist: Bharuch, Gujarat by M/s. Rechem Orbits LLP - Consideration of EC

[Proposal No. IA/GJ/IND3/430703/2023; File No. IA-J-11011/468/2022-IA-II(I)]

1. The proposal is for the environmental clearance to the Proposed Synthetic Organic Chemicals (6000 MT/Month) Manufacturing Unit located at Plot No. 204-C/1, 204-C/2/1, 204-C/2/2, 204-C/2/3, G.I.D.C Panoli Industrial Estate, Panoli GIDC Tal: Ankleshwar, Dist: Bharuch, Gujarat by M/s. Rechem Orbits LLP.

2. The project/activity is covered under Category 'A' of Item 5(f), Synthetic Organic Chemicals Industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of Schedule of Environment Impact Assessment (EIA) Notification2006 (as [amended). **The PP reported that the project is located in a Critically Polluted Area (CPA) as identified by the CPCB.**

3. The ToR was issued by the Ministry, vide letter no. IA-J-11011/468/2022-IA-II(I) dated 2.1.2023. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a **Fresh case.** The proposal is placed in this 53rd EAC meeting on 14th- 16th June, 2023, wherein the PP along with accredited Consultant, M/s. Aqua-Air Environmental Engineers Pvt. Ltd. (NABET Accreditation No.: NABET/EIA/2023/SA 0196 Valid Up to April 8, 2024)] made a detailed presentation on the salient features of the project.

3. The PP reported that the total 10609.42 m^2 land area is proposed for the project and no R& R is involved in the Project. The details of products to be manufactured are as follows:

S. No.	Name of Product	CAS No.	Qty (MT/Month)
1	Polyester/Co- Polyester Resin/Chips/Post-consumer recycle (PCR) content Polyester/Co- Polyester Chips	25038-59-9	6000

4. 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.

5. The PP reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance from the project site. River Narmada is flowing at distance of 17 Km in North direction. Schedule-I species, Peafowl, Nolio, Shikra, Indian Cobra, Indian ratsnake were observed in the 10 km radius from the proposed project for which conservation plan has been prepared.

6. The PP reported that **Ambient air quality** monitoring was carried out at 11 locations during 1st October 2022 to 31st December 2022 and the baseline data indicates the ranges of concentrations as: PM_{10} (71.32 – 95.02 µg/m^3), $PM_{2.5}$ (41.70 – 47.24 µg/m^3), SO_2 (15.20 – 19.96 µg/m^3) and NO_x (17.20 – 23.20 µg/m^3). AAQ modeling study for point source emissions indicated that the maximum incremental GLCs after the proposed project would be 0.04 µg/m^3, 0.12 µg/m^3 and 0.04 µg/m^3 with respect to PM_{10}, SO_2 and NO_2. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise level monitoring** was carried out at 11 Residential locations, 5 Industrial locations and the baseline data indicates the ranges for Industrial Location Leq (Day) (65.2 – 70.3 dB) A)) and Leq (Night) (62.2 – 67.9 dB(A)). Residential Location Leq (Day) (46.3 – 54.7 dB) A)) and Leq (Night) (38.2 – 44.5 dB(A)). **Ground Water quality** monitoring was carried out at 11 locations and the baseline data indicates the ranges as: pH (7.10 – 7.95), Total Dissolved Solids (258 - 1988 mg/l), Total Hardness (124.1 – 578.6 mg/l), Chlorides (13.01 – 596.4 mg/l), Fluoride (<0.05 – 0.98 mg/l) and Zinc (<0.05 – 0.10 mg/l). Surface Water quality monitoring was carried out at 6 locations during 1st October 2022 to 31st December 2022 and the baseline data indicates the ranges of concentrations as: pH (7.08 – 7.83), Dissolved Oxygen (6.40 – 7.38 mg/l), Chemical Oxygen Demand (5.14 – 12.21 mg/l), Bio-Chemical Oxygen Demand (1.66 – 3.95 mg/l). **Soil quality monitoring** was carried out at 11 locations and the baseline data indicates the ranges as: pH (7.25 – 8.18), Nitrogen (560.5 – 1793.1 mg/kg), Phosphorus (9.87 – 22.41 mg/kg), Potassium (<0.5 – 6.52 mg/kg) and Electric Conductivity (0.078 – 1.56 mS/cm).

7. The PP reported that total water requirement is 136.0 m^3/day of which freshwater requirement of 73.5 m^3/day will be met from GIDC Water Supply, rest 62.5 m^3/day water will be recycled water. Effluent of 66.80 m^3/day quantity will be treated as per below treatment description. ETP-I: 38.0 KL/Day water from process, 3.0 KL/Day washing and 0.3 KL/Day APCM Scrubber will be treated in ETP [Primary + Secondary + Tertiary] facility. After adequate

treatment, 3.3 KLD effluent send to Common Spray Dryer and 38.0 KLD remaining treated effluent will be recycled within plant premises. Water from the Cooling section: 21.0 KLD Effluent generated from the Cooling section will be collected and treated into sent to the In-house MEE-ATFD/MVR system. After treatment, 20.0 KLD condensate will be recycled within plant premises. Domestic Stream: 4.5 KL/Day Domestic wastewater will be collected and treated in STP. Treated water will be utilized for gardening and plantation purpose within the premises. The plant is based on the total zero liquid discharge system.

8. The Power requirement will be 1000 KVA and will be met from Dakshin Gujarat Vij Company Limited (DGVCL). The unit will have 3 Nos. DG sets of 500 KVA each capacity; additionally, 2 Nos. of DG sets will be used on a continuous basis and 1 No of DG set will be on standby during power failure. Stack (height 15 m) will be provided as per CPCB norms to the proposed DG sets.

9. The unit will have 25 Lakh Kcal/hr of 2 No. of Thermic Fluid Heater and 30 Lakh Kcal/hr of Thermic Fluid Heater [1 No. Stand by] will be installed. Multi Cyclone Separator with water Scrubber with a stack of height of 33 m will be installed for controlling the particulate emissions within the statutory limit of 115 mg/Nm3 for the proposed TFH.

10. **Details of Process Emissions Generation and its Management.** There shall be no process gas emission from the proposed project.

Flue Gas Emission

Sr. No.	Stack Attached to	Quantity of Fuel	Height (Meter)	APCM	Pollutants
1	Thermic Fluid Heater [Cap. 25 lakh Kcal/Hr.] [2 Nos.]	Natural Gas [8000 Nm3/Day] And/or Briquettes /Agro Waste [20 TPD]	33	Adequate Stack Height And/or Multi Cyclone Separator + Water scrubber	PM SO2 NOx
2	Thermic Fluid Heater [Cap. 30 lakh Kcal/Hr.] [Stand-by]	Natural Gas [5000 Nm3/Day] And/or Briquettes /Agro Waste [15 TPD]	33	Adequate Stack Height And/or Multi Cyclone Separator + Water scrubber	
3	D.G. Set [Cap. 500 KVA] [2 Nos.]	Diesel [500 Lit/Hr. - each]	15	Adequate Stack Height	
4	D.G. Set [Cap. 500 KVA]	Diesel [500 Lit/Hr.]	15	Adequate Stack Height	

	[Stand by]				

Process Gas Emission

Sr. No	Process Stack No	APCM	Stack Height (From G.L)	Permissible Limit
There shall be no process gas emission from the proposed project.				

