सत्यमेव जयते

File No: IA-J-11011/71/2022-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **02/07/2024**

To,

Jitendrakumar M Jain Jain
M/S. CANPEX CHEMICALS PVT. LTD.
Survey No. 155, Village Ambhora, Tah.-Ashti, Dist.- Beed, Maharashtra , Ambhora, BEED, MAHARASHTRA, , 414202
jitendra@canpex.co.in

Subject: **Grant of prior Environmental Clearance (EC) to the proposed project "Proposed expansion of existing product capacities and addition of new products manufacturing of API, API/Chemical Intermediates and COVID API located at Survey No. 155, Village Ambhora, Taluka - Ashti, Dist. - Beed (Maharashtra) by M/s. Canpex Chemicals Pvt. Ltd" under the provision of the EIA Notification 2006 -regarding.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/MH/IND3/458959/2024 dated 30/01/2024 for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC24A0202MH5728468N
(ii) File No.	IA-J-11011/71/2022-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(f) Synthetic organic chemicals industry
(vi) Sector	Industrial Projects - 3
(vii) Name of Project	Proposed expansion of existing product capacities and addition of new products manufacturing of API, API/Chemical Intermediates and COVID API located at Survey No. 155, Village Ambhora, Tal.- Ashti, Dist. - Beed - 414202. (Maharashtra) by M/s. Canpex Chemicals Pvt. Ltd. Reg. Environmental Clearance. (Env. Consultant: M/s. Anacon Laboratories Pvt. Ltd.; NABET accreditation No. NABET/EIA/2326/RA 0304)

(viii) Name of Company/Organization	M/S. CANPEX CHEMICALS PVT. LTD.
(ix) Location of Project (District, State)	BEED, MAHARASHTRA
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. The Ministry of Environment, Forest and Climate Change has examined the proposal seeking environmental clearance for expansion of existing product capacities and addition of new products manufacturing of API, API/Chemical Intermediates and COVID API located at Survey No. 155, Village Ambhora, Taluka - Ashti, Dist. - Beed - 414202. (Maharashtra) by M/s. Canpex Chemicals Pvt. Ltd.

4. The project/activity is covered under **Category 'A'** of item 5(f), Synthetic organic chemicals industry of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended) as the project is located outside the notified outside the industrial area.

5. The Standard ToR was issued by the Ministry, vide letter no. IA-J-11011/71/2022-IA-II(I) dated 4.3.2022. 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 was placed in **79th EAC meeting held on 8.5.2024,** wherein the PP along with accredited Consultant, M/s. Anacon Laboratories Pvt. Ltd[Accreditation number NABET/EIA/2326/RA 0304 Valid up to 29th September 2026).] made a detailed presentation on the salient features of the project. The information submitted by the PP is as follows:

6. The PP reported that Existing land area is 27449 m^2, additional 12246 m^2 will be used for proposed expansion and no R& R is involved in the Project. The details of products to be manufactured are as follows:

Sl.	Product	CAS No.	Existing (TPM)	Proposed (TPM)	Total after expansion (TPM)	Application
	Existing products (API/ Chemical Intermediates)					
1	Guanidine Nitrate 98 %	506-93-4	400	-(200) Reduction	200	Used in API/ Chemical like Nitroguanidine, Acyclovir, Abacavir, Trimethoprim
2	50% Hydrogen Cyanamide solution	420-04-2	60	240	300	Used in Albendazole (anti-anthelmintic), imatinib mesalyate (anti-cancer), etc.
	Proposed New Products (API / Chemical & Intermediates)					
3	Guanine	73-40-5	0	80	80	Used in API Acyclovir (anti – viral)
4	Acyclovir	59277-89-3	0	30	30	API anti -viral
5	N-(2-Amino-4,6-Dichloro-5-Pyrimidinyl)-Formamide (FADCP)	171887-03-9	0	20	20	Used in API Abacavir (Anti- HIV)
6	Guanidine Carbonate	593-85-1	0	30	30	Used in pemetrexed, trimethoprim, epirizole, etc
7	Guanidine Hydrochloride	50-01-1	0	20	20	Used in pemetrexed, trimethoprim, epirizole, etc

Sl.	Product	CAS No.	Existing (TPM)	Proposed (TPM)	Total after expansion (TPM)	Application
8	Dodecyl Guanidine Acetate Crude 95 %	2439-10-3	0	20	20	Used in pemetrexed, trimethoprim, epirizole, etc
	Proposed New Products (Covid API)					
9	Favipiravir	259793-96-9	0	5	5	API-Antiviral
10	Dexamethasone	50-02-2	0	3	3	API-Antiviral
11	Molnupiravir	2349386-89-4	0	5	5	API-Antiviral
Total			**460**	**453**	**713**	**Total API and API / chemical Intermediates 700 TPM + Covid API 13 TPM Total = 713 TPM**
	Note – Annual production capacity of above API/Chemical & Intermediates will be kept within 713 TPM maximum. M/s. CCPL will manufacture any API as mentioned in above list and same category API will be manufactured within upper limit of 713 TPA based on market demand.					

By-products

Sr. No.	Name of By-product	Existing Quantity (TPM)	Proposed Quantity (TPM)
1	Methanol	-	62.20
2	Formic Acid	-	25.20
	TOTAL:	-	**87.40**

7. 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.

8. M/s. Canpex Chemicals Pvt. Ltd. (here after referred as CCPL) got first CTO in 2002 and renewed regularly. Now, they have proposed expansion of existing product capacities and addition of new products for manufacturing of API, API/Chemical Intermediates and Covid API. The PP reported that the existing plant is in operation as per Valid CTO from MPCB vide Consent No:- UAN No.0000182052/CR/2312001628 dated 15.12.2023. The certified compliance report obtained from MPCB on dated 08.11.2023. All the CTO conditions are complied.

9. The PP reported that there are no national parks, wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. River/ water body and distance from project site and direction details Mehekri Nadi at 1.5 km (SW), Kamli Talav at 7.4 km (SE), Kamli Nadi at 6 km (E) and Loni Nala at 9.5 km (WSW) . No Schedule-I species were found in the study area.

10. The PP reported that the Ambient air quality monitoring was carried out at 8 locations during 1st December 2021 to 28th February 2022 and the baseline data indicates the ranges of concentrations as: PM10 (47.4-84.5 µg/m^3), PM2.5 (17.9-33.7 µg/m^3), SO_2 (6.2-14.5 µg/m^3) and NO_2 (11.3-21.7 µg/m^3). The maximum ground level concentrations (GLCs) for particulate matter and gaseous concentration SO_2, NO_2 due to existing as well as proposed condition were carried out. The predicted 24-hourly cumulative ground level concentration for PM_{10}, $PM_{2.5}$, SO_2, NO_2 are 74.88 µg/m^3, 31.09µg/m^3, 15.6µg/m^3 and 21.96µg/m^3 respectively.

