Minutes of the 622nd meeting of the State Level Expert Appraisal Committee held on 17th April 2020 through Video Conference.

In the wake of recent crisis of COVID-19, lockdown situation, notification of MOEFCC regarding API and bulk drugs and subsequent OM issued on 11th March 2020, Notification on 27th March 2020 and OM dated 13th April 2020, Committee took a decision to scope and appraised the TOR and EC cases falling in CPA/SPA and non CEPI areas as per the guidelines issued by MOEFCC from time to time by video conferencing. It was decided that before commencement of online video conferencing the agenda is required to be mailed beforehand. Accordingly the agenda of the present meeting was mailed to expert committee in advance and a video conference meeting on NIC was organised in this regard on 17/04/2020 at 17.00 hrs.

The 622nd meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 17thApril 2020 at 17.00 hrs. Following members joined the meeting:

1. Dr. Dinesh Misra, Chairman, SEAC
2. Shri S. C. Srivastav, Vice Chairman, SEAC
3. Shri V. N. Patel, Member, SEAC
4. Shri R. J. Shah, Member, SEAC
5. Dr. V.K. Jain, Member, SEAC
6. Shri A.K. Mule, Member, SEAC
7. Shri Rajesh Shah, Member, SEAC
8. Dr. Mayuri Pandya, Member, SEAC

This meeting was conducted with reference to MoEF&CC's OM vide F. No. 19-21/2020-IA.III (Part) dated 11/03/2020 regarding consideration of projects or activities in respect of Bulk drugs (Active Pharmaceutical Ingredients and Bulk Drug intermediates), out of turn, as a preparedness to the outbreak of Novel Coronavirus (COVID-19).

During the meeting, the Committee took a note of MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 regarding Active Pharmaceutical Ingredients (API).

As per the Notification, MoEF&CC deems it necessary to expedite the prior Environmental Clearances to the projects or activities in respect of bulk drugs and intermediates. As a part of comprehensive and robust system to handle the Novel Coronavirus (COVID-19) outbreak, drug availability or production to reduce the impact of the Novel Coronavirus (COVID-19) are to be ensured. The Ministry deems it necessary that all projects or activities in respect of bulk drugs and intermediates manufactured for addressing ailments such as Novel Coronavirus (COVID-19) and those with similar symptoms are categorized as 'B2' for a period up to the 30th September 2020,

as an interim measure. Following entries shall be inserted in the Schedule, against the item 5(f), after entries relating thereto.

> ***"All proposals for projects or activities in respect of Active Pharmaceutical Ingredients (API), received up to the 30th September 2020, shall be appraised, as Category 'B2' projects, provided that any subsequent amendment or expansion or change in product mix, after the 30th September 2020, shall be considered as per the provisions in force at that time."***

In view of the above, all the projects referred in the agenda were presented before the committee along with the proposed mitigations proposed by PP as per guideline mechanism devised by MOEFCC with changed EMP and CER After case to case deliberation, the Committee took a decision to recommend all the cases to SEIAA for further action at their end. Further taking note of current scenario of Novel Coronavirus (COVID-19) outbreak in line to MoEFCC's OM dated 11/03/2020 and MoEFCC's Notification dated 27/03/2020,the Committee also unanimously decided the following:

> ***"All proposals for projects or activities in respect of Active Pharmaceutical Ingredients (API) which are already discussed and decided to recommend to MoEF&CC as per the OM dated 30/12/2019, however yet not recommended shall be now sent to SEIAA, Gujarat considering EIA Notification dated 27/03/2020."***

As per the MoEF&CC's OM dated 31/10/2020, B2 category projects shall be considered at State Level stipulating Environmental Clearance conditions as applicable for category B1 projects/activities.

The meeting was organized on a very short notice to facilitate the production of COVID-19 specific drugs which are presently in global demand. Looking to the grim situation arose due to COVID-19, Government of India has lifted the export ban of these drugs and a policy decision is taken to cater the global demand of these medicines.

The expert Committee felt the need to rise to the occasion and did the appraisal on a very short notice. Committee also felt to put a specific condition to start the production within a period of 45 days and also critically evaluate the EC after first six monthly compliance report submitted by PP.

The Committee considered the applications made by project proponents, additional details submitted as required by the SEAC/SEIAA and details furnished in the Form-1, PFR, EMP reports etc.

Sr. No.	Proposal no.	**Name and address of the unit.**	Remarks

01	SIA/GJ/IND2/22012/2018	**M/s: Bakul Pharma Pvt. Ltd,** Plot No. 6202, GIDC – Ankleshwar, Dist.-Bharuch, Gujarat.	EC-Reconsideration

Category of the unit : **5(f)**

Project status: **Expansion**

- MoEF&CC issued Office Memorandum vide F.NO. 22-23/2018-IA.III vide dated 30/12/2019 regarding compliance of orders of Hon'ble NGT in OA No. 1038/2018 dated 19.08.2019 – Disposal of the applications received on or before 31.10.2019 for ToR/EC.
- In continuation of the OM dated 31/10/2019, there are three classes of cases that may emerge for disposal of the applications received as on date of OM i.e. 31/10/2019, for ToR/EC. This proposal falls under Class II as per the said OM.
- Earlier, Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/22012/2018 dated 13/05/19 for obtaining Environmental Clearance.
- SEIAA issued TOR to PP vide their letter dated 29/09/2018.
- Project proponent has submitted EIA Report prepared by Envisafe Environment Consultants, Ahmedabad based on the TOR issued by SEIAA.
- This is an expansion of project for manufacturing of synthetic organic chemicals (**Pharmaceutical Bulk drugs and intermediates**) tabulated below.

Existing Products**: Pharmaceutical Bulk drugs and intermediates**

Sr. No.	Name of Products		Capacity, TPM	Status
1	Theobromine EP/BP	AND / OR	6.5-10.00	Continue (Product- D2)
2	Doxofylline & Intermediate	AND / OR	1.00	Continue (Product- B1)
3	Pentoxyphylline	AND / OR	1.50	Continue (Product- A1)
4	Proxyphylline	AND / OR	0.125	Continue (Product- B2)
5	Dorzolamide V	AND / OR	0.270	Discontinued
6	Bamifylline HCl	AND / OR	1.00	Continue (Product- B3)
7	Tert Butyl Benzene Sulphonamide	AND / OR	0.30	Continue (Product- B4)
8	Minoxydil	AND / OR	0.50	Continue (Product- C1)
9	Ganciclovir	AND / OR	0.10	Forward integration to manufacture Product-E2
10	Dorzolamide and intermediates	AND / OR	0.10	Continue (Product- E1)

Total		**10.0 (Max.)**	**--**

Product profile after proposed expansion

Sr. No.	Name of Products & Intermediates	CAS No.	Capacity (TPM)		End Use
			Intermediate	Finished Products	
➢	**GROUP A**				
A1	**Pentoxyphylline &/OR**	64935-6	--	**10.00 (Cumulative capacity of either one or all products)**	Peripheral artery disease
A2	**Xanthinol Nicotinate &/OR**	437-74-1	--		Vasodilator
A3	**Caffeine Citrate**	69-22-7	--		Central nervous system stimulant
➢	**GROUP B**				
B1	**Doxofylline & Intermediate &/OR**	69975-86-6	--	**13.00 (Cumulative capacity of either one or all products)**	Central nervous system stimulant
B1(i)	DOX -I (Bromo Acetaldehyde Dimethyl Acetal)	7252-83-7	11.06		Antifungal Drug
B1(ii)	DOX II (2-Bromo Methyl 1,3 Dioxolane)	4360-63-8	9.96		Anticancer Drug
B2	**Proxyphylline &/OR**	603-00-9	--		Antifungal Drug
B3	**Bamifylline HCl &/OR**	20684-06-4	--		Analgesic ,vasodilator , bronchodilator
B4	**Tert Butyl Benzene Sulphonamide &/OR**	6292-59-7	--		Intermediate for Bosantan (pulmonary arterial hypertension
B5	**Acephylline Piperazine and Intermediates &/OR**	18833-13-1	--		Bronchodilator
B5(i)	Acephylline	652-37-9	9.62		Bronchodilator
B6	**Pamabrom &/OR**	606-04-2			Diuretic
B6(i)	8 Bromo Theophylline	10381-75-6	9.69		Diuretic
B7	**Urapidil**	6972-27-6	--		Hypertensive
B7(i)	UPD -I (1,3 Dimethyl Barbituric Acid)	769-42-6	16.19		Hypertensive
➢	**GROUP C**				
C1	**Minoxydil &/OR**	38304-91-5	--	**5.00**	Male pattern