11. **Details of Solid Waste/ Hazardous Waste Generation and its Management**: 07 Categories of Hazardous/Solid Wastes & 01 Categories of Non-Hazardous/Solid Wastes will be generated from this Unit.

S. No	Type of Waste	Source of Generation	Category No.	Qty. (MT/Annum)	Method of Disposal
1.	Empty barrels/ containers/liners contaminated with hazardous chemicals /wastes	Raw Material and Packaging	33.1	1.0	Collection, Storage, Transportation, reuse or send back to the supplier or sell to authorize end users registered under rule 9.
2.	Contaminated Cotton waste	Maintenance	33.2	0.5	Collection, Storage, Transportation and Disposal at co-processing/ CHWIF.
3.	Used or Spent Oil	From Machinery	5.1	1.0	Collection, Storage, Transportation and sold to authorized Recyclers.
4.	ETP Sludge	ETP	35.3	200	Collection, Storage, Transportation and sent to Common TSDF site. (Through GPS mounted vehicle)
5.	MEE Salt	MEE	35.3	50.0	Collection, Storage, Transportation and sent to Common TSDF site. (Through GPS mounted vehicle)

6.	Process Residue	From Process	22.2	70	Collection, Storage, Transportation and Disposal to common incineration facilities.
7.	Polymer Waste	From Process	--	600	Collection, Storage, Transportation, reuse or sell to authorize end users registered vendors.

Non-Hazardous Waste:

S. No	Type of Waste	Source of Generation	Category No.	Qty. (MT/Annum)	Method of Disposal
1.	Fly Ash	Utility	--	650	Collection, storage and send to brick manufacturing unit.

12. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 6.9 Crores (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 116.91 Crores per annum. Industry proposes to allocate Rs. 1.7 Crores towards Corporate Social Responsibility.

13. Industry will develop Greenbelt in an area of 40.6% i.e., 4308.73 m^2 out of total 10609.42 m^2 area of the project.

14. The PP reported that the Public hearing is exempted as per the Para 7.III. Stage (3) (i) (b) of the EIA Notification, 2006 as the project site is located within GIDC Estate.Panoli which is declared as notified industrial area vide notification number No. GHU-98 (64)- GID-1098-2094-G dated 18th November, 1998.

15. The PP proposed to set up an Environment Management Cell (EMC) by engaging General Manager- Enviornment & safety Manager- Manager Maintenance & utility – Production Manager for the functioning of EMC.

16. The PP reported that the total emissions reduction due to carbon sequestration and use of solar energy = 3258.215 T Co_2, net emissions 1905.172 t CO_2 eq/year, the emission reduction percentage- 63.102%. Industry will develop the proposed 33% green belt on the project site during the monsoon season of 2023 i.e. June to September 2023. Additional 730 Nos. of trees will be plant during the monsoon season of 2023 i.e. June to September 2023. Carbon sequestration through the use of Solar energy (250 kWp) within two years of the commencement of the manufacturing plant

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

18. The estimated project cost is Rs. 42.5 Crores. Total Employment will be 75 persons as direct.

19. **Deliberations by the EAC:**

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

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

The EAC noted that the EIA reports are in compliance 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.

EAC deliberated on the Supporting documents of the compliance of the OM dated 18.5.2023 regarding the verification of the consultantand found to be satisfactory.

The EAC inter-alia, deliberated on the Greenbelt development plan, Layout, water balance, carbon sequestration, quantified and specified CEPI compliance of OM dated 31.10.2019 and advised the PP to submit the following:

- Undertaking for the Greenbelt development plan.
- Revised plant layout showing number of rows of trees.
- Revised water balance.
- Action plan of carbon sequstration.
- Quantified and specified CEPI compliance of OM dated 31.10.2019.

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

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

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

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

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

i. Adequate stack height as per CPCB/SPCB guidelines shall be provided. Stack emission levels shall be stringent than the existing standards.

ii. CEMS shall be installed and connected to SPCB/CPCB Server.

iii. Effective fugitive emission control measures shall be adopted in the process, transportation, packing etc.

iv. Transportation of materials by rail/conveyor belt, wherever feasible, shall be explored.

v. Natural gas/ Agrobriquette shall be used as a primary fuel in Thermic Fluid heater.

vi. The best available technology shall be used.

vii. The PP shall develop Greenbelt over an area of 4308.73 m^2 (40.6%) by planting 1350 number of saplings durimg the monsoon season of June 2023 to September 2023. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

viii. The Unit shall plant 730 number of trees in the nearby villages.

ix. The transportation load on roads shall be within their carrying capacity and adequate width of roads shall be maintained inside the industrial premises.

x. 4.5 KLD Domestic wastewater shall be treated in STP. Treated water shall be utilized for gardening and plantation purpose within the premises.

xi. 38.0 KLD water from process, 3.0 KLD washing and 0.3 KLD APCM Scrubber shall be treated in ETP [Primary + Secondary + Tertiary] facility. After adequate treatment, 3.3 KLD effluent shall be send to Common Spray Dryer and 38.0 KLD remaining treated effluent shall be recycled within plant premises. 21.0 KLD effluent generated from the Cooling section shall be collected and treated into sent to the Inhouse MEE-ATFD/MVR system. After treatment, 20.0 KLD condensate shall be recycled within plant premises. (**Revised quantity after the deliberation)**

xii. Continuous monitoring system for effluent quality/ quantity shall be connected to CPCB server.

xiii. The drains for the storm water shall be kept clean and dry in summer and winter. The rain water of the premises shall be collected in tank at every plant area through storm water drains. The collected water shall be analyzed for any contamination of pollutants for 1st and 2nd rain during monsoon.

xiv. 3.3 KLD of effluent shall be sent to the Common Spray Dryer and 42.5 KLD of remaining treated water shall be recycled within plant premises.

xv. Unit shall send fly ash, red mud etc, at designated lovcation approved by SPCB/PCCs.

xvi. Waste generated having high Calorific value shall be sent for Co-processing & low Calorific value waste shall be sent either for Incineration or to the TSDF site.

xvii. Monitoring of the compliance of EC conditions shall be submitted with third party audit every year.

xviii. As proposed, an amount of ₹ 170 Lakhs shall be allocated towards CER for Installation of Solar Panels on Rooftops of Primary Schools and Panchayat Offices, Installation of Solar street lights in Streets Village- Kharod Village, Development of check dam for water harvesting purpose, Water harvesting structure after need assessment, maintenance cost- Kharod Village, Plantation of additional greenbelt [730 trees] in a nearby village- Bakrol Village.

xix. A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage General Manager- Environment & Safety Manager- Manager Maintenance & utility – Production Manager. In addition to this one Safety & Health Officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the

engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

xx. The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 6.9 Crores (Capital cost) and ₹ 116.91 Crores per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

xxi. The Total water requirement shall not exceed from 136.0 KL/Day (5.0 KL/Day Domestic + 7.0 KLD Gardening + 124.0 KLD Industrial). Out of which only 74.5 KL/Day fresh water shall be required from GIDC water, rest 61.5 KL/Day recycled water is form ETP and cooling tower. (**Revised quantity afrer the deliberation**) 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.

xxii. No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.

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

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

xxv. All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

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

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

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

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

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

xxxi. 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.

xxxii. The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.