11. The PP reported that the total water requirement for plant activities after expansion will be 293.5 KLD (Industrial Process & Other 283 + Domestic purpose 10.5). Out of 293.5 KLD, 104.9 KLD will be recycled and reused in process. Thus, fresh water requirement after expansion will be 188.6 KLD. The Water for existing plant is supplied from Shet Tale/Farm Pond. Water requirement for proposed expansion capacity will be source from Ground Water. CGWA permission obtained vide NOC No. CGWA/NOC/IND/ORIG/2024/20023 on dated 14.03. 2024.Total quantity of trade effluent generation is 99.1 KLD and domestic effluent is 8.5 KLD from STP. Trade effluent will besegeregated into High TDS and low TDS effluent streams. High TDS effluent stream will be provided with primary treatment followed by MEE. Low TDS effluent stream will be treated in the ETP comprising primary, secondary and tertiary treatment followed by RO. After treatment of high TDS effluent

and RO reject in MEE, live steam condensate will be added and it will be further treated in ETP along with low TDS effluent followed by RO. Therefore, total wastewater generation is 107.60 KLD (Trade 99.1 KLD + Domestic 8.5 KLD) whereas recycled water is 104.9 KLD. 10 KLD capacity STP will be commissioned using MBBR technology. STP Treated water will be used for gardening within plant layout to fulfil ZLD compliance. ETP capacity 125 KLD will be commissioned including primary, secondary and tertiary treatment along with ME and RO Plant to fulfil ZLD compliance. Tertiary treated water 96.9 KLD will be reused /recycled in the process and domestic treated water 8.0 KLD will be used for gardening purpose. Thus, total treated recycle water will be 104.9 KLD. The plant will be based on Zero Liquid discharge system.

12. Power requirement after expansion will be 1125 kW Including existing 483 kW and will be met from Maharashtra State Electricity Distribution Company Limited (MSEDCL). Existing unit has 1 DG set of 400 KVA capacity, additionally 1 DG set of 750 KVA is proposed as standby during power failure. Stack (18m height) will be provided as per CPCB norms to the proposed DG sets.

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

S. No.	**Stack attached to**	**Ht. (m)**	**Temp**	**Velocity**	**Volumetric Flow**	**PM**	**SO_2**	**NOx**
			(K)	**(m/s)**	**Nm^3/hr**	**gm/sec**	**gm/sec**	**gm/sec**
Existing Stack								
1	Coal fired Boiler (3 TPH)	30	393	5.63	6293.19	0.26	0.52	0.52
2	DG Set (400 kVA)	9	423	8.78	117.20	0.02	-	0.44
Proposed Additional Stack								
1	Coal and briquette fired Boiler (6 TPH)	30	403	10.2	13551.80	0.19	0.38	0.38
2	DG Set (750 kVA)	18	483	12.5	253.21	0.04	-	0.83
Total Stack after Proposed Expansion								
1	Boiler (6 TPH)	30	403	10.2	13551.80	0.19	0.38	0.38
2	Boiler (3 TPH)	30	393	5.63	6293.19	0.26	0.52	0.52
3	DG Set (400 kVA)	9	423	8.78	117.20	0.02	-	0.44
4	DG Set (750 kVA)	18	483	12.5	253.21	0.04	-	0.83

S. No.	**Facilities**	**Air Pollution Control equipment**	**Emission Level**
1.	Boiler	Multicyclone Dust collector followed by Bag Filter	SPM 50 mg/Nm^3 SO_2 100 mg/Nm^3 NO_2 100 mg/Nm3
2	Process dryer	Scrubber	
3	DG sets (1X400 KVA and 1X750 KVA)	Stack height/ acoustic enclosure	As per CPCB norms

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

SOLID WASTE GENERATION

Sr. No.	Type of Waste	Quantity			Disposal
		Existing	Proposed	Total	
1	Coal Ash	120 MT/A	450MT/A	570 MT/A	Sale to Bricks manufactures
2	Calcium Carbonate	1375MT/A	5501MT/A	6876MT/A	Sale to Bricks manufactures

HAZARDOUS WASTE GENERATION

Category No	Type Of Waste	Quantity			Disposal
		Existing	Proposed	Total	
28.1	Process residue/waste	24 TPA	1373 TPA	1397 TPA	CHWTSDF /sale to authorized recycler

28.3	Spent carbon from process	-	28 TPA	28 TPA	CHWTSDF
33.1	Discarded containers/barrels/liners	700 Nos./A	7000 Nos./A	7700 Nos./A	Sale to authorised party / CHWTSDF
35.3	Chemical sludge from waste water treatment	0.6 TPA	180 TPA	180 TPA	CHWTSDF
	MEE salts	-	2925 TPA	2925 TPA	CHWTSDF /sale to authorized recycler

OTHER DOMESTIC WASTE

Sr. No.	**Type of Waste**	**Quantity**			**Disposal**
		Existing	**Proposed**	**Total**	
1	Domestic	4.8MT/A	7.5MT/A	12.3MT/A	Authorized recycler

PLASTIC WASTE

Sr. No.	Type of Waste	Quantity (Kg/M)			Disposal
		Existing	Proposed	Total	
1	Cat I Plastic Waste (Rigid Plastic – Drums, cans, bottles, etc.)	0	565	565	Sale to Authorized Party
2	Cat II Plastic Waste (Oven, HDPE bags, liners, etc.)	2325	3510	5835	

OTHER WASTE GENERATION

Sr. No.	Type of Waste	Quantity (kg/M)			Disposal
		Existing	Proposed	Total	
1	Used Batteries	10	30	40	Sale to Authorized Party
2	E-waste	5	15	20	

Type of Waste	Quantity			Disposal
	Existing	Proposed	Total	
Fly ash	120 MT/A	450 MT/A	570 MT/A	Sale to Bricks Manufactures

CANPEX will install additional Bag Filters apart from existing Multi-Cyclone Dust Collector for the existing as well as proposed boiler. This will further reduce fugitive air emissions and improve air quality.
CANPEX is proposing to construct a closed shed for fly ash storage yard. Thus, the chances of ash spillages in soil and air will be further reduced. The shed size will be 10 m x 10 m x 6 m height (100 sq. m.). Nearly 300 Ton fly ash can be stored. It will have 1m plinth height with concrete flooring. It will be closed from all sides with brick wall and will have ABS sheet roofing. From this shed, ash will be sent to bricks manufacturers/cement industry.

Sr. No.	Type of Waste	Quantity			Disposal
		Existing	Proposed	Total	
1	STP Sludge Source - STP	4.8 MT/A	7.5 MT/A	12.3 MT/A	Used as manure within plant
2	Biodegradable wet waste Source - Human Consumption Food Dry Waste – Tree leaves, grasses, etc.	150 Kg/Month	300 Kg/Month	450 Kg/Month	The waste is collected and treated in compost pit (earthworms) and used as manure.
3	Dry waste (Paper, wood, corrugated boxes, brooms, tea cups, other disposables)	10 Kg/Month	20 Kg/Month	30 Kg/Month	Given to authorized recycler

15. The Budget earmarked towards the Environmental Management Plan (EMP) is 1093.5lakhs (capital) and the Recurring

Cost (operation and maintenance) will be about 135.55Lakhs per annum. Industry proposes to allocate Rs. 43.705 Lakhs towards Corporate Environment Responsibility.

16. Industry has already developed greenbelt in an area of 7503 m^2 and will be developed greenbelt in additional area of 5670 m^2. Thus, total greenbelt will be developed in 13173 m^2i.e. 33.2% out of total area of the project.

17. The PP reported that the Public Hearing for the proposed project has been conducted by the Maharashtra Pollution Control Board on Dt. 29.08.2023 at 11:00 AM at project site i.e. Survey No.155, Ambhora Village, Taluka. - Ashti, Dist. Beed under the chairmanship of Additional District Magistrate, Beed.