				(Cumulative capacity of either one or all products)	baldness
C2	**Brinzolamide & Intermediates** **&/OR**	160982-11-6	--		To treat high pressure inside the eye due to glucoma
C2(i)	BNZ -I [3 Acetyl -5-Chloro -2- (BenzylThiol) Thiophene]	160982-09-02	11.11		To treat high pressure inside the eye due to glucoma
C2(ii)	BNZ II(3 Acetyl -5-Chloro Thiophene 2-Sulphonamide)	160982-10-5	6.11		To treat high pressure inside the eye due to glucoma
C3	**Acebrophylline and Intermediates** **&/OR**	96989-76-3	--		Bronchodilation, mucoregulation
C3(i)	Ambroxol HCl - I	606-00-8	3.57		Bronchodilation, mucoregulation
C3 (ii)	Ambroxol HCl - II	50739-76-9	3.13		Bronchodilation, mucoregulation
C3(iii)	Ambroxol HCl - III	18683-91-5	3.26		Bronchodilation, mucoregulation
C3(iv)	Ambroxol Base - IV	23828-92-4	3.07		Bronchodilation, mucoregulation
C4	**Teneligliptin HBR** **&/OR**	1572583-29-9	--		Type -2 diabetic
C5	**Linagliptin and Intermediates**	668270-12-0	--		Anti-diabetic
C5(i)	8BMX (8 - Bromo -3-Methyl Xanthine) **&/OR**	93703-24-3	3.90		Anti-diabetic
C5(ii)	8 BB 3 MX (8 - Bromo -7-(2-butyn-1-yl)-3,7 -dihydro-3- Methyl-1H Purine -2,6 -Dione	666816-98-4	4.59		Anti-diabetic
C6	**3 - Methyl -7- n - propyl Xanthine**	55242-64-3	--		As an intermediate for vasodilator drug
➢	**GROUP D**				
D1	**Theobromine EP/BP** **&/OR**	83-67-0	--	**20.00 (Cumulative capacity of either one or all products)**	Vasodilator
D1(i)	3- Methyl Xanthine	1076-22-8	30.49		Vasodilator
D2	**Levocabastine & Intermediate** **&/OR**		--		Antihistamine , eye disease
D2 (i)	Levocabastine - I		30.95		Antihistamine , eye disease

D2(ii)	Levocabastine- II	26831-90-3	47.62		Antihistamine , eye disease
D2(iii)	Levocabastine - III	25772-51-4	47.62		Antihistamine , eye disease
D2(iv)	Levocabastine - IV Pure	83863-65-4	19.05		Antihistamine , eye disease
D3	**R& D Products**	--	--		
➢	**GROUP E**				
E1	**Dorzolamide & Intermediates (DRZ- &/OR HCl)**	130693-82-2	--	**1.00 (Cumulative capacity of either one or all products)**	Ocular hypertension treat of glucoma
E1(i)	DRZ V B2 (5,6-Dihydro-(R)-4-hydrox-(S)-6-methyl- 4H-thieno[2,3-b] thiopyran -7,7-dioxide)	147128-77-6	3.00		Ocular hypertension treat of glucoma
E1(ii)	Dorzolamide VI B Acetate	147086-83-7	3.30		Ocular hypertension treat of glucoma
E1(iii)	DRZ VII B (N-(5,6-Dihydro-(S)-6-methyl-4H-thieno[2,3-b]thiopyran-4-yl) acetamide 7,7-dioxide)	147086-83-7	2.75		Ocular hypertension treat of glucoma
E1(iv)	DRZ IX B (DZ Sulphonamide){4-(Acetamido)-5,6-dihydro-(S)-6-methyl-4H-thieno [2,3-b]thiopyran -2-sulphonamide 7,7-dioxide}	147200-03-1	1.75		Ocular hypertension treat of glucoma
E1(v)	Dorzolamide X B	--	1.75		Ocular hypertension treat of glucoma
E1(vi)	Dorzolamide HCl Crude	--	1.15		Ocular hypertension treat of glucoma
E2	**Val Ganciclovir & Intermediate**	175865-59-5			Anti-viral
E2(i)	DAMP - I (1,3 Dichloro - Propane -2 -ol)	96-23-1	3.91		Anti-viral

E2(ii)	DAMP II (1,3 Dichloro 2- Methoxy Methoxy Propane)	70905-45-2	5.08		Anti-viral
E2(iii)	DAMP III (2 - Methoxy methoxy - 1,3 Propane Diyl Diacetate)	103824-51-7	5.94		Anti-viral
E2(iv)	DAMP IV (1,3 Diacetoxy -2-(Acetoxy Methoxy) Propane	86357-13-3	4.27		Anti-viral
E2(v)	GCV V (TriAcetyl Ganciclovir)	86357-14-4	2.19		Anti-viral
E2(vi)	GCV VI (Ganciclovir)	82410-32-0	1.25		Anti-viral
E2(vii)	MAG (Mono Acetyl Ganciclovir)	88110-89-8	1.00		Anti-viral
			ULTIMATE AFTER EXPANSION	**49.00**	

- Cumulative production capacity of proposed products of Group A (A1-A3) will be 10.0 TPM, Group B (B1-B7) will be 13.0 TPM, Group C (C1-C6) will be 5.0 TPM, Group D (D1-D3) will be 20.0 TPM and Group E (E1 & E2) will be 1.0 TPM. Total cumulative production capacity for products of group A, B, C, D & E will be 49.0 TPM at ultimate phase of expansion.
- During manufacturing of the proposed products, intermediates will be generated. Intermediates will either be used captive for manufacturing of respective next stage products or will be sold as products individually.
- Quantities of intermediates generated may be higher than that of respective finished products. However, considering worst case scenario, pollution potential from intermediates will remain the same or lesser than their respective products.

End use of Proposed Products

Product Code	Name of Products	End use of Products
A1	Pentoxyphylline	Peripheral artery disease
A2	Xanthinol Nicotinate	Vasodilator
A3	Caffeine Citrate	Central nervous system stimulant
B1	Doxofylline	Bronchodilator
B2	Proxyphylline	Vasodilator, bronchodilator
B3	Bamifylline HCl	Analgesic ,vasodilator , bronchodilator
B4	Tert Butyl Benzene Sulphonamide	Intermediate for Bosantan (pulmonary arterial hypertension
B5	Acephylline Piperazine	Bronchodilator
B6	Pamabrom	Diuretic

B7	Urapidil	Hypertensive
C1	Minoxydil	Male pattern baldness
C2	Brinzolamide	To treat high pressure inside the eye due to glucoma
C3	Acebrophylline	Bronchodilation, mucoregulation
C4	Teneligliptin HBR	Type -2 diabetic
C5	Linagliptin	Anti diabetic
C6	3 - Methyl -7- n - propyl Xanthine	As a intermediate for vasodilator drug
D1	Theobromine EP/BP	Vasodilator
D2	Levocabastine	Antihistamine, eye disease
E1	Dorzolamide (DRZ-HCl)	Ocular hypertension treat of glucoma
E2	ValGanciclovir	Anti-viral

- The project falls under project activity 5(f) as per the schedule of EIA Notification 2006.
- Earlier, SEIAA in its minutes of the 291st Meeting held on 19th October, 2019 decided to return the application for environment clearance to project proponent as recommended by SEAC vide Letter dated 03/10/2019.
- Subsequently a letter from SEIAA, Gujarat vide no. SEIAA/GUJ/GEN/17/2020 dated 21/01/2020 is received. SEIAA forwarded 150 proposals to SEAC which were returned to the project proponent in view of location of the project for necessary action in line to MoEFCC's OM dated 30/12/2020.
- **This case was reconsidered in SEAC meeting dated 05/02/2020 as per the MoEF&CC OM dated 30/12/2019.**
- **Salient features(revised) of the project including Water, Air and Hazardous waste management:**

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A</td><td>Cost of Project, EMP & CER</td><td></td></tr>
<tr><td>I</td><td>Total cost of Proposed Project (Rs. in Crores):</td><td>Existing: 8.47
Proposed:3.05
Total: 11.52</td></tr>
<tr><td>ii</td><td colspan="2">Details of EMP
<table>
<tr><td>COMPONENT</td><td>ADDITIONAL CAPITAL COST OF EMP</td><td>RECURRING COST OF EMP (per Month)</td></tr>
<tr><td>TOTAL COST</td><td>Rs. 10.0 Lakhs</td><td>Rs. 150 Lakhs</td></tr>
</table>
Bifurcation of EMP Cost
<table>
<tr><td>Sr. No</td><td>Unit</td><td>Installed Capacity</td><td>Additional Capital Cost (Rs. in Lacs)</td><td>Operating Cost (Lacs/ Month)</td><td>Maintenance Cost (Lacs/ Month)</td><td>Total Recurring Cost (Lacs/ Month)</td></tr>
<tr><td>1</td><td>Water Pollution Control (ETP &MEE)</td><td>ETP: 100 KLD Booked capacity with CEI CETP of ETL : 20.0 KLD CMEE of ACPTCL/</td><td>1.00</td><td>4.95</td><td>124.70</td><td>129.65</td></tr>
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		BEIL : 122.5 KLD FETP of NCTL : 50.7 KLD				
2.	Air Pollution Control (Scrubber, Cyclone Separators)	--	6.0	0.075	0.008	0.083
3.	Hazardous / Solid Waste Management	--	0.50	--	--	8.91
4.	Noise Pollution	--	1.50	--	0.20	0.20
5.	Occupational Health	--	--	--	--	0.17
6.	Green Belt development	--	1.03	--	--	0.16
7.	Environmental Monitoring	--	--	--	--	0.75
8.	Community Welfare	--	--	--	--	0.08
		Total	**10.03**			**150.0**

iii Details of CER

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Brownfield projects have to contribute 1% of the Additional Capital Investment, the company will contribute Rs. 3.0 Lakhs as funds for CER activities