Agenda No. 53.16

Proposed Speciality Chemicals, Pesticide Intermediates & Pesticide Technical - 750 MT/Month manufacturing plant located at Survey No. 1091, Dahej Industrial Estate (PCPIR), Dahej 2, Vill. Vadadla, Ta: Vagra, Dist: Bharuch, Gujarat by M/s. Applied Chemicals Pvt. Ltd. - Consideration of EC

[Proposal No. IA/GJ/IND3/432920/2023; File No. IA-J-11011/538/2022-IA-II(I)]

1. The proposal is for the environmental clearance to the Proposed Speciality Chemicals, Pesticide Intermediates & Pesticide Technical - 750 MT/Month manufacturing plant located at Survey No. 1091, Dahej Industrial Estate (PCPIR), Dahej 2, Vill. Vadadla, Ta: Vagra, Dist: Bharuch, Gujarat by M/s. Applied Chemicals Pvt. Ltd.

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

3. The ToR was issued by the Ministry, vide letter no. IA-J-11011/538/2022-IA-II(I), dated 5.1.2023. The PP applied for Environment Clearance in the Common Application Form and submitted EIA/EMP Report and other documents. The PP in the Form reported that it is a **Fresh EC case.** The proposal is placed in this 53rd EAC meeting on14th-16th June, 2023, wherein the PP along with accredited Consultant, M/s. Aqua-Air Environmental Engineers Pvt. Ltd. (NABET Accreditation No.: NABET/EIA/2023/IA0062 (Rev. 03) Valid Up to October 7, 2023] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

4. The PP reported that the Existing land area is 31263 m^2, and no R& R is involved in the Project. The details of products to be manufactured are as follows

GROUP	NAME OF PRODUCTS	CAS NO.	QUANTITY (MT/MONTH)
Group-1	**Fungicide Intermediates -1**		
1	2- Chloro -4-(4- Chlorophenoxy) Acetophenone	119851-28-4	150
2	3,4'-Dichloro Diphenyl Ether	6842-62-2	
3	4- Methyl -1,3 Dioxolane	1072-47-5	
4	2,4 Dichloro Velerophenone	61023-66-3	
5	1-(4-ChloroBenzyl) Methyl-3, 3-Methyl-2-Oxo Cyclopentane Carboxylate	80969-68-2	
6	(Methyl (E) -2-{2-[6-Chloropyrimidine-4-4Xyloxy] Phenyl} -3-Methoxy Acetate)	131860-97-4	
7	2,4'-Dichloro Acetophenone / 4-Chlorophenacyl Chloride	937-20-2	
8	2,5-Dichloro Acetophenone	2476-37-1	
9	2- Amino 2',4,4'- Tri Chloro Di Phenyl Ether	56966-52-0	
10	2- Hydrazine 4- Methyl Benzothioate (HMBT)	20174-68-9	
11	(4-Chlorophenyl)-4, 4-Dimethyl Pentanone	66346-01-8	
12	1,2,4-Triazole	288-88-0	
13	1-Cyanoacetyl-3-Ethyl Urea	41078-06-2	
14	2-(Bromomethyl) -2-(2-Chlorophenoxy Phenyl)-4-Methyl-1,3-Dioxolane	873012-43-2	
15	2-2[2-Chloro-4-(4-Chlorophenoxy Phenyl)]-2,4-Dimethyl-1,3-Dioxolane	441347-97-3	

16	2-Acetotylbutyrolactone(2ABL)	517-23-7	
17	2-Chlorobenzyl Chloride (2CBC)	611-19-8	
18	Methyl (2e) -(Methoxyimino) (2-Methylphenyl) Acetate/ 2- Methyl Phenyl Glyoxylate Ortho Methyl Oxime	120974-97-2	
19	3'-(Trifluoromethyl) Acetophenone	349-76-8	
20	Benzofuran-2(3h)-One/ 2- Coumaranone	553-86-8	
21	3-(A-Methoxy) Methylenebenzofuran-2(3h)-One	40800-90-6	
22	2-Cyanophenol	611-20-1	
Group-2	**Fungicide Intermediates -2**		
23	4,6-Dichloropyrimidine	1193-21-1	20
Group-3	**Herbicide Intermediates -1**		
24	2, 4 – Dichlorophenol	120-83-2	150
25	Triazinone	33509-43-2	
26	4- HPPA	94050-90-5	
27	5- Chloro 2,3 - Difluoro Pyridine (CDFP)	89402-43-7	
28	2,6 Dimethyl - N-(Propoxy) Aniline	61874-13-3	
29	4-4’ Bi Pyridine	553-26-4	
30	Methyl 2,6 Bis ((4,6 Dimethoxy Pyrimidin-2- yl) Oxy) Benzoate	142966-13-0	
31	2-Chloro Acetic Acid-1-Methyl Hexyl Ester (For Herbicide Safener)	383412-05-3	
32	5-Chloro 8-Hydroxy Quinoline (For Herbicide Safener & Pharma)	130-16-5	
33	2-(4-Hydroxyphenoxy) Propionic Acid (R)	94050-90-5	
34	2,6-Dichlorobenzoxazole	3621-82-7	
35	5-Ethoxy-7-Fluoro-[1, 2, 4] Triazole [1, 5-c] Pyrimidine-2-Thiol	166524-72-7	
36	Methyl 2-Amino-3-Chloro Benzoate	77820-58-7	
37	2-Chloro-4--(Methylsulfonyl)-3-((2,2,2-Trifluoroethoxy) Methyl) Benzoic Acid	120100-77-8	
Group-4	**Herbicide Intermediates -2**		
38	2-Nitro-4-Methanesulphonylbenzoic Acid	110964-79-9	20
Group-5	**Insecticide Intermediates**		

39	4-Bromo-2-Chloro Phenol	3964-56-5	150
40	2-Chloro 5-Chloromethyl Pyridine (CCMP)	70258-18-3	
41	N- Nitro Imino Imidazolidine (NII)	5465-96-3	
42	2-Chloro 5-Chloromethyl Thiazole (CCMT)	105827-91-6	
43	3-Methyl 4-Nitroimino 1,3,5 Oxidiazine (MNIO)/ 3,6-Dihydro-3-Methyl-N-Nitro-2H-1,3,5-Oxadiazin-4-Amine	153719-38-1	
44	Para Chloro Isovaleric Acid Chloride	51631-50-6	
45	Lambda Cyhalothric Acid	72748-35-7	
46	Na-Salt3, 5, 6-Trichloropyridinol (Na -TCP)	6515-38-4	
47	5- Amino -1 - (2,6 - Dichloro 4- Tri Fluro Methyl Phenyl) -3- Cyano 4- Triflouromethyl Thio Pyrazole	205650-65-3	
48	1-(4-Phenoxy Phenoxy)-2-Propanol	57650-78-9	
49	4-(Trifluoromethyl) Pyridine-3-Carboxylic Acid	15803-66-2	
50	Aminoacetonitrile Hydrochloride	6011-14-9	
51	N-(6-Methyl-3-Oxo-2,5-Dihydro- 1,2,4-Triazin-4(3H)-Yl) Acetamide	136738-23-3	
52	2-Amino-5-Chloro-N,3-Dimethylbenzamide	890707-28-5	
53	3-Bromo-1-(3-Chloropyridin-2-Yl)-1H-Pyrazole-5-Carboxylic Acid	500011-86-9	
54	4-Hydroxy-3-(2,4,6-Trimethylphenyl)-1-Oxaspiro [4.4] Non-3-En-2-One	148476-30-6	
55	3,3-Dimethylbutyryl Chloride	7046-65-5	
Group-6	**Insecticide Technical**		
56	Profenophos	41198-08-7	50
57	Imidacloprid	138261-41-3	
58	Thiamethoxam	153719-23-4	
59	Acetamiprid	135410-20-7	
60	Pyriproxyfen	95737-68-1	
61	Fipronil	120068-37-3	