The main issues raised during the public hearing are related to:

Issues/Queries/Comment/ Suggestion	Response/Commitment from Project Proponent	Action Plan with Time Frame and Budget
Shri. Atul Viththal Khakal : **Res. of Ambhora, Tal. - Ashti, Dist.- Beed** He had no objection on expansion project and welcomed the project. He thanked the project proponent for giving employment to 80 people in existing plant and happy that about 210 people will get employment during proposed expansion. · Water in the surrounding area has been contaminated but it is not clear whether the water was contaminated by this company or not. · He requested the project proponent to continuously operate the ETP plant & the treated water should be used for the plantation in the factory premises only. · Industry should take care that there is no serious problem of drinking water in the village.	The existing plant has requirement of 51.2 KLD water. The proposed expansion product is based on Zero Liquid Discharge (ZLD) in which, waste water will evaporate by ZLD system and the generated wastewater will not be discharged in the surrounding area. Also, hazardous waste is disposed through CHWTSDF.	For treatment of water and waste water management budget: Capital Cost : Rs. 440 Lakhs; Recurring Cost: Rs. 90 Lakhs For treatment of Solid and Hazardous waste budget: Capital Cost : Rs. 8 Lakhs; Recurring Cost: Rs. 5 Lakhs Construction of fully enclosed shed for storage of Calcium Carbonate i.e. Solid waste: Capital Cost : Rs. 75 Lakhs; Recurring Cost: Rs. 10 Lakhs PP has collected the sample from dug well of Atul Viththal Khakal and results was found within the permissible limits.
Adv. Satyajeet Karhale **Res. of Ambhora, Tal. - Ashti, Dist. – Beed** · Is 125 KLD ETP capacity is for new plant or existing plant? · How the ETP plant is going to operate/monitored? · The water and soil samples should be inspected every two to three months by a private organization and the government office and the report should be submitted to the Gram Panchayat office, so that the people will know the information about the pollution. · Opportunity of employment should be given to people of Ambhora & nearby village in equal proportion. · Ambhora village has its drinking water supply from Vaghluj Lake. There is a lot of problem of drinking water in the village.	· ETP plant with 125 KLD capacity is proposed for the new project. · The current products are water soluble, hence use very less quantity of water and generate minimum quantity of wastewater and for that, ETP plant is installed and in operational. The treated effluent is being used on land for gardening. · According to the norms of M.P.C. Board, samples of the water bodies within the radius of 10 km has been taken. · ETP plant has been installed in the existing unit and is operational. · Shri. Subhash Mutha (Director) said that when the complaint was received from Shri. Nanasaheb Amle, regarding water pollution. Then M.P.C.B. had taken the water samples for analysis and the report of water sample has been given to the Complaint and Grampanchayat office, He also said that, before starting the said industry, we have installed the ETP plant first.	For treatment of water and waste water management budget: Capital Cost : Rs. 440 Lakhs; Recurring Cost: Rs. 90 Lakhs. Construction of fully enclosed shed for storage of Calcium Carbonate i.e. Solid waste: Capital Cost : Rs. 75 Lakhs; Recurring Cost: Rs. 10 Lakhs PP has collected the sample from bore well near Vaghluj lake and results was found within the permissible limits.
Shri. Nanasaheb Tukaram Amle,	According to your complaint, all water	PP has collected the sample from

Issues/Queries/Comment/ Suggestion	Response/Commitment from Project Proponent	Action Plan with Time Frame and Budget
Res of Ambharo, Tal.- Ashti, Dist.- Beed: There is damage to my farm & well water is polluted due to this project.	samples were taken for testing and report was submitted to you and gram panchayat office. Application should be made to the M. P. C. Board, according to which the samples of the said water will be taken for analysis once again and the sample report will be communicated to you.	dug well of Nanasaheb Tukaram Amle and results was found within the permissible limits.
Shri. Sunanda Reddy, Environmentalist, Telangana State: Wished and supported the project management. Also requested to take care of the environment.	Your suggestions have been noted.	No action required.
Shri. Santosh Gund, Res of Vaghluj, Tah. Ashti, Dist, Beed: My farm is adjacent to the project. My well water is contaminated but I am not sure whether it is because of this industry. Therefore, I request the government officials to take the water samples from my farm for testing so that according to analysis report we can know why the water is getting polluted.	Your suggestions have been noted.	PP has collected the sample from Farm Pond of Santosh Gund and results was found within the permissible limits.
Shri. Rajesh RambhauAtole, Res of Ambhora, Tal. Ashti, Dist. Beed: The project is nearby 500 mtrs away from the village. The people of the village are suffering due to the smell of smoke/chemicals of this company. Also, a serious problem of drinking water has been arised. He also said that there is no any objection to the expansion project. Also the financial help to the village is also been done by M/s. CCPL. But the project proponent should take appropriate measures so that in future the Ambhora Gram panchayat as well as its people should be ensured that there is no natural harm and other damages due to this project.	Your suggestions have been noted.	No action required.

Written Suggestion	Response/Commitment from Project Proponent	Action plan with Time Frame and Budget
Vootkuri Sunanda Reddy (President) Dharithri Paryavarana Parirakshana Sanstha: Welcomed and supported the project and gave some suggestions to maintain ecological balance and environmental safety.	Your suggestions have been noted.	No action required

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

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

20. The estimated project cost is Rs 43.705 Crores including existing investment of Rs. 14.77 Crores. At present existing manpower is 80, proposed 125 and after expansion manpower will be 205.

21. The proposal was placed in the 74th EAC meeting held on 7th February,2024, in which EAC deferred the proposal for

want of requisite information. Reply for the same was submitted on 19.4.2024.