Component	As per Norms	Allocation
CER	Rs. 3, 00,000 (1%)	Rs.6, 00,000 (2%)*

*Additional due to guideline for CPA mechanism

B	**Total Plot area** (sq. meter)	Proposed expansion will be carried out within existing premise. Hence, no additional land will be required for the proposed expansion. Total: 9,916
	Green belt area (sq. meter)	Existing :2,250 Proposed : 1,070 Outside premises: 700 sq. m. Total: 4,020 (40.5%)
C	**Employment generation**	Existing:78 Proposed:44 Total:122
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC
	Status of permission from the concern authority.	Permission obtained from GIDC

ii **Water consumption (KLD)**

Category	**Existing KL/day**	**Proposed (Additional) KL/day**	**Total after Expansion KL/day**	**Remarks**	

	(A) Domestic	10.0	3.0	13.0	Fresh
	(B) Gardening	3.0	7.0	10.0	Fresh
	(C) Industrial				
	Process	48.0	43.0	91.0	Fresh
	APCE	--	9.5	9.5	Reuse from Boiler & Cooling
	Boiler	25.0	10.0	35.0	
	Cooling	30.0	0.0	30.0	
	Washing	*10.0	15.0	20.0	*as per existing practice 5KLD treated effluent is reused, which will be satisfied through fresh water after proposed expansion.
	ETP-RO Washing	2.0	3.0	5.0	
	Total (A+B+C)	**128.0	90.5	213.5 (FRESH)	** For existing, Fresh: 123 Reuse: 5

1) Total water requirement for the project: **213.5 KLD**
2) Quantity to be recycle: **NIL**
3) Total fresh water requirement: **213.5 KLD**

iii **Waste water generation (KLD)**

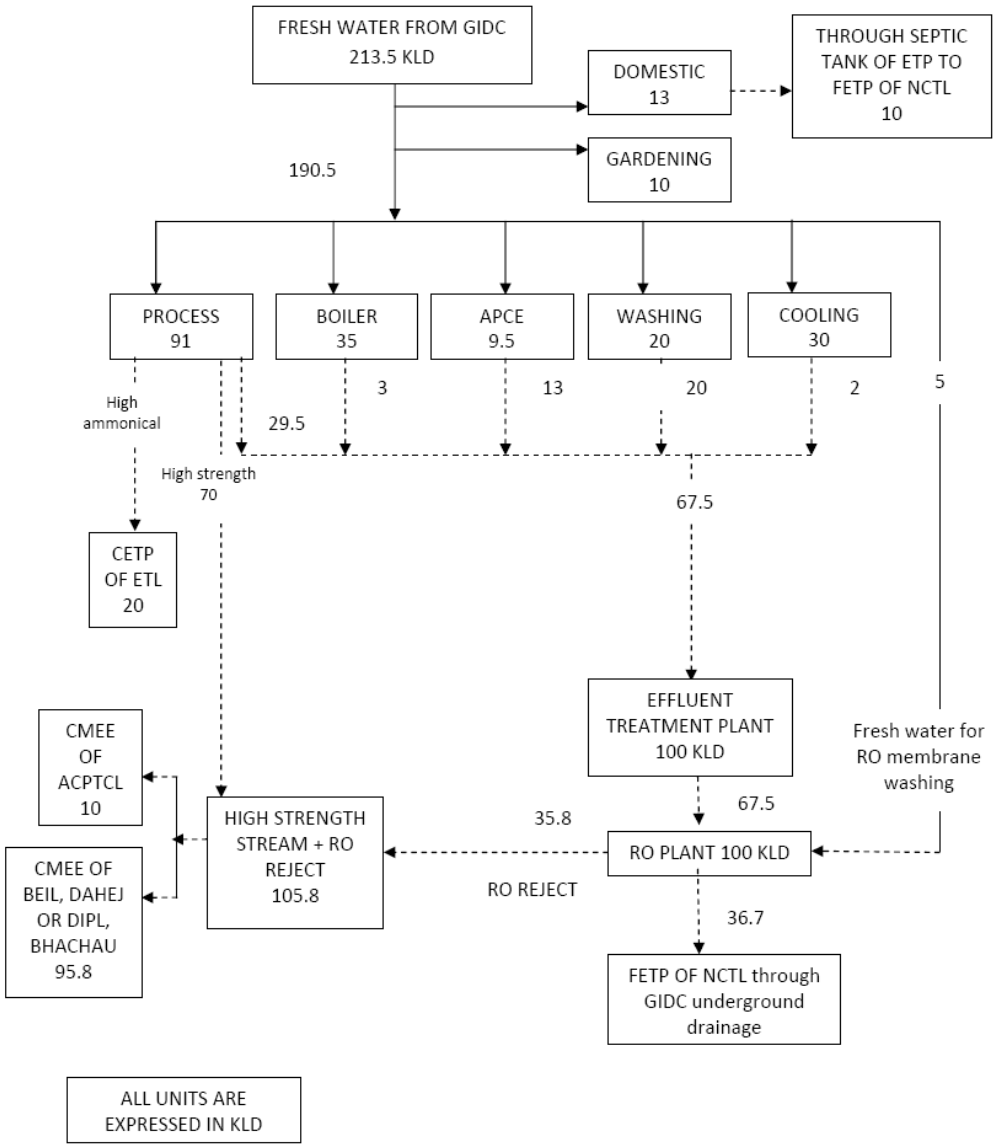
Category	Existing KL/Day	Proposed (Additional) KL/day	Total after Expansion KL/day	Remarks
• Domestic	8.0	2.0	10.0	
• Industrial				
Process	56.70	62.8	119.5	
APCE	--	12.5	12.5	
Boiler	2.0	1.0	3.0	
Cooling	2.0	0.0	2.0	
Washing	10.0	10.0	20.0	
ETP-RO Washing	2.0	3.0	5.0	
Total Industrial waste water	*72.2	89.3	162.0	*Generation: 72.2 Reuse: 5.0 Discharge: 66.7

iv **Treatment facility within premise with capacity** [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.]

- ETP: 100KLD

	➢ RO : 100 KLD	
	Treatment scheme including segregation at source ➢ Total industrial effluent generation will increase upto 162.5 KLD after proposed expansion. ➢ Effluent from process will be segregated in high concentrated, low concentrated and high ammonical stream ➢ High ammonical stream @ 20 KLD will be sent to MAP system of CETP of ETL. ➢ High concentrated stream from process along with RO reject @ 10 KLD will be sent to CMEE of ACPTCL. ➢ Low concentrated stream from process along with APCM, utility and washing @36.7 will be treated in ETP and then sent to FETP of NCTL ➢ High concentrated stream from process along with RO reject @ 95.8 KLD will be sent to CMEE of BEIL, Dahej or DIPL, Bhahchau	
	Note: (In case of CETP discharge): **Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP**. ➢ **As per the consent no AWH-72204 dt.18/9/2015, the unit has been granted 66.7 KLD discharge.**	
	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): ➢ Not applicable.	
v	Mode of Disposal & Final meeting point	
	Domestic:	10 KLD To soak pit through septic tank
	Industrial:	20.0 KLD discharge into MAP system of CETP of M/s ETL 10 KLD discharge to CMEE of ACPTCL 36.7 KLD discharge to FETP of NCTL 95.8 KLD discharge to CMEE of BEIL, Dahej or DIPL, Bhahchau
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. Name of Common facility : CETP of ETL, FETP of NCTL and CMEE of ACPTCL, BEIL, DIPL	
	Membership of Common facility (CF) :	
	Membership of ETL,NCTL and ACPTCL	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	

WATER BALANCE DIAGRAM (AS PER CPA MECHANISM)



viii	Reuse/Recycle details (KLD) [Source of reuse & application area]
	Total reuse…….KLD

Source of waste water for reuse with quantity in KLD	**Application area with quantity in KLD**	**Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)**
NIL	--	--

E	**Air**
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc. **Existing & Proposed**

SR. no.	Source of emission With Capacity	Status	Stack Height (meter)	Name of the fuel	Quantity of Fuel MT/hr & MT/Day	Type of emissions i.e. Air Pollutants	APCM	Emission Standards
1	Boiler (2 TPH)	Existing – working (to be dismantled after proposed expansion)	25	Natural Gas	1750 SCM/Day	PM SO_2 NO_x	Adequate Stack Height as per CPCB guidelines	PM ≤ 120 mg/Nm^3 SO_2 ≤ 80 ppm NO_x ≤ 40 ppm
	Boiler (5 TPH)	Proposed Working			6000 SCM/Day			
2	DG Set (125 KVA)	Proposed	3	Diesel	40 Lit/hr	PM SO_2 NO_x	Adequate Stack Height as per CPCB guidelines	PM ≤ 120 mg/Nm^3 SO_2 ≤ 80 ppm NO_x ≤ 40 ppm
3	DG Set 140 KVA)		3					
5	DG Set (500 KVA)	Proposed	8	Diesel	105Lit/hr	PM SO_2 NO_x	Adequate Stack Height as per CPCB guidelines	

*Note: Existing steam boiler and hot air generator to be dismantled after proposed expansi n.