62	Chlorantraniliprole	500008-45-7	
63	Cyantraniliprole	736994-63-1	
64	Ethiprole	181587-01-9	
65	Flonicamid	158062-67-0	
66	Pymetrozine	123312-89-0	
67	Cyclaniliprole	1031756-98-5	
68	Tralopyril	122454-29-9	
69	Ethylene Dibromide (EDB)	106-93-4	
Group-7	**Herbicides Technical**		
70	Clodinafop Propagyl	114420-56-3	150
71	Quizalofop Ethyl	76578-14-8	
72	Aclonifen	74070-46-5	
73	Imazethapyr & Isomers Technical	81335-77-5	
74	Bispyribac Sodium Technical	125401-92-5	
75	Glufosinate Ammonium	77182-82-2	
76	Metribuzine	21087-64-9	
77	Pendimethalin	40487-42-1	
78	Propanil	709-98-8	
79	Sulfentrazone Technical	122836-35-5	
80	Flufenacet Technical	142459-58-3	
81	Cloquintocet Mexyl (T)	99607-70-2	
82	Pretilachlor Technical	51218-49-6	
83	Paraquate Technical	4685-14-7	
84	Chlorimuron Ethyl Technical	90982-32-4	
85	Triclopyr Butotyl Technical	64700-56-7	

86	Tembotrione Technical	335104-84-2	
Group-8	**Fungicides Technical**		
87	Difenoconazole	119446-68-3	50
88	Tebuconazole	107534-96-3	
89	Tricyclazole	41814-78-2	
90	Hexaconazole	79983-71-4	
91	Propiconazole	60207-90-1	
92	Metconazole	125116-23-6	
93	Prothioconazole	178928-70-6	
94	Paclobutrazol	76738-62-0	
95	Penconazole	66246-88-6	
96	Pyraclostrobin	175013-18-0	
97	Azoxystrobin	131860-33	
98	Pyroxystrobin	131860-33-8	
99	Picoxystrobin	117428-22-5	
100	Trifloxystrobin	141517-21-7	
101	Kresoxim Methyl	143390-89-0	
102	Thiophanate Methyl	23564-05-8	
Group-9	**Research & Development Products**		
103	R & D Pilot & R & D Lad Products		10
	TOTAL		**750.0**

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. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. lies within 10 km distance from the project site. River Narmada is flowing at distance of 10.0 Km in the South direction. There is no forest land

involved in the proposed project. Schedule-I species i.e., Grey mongoose, Shikra, Indian peafowl, Indian ratsnake, Indian cobra., were observed in the 10 km radius from the proposed project for which Conservation plan has been prepared and submitted to Deputy conservator of Forest dated on 28.4.2023.

7. The PP reported that **Ambient air quality** monitoring was carried out at 10 locations during March, 2022 to May, 2022 and the baseline data indicates the ranges of concentrations as: PM_{10} (75.10 – 85.12 µg/m^3), $PM_{2.5}$ (43.32 – 45.98 µg/m^3), SO_2 (14.29 – 17.45 µg/m^3) and NO_2 (16.06 – 19.10 µg/m^3), respectively. AAQ modeling study for point source emissions indicated that the maximum incremental GLCs after the proposed project would be 0.089 µg/m3, 0.268 µg/m3 and 0.096 µg/m^3 with respect to PM_{10}, SOx and NOx. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). **Noise quality** monitoring was carried out at 9 locations and the baseline data indicate the ranges as: Leq (Day) (47.6 – 53.8 dB (A)), Leq (Night) (39.3 – 43.8 dB (A)). **Ground water quality monitoring** was carried out at 10 locations and the baseline data indicate the ranges as: pH (7.4 – 8.1), TSS (<10.0-12.0 mg/l), Total Hardness (198.5 – 558.6 mg/l), Total Dissolved Solids (512.0 – 1958.0 mg/l) & Chlorides (83.5 – 589.7 mg/l). The resultant concentrations are within the Indian Standard (IS 10500:2012). **Surface water quality monitorin**g was carried out at 7 locations and the baseline data indicate the ranges as: pH (7.7-8.4), DO (6.2-6.5 mg/l), COD (6.6 – 17.5 mg/l) & BOD (1.8-4.9 mg/l). **Soil quality monitoring** was carried out at 9 locations and the baseline data indicate the ranges as: pH (7.5 – 8.6), Nitrogen (N) (1454.6 – 3668.9 mg/l), Phosphorus (P) (15.6 – 36.6 mg/l), Potassium (K) (165.7 – 872.9 mg/l) & Electric Conductivity (0.3 – 2.8 mS/cm).

8. The PP reported that the total water requirement is 361 KL/Day of which fresh water requirement of 344 KL/Day and will be met from GIDC Water Supply letter no. GIDC/DEE/WS/BRH/308 Dated: 15/03/2023. Effluent will be treated in ETP having primary followed by Fenton Treatment, RO, MEE & Bio reactor. The wastewater generation will be 226 KLD (Domestic: 4 KLD, Industrial: 222 KLD). Wastewater generated will be segregated into concentrated and Dilute streams. Concentrated stream will be treated in Primary followed by Multiple Effect Evaporator (MEE) and Dilute stream will be treated in Primary followed by Fenton treatment & finally at Bio reactor. The utility stream will be treated in RO system. RO permeate will be reused for in industrial purpose. RO Reject will be sent to ETP. Total 212 KLD Waste Water (99 KLD MEE Condensate + 14 KLD ATFD Condensate + 99 KLD Diluted Waste Water) will be treated in Bio Reactor System. Clear supernatant from Bio Reactor shall be collected in Storage Tank and sent to Common Effluent Treatment Plant of Dahej Industrial Estate for further treatment, Domestic waste water 4 KLD will be treated in proposed STP of 4 KLD. The treated water from STP will be reused for gardening and flushing.

9. The Power requirement will be 1000 KVA from DGVCL, DG Set (500 KVA x 1 Nos.). Unit will have 1 No. DG sets of 500 KVA capacity and used as standby during power failure. Stack (height 11 m) will be provided as per CPCB norms to the proposed DG sets.

10. Unit will have 1 No. of Boilers (8 TPH) & 1 No. of Thermopack (2 lac KCal/hr). Adequate Stack Height of 32 m will be installed for controlling the particulate emissions within the statutory limit of 150 mg/Nm3 for the proposed boilers.

11. **Details of Process Emissions Generation and its Management:** Flue Gas Stack

S. no.	Source of Emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e., Air Pollutants	Air Pollution Control Measures (APCM)
1	Steam Boiler (Capacity: 8.0 MT/hr.) × 1 Nos	32	Briquette/ Coal	35.00 MT /Day	PM <150 mg/Nm^3 SO_2<100 ppm NOx<50 ppm	Three- Filed ESP System + Wet Scrubber
2	Thermo Pack (Capacity: 2.0 Lac Kilo Cal/ hr.)		Briquette/ Coal	2.2 MT /Day		
3	D. G. Set - Stand By (Capacity: 1x500 KVA)	11	HSD	500 Liters/day		Adequate Stack Height

Note: In case of non-availability of Briquettes, company will use the imported coal.