<table>
<tr><th>S. No.</th><th>Queries Raised by EAC</th><th>Reply by PP</th></tr>
<tr><td>1</td><td>PP informed that application for ground water drawal permission has been submitted on 7.2.2024. the Committee suggested to submit the copy of application</td><td>The application for ground water drawl permission has been submitted on 07.02.2024. CGWA permission obtained vide NOC No. CGWA/NOC/IND/ORIG/2024/20023 on dated 14.03.2024</td></tr>
<tr><td>2</td><td>The Committee suggested to segregate the effluent stream into High and low TDS/COD effluent streams and provide treatment for the same. High TDS/COD effluent streams to be passed through solvent stripper</td><td>During proposed expansion, as suggested by EAC, the trade effluent segregated by streams into High and Low TDS/COD streams. High TDS/COD effluent streams will be passed through solvent stripper before further treatment in MEE. The revised Effluent treatment scheme is as follows
<u>Multiple Effect Evaporator (100 KLD)</u>
High TDS effluent generated from the process will be collected in Effluent Collection Tank-1 and after primary treatment it will be transferred to MEE
<table>
<tr><th>Sr. No.</th><th>Parameters</th><th>Unit</th><th>Raw High TDS Stream</th><th>After Primary Treatment</th><th>Feed to Evaporator (Along with RO reject)</th><th>Condensate Outlet from MEE</th></tr>
<tr><td>1</td><td>Flow rate</td><td>m3/day</td><td>65.0</td><td>65.0</td><td>65+17 = 82.0</td><td>80.3</td></tr>
<tr><td>2</td><td>pH</td><td>----</td><td>5-6</td><td>7-7.5</td><td>7-7.5</td><td>7-7.5</td></tr>
<tr><td>3</td><td>COD</td><td>mg/lit</td><td>38000-39000</td><td>30000-31000</td><td>24000-25000</td><td>6000-7000</td></tr>
<tr><td>4</td><td>TDS</td><td>mg/lit</td><td>140000-160000</td><td>140000-160000</td><td>111550-127700</td><td>100 -200</td></tr>
</table>
MEE salt / Solids will be sent to nearest TSDF,MEPL Ranjangaon. CANPEX have already obtained membership of TSDF.
Low TDS Effluent generated during Vessel wash, Contaminated drums cleaning, Floor washing, Boiler Blow- down and Cooling Tower Blow-down will be transferred to Effluent Collection Tank-2. From this tank it will be transferred to ETP.
<table>
<tr><th>Sr. No.</th><th>Parameters</th><th>Unit</th><th>Raw Low TDS stream</th><th>Inlet to primary</th><th>Inlet to Secondary</th><th>Inlet to tertiary</th></tr>
<tr><td>1</td><td>Flow rate</td><td>m3/day</td><td>34.1</td><td>34.1+80.3 = 114.4</td><td>114.4</td><td>113.9</td></tr>
<tr><td>2</td><td>pH</td><td>----</td><td>6.5-7.5</td><td>7-7.5</td><td>7-7.5</td><td>7-7.5</td></tr>
<tr><td>3</td><td>COD</td><td>mg/lit</td><td>150-200</td><td>4250- 5000</td><td>2400- 4000</td><td>250-350</td></tr>
<tr><td>4</td><td>TDS</td><td>mg/lit</td><td>19000- 20000</td><td>5750-6100</td><td>5750-6100</td><td>500-700</td></tr>
<tr><td>5</td><td>BOD_3, 27^0 C</td><td>mg/lit</td><td>500-100</td><td>1500-2000</td><td>1000-1500</td><td>50-100</td></tr>
<tr><td>6</td><td>TSS</td><td>mg/lit</td><td>100-130</td><td>350-400</td><td><100</td><td><100</td></tr>
</table>
ETP Sludge will be sent to nearest TSDF, MEPL Ranjangaon. CANPEX have already obtained membership of TSDF.
<u>Reverse Osmosis (125 KLD)</u>
<table>
<tr><th>Sr. No.</th><th>Parameters</th><th>Unit</th><th>Inlet to RO</th><th>Permeate</th><th>Reject</th></tr>
<tr><td>1</td><td>Flow rate</td><td>m3/day</td><td>113.9</td><td>96.9</td><td>17.0</td></tr>
</table>
</td></tr>
</table>

2	pH	-	7.0- 7.5	6.5 – 7.0	7.5 – 8.0
3	TDS	mg/lit	500-700	100	2800 – 4100
4	COD	mg/lit	250 – 350	<100	300 – 350

Note – RO reject will be sent to MEE

Proposed Waste Water Treatment Technology / Details of ZLD

§ The unit is being / will be ZLD unit and total generated effluent will be recycled and reused. Total quantity of trade effluent generation is 99.1 KLD and domestic effluent is 8.5 KLD from STP. Trade effluent will be treated in MEE, ETP and RO Plant. After treatment of high TDS effluent and RO reject in MEE, live steam condensate will be added and it will be further treated in ETP along with low TDS effluent followed by RO. Therefore, total wastewater generation is 107.60 KLD (Trade 99.1 KLD + Domestic 8.5 KLD) whereas recycle water is 104.9 KLD.

§ 10 KLD capacity STP will be commissioned using MBBR technology. STP Treated water will be used for gardening within plant layout to fulfil ZLD compliance.

§ ETP capacity 125 KLD will be commissioned including primary, secondary and tertiary treatment along with MEE and RO Plant to fulfil ZLD compliance. Tertiary treated water 96.9 KLD will be reused /recycled in the process and domestic treated water 8.0 KLD will be used for gardening purpose. Thus, total treated recycle water will be 104.9 KLD.

Following steps are involved in treatment of industrial effluent:

• Primary Treatment - I (For High TDS stream)
• Treatment with Multiple Effect Evaporators
• Primary Treatment-II (For Low TDS stream)
• Secondary Treatment
• Tertiary Treatment
• RO System (RO)
• Sludge handling system
• Solids (MEE Salt) Handling

WATER REQUIREMENT AND WASTEWATER GENETATION (KLD

Sr. No.	Particulars	Consumption (KLPD)			Loss (-) / Gain (+) (KLPD)			Effluent (KLPD)		
		Existing	Proposed	Total	Existing loss/Gain	Proposed	Total	Existing	Proposed	Total
1	Domestic	3.5	7	10.5	-1	-1	-2	2.5	6	8.5
2	Industrial Process	3	61	64	-3	4	1	0	65	65
3	Vessel Wash	0	7.5	7.5	0	-0.6	-0.6	0	6.9	6.9
4	Contaminated Drum Cleaning	0	1	1	0	0	0	0	1	1
5	Floor Washing	0	2	2	0	-0.2	-0.2	0	1.8	1.8
6	Cooling Tower	26.9	135	161.9	-26.2	-115	-141.2	0.7	20	20.7
7	Boiler	7.8	28.8	36.6	-7	-25.9	-32.9	0.8	2.9	3.7
8	Gardening	5	0	5	-5	-5	-10	0	0	0
9	R.O. Reject Water	5	0	5	-5	0	-5	0	0	0
	Total:	51.2	242.3	293.5	-47.2	-138.7	-185.9	4	103.6	107.6
Total waste water generation		107.60 KLD (Process 99.1 KLD + Domestic 8.5 KLD) treated in treatment plant								
Recycled water		104.9 KLD (Treated Water from RO and STP)								
Net fresh water requirement		188.60 KLD (293.5 KLD – 104.90 KLD)								

3	PP should adopt modular STP instead of wet	Modular STP based on MBBR Technology of 10 KLD capacity is proposed for treatment of domestic wastewater. Domestic wastewater 8.5 KLD will be collected and treated. Treated water will be used for gardening within plant premises. It is proposed to install 10 KLD STP (MBBR technology). Treated water will be used for gardening within plant

land technology to avoid contamination as Existing sludge is also stored in unlined pit	**Process Description** **Wastewater Transport** The domestic wastewater, which will be generated from various sources, is collected at sources and routed towards the treatment plant. All the sewage is allowed to flow by gravity through open/close drains passing through coarse screen. **Screen Chamber** The incoming raw sewage contains inert particles. The primary screen serves to prevent particles with size larger than 10mm of entering into the treatment system. The particles trapped on the screen shall be disposed as solids waste. Here domestic sewage to be treated. **Oil & Grease Trap** The wastewater from screen will be passes to oil & grease trap. The sewage inevitably contains free oil & fat particles. This free oil and grease interferes with the biological treatment reducing the efficiency of biological treatment. Therefore, it is necessary to remove oil and grease. **Collection cum Equalization Tank** The sewage from the screen chamber and from Oil & Grease trap underflows to the collection cum equalization tank. The untreated sewage is retained in this tank with sufficient capacity to attain a retention time of 6 - 8 hrs. (Or depending on the peak flow; this tank acts as a balancing tank where the hydraulic & the organic loadings to the subsequent units can be controlled). The collection cum equalization tank is fitted with air piping grid on the floor of the tank, air blower helps to avoid any formation of anaerobic zones in the tank, which can lead to foul smell. **Extended Aeration Tank (MBBR)** The wastewater from collection tank enters from the top of the reactor and comes in contact to the microorganisms attached to the Bio Pac Media. This phase of the treatment process utilizes the principal of microbial degradation of pollutants in the presence of oxygen.. The Bio Pac Media has a very high surface to volume ratio, allowing for a high concentration of biological growth to thrive within the protected areas of the media. As the media supports a biomass concentration several times that achievable in activated sludge systems, treatment is significantly more productive. The biomass retained on the ring media provides effective treatment for the wastewater. The Bio Pac media are kept in motion by coarse bubble aerators. Apart from oxygenation air introduced into the reactor is sufficient to ensure thorough mixing and turnover of the media within the reactor. The air from the aerator periodically strips of most of the accumulated biomass. This makes it possible to control the Bio Film thickness and age distribution, and prevent the development of anaerobic conditions. The frequency of air shearing is optimized so that the microbes remain in a high growth phase, but they still form a fully developed food chain, in which larger organisms consume smaller ones. The result is more BOD conversion to water and CO_2 and less to biomass, so sludge production is minimized. The need to periodically waste sludge and the requirement to supply a dilute return activated sludge to maintain an appropriate food to microorganisms (F/M) ratio is eliminated. Once acclimated the Bio Film is highly resistant to shock caused by abrupt changes in BOD loading or exposure to toxins. The FBR process has been shown to be effective in a range of operational conditions including carbonaceous, nitrification and combined carbonaceous & nitrification removal. High loading rates can be applied for carbonaceous removal. **Lamella Clarifier** After biological treatment of wastewater it is subjected to a lamella clarifier where it flows by gravity to an upward flow secondary settling chamber. A baffle guides the water entering the settler downwards. Any biological solids suspended in the effluent following aerobic degradation are removed via gravimetric settlement. To economize this process, settler media is used which provides a large surface area for the suspended solids to settle down on its surface and the same are guided towards the bottom sludge accumulating hopper, from this zone the sludge is withdrawn & allowed to pass to the Sludge Dying Beds containing less than 20% moisture. The supernatant from the settler is let out of the system from the outlet launder provided at the top of the settler **Treated Water Tank** The treated water from Lamella clarifier will be collected in treated water tank. The water from treated water tank is fed to the pressure sand filters & Activated carbon Filter for removal of suspended matter & turbidity