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)
Existing & Proposed

Sr. no.	Source of emission	Type of emission	Stack/Vent Height (meter)	APCM	Emission Standards (mg/Nm^3)
1	Reactors of Process Plant (Theobromine EP/BP and Dorzolamide)	HCl, SO_2	19.0	Existing : Single stage Alkali Scrubber Proposed : Single stage alkali scrubber	SO_2 ≤ 32 HCl ≤ 16 NH_3 ≤140
2	Reactors of Proces Plant (Levocabastine)	HCl, SO_2	20.0	Two stage alkali scrubber	
		NH_3	20.0	Two stage acid scrubber	

iii **Fugitive emission** detai s with its mitigatio measures.

There will be a chance of fugitive emission and odor nuisance during manufacturing process as well as due to storage & handling of raw materials and products. The unit takes following precaution for the control of fugitive emission and will implement the same for the proposed expansion.

Probable Sources	Control Measures

			Manufacturing activities during charging into reactors	• Liquid raw materials are charged by pumping & closed loops. • Dosing is done by metering system to avoid fugitive emissions. • Dedicated measuring tanks are provided to each reactor. • Usage of closed handling system for odorous chemicals /solvents as far as possible.		
			Emission from bulk storage tanks during storage, loading, unloading	• Breather valves, PSVs, Rupture disc, Vapor recovery system are installed for process/storage tank vents. • Unit adopts bulk handling of odorous chemicals and avoid usage of drums/carboys for such materials		
			Hazardous chemical storage area	• Dedicated storage area is provided • Adequate ventilation systems are provided • All the containers are kept tightly closed • Trolley/Forklift is used for transfer of drums and containers • Transfers of odorous waste is preferably during day time. Transfers during odd hours is avoided.		
			Solvent recovery during filling and withdrawal from tanks and vessels	• Breather valves, PSVs, Rupture are installed for process/storage tank vents. • Vapor recovery systems are provided at required locations. • Proper Control of the operating parameters, mainly temperature, vacuums, cooling media circulation, during plant operation and solvent recovery.		
			Chemical vapor from wet cake in filtration and drying area	• Covered transfer systems are adopted, workers are equipped with PPE. • Fume extraction systems are provided, wherever required		
			Pump and compressor Emissions	• Mechanical seals are provided in pumps and agitators • Standby arrangement for critical equipment and parts is ensured. • Drip trays are placed for each pump to collect leakages and spillages.		
			Pressure relief valve emission from pipelines	• For highly pressurized lines, vent pipes of PRVs are connected in case of toxic gases.		

Valves, Flanges, plugs and instrument connections	• Welded pipes are used wherever feasible. • Suitable gasket materials are used. • Suitable glad packing is used in valves. • Periodic inspection and maintenance of pipes and pipe fittings is carried out.
Release from sampling lines	• Closed loop system is used.

F **Hazardous waste**
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
Existing & Proposed

i -

Type of waste	Source of Generation	Cat.	Quantity per Annum			Method of Disposal
			Existing	Additional	Total	
ETP Sludge & MEE Salt	ETP	Sch - 1 35.3	210 MT	30 MT	240 MT	Collection, Storage, Transportation and Disposal by TSDF operated by BEIL, Ankleshwar & Dahej
Spent Carbon	Mfg. Process (Prod. A1, B1,B2,C1, C3,C4,C5, D1,D2,E1, E2)	Sch - 1 28.3	21 MT	169 MT	190 MT	Collection, Storage, Transportation and Disposal by Co-processing **OR** Disposal by incineration at CHWIF of BEIL, Ankleshwar & outside CPA
Organic Residue	Mfg. Process (Prod.A1,B 1,B2,C3,C5 ,E1,E2)	Sch - 1 20.3	11 MT	89 MT	100 MT	Collection, Storage, Transportation and Disposal by Co-processing
Inorganic Process waste	Mfg. Process (Prod.A1,A 2,B3,C3,C5 ,E1)	Sch - 1 28.1	35 MT	660 MT	695 MT	Collection, storage, Transportation and Disposal by TSDF of BEIL, Ankleshwar & Dahej
SpentSolvents	Process (A1, B2,C3, E1)	Sch - 1 28.6	--	24940 MT	24940 MT	Collection, Storage In house (on-site) recovery and reuse in the process
SpentSolvents	Mfg. Process (Prod.A2,B 3,B4,B7,C1 ,C3,C5,D2, E2)	Sch - 1 28.6	970 MT	15215 MT	16185 MT	Collection, Storage, Transportation and sold out authorized end-users (off site distillation)
Off specification products	Process	Sch-I, 28.5	Nil	12.0 MT	12.0 MT	Collection, Storage, Transportation, Disposal at CHWI facility of BEIL, Ankleshwar& outside CPA

Bleed liquor from scrubbers	APCM-1 (for HCl & SO_2)		--	--	210 KL	Collection and treatment in ETP along with other effluent
Bleed liquor from scrubbers	APCM (for NH_3)		--	--	3690 KL	Collection and disposal to MAP system of CETP of ETL
Discarded Containers Bags/Liners	Raw Material Storage & Handling	Sch - 1 33.1	720 Nos.	780 Nos.	1500 Nos.	Collection, Storage, Decontamination and Disposal by selling to scrap vendors
			240 Nos.	260 Nos.	500 Nos.	
Spent Oil/ Used Oil	Plant & Machineries	Sch - 1 5.1	0.18 MT	0.12 MT	0.3 MT	Collection, Storage, Transportation & Disposal by selling to registered reprocessors

ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	**Existing** TSDF & CHWIF- BEIL (Ankleshwar) Co-processing: Recycling Solution Pvt. Ltd. (RSPL) / Cement manufacturers **Proposed** TSDF & CHWIF- BEIL(Ankleshwar & Dahej), DIPL & SEPPL (Bhahcau) Co-processing: Cement manufacturers
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	--
G	**Solvent management**, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery. reuse of recovered Solvents	

Details of Solvent Requirement and In-Process/In-situ Recovery (Product wise)

Sr. No	Product Code.	Solvent name	Solvent Requirement, TPM			Solvent Requirement, %		
			Fresh	Recovered	Total	Fresh	Recovered	Total
1	A1	Dimethyl Formamide	1.36	39.39	40.76	3.35	96.65	100.00
		Max. of Group A	**1.36**	**39.39**	**40.76**	**3.35**	**96.65**	**100.00**
2	B1	Methylene Di-Chloride	2.49	21.02	23.51	10.59	89.41	100.00
		Dimethyl Formamide	1.38	67.77	69.15	2.00	98.00	100.00
		Total of B1	**3.87**	**88.79**	**92.66**	**4.18**	**95.82**	**100.00**
3	B2	IPA	5.20	36.40	41.60	12.50	87.50	100.00
4	B3	Ethyl Acetate	3.39	70.09	73.48	4.62	95.38	100.00
5	B4	Methylene di chloride	22.36	482.04	504.40	4.43	95.57	100.00
6	B7	Acetic anhydride	1.28	26.98	28.26	4.51	95.49	100.00
		Methylene dichloride	2.45	46.60	49.06	5.00	95.00	100.00
		Total of B7	**3.73**	**73.58**	**77.31**	**4.82**	**95.18**	**100.00**
		Max. of Group B	**22.36**	**482.04**	**504.40**	**4.43**	**95.57**	**100.00**
7	C1	Methanol	8.00	31.00	39.00	20.51	79.49	100.00
8	C2	Ethyl Acetate	11.11	211.11	222.22	5.00	95.00	100.00