Process Stack

Sr. No.	Vent attached to	Vent Height & Diameter	Pollutants	Air pollution Control System
1	Reaction Vessel (2-Chloro-4-(4-Chlorophenoxy) Acetophenone, 2,4 Di Chloro Valerophenone, 1-(4-Chloro Benzyl) Methyl-3,3-Methyl-2-Oxo Cyclopentane Carboxylate, 2,4-Dichloro Acetophenone, 2,5-Dichloro Acetophenone, HMBT, 3-Dichloro-4-(2-Bromomethyl-4-Methyl-1,3-Dioxolane-2-yl)-4-Chloro Diphenyl Ether, 4,6-Dichloro Pyrimidine, 2-Cyano Phenol, 2,4 Dichloro Phenol, Triazinone, 2,6-Di Chloro Benzoxazole, CCMT, Para Chloro	Height-11 Meters	HCl	Two Stage Scrubbing System with both as Water for 30 % HCl Soln

	Isovaleric Acid Chloride, Lambda Cyhalothric Acid, Na TCP, Pyrazole Sulfide, N-(6-Methyl-3-Oxo--4,5-Dihydro- 1,2,4-Triazin-4(3H)-yl) Acetamide, Profenophos, Ethiprole, Pymetrozine, Propiconazole, Prothioconazole, Paclobutrazol, Penconazole, Pyraclostrobin, Pyroxystrobin, Trifloxystrobin, Trifloxystrobin)			
2	Reaction Vessel (Methyl (2E) - (Methoxyimino) (2-Methylphenyl) Acetate)	Height-11 Meters	NOx	Two Stage Scrubbing System with First Stage as Water for 30 % HCl Soln & Second Stage Dilute Alkali Scrubber for 35-38 % Nitrosyl Sulphuric Acid
3	Reaction Vessel (CCMT, Methyl 2, 6 Bis ((4, 6 Dimethoxy pyrimidin-2- yl) Oxy) Benzoate)	Height-11 Meters	SO_2	Two Stage Scrubbing System with First Stage as Water for 30 % HCl Soln & Second Stage Dilute Alkali Scrubber for 20 % Sodium Sulphite Soln
4	Reaction Vessel (3-Dichloro-4-(2-Bromomethyl-4-Methyl-1,3-Dioxolane-2-yl)-4-Chloro Diphenyl Ether, Ortho Chloro Benzyl Chloride, 4-Bromo-2-Chloro Phenol, Hexaconazole, Propiconazole)	Height-11 Meters	HBr	Two Stage Scrubbing System with both as Water for 30 % HBr Soln
5	Reaction Vessel (Triazinone, 2,2'-Dithiobis (5-Ethoxy-7-Fluro [1,2,4] Triazole [1,5C] Pyrimidine)	Height-11 Meters	H_2S	Two Stage Scrubbing System with both Alkali for Sodium

				Hydrosulphide Solution
6	Reaction Vessel (4-Hydroxy-3-(2,4,6-Trimethylphenyl)-1-Oxaspiro [4.4] Non-3-En-2-One, 3,3-Dimethyl Butyryl Chloride, Flonicamid)	Height-11 Meters	HCl + SO_2	Two Stage Scrubbing System with First Stage as Water for 30 % HCl Soln & Second Stage Dilute Alkali Scrubber for 20 % Sodium Sulphite Soln

12. **Details of Solid Waste/ Hazardous Waste Generation and its Management:** 43 Nos. of Categories of Hazardous Wastes & 2 no. of non-hazardous waste shall be generated from this Unit.

Hazardous/Solid Wastes

S. No	Name of Waste	Source of Generation	Cat No.	Proposed Quantity (MT/Year)	Disposal Method
1	Discarded Containers / Bags / Liners	Storage & handling of Raw Materials	Sch-I/ 33.1	100.0	Collection, Storage, Transportation, Decontamination & Disposal by selling to registered recycler.
2	Used / Spent Oil	Equipment & Machineries	Sch-I/ 5.1	50.0	Collection, Storage, Transportation, Decontamination & Disposal by selling to registered recycler.
3	ETP Sludge	In-house ETP	Sch-I/ 35.3	360.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site.
4	MEE Salt	Process	Sch-I/ 28.1	3960.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site by following protocol of Hazardous Waste Rule – 2016.

5	Recovered Solvent	Process	Sch-I/ 28.6	261284.0	Collection, Storage, Management & Recovery within the premises and reuse in plant premises.
6	Aluminium Chloride Solution (18-20%)	Process(2-Chloro-4-(4-Chlorophenoxy) Acetophenone, 2,4 Di Chloro Valerophenone, 2,4-Dichloro Acetophenone, 2,5-Di chloro Acetophenone, 3-Dichloro-4-(2-Bromo methyl-4-Methyl-1,3-Dio xolane-2-yl)-4-Chloro Diphenyl Ether, Pymetrozine, Propiconazole)	Sch-II/ Class B (15)	18276.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
7	30-33% Hydrochloric Acid	Process(2-Chloro-4-(4-Chlorophenoxy) Acetophenone, 2,4 Di Chloro Valerophenone	Sch-II-Class B (15)	14605.0	Collection, Storage, Transportation & Disposal by selling to authorised end user registered under Rule-9.

		ne, 1-(4-Chloro Benzyl) Methyl-3,3-Methyl-2-Oxo Cyclopentane Carboxy-late, 2,4-Dichloro Aceto-phenone, 2,5-Dichloro Acetophenone , 2-Amino-4-Methyl Benzo-thiazole, 3-Dichloro-4-(2-Bromomethyl-4-Methyl-1,3-Dioxolane-2-yl)-4-Chloro Diphenyl Ether, , 2-HPAA disodium salt, 2-Cyano Phenol, 4,6-dihydroxypyrimidine, 4,6-Dichloro Pyrimidine, 2,4 Di Chloro Phenol, Triazinone, PEDA, 2,6-			

		Di Chloro Benzoxazole, CCMP, CCMT, Para Chloro Isovaleric Acid Chloride, Lambda Cyhalothric Acid, Na TCP, Pyrazole Sulfide , N-(6-Methyl-3-Oxo--4,5-Dihydro-1,2,4-Triazin-4(3H)-yl) Acetamide, 4-Hydroxy-3-(2,4,6-trimethyl phenyl)-1-oxaspiro [4.4] non-3-en-2-one, 3,3-Dimethyl Butyryl Chloride, Profenophos, Ethiprole, Flonicamid,Penconazole , Pyraclostrobin, Pyroxystrobin)			

8	Sodium Chloride Salt	Process (3,4'-Dichloro Diphenyl Ether),Methyl -2- [2-(6-Chloro Pyrimidine-4-yl) Oxy-phenyl -3-Methoxyprop-2-Enoate, 2-Amino-2',4,4'-Trichloro diphenyl Ether, 4,6-dihydroxy pyrimidine, 2-Nitro-4-Methanesulfo -nyl Benzoic Acid, Lambda Cyhalothric Acid, 1-(4-Phenoxy pnenoxy)-2-Propanol, 4-Hydroxy-3-(2,4,6-trimethylphenyl)-1-oxaspiro [4.4] non-3-en-2-one, Pymetrozine,	Sch-I/ 28.1	3892.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site by following protocol of Hazardous Waste Rule – 2016.