Disinfection System

The water after removal suspended particles, odor and organic matter is subjected for disinfection. By using Sodium Hypochlorite solution containing 10% strength. The hypo solution will be stored in 10 lit tank. Treated water will be used for gardening within plant.

Process flow diagram of proposed STP has been submitted.

4 Action plan for lined pit for storage of chemical sludge.

Calcium Carbonate is a non hazardous solid waste for which in existing Consent to Operate, MPCB has given its disposal method as Sale to Brick Manufacturer. Earlier disposal method was Landfill in own premises. Hence, there is no need of constructing Lined Pit. Instead, we propose to construct a fully enclosed shed for storing Calcium Carbonate so that soil, water & air will be protected from contamination. Calcium Carbonate waste generated from the plant will be securely stored in this shed before sending it to Bricks manufacturers. The details are given below:

Shed Size: Size of the shed will be 12 m width x 17 m length x 6 m height. Floor area of the shed will be 204 Sq. M. where about 500 MT of Calcium Carbonate can be stored. Closed conveyor belt will be installed from plant to Storage shed and automatic filling arrangement will be commissioned for filling in the truck. Sprinklers will be installed while loading in the truck. This storage capacity is equivalent to about 4.5 month"s generation of Calcium Carbonate from the plant with existing capacity.

Shed Details: The shed will have plinth 2 feet above ground with concrete flooring. It will be enclosed from all four sides by wall / G.I. sheets and will have roof covered with G.I. sheets. There will not be any contamination with soil, water and air after storing Calcium Carbonate in this shed.

Timeline & Budgeted Cost: This shed will be constructed within a period of Six months with estimated capital cost of Rs. 75 Lakhs with recurring cost of Rs.10 Lakh/Annum on repair and maintenance.

Disposal Method: Calcium Carbonate generated (1375 MTPA) in the plant will be stored in the shed before sending it to Bricks Manufacturers

5 During presentation, PP presented incremental GLC for SO2 and NOx would be 12.3 mg/m^3 and 10.2 mg/m^3 respectively, which seems to be in higher side. The Committee suggested to put additional safeguards into order to reduce GLC and carry out air quality modeling again.

The earlier AAQ modeling was done by considering worst case scenario including DG set (400 kVA & 750 kVA) and fuel as a coal for boiler. These values were cumulative GLCs (existing + proposed) of gaseous pollutant after the proposed expansion.

Sl. No.	Stack attached to	Ht. (m)	Temp (K)	Velocity (m/s)	Volumetric Flow Nm^3/hr	PM gm/sec	SO2 gm/sec	NOx gm/sec
Existing Stack								
1	Boiler (3 TPH)	30	393	5.63	6293.19	0.26	0.52	0.52
2	DG Set (400 kVA)	9	423	8.78	117.20	0.02	-	0.44
Proposed Additional Stack								
1	Boiler (6 TPH)	30	403	10.2	13551.80	0.19	0.38	0.38
2	DG Set (750 kVA)	18	483	12.5	253.21	0.04	-	0.83
Total Stack after Proposed Expansion								
1	Boiler (6 TPH)	30	403	10.2	13551.80	0.19	0.38	0.38
2	Boiler (3 TPH)	30	393	5.63	6293.19	0.26	0.52	0.52
3	DG Set (400 kVA)	9	423	8.78	117.20	0.02	-	0.44
4	DG Set (750 kVA)	18	483	12.5	253.21	0.04	-	0.83

The existing short term modelling results are presented in Table below and the isopleths of PM, SO_2 and NOx representing the GLCs for are shown in Figures.

Pollutant	Concentration due to existing activities (mg/m^3)	Distance (m)	Direction
Particulate Matter (PM_{10})	0.14	300	SW
Particulate Matter ($PM_{2.5}$)	0.05		
SO_2	0.15		
NO_2	0.27		

Exiting emissions contribution due to project activity is already included in current baseline.

ISOPLETHS OF PM_{10}, $PM_{2.5}$, SO_X, NO_X has been submitted.

Now, they have run the AERMOD model excluding DG sets (standby) and fuel as a coal and biomass briquettes for boiler along with PTFE bag filter as a pollution control equipment. The net incremental GLC

are predicted for PM_{10}, SO_2 and NOx are 0.58 µg/m^3, 1.10µg/m^3 and 1.16 µg/m^3 respectively.

RESULTANT GLC's AFTER EXPANSION (BASELINE + INCREMENTAL

Pollutant	Baseline Concentration at Project Site (µg/m^3)	Net Incremental Concentration (µg/m^3)	Resultant Concentration (µg/m^3)	NAAQ Standards (µg/m^3)
PM_{10}	**74.3**	**0.72-0.14 = 0.58**	**74.88**	**100**
$^{PM}2.5$	**30.9**	**0.24-0.05 = 0.19**	**31.09**	**60**
SO_2	**14.5**	**1.25-0.15 = 1.1**	**15.6**	**80**
NO_2	**20.8**	**1.43-0.27 = 1.16**	**21.96**	**80**

6 Details of pollution control device along with stack height for boilers and scrubbers and DG sets

Parameter	Boiler		Process Dryer	DG Set	
	Existing	Proposed		Existing	Proposed
No. of	01	01	01	01	01
Capacity	3 TPH	6 TPH	-	400 KVA	750 KVA
Fuel	Coal	Coal/Briquette	-	HSD	HSD
Fuel quantity MT/day	5 TPD	10 TPD for Coal/ 20 TPD for Briquette	-	90 lit/hr at full load	200 lit/hr at full load
APC equipment	Multicyclone dust collector. **Proposed to install Bag Filter**	Multicyclone dust collector followed by Bag Filter	Scrubber	Stack height/ acoustic enclosure	Stack height/ acoustic enclosure
Emission Level	SPM-150 mg/Nm^3, SO_2- 300 mg/Nm^3, NO_2-300 mg/NM^3.	SPM-50 mg/Nm^3, SO_2-100 mg/Nm^3, NO_2-100 mg/NM^3.	-	As per CPCB norms	As per CPCB norms
Shape	Round	Round	Round	Round	Round
Height (m)	30	30	10	9	18
Duty	Continuous	Continuous	Continuous	Intermittent	Intermittent