		Methyl Tertiary Butyl Ether	2.78	19.44	22.22	12.50	87.50	100.00
		Mehtylene Di-Chloride	2.22	13.89	16.11	13.79	86.21	100.00
		Total of C2	**16.11**	**244.44**	**260.56**	**6.18**	**93.82**	**100.00**
9	C3	Methanol	0.67	11.83	12.50	5.36	94.64	100.00
		Toluene	0.71	14.02	14.73	4.85	95.15	100.00
		Total of C3	**1.38**	**25.85**	**27.23**	**5.08**	**94.92**	**100.00**
10	C4	Toluene	0.83	22.50	23.33	3.57	96.43	100.00
11	C5	Methyl Isobutyl Ketone	2.29	43.58	45.87	5.00	95.00	100.00
		2-Butanol	0.92	83.94	84.86	1.08	98.92	100.00
		Total of C5	**3.21**	**127.52**	**130.73**	**2.46**	**97.54**	**100.00**
	Max. of Group C		**16.11**	**244.44**	**260.56**	**6.18**	**93.82**	**100.00**
12	D2	Mono Ethanol Amine	4.76	126.19	130.95	3.64	96.36	100.00
		Methylene Di-Chloride	9.05	176.67	185.71	4.87	95.13	100.00
		Xylene	4.29	79.05	83.33	5.14	94.86	100.00
		Methanol	14.29	319.05	333.33	4.29	95.71	100.00
Max. of Group D			**32.38**	**700.95**	**733.33**	**4.42**	**95.58**	**100.00**
13	E1	Toluene	3.25	62.25	65.50	4.96	95.04	100.00
		Methanol	1.25	26.25	27.50	4.55	95.45	100.00
		Ethyl Acetate	11.50	474.75	486.25	2.37	97.63	100.00
		Acetone	0.65	12.60	13.25	4.91	95.09	100.00
		Dimethyl Formamide	1.00	21.50	22.50	4.44	95.56	100.00
		Tetra hydrofuran	1.25	13.45	14.70	8.50	91.50	100.00
		Total of E1	**18.90**	**610.80**	**629.70**	**3.00**	**97.00**	**100.00**
14	E2	Methylene Di-Chloride	2.16	68.31	70.47	3.06	96.94	100.00
		Chloroform	0.39	9.77	10.16	3.85	96.15	100.00
		Dimethyl Formamide	1.02	41.56	42.58	2.39	97.61	100.00
		Toluene	0.70	25.55	26.25	2.68	97.32	100.00
		Methanol	0.42	12.94	13.36	3.16	96.84	100.00
		Total of E2	**4.69**	**158.13**	**162.81**	**2.88**	**97.12**	**100.00**
Max. of Group E			**18.90**	**610.80**	**629.70**	**3.00**	**97.00**	**100.00**
Total of Max. of all groups			**91.12**	**2077.63**	**2168.75**	**4.20**	**95.80**	**100.00**

Details of Solvent Requirement and In-House Product wise)

Sr. No	Product Code	Solvent name	Solvent Requirement, TPM			Solvent Requirement,%		
			Fresh	Recovered	Total	Fresh	Recovered	Total
1	A1	Methanol	1.72	33.23	34.95	4.91	95.09	100.00
2	B2	Methylene DiChloride	10.40	197.60	208.00	5.00	95.00	100.00
3	C3	Methanol	0.31	6.47	6.79	4.61	95.39	100.00
4	E1	Acetone	0.65	12.60	13.25	4.91	95.09	100.00
		Total	**13.08**	**249.91**	**262.99**	**4.97**	**95.03**	**100.00**

Details of Solvent Requirement and Spent Solvent Generation (Product wise)

Product Code	Name of Solvent	Solvent Requirement (TPM)			Spent Solvent / Mix Solvent Generation (TPM)	
		Product Wise (Individual)	Product Wise Total	Group Max	Product Wise Total	Group Max.
A2	Iso Propyl Acohol	30.00	30.00	30.00	31.38	31.38
	Max. of Group A		**-**	**30.0**	**-**	**31.38**
B3	Methanol	22.61	22.61	150.45	40.36	219.44
B4	Methylene Di-Chloride	23.05	150.45		219.44	
B4	Hexane	127.40				
	Max. of Group B		**-**	**150.45**	**-**	**219.44**
C1	Piperidine	18.50	18.50	185.78	7.00	194.95
C3	Tetra Hydrofuran	4.73	17.81		19.17	
	Methanol	0.80				
	Iso Propyl Alcohol	12.28				
C4	Toluene	13.33	49.50		55.17	
	Iso Propyl Alcohol	23.33				
	Methanol	12.83				
C5	Dimethyl Formamide	66.52	185.78		194.95	
	Methanol	59.64				
	Methyl Tertiary Butyl Ether	34.40				
	Ethyl Acetate	25.23				
	Max. of Group C		**-**	**185.78**	**-**	**194.95**
D2	Iso Propyl Alcohol	77.38	1,145.24	1,145.24	955.95	955.95
	Petroleum ether	208.33				
	Toluene	595.24				

	Mono Ethylene Glycol	264.29				
Max. of Group D			**-**	**1,145.24**	**-**	**955.95**
E2	Methanol	5.00	73.14	73.14	57.39	57.39
	Toluene	13.13				
	Acetone ash	15.63				
	Di Methyl Amine	15.63				
	Di Methyl Sulphoxide	1.38				
	Para Toluene Sulphonic Acid	0.13				
	Isopropyl Acetate	4.69				
	Iso Propyl Acohol	6.09				
	Piperidine	1.72				
	Petroleum Ether	9.77				
Max. of Group E			**-**	**73.14**	**-**	**57.39**
			TOTAL	**1,355.56**	--	**1,267.92**

ii **VOC emission** sources and its mitigation measures

As mentioned in section E (iii) above.

H

- **Details regarding storage of Hazardous Chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Ammonica, Di methyl formide, Ethyl acetate, Formic acid, Hexane, HCl, Iso propyl alcohol, , Methanol, Methylene dichloride, Toluene	All the hazardous chemicals will be stored in dedicated storage area based on their compatibility
Drum/Barrel storage	Acetone, Acetonitrile, Benzene, Chlorosulfonic acid, Tetra hydrofuran	

Applicability of PESO:

Unit doesn't require license from PESO for storage of hazardous chemicals as their storage capacity is within the specified threshold limit for the existing plant. Unit will obtain license from Petroleum & Explosives Safety Organization (PESO) for the storage of Various Petroleum Class A chemicals viz. Acetone, Acetonitrile, Ethyl acetate, Hexane, Methanol, Toluene, Tetrahydrofuran and Isopropyl alcohol and Petroleum Class B chemicals viz. Formic acid and Dimethyl formide under various statues of the Petroleum Act, 1934 and subsequent amendments as their total storage capacity for these chemicals exceed beyond threshold limit.

- During the meeting dated 12/06/2019, technical presentation made during the meeting by project proponent.
- During the meeting, the project was appraised based on the information furnished in the EIA Report, and details presented during the meeting.

- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period March 17 to May 17. Ambient Air Quality monitoring was carried out for PM10, SO2, NO2, HCl, NH3 and VOC at Nine locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using AERMOD model. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- This unit was established well before year 2006. They have valid CC&A for existing unit. Copy of CC&A, its compliance report is submitted. PP ensured that there are no court cases pending and no public complaints against the project.
- During SEAC meeting on 12/06/2019, committee noted that proposal is for expansion. Committee asked for area adequacy for proposed expansion and PP informed existing plot is having sufficient area for accommodate proposed plant machinery. PP informed that two times closure order issued by the Board and its Revocation order issued by the Board after compliance by the unit.
- While discussion regarding compliance of Direction under section 18(1)(B) to CETP, PP informed that unit will discharge treated waste water to M/s NCTL and high Ammonical Nitrogen effluent to CETP of M/s ETL and High COD effluent and RO reject effluent to common MEE of M/s ACPTCL, Ankleshwar.
- Committee noted that GPCB has issued CTE/CC & A for Low COD effluent to M/s NCTL, Ankleshwar and High Ammonical nitrogen effluent to MAP of CETP of M/s ETL, Ankleshwar for further treatment and disposal.
- Committee suggested for installation of High Ammonical nitrogen and COD parameter for effluent discharge line to CETP of M/s ETL and M/s NCTL separately. Committee also suggested for reuse of boiler blow down and cooling effluent and RO permeate instead of discharge to M/s NCTL, PP informed that unit have permission for discharge of LOW COD and boiler blow down and cooling waste water to M/s NCTL and reuse of boiler blow down and cooling blow down and RO permeate in bulk drug plant is not adequate. Committee asked for COD and TDS value for segregation of High COD and TDS effluent and Low COD and TDS effluent, PP has not produced justification regarding segregation of stream in plant.
- Committee asked for revised product profile as product profile is not mentioning about existing production. Committee asked for separate adequate scrubber for each process emission like HCl, SO2 and NH3 instead of single scrubber. Committee also asked for disposal of bleed liquor from each separate scrubber along with its MoU for disposal of it.
- **After deliberation, SEAC unanimously decided to consider the proposal after submission of the following details.**
    1. Revised product profile showing existing production and proposed production details as per ToR and prescribed format.
    2. Characteristics of effluents for different streams i. e. Value of COD and TDS parameter for High COD and LOW COD effluent segregation before sending it to common facility. Ensure compliance of

Direction under section 18(1) (B) with respect to discharge of effluent to CETP by the Unit.

3. Readdress process gas emission details along with separate adequate APCM for process emission like HCl, SO2 and NH3 parameters.
4. Revised Hazardous Waste Matrix specifically for each scrubber bleed liquor and its disposal along with MoU for selling to Rule-9 permission unit and off specification products.
5. Readdress EMP mentioning about online monitoring system & separate APCM details for process gas emission and need based CER activity for five year.
6. Installation of Ammonical nitrogen and COD online monitoring system
7. Separately for effluent discharge line to CETP of M/s ETL and effluent discharge line to M/s NCTL.