		Clodinafop Propagyl, Aclonifen, Pretilachlor, Trifloxystrobin, Kresoxim Methyl, Thiophenate Methyl)			
9	Sodium Sulphate	Process (Methyl (2E) - (methoxyimino) (2-Methylphenyl) acetate, 2–Nitro Imino Imidazolidine (NII), Metribuzine)	Sch-I/ 28.1	9546.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
10	Methyl Bisulfate	Process (Trifloxystrobin, Methyl (2E) - (methoxyimino) (2-Methylphenyl) acetate)	Sch-I/ 28.1	1201.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
11	Iron Sludge	Process (2-Amino-2',4,4' - Trichloro Diphenyl Ether, 5-Chloro-8-Hydroxy Quinoline)	Sch-I/ 35.3	3314.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site by following protocol of Hazardous Waste Rule – 2016.

12	Ammonium Sulphate	Process (Ortho-Tolyl Thiourea, 5-Chloro-8-Hydroxy Quinoline, 2–Nitro Imino Imidazolidine (NII))	Sch-I/ 28.1	10609.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
13	Ammonium Hydroxide	Process (2-Hydrazino-4-Methyl Benzo Thiazole (HMBT))	Sch-I/ 28.1	360.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
14	Spent/ Recovered Catalyst	Process(1-(4-Chlorophenyl)-4,4-dimethyl -3-pentanone, 3-Dichloro-4-(2-Bromo methyl-4-Methyl-1,3-Dioxolane-2-yl)-4-Chloro Diphenyl Ether, 2-Amino 3-Chloro Benzoic Acid, Sulfentrazone, Triclopyr, Propiconazole)	Sch-I/ 28.2	280.0	Collection, Storage, Transportation & send to regenerator Unit for reactivation and return back to factory premises for reuse in Process.

15	Acetic Acid	Process (CCMP, 2-amino-5-chloro-N, 3-dimethylbenzamide)	Sch-I/ 28.1	5234.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
16	28% Hydrobromic Acid	Process(3-Dichloro-4-(2-Bromomethyl-4-Methyl-1,3-Dioxolane-2-yl)-4-Chloro Diphenyl Ether, 4-Bromo-2-Chloro Phenol, Hexaconazole, Propiconazole, Tralopyril)	Sch-I/ 28.1	4500.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
17	10% Sodium Hypochlorite soln.	Process (Ortho Chloro Benzyl Chloride)	Sch-I/ 28.1	563.0	Collection, Storage, Management & Reused in ETP within plant Premises.
18	Phosphoric Acid	Process (4,6-Dichloro Pyrimidine, CCMP)	Sch-I/ 28.1	5017.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
19	Sodium Bicarbonate	Process (4,6-Dichloro Pyrimidine)	Sch-I/ 28.6	158.0	Collection, Storage, Management & Reused in ETP within Plant Premises.

20	Spent Carbon	Process (4,6-Dichloro Pyrimidine)	Sch-I/ 28.1	48.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site.
21	30% Sodium Hydrosulfide Soln	Process (Triazinone)	Sch-I/ 28.1	2340.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
22	Inorganic Mixed Salt (Sodium Chloride Salt & Sodium Bicarbonate Salt)	Process (Methyl 2, 6-Bis (4, 6-Dimethoxypyrimidin-2-yl) oxy) Benzoate, Imidacloprid)	Sch-I/ 35.3	7386.0	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site by following protocol of Hazardous Waste Rule – 2016.
23	Sodium Methyl Sulphate	Process (Methyl 2, 6-Bis (4, 6-Dimethoxypyrimidin-2-yl) oxy) Benzoate)	Sch-I/ 28.1	540.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
24	Sulphur Dichloride (SCl_2)	Process (2,6-Di Chloro Benzoxazole)	Sch-I/ 28.1	785.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
25	Residue	Process(2-Chloro-4-(4-Chlorophenoxy) Acetophenon	Sch-I/ 36.1	4007.0	Collection, Storage, Transportation and sent for co-processing in cement industries or common incineration facility.

		e, 3,4'-Dichloro Diphenyl Ether), 4-Methyl-1,3-Dioxane, 2,4 Di Chloro Valerophenone, Methyl-2- [2-(6-Chloro Pyrimidine-4-yl) Oxyphenyl-3-Methoxyprop-2-Enoate, 2,4-Dichloro Acetophenone,2,5-Dichloro Acetophenone, 2- Amino-2',4,4'-Trichloro Diphenyl Ether, (HMBT), 1-(4-Chlorophenyl)-4, 4-dimethyl-3-pentanone, 2-[2-Chloro-4-(4-Chlorophenoxy) Phenyl]-2,4-Dimethyl-			

		1,3-Dioxolane, Ortho Chloro Benzyl Chloride, Methyl (2E)-(methoxyimino) (2-Methylphenyl) Acetate, 3-(Trifluoromethyl), CCMP, CCMT, Para Chloro Isovaleric Acid Chloride, Lambda Cyhalothric Acid, 1-(4-Phenoxypnenoxy)-2-Propanol, Amino acetonitrile Hydrochloride, N-(6-Methyl-3-Oxo--4,5-Dihydro-1,2,4-Triazin-4(3H)-yl) Acetamide, 2-Amino-5-Chloro-N, 3-Dimethyl Benzamide, 3-Bromo-1-			

		(3-Chloropyridin-2-Yl)-1H-Pyrazole-5-Carboxylic Acid, 3,3-Dimethyl Butyryl Chloride, Imidacloprid, Thiamethoxam, Acetamiprid, Pyriproxyfen, Chlorantraniliprole, Cyantraniliprole, Clodinafop Propagyl, Quizalofop Ethyl, Aclonifen, Imazethapyar, Bispyribac-Sodium, Thiophenate Methyl)			
26	30% HF	Process(2-Ethoxy-4-Fluoro-6-Hydrazinylpyrimidine)	Sch-I/ 28.1	589.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
27	Benzyl Chloride	Process (CCMP)	Sch-I/ 28.1	1530.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

28	20 % Sodium Sulphite Soln	Process (Methyl 2, 6-Bis (4, 6-Dimethoxypyrimidin-2-yl) oxy) Benzoate, CCMT, 4-Hydroxy-3-(2,4,6-trimethylphenyl)-1-oxaspiro [4.4] non-3-en-2-one, 3,3-Dimethyl Butyryl Chloride, Flonicamid, Kresoxim Methyl, Kresoxim Methyl)	Sch-I/ 28.1	14253.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
29	Spent Sulfuric Acid	Process (Para Chloro Isovaleric Acid Chloride, 3,3-Dimethyl Butyryl Chloride, Pendimethalin, Sulfentrazone, Ethylene Di Bromide)	Sch-I/ 28.1	44240.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

30	Sodium Bromide Soln	Process (Para Chloro Isovaleric Acid Chloride, Profenophos, Cyclaniliprole, Quizalofop Ethyl, Paclobutrazol)	Sch-II-Class B (15)	7940.0	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
31	Sodium Ethoxide	Process(4-Hydroxy-3-(2,4,6-trimethylphenyl)-1-oxaspiro [4.4] non-3-en-2-one)	Sch-I/ 28.1	459.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
32	Sodium Carbonate	Process (Ethylene Di Bromide)	Sch-I/ 28.1	413.0	Collection, Storage, Management & Reused in ETP within plant Premises.
33	Sodium Fluoride	Process (Clodinafop Propagyl)	Sch-I/ 28.1	230.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
34	Potassium Chloride + Potassium Bi Carbonate Salt	Process (Cloquintocet Mexyl (93%), Azoxystrobin, Picoxystrobin)	Sch-I/ 28.1	7244.0	Collection, Storage & reuse in manufacturing Plant excess quantity will be sold to end users having Rule 9 Permission.
35	Potassium	Process (Difenoconazole, Hexaconazol	Sch-I/ 28.1	255.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.