7 Details of fly ash generation and its management plan

Annual fly ash generation quantity for 100% production capacity 570 MTPA. During coal burning in boiler, fly ash and bottom ash is generated. Both these are collected and stacked in fly ash storage yard and the management is proposing to provide covered yard for the storage. The flue gas emissions of boiler are collected in Multi-Cyclone Dust Collector. This fly ash collected at the bottom of Multicyclone followed by bagfilter is removed at regular intervals and is stored in the fly ash storage yard. Water is sprinkled over the ash. Closed conveyor belt is installed from plant to Storage yard. Sprinklers will be installed while loading in the truck. From this yard, the ash is sent to Brick manufacturers/cement industry.

Type of Waste	Quantity			Disposal
	Existing	Proposed	Total	
Fly ash	120 MT/A	450 MT/A	570 MT/A	Sale to Bricks Manufactures

Management Plan:

• CANPEX will install additional Bag Filters apart from existing Multi-Cyclone Dust Collector for the existing as well as proposed boiler. This will further reduce fugitive air emissions and improve air quality.

• CANPEX is proposing to construct a closed shed for fly ash storage yard. Thus, the chances of ash spillages in soil and air will be further reduced. The shed size will be 10 m x 10 m x 6 m height (100 sq. m.). Nearly 300 Ton fly ash can be stored. It will have 1m plinth height with concrete flooring. It will be closed from all sides with brick wall and will have ABS sheet roofing. From this shed, ash will be sent to bricks manufacturers/cement industry.

Action Plan and Budget Allocation

• Bag Filter for the existing 3 TPH boiler will be installed within a period of six months.
• Bag Filter for the proposed 6 TPH boiler will be installed at the time of plant expansion after grant of Environmental Clearance.
• Shed for fly ash storage yard will be constructed within a period of six months.
• Budget Allocation:

Sr. No.	Activity	Capital Cost (Rs. Lakhs)	Recurring Cost (Rs. Lakhs/A)
1	Up-gradation of conveyor belt for fly ash	10.00	1.0
2	Bag Filter for existing 3 TPH boiler	22.0	2.0
3	Bag Filter for proposed 6 TPH boiler	32.0	3.0
4	Shed for Fly Ash storage yard	11.0	0.5
	Total:	**75.0**	**6.5**

8 Action plan for hazardous waste generation and disposal

Action plan for hazardous waste generation and its disposal

Category as per HWM Rule	Type Of Waste	Quantity			Disposal
		Existing	Proposed	Total after expansion	
28.1	Process residue/waste	24 TPA	1373 TPA	1397 TPA	CHWTSDF /sale to authorized recycler
28.3	Spent carbon from Process	-	28 TPA	28 TPA	CHWTSDF
33.1	Discarded containers/ barrels/liners	700 Nos./A	7000 Nos./A	7700 Nos./A	Sale to authorised party / CHWTSDF
35.3	Chemical sludge from waste water treatment	0.6 TPA	180 TPA	180.6 TPA	CHWTSDF
	MEE salts	-	2925 TPA	2925 TPA	CHWTSDF /sale to authorized recycler

9 Revised capital and Recurring cost of EMP

Sr. No.	Description	Estimated cost (Rs. lakhs)	
		Capital cost	Recurring cost
1	Air Pollution Control Measures bag filter for existing and proposed boiler, dust extraction systems/dust collector, online monitoring (additional installation), etc.	73	8.5
2	Water and Wastewater Management	440	90
3	Green belt and landscaping	15	2
4	Rain water harvesting	1.8	0.6
5	Occupational health and safety (Provision of PPE, Medical Examination)	10	1
6	Carbon Sequestration (Carbon emission study)	8	-
7	Solid and Hazardous waste Management	8	5
8	Noise Reduction Systems	5.2	0.5
9	CEMS and Environmental monitoring	35	15
10	Construction of fully enclosed shed for storage of Calcium Carbonate	75	10
11	Shed for Fly Ash storage yard	11	0.5
12	Up-gradation of conveyor belt for fly ash	10	1
13	Compost pit for Biodegradable waste	1.5	0.45
14	1 MW Solar Power Plant	400	1
	Total	**1093.5**	**135.55**
15	CER CAPEX	43.705	0
Grand Total		**1137.205**	**135.55**

10 Month wise action plan to achieve 33% greenbelt within 6 months alongwith budget earmark

PROPOSED PLANTATION DETAILS

Schedule	Particulars	Area (in Ha.)	No. Of Sampling (@ 2500 Sapling/Ha.)	Remarks
Proposed plantation will be carried out within 6 months i.e. June 2024 to November 2024	Proposed Sapling	0.5670 i.e. 14.3%	1418 (proposed Sapling)	This tree plantation program will be followed during proposed expansion and commensurate to capital investments within a span of upcoming 6 months.
	Existing Plantation	0.7503 i.e. 18.9%	1181	
	Total after expansion	1.3173 i.e. 33.2%	2599 Total Sapling	

DETAILS OF EXISTING TREE PLANTATION

Sr. No.	Name of Plant Species	Quantity (Nos.)	Sr. No.	Name of Plant Species	Quantity (Nos.)
1	Neem	191	18	Coconut	48
2	Banyan	15	19	Chikku	17
3	Peepal	4	20	Guava	19
4	Mango	70	21	Sesame	1
5	Tamarind	166	22	Bottle Palm	29
6	Gulmohar	137	23	Rubber Tree	1
7	Ashoka	20	24	Sapt Parni	89
8	Cherry	4	25	Jackfruit Tree	1
9	Rain Tree	44	26	Custard Apple	15
10	Almond	9	27	Golden Bamboo	10
11	Nilgiri	16	28	Karanji	10
12	Jamun	12	29	Fycus	30
13	Shaw (Shevri)	18	30	Silver Oak	5
14	Mohgani	10	31	Kanchan	5
15	Vine (Bor)	11	32	Fig	1
16	Lime	7	33	Other small decorative plants	163
17	Shevga	3		**TOTAL:**	**1181**

SIX MONTHS ACTION PLAN FOR GREENBELT DEVELOPMENT

Months	Activity	Budget Allocation (Rs. Lakhs)	Remarks
June 2024	Site Assessment and Planning, Land Preparation and Soil Amendment Procurement of Saplings and Planting Material	8	Evaluate soil, drainage, and sunlight conditions; Plan the layout and design. Clear the land, plow, and amend soil as necessary for optimal sapling growth. Purchase 1418 saplings of local native species (Approx. cost of sapling procurement is about Rs. 5 Lakhs); Set up a temporary nursery if required; Ensure quality planting material. **Preparation of manure:** A common manure preparation ratio for gardening might involve combining cow manure (20-30%), compost (20-30%), and soil (40-60%), with optional additions of sand (10-20%) to create a well-balanced and nutrient-rich growing medium. Approx. cost is about Rs.50/kg.
July 2024 to August 2024	Plantation and Irrigation System Installation	5	Carry out the actual planting of saplings; Ensure proper spacing and depth; Regularly monitor and water the saplings. Set up an efficient irrigation system for regular sprinkling of water; Continue monitoring and maintenance activities; Assess the growth and health of planted saplings, etc.; **Drip irrigation system:**