- Considering the General Condition (GC) of EIA notification 2006 as amended from time to time and Hon'ble National Green Tribunal (NGT) order dated 10/07/2019 in Original Application No. 1038/2018, Committee felt that all the cases of new or expansion of existing projects falling in critically and severely polluted areas as per direction of Hon'ble NGT, may not be processed further for scoping or appraisal till any further clarification is issued in this regard by Hon'ble NGT/Competent Authority.
- In view of the above, it is unanimously decided to temporarily delist such cases till any further direction is received.
- Earlier, SEIAA in its minutes of the 291st Meeting held on 19th October, 2019 decided to return the application for environment clearance to project proponent as recommended by SEAC vide Letter dated 03/10/2019.
- Subsequently a letter from SEIAA, Gujarat vide no. SEIAA/GUJ/GEN/17/2020 dated 21/01/2020 is received. SEIAA forwarded 150 proposals to SEAC which were returned to the project proponent in view of location of the project for necessary action in line to MoEFCC's OM dated 30/12/2020.
- **This case was reconsidered in SEAC meeting dated 05/02/2020 as per the MoEF&CC OM dated 30/12/2019.**
- PP presented their reply as below:

1. PP presented revised product profile showing existing and proposed production details as per ToR however, could not explain properly on cumulative capacity of intermediate and final product.
2. PP presented characteristics of effluents for different stream however, PP could not satisfactorily address on compliance of direction under section 18 (1) (b) for existing & expansion scenario for discharge into CETP.
3. PP presented revised process gas emission details along with separate adequate APCM for process emission like HCl, SO2 and NH3 parameters.
4. PP presented revised hazardous waste matrix mentioning that effluent from APCM will be collected and treated in ETP. PP further clarified that in case of scrubbing of Ammonia gas with acidic media, the effluent will be sent to MAP system of CETP of ETL for ammonical nitrogen treatment.
5. PP presented revised EMP mentioning that there will be provision of online monitoring system (OMS) for detection and control of process gas emissions i.e. SO2, NH3, and HCl. VOC will be monitored for fugitive emission using gas detection system at process plant area and LDAR program will be implemented effectively to control fugitive emission, if any. PP also presented for need based CER activity.
6. PP gave assurance to install online monitoring system (OMS) for measuring COD & Ammonical

nitrogen along with legal undertaking.

7. Committee deliberated on reply presented by PP and noted that PP has not satisfactorily explained properly on cumulative capacity of intermediate and final product and compliance of direction under section 18 (1) (b) for existing & expansion scenario for discharge into CETP incorporating the effluent that will be sent to MAP system of CETP of ETL for ammonical nitrogen treatment.

- Committee deliberated on reply submitted by PP and noted that PP has not addressed properly Product Profile with clarification on cumulative capacity of Intermediate and Final Product, Compliance of direction under section 18 (1) (b) for existing & expansion scenario for discharge into CETP along with MAP system of CETP of ETL for ammonical nitrogen treatment.
- Committee further asked PP to address on the draft mechanism as per MoEF&CC's OM dated 31/10/2019. PP presented on additional conditions under Air Act, Water Act, Hazardous Waste Management Rules and other general condition. Committee noted that PP has proposed Natural Gas as fuel in proposed boiler as per new mechanism and also provided two stage scrubbing system. Committee noted that PP has not submitted provided specific area for green belt development as to where it will be done and how many nos. of trees will be planted in which place as per the mechanism under water act. Committee also noted that PP has not address properly additional condition under Water Act. Committee noted that PP has addressed Hazardous Waste Management Rules and Other General Condition as per the mechanism.
- **After detailed deliberation, Committee unanimously decided to consider the proposal after submission of the following details.**

1. Product Profile with clarification on cumulative capacity of Intermediate and Final Product.
2. Compliance of direction under section 18 (1) (b) for existing & expansion scenario for discharge into CETP incorporating the effluent that will be sent to MAP system of CETP of ETL for ammonical nitrogen treatment.
3. Green Belt Development along with area to be specified as to where it will be done and how many nos. of trees will be planted in which place along with its layout map.

- **In addition to above, it was unanimously decided to obtain following additional details with respect to mechanism as per Annexure A in line with OM dated 30/10/2019.**

1. Addendum to EIA report with all relevant information/details (Revise Form 2, EMP, CER, Water balance, fuel consumption, Air modelling etc.) considering new mechanism prescribed as per Annexure A.
2. MoU with layout plan showing exact area in sq. mt. (In case of green belt development outside premises)
3. Leak Detection and Repairing Programme (LDAR) for all the solvents/volatile organic chemicals proposed with detailed chemical properties including vapour pressure. LDAR with all mitigation measures shall endeavour prevention of losses of solvents/Volatile organic compounds to the best minimum extent.
4. Comparative statement regarding Environment Management Plan w.r.t. Environmental Impact and its mitigation measures.

- Project proponent submitted their reply dated 09/04/2020 & 15/04/2020 for the above mentioned points via E-mail. PP presented their reply as below:
  1. PP submitted that the product profile submitted at the time of grant of TOR (SEAC Meeting dated: 17/07/2018) as well as appraisal of EIA (SEAC Meeting dated: 12/6/19) has been discussed in length and agreed upon. Moreover, PP mentioned that the process flow diagram as well as mass balance and material balance for each intermediate stage of all the products have been submitted at the time of TOR application as well as EIA report. The details given therein are self-explanatory. In addition PP clarified that they have been granted consent to operate for the existing products (most of which has been proposed for increased production capacity in expansion phase also) along with its intermediate quantities.
  2. PP submitted Compliance of direction under section 18 (1) (b) for existing & expansion scenario for discharge into CETP incorporating the effluent that will be sent to MAP system of CETP of ETL for ammonical nitrogen treatment.
  3. PP submitted that they have approached Ankleshwar Industrial Association, which has already started plantation drive in the estate. The acknowledge copy of request letter is for development of additional green belt in 700 sq. mt. outside the premises to compensate with total 40% of green belt area is submitted by PP. PP further submitted that in the current situation of crisis, they are not able to make further correspondence with the AIA. Hence, undertaking in regards of development of additional greenbelt is submitted.

In addition to the above PP also submitted,

1. Addendum to EIA report with all relevant information/details (Revise Form 2, EMP, CER, Water balance, fuel consumption, Air modelling etc.) considering new mechanism prescribed as per Annexure A.
2. Undertaking for greenbelt development outside premises in collaboration with Ankleshwar Industries Association.
3. Leak Detection and Repairing Programme (LDAR) for all the solvents/volatile organic chemicals proposed with detailed chemical properties including vapour pressure. LDAR with all mitigation measures shall endeavor prevention of losses of solvents/Volatile organic compounds to the best minimum extent.
4. Comparative statement regarding Environment Management Plan w.r.t. Environmental Impact and its mitigation measures.

Attributes	**Existing Scenario**	**Proposed Scenario**	**Mitigation measures**		**Remarks**
			Pre-OM dated 30/12/2019	**Post-OM dated 30/12/2019**	
Air	Natural gas is used as fuel for steam boiler of 2 TPH	Natural gas is proposed to be used as fuel for steam boiler of 10 TPH	Natural gas is proposed to be used as fuel for steam boiler of 10 TPH	--	No revised measures required to be proposed
	For process gas	For Existing	For Existing	--	No revised