	Bromide	e, Propiconazole)			
36	Methane Sulfonic Acid Sodium Salt	Process (Penconazole)	Sch-I/ 28.5	280.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
37	Sodium Bi Sulphate	Process (Kresoxim Methyl)	Sch-I/ 28.4	248.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9
38	40-45% Soln of Spent Nitric Acid	Process (2-Nitro-4-Methanesulfonyl Benzoic Acid)	Sch-I/ 28.1	3744.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
39	Propionic Acid	Process (Fipronil Disulfinyl)	Sch-I/ 28.1	333.0	Collection, Storage, Transportation & Disposal by selling to authorized end user registered under Rule-9.
40	Off Spec Materials	Storage & handling of Products	Sch-I/ 36.1	250.0	Collection, Storage, Transportation and sent for co-processing in cement industries or nearest incineration site.
41	Expiry Date Materials	Storage & handling of Raw Materials and Products	Sch-I/ 36.1	250.0	Collection, Storage, Transportation and sent for co-processing in cement industries or nearest incineration site.
42	Insulation Waste	Storage & handling of Products	Other-1/ S1	2	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site.

43	Waste Glass Wool	Storage & handling of Products	Other-1/ S2	1	Collection, Storage, Transportation & Disposal to nearby Common registered TSDF site.

DETAILS OF NON-HAZARDOUS WASTE GENERATION AND DISPOSAL

Sr. No.	Particulars	Source	Unit	Category	Quantity per year	Hazardous waste disposal /Management
1	STP sludge	STP	MT/year	-	10.0	Collection, Storage, Transportation, Disposal at TSDF Site
2	Ash from utilities	Boiler	MT/year	-	1200.0	Collection, Storage, Transportation and sell to brick manufacturer.

13. The Budget earmarked towards the Environmental Management Plan (EMP) is ₹ 9.535 Crore (capital) and the Recurring Cost (operation and maintenance) will be about ₹ 6.303 Crore per annum. Industry proposes to allocate Rs. 1.33 Crore towards Corporate Social Responsibility.

14. Total 31263.0 m^2 land area is available at site, out of which 10321.0 m^2 (33%) area shall be developed as Green Belt Area. Trees will be planted in the plant premises with a spacing of 2m x 2m and Approx. 3225 number of trees will be developed accordingly.

15. The PP reported that the Public hearing is exempted as per the Para 7.III. Stage (3) (i) (b) of the EIA Notification, 2006 the Proposed Project is located in Notified Industrial Area of PCPIR, Dahej which is covered within PCPIR region (Petroleum, Chemical & Petrochemical Investment Region) & PCPIR has obtained Environmental and CRZ clearance vide file no. 21-49/2010-IA-III dated 14th September, 2017.

16. The PP proposed to set up an Environment Management Cell (EMC) by engaging General Manager- ESH Manager- Safety Manager- safety Executive- Firemen- Enviornment Manager- Env Executive- ETP operator for the functioning of EMC.

17. The PP reported that the total 2558 Nos. of trees to be planted for carbon sequestrations. The total carbon sequestered through trees (2558 trees) =3440.459 Ton CO_2 eq./year. Solar Panel of 180 KW to be installed for power requirement. The total carbon sequestered through solar energy = 213.3 Ton CO_2 eq./year. Total emissions reduction = carbon sequestration through tress + electricity generation by solar power plant. Total emissions reduction= 3440.459 + 213.3 = 3653.759 t CO_2 eq. /year.

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

19. The estimated project cost is Rs. 67.65 crores. Total Employment will be 50 Nos. persons.

20. **Deliberations by the EAC:**

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

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

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

The EAC inter-alia, deliberated on the fuel, Greenbelt, Plant layout showing green belt with trees in rows, recycle of water, STP, Comparative study between Briquettes and Imported Coal for Carbon Foot Print, Life Cycle Assesment, compliance of OM dated 18.5.2023 and advised the PP to submit the following:

- Undertaking for the use of Fuel.
- Undertaking for Green belt development.
- Undertaking for Recycle of water.
- Comparative study between Briquettes and Imported Coal for Carbon Foot Print.
- Undertaking for LCA.
- Plot layout showing green belt with trees in rows.
- Supporting documents of the compliance of OM dated 18.5.2023 regarding the verification of the consultant.

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

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

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

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

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

(i) The PP shall develop Greenbelt over an area of 10321.0 m^2 (33%), by planting 3225 number of trees within a period of one year of grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2 m). The budget earmarked for the plantation shall be kept in separate account and should be audited annually. PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.

(ii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the General Manager- ESH Manager- Safety Manager- safety Executive- Firemen- Enviornment Manager- Env Executive- ETP operator. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(iii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget propose under EMP is ₹ 9.535 Crore (Capital cost) and ₹ ₹ 6.303 Crore per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with

proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.

(iv) Agrobriquette shall be used as the primary fuel for boiler and thermopack, during it's unavailability coal shall be used in case of emergency. The PP shall use alternative greener fuel over the next five years after commissioning of the projects.

(v) The total water requirement shall not exceed 361 KL/Day of which fresh water requirement of 344 KL/Day and will be met from GIDC Water Supply letter no. GIDC/DEE/WS/BRH/308 Dated: 15/03/2023. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.

(vi) Effluent shall be treated in ETP having primary followed by Fenton Treatment, RO, MEE & Bio reactor. The wastewater generation shall be 226 KLD (Domestic: 4 KLD, Industrial: 222 KLD). Wastewater generated shall be segregated into concentrated and Dilute streams. Concentrated stream shall be treated in Primary followed by Multiple Effect Evaporator (MEE) and Dilute stream will be treated in Primary followed by Fenton treatment & finally at Bio reactor. The utility stream shall be treated in RO system. RO permeate shall be reused for in industrial purpose. RO Reject shall be sent to ETP. Total 212 KLD Waste Water (99 KLD MEE Condensate + 14 KLD ATFD Condensate + 99 KLD Diluted Waste Water) will be treated in Bio Reactor System. Clear supernatant from Bio Reactor shall be collected in Storage Tank and sent to Common Effluent Treatment Plant of Dahej Industrial Estate for further treatment, Domestic waste water 4 KLD will be treated in proposed STP of 4 KLD. The treated water from STP will be reused for gardening and flushing.

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

(viii) The project proponent shall comply with the environment norms for Pesticide Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 446 (E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.

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

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

(xi) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

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

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

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

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

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

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

(xviii) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.

Any other item with permission of the Chair:

Agenda No. 46.8

Proposed Expansion of Herbicides Product & Pesticide Specific Intermediates with production capacity from 1200 TPM to 4350 TPM located at Plot No. 3246 to 3251, 3325 to 3329, GIDC Estate Panoli, Ankleshwar, District Bharuch, Gujarat by M/s. Aero Agro Chemical Industries Limited - Consideration of EC

[Proposal No. IA/GJ/IND3/410132/2023; File No. J-11011/938/2008-IA-II(I)]

1. The proposal was recommended by the EAC in its 46th Meeting held on 30th-31st January, 1st February, 2023. Subsequently, the Ministry noted that even though the existing Project was granted EC in 2009, only 28 out of the 51 conditions have been complied with and the Project is also located in the CPA. Hence, the Ministry recommended that the previous EC conditions may be first complied with substantially before the EC for the expansion in CPA is granted and accordingly, the EAC may re-examine the proposal.