			Approx. cost for installation of drip irrigation system is about Rs. 56700/- for the proposed area.
September 2024 to October 2024	Monitoring and Maintenance	2	Regularly monitor plant health, provide necessary care, and adjust irrigation as needed; provide the fertilizers if needed; pest control; Conduct a final inspection of the greenbelt; Make adjustments/replacement to the planting if necessary.
November 2024 onwards	Regular monitoring and evaluation of the greenbelt	From Recurring Cost of Rs. 2 Lakhs	Implement a maintenance plan, including regular watering, manure and pest control to ensure the healthy growth of the greenbelt, and monitoring of sapling growth. Make adjustments and/or replacement to the sapling if necessary, to maintain the survival rate more than 90% of survival rate in subsequent years.
Total Budget: Capital Cost Rs. 15 Lakhs and Recurring Cost Rs. 2 Lakhs			

Note: *The budget allocation is approximate and may vary based on local factors, material costs, and specific requirements. Adjustments may be made as needed during the execution of the plan.*

S.N.	Scientific name	Common name	Habit	Ht. (m)	Growth rate	Evergreen/ Deciduous	Crown Shape	Ecological Imp. Features.
Plants for outer periphery of Road								
1	Azadirachta indica	Neem tree	Tree	20	Quick growing	Evergreen	Spreading	Sami-evergreen tree with medicinal value
2	Cassia fistula	Amaltas	Tree	12	Quick growing	Deciduous	Round	Flowering & Ornamental
3	Cassia siamea	Kassod	Tree	12	Quick growing	Evergreen	Oblong	Flowering & Ornamental
4	Dalbergia sisoo	Sisam	Tree	10	Moderate during 1st yr. and rapid afterwards	Evergreen	Round	Air pollution tolerant plant
5	Aegle marmelos	Bel	Tree	12	Slow growing	Evergreen	Oblong	Medicinal & spiritual value
6	Gmelina arborea	Shivan	Tall Tree	30	Fast growing	-		Butterfly host plant
7	Syzygiumcumini	Jamun	Tree	20	Fast growing	Evergreen	Oblong	Dense/Ornamental/fruit bearing/pollution tolerant
8	Ailanthus excelsa	Mahrarukh	Tree	20	Quick growing	Deciduous	Round	Tall with shade
9	Delonixragia	Gulmohar	Tree	15	Quick growing	Deciduous	Spreading /Flat topped	Seasonal flowering and Air pollutant tolerant plant
10	Cassia renigera	Pink Cassia	Tree	10	Quick growing	Deciduous	Spreading	Flowering & Ornamental
11	Peltophorum sp.	copper pod tree	Tall tree	-	Quick growing	Evergreen	Oblong/ Round	Air pollutant tolerant
12	Pongamia pinnata	Karanj	Tree	6	Quick growing	Evergreen	Oblong	Shade & Flowing, air pollutant tolerant
13	Alstoniascholaris	Saptaparni	Tall Tree	20	Quick growing	Evergreen	Round	Shade and flowering
14	Psidium guajava	Peru	Tree	5	Slow growing	Deciduous	Oblong	Fruit bearing Tree
15	Bombax ceiba	Simul	Tree	45	Slow growing	Deciduous	Oblong	Shade/Flowering/Attracts birds

Plants for inner periphery								
16	Bauhinia racemosa	Astha	small tree	5	Quick growing	Deciduous	Oblong	Flowering/Butterfly host plant
17	Callistemon citrinus	bottle brush	small tree	5	Slow Growing	Evergreen	Conical	Ornamental, Butterfly host tree
18	Carissa carandus	Karvand	Shrub	3	Quick growing	Evergreen	Round	Fruit bearing & Air pollution acclimation potential
19	Nerium indicum	Kanher	Shrub	6	Quick growing	Evergreen	Oblong/ Round	Flowering
20	Tecoma stans	Tecoma	shrub/small tree	5	Quick growing	Evergreen	Oblong	Air pollution tolerant
21	Murrayakoengii	Curry leaves	shrub/small tree	5	Quick growing	Evergreen	Spreading	Butterfly host tree

11 Revised carbon footprint and its mitigative measures

Particulate	tCO_2/Year
GHG EMISSION DUE TO PROJECT ACTIVITY	
Import of Electricity from Grid – about 8100 MWh/Year) [EF=0.8 tCO_2/MWh]	6480
Due to Coal – About 1500 TPA Coal will be used as a fuel for the production of API, API intermediates and COVID API (Calorific value =4200 K Cal/Kg) [EF=26.5 tC/TJ]	2563
Due to Briquette – About 6000 TPA Briquette will be used as a fuel for Proposed Boiler (Cap. 6 TPH); (Calorific value =3600 K Cal/Kg) [EF=29.9 tC/TJ]	9912
Due to Transportation – 38400 Ltr/Annum Diesel will be used transportation activities such as Raw material, Finished products and Employee vehicles for 300 days. [EF for diesel 2.68 kg/ltr]	103
Total GHG Emission =	**19058**
GHG EMISSION AVOIDANCE/OFFSET	
GHG Reduction due to use of Non-conventional Energy (22.53% consumption of total power from solar) [Total – 1825 MW/Annum]	1460
GHG sequestration due to greenbelt plantation [Weighted carbon per tree ($W_{carbon\text{-}dioxide}$ = 3.67) we have considered 250 kg of CO_2 offset per Tree]	5204
Total (proposed reduction/ avoidance) =	**6664**
Net GHG Emission	**12394**
Net Reduction	**34.97%**

Improve Energy Efficiency: Upgrading equipment, optimizing processes, and implementing technologies can substantially reduce energy consumption and, consequently, industrial carbon emissions. To conduct energy audits for identification of areas for improvement, such as optimizing equipment, using LED lighting, and implementing advanced control systems. Efficiency up-gradation not only reduce emissions but can also lead to cost savings.

Reduce Waste and Recycle: To minimize waste generation by implementing waste reduction and recycling programs in plant facility. Recycling materials and reusing components can significantly reduce emissions associated with raw material extraction and production.

Encourage Employee Engagement: To encourage engagement of employees in sustainability initiatives can be a valuable source of ideas and motivation for reducing emissions within the organization. A cycle-to-work scheme could be a great incentive for someone to jump on their bike instead of getting in the car – this could have a positive impact on both the environment and their well-being.

Government and Regulatory Compliance: Compliance not only avoids penalties but also contributes to a cleaner environment by following standards set out by the EPA and Indian Regulatory.

Solar Power Plant: Management of CANPEX is considering installing up to 1.0 MW solar power plant in phased manner in accordance with the plant expansion to achieve maximum use of renewable energy. Capital investment for this Solar Power Plant will be Rs. 4.0 Cr. with recurring cost of Rs.1.0 Lakh/ Annum. This power will be utilized by the plant and proportionate set up.