	emission, single stage alkali scrubber is in operation.	process gas emission, there will be enhancement in APCM by addition of second stage alkali scrubber. For proposed expansion, two stage alkali scrubbers / acid scrubbers	process gas emission, there will be enhancement in APCM by addition of second stage alkali scrubber. For proposed expansion, two stage alkali scrubbers / acid scrubbers		measures required to be proposed
Water	**Water consumption :** 123 KLD **Industrial effluent generation :** 66,7 KLD (36.7 KLD to FETP of NCTL, 20 KLD to MAP system of CETP of ETL 10 KLD to CMEE of ACPTCL)	**Total water Consumption** 213.5 KLD **Total Waste Water Generation** 162.5 KLD Eff discharge FETP of NCTL – 40.7 KLD (Low strength stream) CETP of ETL – 20.0 KLD (Ammonical stream) CMEE of ACPTCL – 101.8 KLD (high strength stream from process)	**Total Waste Water Generation** 162.5 KLD Eff discharge FETP of NCTL – 40.7 KLD (Low strength stream) CETP of ETL – 20.0 KLD (Ammonical stream) CMEE of ACPTCL – 101.8 KLD (high strength stream from process)	**Total Waste Water Generation** 162.5 KLD Eff discharge FETP of NCTL – 36.7 KLD (Low strength stream) CETP of ETL – 20.0 KLD (Ammonical stream) CMEE of / ACPTCL – 10 KLD (high strength stream from process) CMEE of BEIL (dahej) / DIPL, Bhachau – 95.8 KLD (high strength stream from process)	Existing consented discharge of 66.7 KLD will be continued as per disposal mode prescribed in consent. For additional discharge of CMEE of BEIL Infra Ltd., Dahej, NOC has been obtained. Membership will be obtained prior to commencement of operative phase.
Hazardous waste	**35.3** ETP sludge & MEE salt **28.3** Spent carbon **20.3** Organic residue **28,1** Inorganic waste **28.6** Spent solvent **33.1** Discarded containers/bags/ liner **5.2** Spent oil	**35.3** ETP sludge & MEE salt **28.3** Spent carbon **20.3** Organic residue **28,1** Inorganic waste **28.6** Spent solvent **33.1** Discarded containers/bags/ liner **5.2** Spent oil	**35.3** ETP sludge & MEE salt **28.3** Spent carbon **20.3** Organic residue **28,1** Inorganic waste **28.6** Spent solvent **33.1** Discarded containers/bags/ liner **5.2** Spent oil	Common environmental infrastructure will be outside CPA area (TSDF of BEIL-Dahej, DIPL, Bhahcau CHWIF of SEPPL-Bhahcau)	**Existing authorized quantities will be sent to BEIL-Ankleshwar & RSPL as per authorization. Additional quantities due to proposed expansion will be sent outside CPA area.**
Fugitive / Dust emission	In the existing plant, there is wall to wall carpeting to minimize the dust emission. Measures for control of fugitive emission are also adopted.	We have proposed two stage scrubbing system for process reactor and the required measures for fugitive emission control will be adopted.	We have proposed two stage scrubbing system for process reactor and the required measures for fugitive emission control will be adopted.	---	--
EMP	Rs. 25 Lacs/Month	Rs. 136.51 Lacs/Month	Rs. 150 Lacs/Month	Additional cost will be due to transportation of waste outside CPAand additional	

				greenbelt development	
CER	--	Rs.3,00,000/-	Rs.3,00,000/-	Rs.6,00,000/-	The amount is doubled considering CPA mechanism. It will be used in Kharchi, Uchchhali, Shera, Motali and Sarangpur villages.

- This case was reconsidered in SEAC VC meeting dated 17/04/2020.
- Committee noted compliance of direction under section 18(1) (B) submitted by PP with mentioning that high Ammonical nitrogen stream will be sending to MAP system of CETP of ETL for Ammonical nitrogen treatment, High COD stream will be sending to CMEE of M/s BEIL, Dahej and low COD stream will be sent to CETP of ETL for further treatment. Committee noted PP has submitted product profile with clarification on cumulative capacity of Intermediate and Final Product. Committee noted about green belt development outside premises undertaking submitted by PP. Committee noted reply submitted by PP found satisfactory.
- Considering the details submitted and commitments given by PP during appraisal of the project, Committee observed that Waste water management and Hazardous waste management found satisfactory. Zero Liquid Discharge (ZLD) is proposed by unit for additional wastewater. PP has proposed to use Natural Gas as fuel for proposed project. PP has also submitted revised details in line to mechanism published vide MoEF&CC OM dated 31/10/2019.
- Compliance of ToR found satisfactory.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with additional and specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.**

02	SIA/GJ/IND2/49660/2019	**M/s. Reliance Rasayan Pvt Ltd** Plot No. 15 - J, Phase-III, Naroda GIDC, Ahmedabad.	EC-Reconsideration

Category of the unit: **5(f)**

Project status: **New**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/49660/2019 on dated 05/02/2020 for obtaining Environmental Clearance.
- The SEAC had recommended TOR to SEIAA and SEIAA issued TOR to PP vide their letter dated 23/08/2019.
- Project proponent has submitted EIA Report prepared by M/s. San Enviro Tech, Ahmedabad based on the TOR issued by SEIAA.
- This is new unit proposes for manufacturing of synthetic organic chemical as tabulated below:

Sr. No.	Name of the Products	CAS no./ CI no.	Quantity MT/Month	End-use of products
1	Ascorbic acid	50-81-7	1.50	Pharma & Pharmaceutical formulation industry
2	Levofloxacin	100986-85-4		
3	Folic acid	59-30-3		
4	Sodium Picosulfate	10040-45-6	1.0	
5	4-Amino Salicylic Acid	65-49-6		
6	Niacinamide	98-92-0		
7	Levetiracetam	102767-28-2		
8	Zinc pyrithione	13463-41-7		
9	Benzyl Triethyl Ammonium chloride	56-37-1		
10	Cetrimide	1119-97-7		
11	Cetrimide 40%	1119-97-7		
12	Cetylpyridinium Chloride	6004-24-6		
13	1-(3-Dimethylaminopropyl)-3-Ethylcarbodiimide Hydrochloride	25952-53-8		
14	Olanzapine	132539-06-1	0.15	
15	Voglibose	83480-29-9		
16	Citicoline	33818-15-4		
17	R & D Drugs	--	0.20	
		Total	**2.85**	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 05/03/2020.
- During the meeting dated 05/03/2020, technical presentation made by project proponent.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the October to December 2019. Ambient Air Quality monitoring was carried out for PM2.5, PM10, SO2, NOx, HC, VOC & H2S at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST3. The resultant concentrations are within the NAAQS.
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Committee noted that this proposal is new in GIDC Naroda. PP mentioned that source of water is GIDC. PP mentioned that effluent generated from process, washing, utility, scrubber will be treated in proposed in-house primary ETP followed by RO, RO – Permeate will be reused while RO – Reject will be treated in in-house MEE, Condensate of MEE will be reused while generated salt will be disposed at approved TSDF. Committee noted that PP has not given stream wise characteristic along with its source and asked to submit the same. Committee noted that PP has not addressed properly ToR pertaining to Best

Available Technology (BAT) as to how the Air Pollution, Water Pollution and Hazardous Waste will be reduce by using the best available technology and asked PP to address the same in Tabular Form. Committee noted that PP has not addressed LDAR program properly and asked to submit the same. PP has proposed one steam boiler. Fuel used will be Natural Gas. Committee noted that PP has shown dual disposal of spent solvent in hazardous waste matrix and asked PP to bifurcate the quantity of the same in-line with its disposal. Committee noted that PP has not satisfactorily address EMP and asked to submit the same.

- After detailed discussion, it was decided to consider the proposal only after submission of the following details.
  1. Stream Wise Characteristic of effluent generated from Process, Washing, Scrubber & Utility and with its percentage reduction in ETP, RO & MEE.
  2. Readdress ToR Pertaining to Best Available Technology (BAT) as to how the Air Pollution, Water Pollution and Hazardous Waste will be reducing by using the Best Available Technology.
  3. Leak Detection and Repairing Programme (LDAR) for all the solvents/volatile organic chemicals proposed with detailed chemical properties including vapor pressure. LDAR with all mitigation measures shall endeavor prevention of losses of solvents/Volatile organic compounds to the best minimum extent.
  4. Revised EMP along with Fixed Capital Cost & Recurring Cost and revised need based CER as per OM dated 01/05/2018 of MoEF&CC's.
  5. Addendum to EIA Report incorporating all the relevant changes as mentioned above.
- Project proponent submitted reply of above query on dated 10/04/2020 vide email which is as below:
  1. PP submitted the product wise water consumption & waste water generation considering worst case, stream wise characteristics, equalized characteristics and reduction in pollutant across the ETP, RO and MEE.
  2. Unit will install their own R&D facility in order to achieve high reaction efficiency which leads to resource conservation. Unit installed RO to recover and reuse water. Unit will install the vacuum distillation & double condenser system to recover the solvent and reduce the VOC emission. Unit will use the advanced designed equipment to reduce the fugitive emission. Unit will installed vacuum filtration for product dewatering and vacuum own to conserve energy.
  3. PP submitted Leak Detection and Repairing Programme (LDAR) for all the solvents chemical properties including BP & FP.
  4. As there is no change in pollution control equipment and process, there is no change in EMP. However, PP has submitted the revised CER with year wise allocation of fund for surrounding villages.
  5. PP submitted that there was no change in EIA except the details of Best Available Technology (BAT) which is submitted in point no. 3 herewith.

- The case was reconsidered in the SEAC meeting dated 17/04/2020. During the said meeting Committee observed that reply submitted by PP is satisfactory.
- Salient features of the project including Water, Air and Hazardous waste management (Revised):

Sr. no.	Particulars	Details
A		
A	Total cost of Proposed Project (Rs. in Crores):	9.5 Crores

Details of EMP

COMPONENT	CAPITAL COST OF EMP	RECURRING COST OF EMP (per Annum)
TOTAL COST	Rs. 58 Lakhs	Rs. 21.91 Lakhs

Bifurcation of EMP Cost

Sr. No.	Particulars	Capital Cost (Rs. in Lakhs)	Recurring Cost per annum (Rs. in Lakh)
1	Air Pollution Control	5	1
2	Water Pollution Control	40	10.41
3	Noise Pollution Control	3	0.5
4	Solid/Hazardous Waste Management	5	5.0
5	Environment Monitoring and Management	0.5	2.0
6	Occupational Health	0.5	2.0
7	Green Belt Development Plan	1.5	0.5
8	Rain Water Harvesting System	2.5	0.5
	Total	58	21.91

Details of CER as per OM dated 01/05/2018

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Greenfield project have to contribute 2.0% of the Project Cost, the company will contribute Rs. 19.0 lakhs (2.0%) as funds for CER activities.