2. Accordingly, the proposal was re-examined by the EAC in its 51st meeting held on 16-17 May 2023, wherein the EAC observed/sought the following:
   - Regarding the compliance to eco developmental measures including community welfare measures undertaken, the EAC noted that the PP has submitted only the amount paid to various organisations for CSR without any details of the activities undertaken, **which needs to be duly aunthenticated and submitted.**

   - W.r.t the **"agreed to comply"**, mentioned by the unit as "not appliable and can't be ascertained" conditions, these are not considered as non-complied/partly complied conditions**. The EAC noted them to be in order except for few conditions i.e. Specific Condition no. (vi), (xxii), (xxiv) and General Condiiton no. (xvii), wherein the PP claimed compliance without any documentary proof of the same, which needs to be submitted.**

3. The PP vide letter dated 6.6.2023 and 13.06.2023 has submitted the Revised Action Taken report for the above conditions and the EAC found these to be satisfactory.

In view of the above, the EAC has recommended the proposal for EC subject to the conditions stipulated earlier in the 46th meeting.

ANNEXURE-I

GENERAL EC CONDITIONS

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

- The PP shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at **https://parivesh.nic.in/**. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

***

ANNEXURE-II

STANDARD TERMS OF REFERENCE

A. GENERIC TERMS OF REFERENCE

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

3) **Project Description**
   i. Cost of project and time of completion.
   ii. Products with capacities for the proposed project.
   iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
   iv. Details of existing products and production, if any, along with present product/production details in tabular format, to verify the compliance of the EIA Notifications.
   v. Details of existing products and production, if any, along with present product/production details in tabular format, to verify the compliance of the EIA Notifications.
   vi. List of raw materials required and their source along with mode of transportation.
   vii. Other chemicals and materials required with quantities and storage capacities
   viii. Details of Emission, effluents, hazardous waste generation and their management.
   ix. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
   x. Details of boiler/gensets (including stacks/exhausts) and fuels to be use
   xi. Details of boiler/gensets (including stacks/exhausts) and fuels to be used
   xii. Process description along with major equipment's and machineries, process flow sheet (quantitative) from raw materials to products to be provided
   xiii. Hazard identification and details of proposed safety systems.
   xiv. Expansion/modernization proposals:
      a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Integrated Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, copy of the latest CTO and status of compliance of Consent to Operate for the ongoing/existing operation of the project from SPCB shall be attached with the EIA-EMP report.
      b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior

to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.

4) Site Details

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

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

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

v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area
vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife
vii. Recommendations and NOC from the concerned State/UT Coastal Zone Management Authority on CRZ angle

6) Environmental Status

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

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

7) Environment Impact and Environment Management Plan

i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be assessed.

Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.

ii. Water Quality Modelling – in case of discharge in water body

iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.

iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules 1986.

v. Details of stack emission and action plan for control of emissions to meet standards.

vi. Measures for fugitive emission control

vii. Details of hazardous waste generation and their storage, utilization and management. Copies of MOU regarding utilization of solid and hazardous waste in cement plant shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.

viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.

ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.

x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

xii. Action plan for post-project environmental monitoring shall be submitted.

xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8) Occupational health

i. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers

ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre-placement and periodical examinations give the details of the same. Details regarding last month analyzed data of above mentioned parameters as per age, sex, duration of exposure and department wise.

iii. Details of existing Occupational & Safety Hazards. What are the exposure levels of hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
iv. Annual report of health status of workers with special reference to Occupational Health and Safety.

9) Corporate Environment Policy

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

10) Corporate Environmental Responsibility (CER)

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

11) Additional studies/Measures to be considered

(i) Provide latest and ecofriendly technology for product manufacturing.
(ii) Emphasize on Green chemistry/Clean Manufacturing
(iii) Provide CAS No. of products along with product list.
(iv) Provide details of amount of carbon sequestered in their unit through greenbelt/other modes, in case of expansion project.
(v) Life structure and sustainability for carbon and water foot print.
(vi) Detailed pollution Load estimation.
(vii) Transportation of Hazardous substance, effluents etc shall be carriedout through authorized and GPS enable vehicles/Trucks only.
(viii) Category of Hazardous Wastes shall be mentioned in the EIA/EMP report and in presentation.
(ix) Details of greenhouse gases and emissions shall be provided.

(x) Greenbelt shall be developed in the first year of the project and wind breaks shall be erected.
(xi) Study area map shall be overlapped with all the associated features.
(xii) Emphasize on green fuels.
(xiii) The project from NCR shall not use Coal as fuel. Further, PP shall avoid use of Coal in the CPAs and elsewhere also if alternatives are available.
(xiv) Provide the Cost-Benefit analysis with respect to the environment due to the project.

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

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

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

1. Details on solvents to be used, measures for solvent recovery and for emissions control.
2. Details of process emissions from the proposed unit and its arrangement to control.
3. Ambient air quality data should include VOC, other process-specific pollutants* like 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.
15. Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spelled out. Proposed mitigation measures also needs to be analysed and submitted for further

appraisal of the EAC.

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

a. Commitment that no banned pesticides will be manufactured.
b. Details on solvents to be used, measures for solvent recovery and for emissions control.
c. Details of process emissions from the proposed unit and its arrangement to control.
d. Ambient air quality data should include VOC, other process-specific pollutants* like NH3*, chlorine*, HCl*, HBr*, H2S*,HF*, CS2etc.,(*-as applicable)
e. Work zone monitoring arrangements for hazardous chemicals.
f. Detailed effluent treatment scheme including segregation for units adopting 'Zero' liquid discharge.
g. Action plan for odour control to be submitted.
h. A copy of the Memorandum of Understanding signed with cement manufacturers indicating clearly that they co-process organic solid/hazardous waste generated.
i. Authorization/Membership for the disposal of liquid effluent in CETP and solid/hazardous waste in TSDF, if any.
j. Material Safety Data Sheet for all the Chemicals are being used/will be used
k. Authorization/Membership for the disposal of solid/hazardous waste in TSDF.
l. Details of incinerator if to be installed.
m. Risk assessment for storage and handling of hazardous chemicals/solvents. Action plan for handling & safety system to be incorporated.
n. Arrangements for ensuring health and safety of workers engaged in handling of toxic materials.
o. Details of carbon foot prints and carbon sequestration study w.r.t. proposed project needs to spelled out. Proposed mitigation measures also needs to be analysed and submitted for further appraisal of the EAC.

***

Annexure-III

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

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

8.	**Shri Sanjay Bisht** Scientist 'E', Room No. 517, Office of the Director General of Meteorology, Indian Meteorological Department, Musam Bhawan, Lodhi Road, New Delhi -110003 E-mail: sanjay.bist@imd.gov.in	Member
9.	**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
10.	**Dr. M. Ramesh** Scientist 'E' Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhawan, Room No. V-203, Vayu Wing, Jor Bagh Road, New Delhi-110003 Tel. 011-20819338 E-mail: ramesh.motipalli@nic.in	Member Secretary

***

MOM approved by

(Prof. Aniruddha B. Pandit)
Chairman

***