12 PP has to segregate the solid waste into dry and wet waste. Wet waste to be converted into compost. Accordingly, PP shall submit the action plan for the same

At present, 80 persons are employed and after the proposed expansion 205 persons will be employed in M/s. CCPL. There is no canteen facility available inside the plant premises. We consider the generation of biodegradable waste @50 gram/person. Apart from this the garden waste/humas, which is also decomposable will be collected at a designated location

Solid Waste Generation & Management

Sr. No.	Type of Waste	Quantity			Disposal
		Existing	Proposed	Total	
1	STP Sludge Source – STP	4.8 MT/A	7.5 MT/A	12.3 MT/A	Used as manure within plant
2	Biodegradable wet waste Source - Human Consumption Food Dry Waste – Tree leaves, grasses, etc.	150 Kg/Month	300 Kg/Month	450 Kg/Month	The waste is collected and treated in compost pit (earthworms) at the site and used as manure.
3	Dry waste (Paper, wood, corrugated boxes, brooms, tea cups, other disposables)	10 Kg/Month	20 Kg/Month	30 Kg/Month	Given to authorized recycler

The estimated capital cost for compost pit is Rs.1.50Lakhs.along with recurring cost of Rs.0.45Lakhs/Annum

22. **Deliberations by the EAC:**

During deliberations, EAC discussed the following issues:

• PP submitted the affidavit vide letter dated 9.5.2024 stating that calcium carbonate will be stored in a closed shed. Closed conveyor belt will be installed from plant to storage and automatic filling arrangement will be commissioned for filling in the truck. Sprinklers will be installed while loading in the truck. The shed will have plinth 2 feet above the ground with concrete flooring. It will be enclosed from all four sides by wall/ GI sheets and will have roof covered with GI sheets. The garland drains will be provided in and around the boundary of storage shed. There will not be any contamination with soil, water and air after storing calcium carbonate in this shed.

The shed will be constructed within a period of six months and estimated capital cost of Rs. 75 Lakhs with recurring cost of Rs. 20 Lakh/annum.
The generated calcium carbonate will be stored only in the shed before sending to building block manufacturers.

• The existing unit is following ZLD Compliance and there will not be any discharge of effluents outside the plant. The total generated waste shall be reused and recycled within the plant premises.
• Mitigation measures will be implemented for the exiting and the proposed expansion, as a preventive measures and all the regulatory measures.

The committee was satisfied with the response provided by PP on above information.

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

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

The EAC noted that the EIA reports are in compliance with 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 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.

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 at Annexure I.

24. Based on the recommendations made by EAC (Industry-3) in its **79th EAC meeting held on 8-9 May 2024,** Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the project to set up **"Proposed expansion of existing product capacities and addition of new products manufacturing of API, API/Chemical Intermediates and COVID API located at Survey No. 155, Village Ambhora, Taluka - Ashti, Dist. - Beed (Maharashtra) by M/s. Canpex Chemicals Pvt. Ltd "** under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the Specific and General terms and conditions at Annexure I. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

25. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

26. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

27. The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

28. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent

(during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

29. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

30. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

31. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

32. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.

This issues with the approval of the Competent Authority.

Copy To

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur- 440001.
2. The Secretary, Environment and Climate Change Department, Govt. of Maharashtra, New Administrative Bhavan, 15th Floor, Madame Kama Road, Mantralaya, MUMBAI - 400032,Maharashtra, India.
3. The Office of the Principal Chief Conservator of Forests (Head of Forests Force) M.S. Nagpur, 3rd Floor Van Bhavan Ramgiri Road Civil Lines Nagpur 440 001.
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
5. The Member, Central Ground Water Authority,18/11, Jamnagar House, Mansingh Road, New Delhi – 110011.
6. The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. PVR Cinema, Sion Circle,Mumbai-400 022.
7. District Collector & Magistrate, Collector Office, Nagar Road, Beed Maharashtra, Pin code: 431122
8. Guard File/Record File/Monitoring File / MoEF&CC Website.

Annexure 1

Specific EC Conditions for (Synthetic Organic Chemicals Industry)

1. Specific Conditions

S. No	EC Conditions
1.1	(i) Multicyclone followed by bag filter along with stack of 30 m height shall be provided to coal/ Briquette fired boiler (1x3 TPH & 1x6TPH) boiler to control the particulate emission as per CPCB norms. Stack height of 18 m shall be provided to 750 KvA DG set.

S. No	EC Conditions
1.2	(ii) As proposed, adequate scrubber system shall be provided to process dryer to control process emissions. The scrubbing media shall be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.
1.3	(iii) Total fresh water requirement from Ground water shall not exceed 189 KLD.
1.4	(iv) NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.
1.5	(v) Total quantity of trade effluent generation shall not exceed 99.1 KLD. Trade effluent shall be segeregated into High TDS and low TDS effluent streams. High TDS effluent stream will be provided with primary treatment followed by MEE. Low TDS effluent stream will be treated in the ETP comprising primary, secondary and tertiary treatment followed by RO to achieve Zero Discharge. Treated effluent shall be recycled /reused for cooling make up and process. 10 KLD capacity STP shall be commissioned using MBBR technology. STP Treated water shall be used for gardening within plant layout to fulfil ZLD compliance. The plant shall be based on Zero Liquid discharge system.
1.6	(vi) The PP shall develop greenbelt of at least 5-10 m width over an area of 13173 Sq.m within the project site mainly along the plant periphery, preferably within a year of the grant of EC. 2599 tree saplings selected for the plantation should be of sufficient height, preferably 6-ft shallbe planted in greenbelt area. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
1.7	(vii) 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 and shall also engage Environment Officials.In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st

S. No	EC Conditions
	July of every year for the activities carried out during previous year.
1.8	(viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is 1137.205 lakhs (Capital cost) and 135.55 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.
1.9	(ix) 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.
1.10	(x) 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.
1.11	(xi) 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.
1.12	(xii) All the hazardous waste shall be managed and disposed as per the HWM Rules 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or sent for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet waste shall be converted into compost and used as manure for greenbelt development. 570 MT/A Fly ash shall be stored handed over to the Cement manufacturers/ Cement Industry.
1.13	(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. The occupier of new as well as expansion projects shall be required to comply with the provisions of the MSHIC Rules, 1989 including notifying their activities or seeking site approval from the concerned authorities, to address operational safety aspects. In doing so, various schedule, particularly Schedule-5

S. No	EC Conditions
	of the said rules may be referred.
1.14	(xiv) As proposed Calcium carbonate shall be stored in a closed shed. Closed conveyor belt shall be installed from plant to storage and automatic filling arrangement shall be commissioned for filling in the truck. Sprinklers shall be installed while loading in the truck. The shed will have plinth 2 feet above the ground with concrete flooring. It shall be enclosed from all four sides by wall/ GI sheets and shall have roof covered with GI sheets. The garland drains shall be provided in and around the boundary of storage shed. PP shall maintain all the records of generation and disposal of Calcium Carbonate. State Pollution Control Board shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall commission all the said environmental safeguards.
1.15	(xv) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
1.16	(xvi) 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.
1.17	(xvii) 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.
1.18	(xviii) 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.
1.19	(xix) 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.
1.20	(xx) 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.

S. No	EC Conditions
1.21	(xxi) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be fire proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
1.22	(xxii) 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.
1.23	(xxiii) 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.
1.24	(xxiv) PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.
1.25	(xxv) 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.

Standard EC Conditions for (Synthetic organic chemicals industry)

1.

S. No	EC Conditions
1.1	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

S. No	EC Conditions
	Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
1.2	The Project proponent 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.
1.3	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
1.4	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).
1.5	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.
1.6	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.
1.7	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
1.8	The project proponent 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.
1.9	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.
1.10	The project proponent 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.

S. No	EC Conditions
1.11	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.
1.12	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.

Additional EC Conditions

N/A

Signature Not Verified

Digitally Signed by : Mr A N Singh
Member Secretary, MoEFCC (EC)

Date: 02/07/2024