Component	As per Norms	Allocation
CER	Rs. 19.0 Lakhs (2.0%)	Rs. 19.5 Lakhs (2.0%)

Detailed expenditure break-up for CER activities

Sr. No.	Activities	Total Budget (Rs. in Lakhs)	Focus area
1	Educational Scholarship to primary school Ranasan village	6.0	Ranasan village
2	Health checkup during rainy days and free medicine to Ranasan & Nana Chiloda village	7.5	Ranasan & Nana Chiloda village
3	Women Empowerment activities mainly sewing machine provide to widow women of Nana Chiloda village	3.0	Nana Chiloda village
4	Greenbelt development at primary school and road side at Ranasan village	3.0	Ranasan village

B	Total Plot area (sq. meter)	1400 Sq. m.
	Green belt area (sq. meter)	425 Sq. m.
C	Employment generation	25 persons
D	Water	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc.)	GIDC Water supply
	Status of permission from the concern authority.	Permission Already Obtained
Ii	Water consumption (KLD)	

Category	Quantity KLD	Remarks
(D) Domestic	2.0	Fresh
(E) Gardening	2.0	Fresh
(F) Industrial		
Process	1.45	Fresh
Scrubber	0.5	Fresh
Boiler	6.0	Fresh
Cooling Tower	9.0	8.5 Reuse + 0.5 Fresh
Washing	1.0	Fresh
Others – water treatment	2.0	Fresh
Industrial Total	19.95	
Total (A + B + C)	23.95	

1) Total water requirement for the project: 23.95 KLD
2) Quantity to be recycled: 8.5 KLD
3) Total fresh water requirement: 15.45 KLD

Iii Waste water generation (KLD)

Category	Waste water KLD	Remarks
• Domestic	1.75	To soak pit
• Industrial		
Process	1.95	
Scrubber	0.5	
Boiler	1.0	
Cooling Tower	3.0	
Washing	1.0	
Others – water treatment	2.0	
Total Industrial waste water	9.45	ETP-RO-MEE, ZLD
Total [A + B]	11.2	

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iv Treatment facility within premises with capacity
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

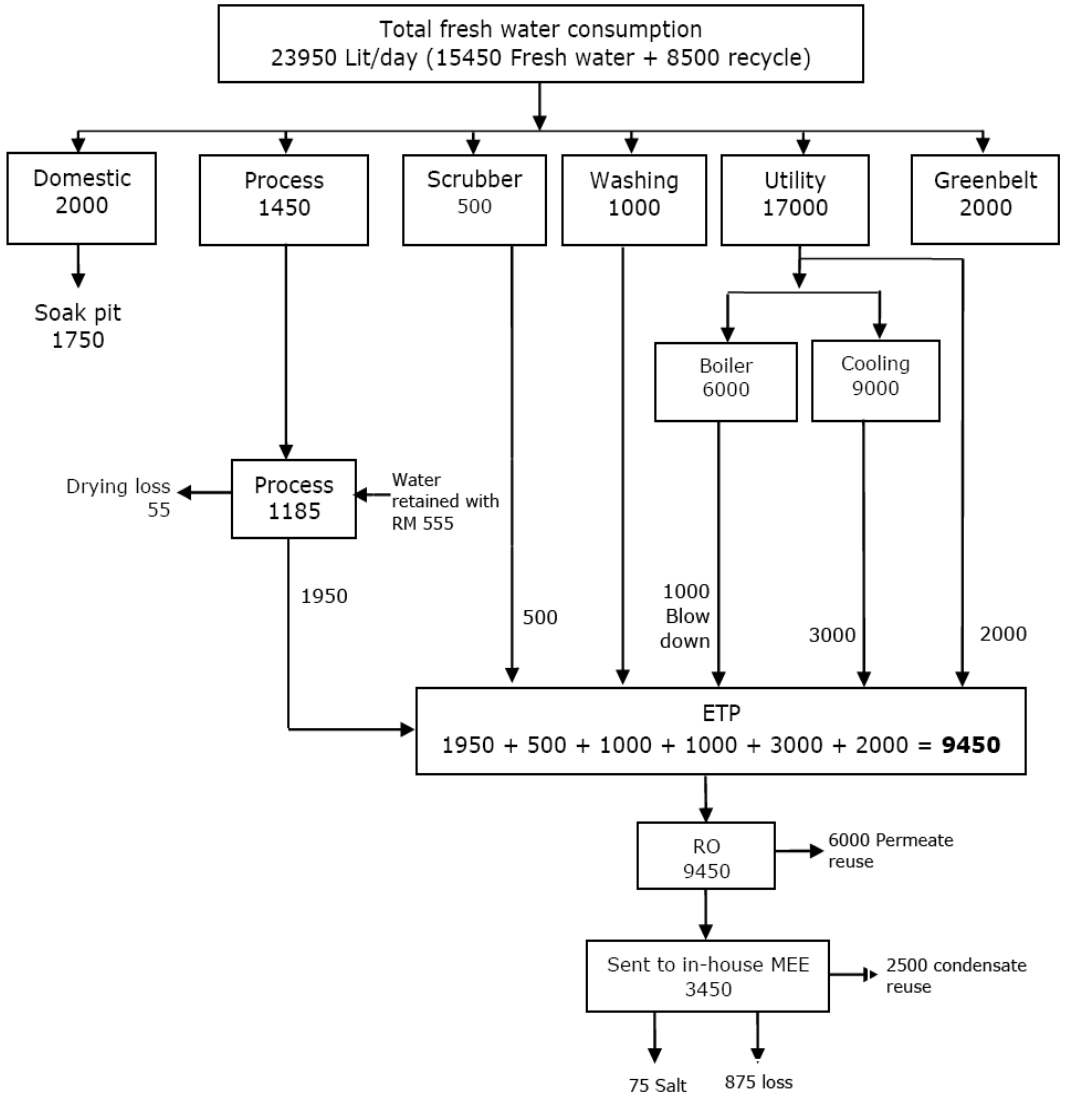
- ETP (Capacity-10 KLD), RO (Capacity-1.0 m^3/hr), MEE (Capacity-0.5 m^3/hr)

Treatment scheme including segregation at source.

- Wastewater generated from industrial activities (9.45 KLD) will be treated in ETP and then passed through RO. Permeate from RO (6.0 KLD) will be reused in cooling and reject will be sent to in-house MEE. Condensate of MEE (2.5 KLD) will also be reused in cooling.
- 1.75 KLD Domestic wastewater will be disposed through soak pit.

Note: (In case of CETP discharge):
Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

	➢ Not applicable	
	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): ➢ Entire process wastewater will be treated in ETP-RO and evaporated in MEE, which are adequate to achieve ZLD.	
v	Mode of Disposal & Final meeting point	
	Domestic:	1.75 KLD Domestic wastewater will be disposed through soak pit.
	Industrial:	Total industrial effluent (9.45 KLD) will be treated in ETP having primary & tertiary treatment units and then passed through RO. Permeate from RO (6.0 KLD) will be reused in cooling and reject will be sent to in-house MEE. Condensate of MEE (2.5 KLD) will be reused in cooling. Thus unit will achieve ZLD.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. Name of CF ➢ Not applicable	
	Membership of Common facility (CF) (For waste water treatment)	
	Not applicable	
vii	Simplified water balance diagram with reuse / recycle of waste water	



viiii	Reuse/Recycle details (KLD)	
	Total reuse – 8.5 KLD	

Source of waste water for reuse with quantity in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse i.e.
• MEE condensate: 2.5 KLD • RO Permeate: 6.0 KLD	Cooling- 8.5 KLD	Quality of reuse water is given in following table.	Mention quality can be easily use for cooling without any adverse impact on product quality

Characteristics of waste water to be reused (COD, BOD, TDS etc.)

Name of Parameters	Unit	ETP RO permeate for reuse	MEE Condensate for reuse
pH	pH Unit	7.5-8.0	7.5-8.0
TDS	mg/L	250-300	50-100
COD	mg/L	< 50	< 50
BOD	mg/L	< 10	< 10
Volume	--	6.0 KLD	2.5 KLD

E Air

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

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Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler (2 TPH)	21	Natural Gas	1800 SCM/day	SPM, SO_2, NO_X	Adequate stack height
2	DG Set (125 KVA) (stand By)	11	HSD	35 Lit/hr.	SPM, SO_2, NO_X	Adequate Stack height

ii Process gas emission details i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_X etc.)

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Reaction Vessel (Folic Acid)	H_2S	11	Water scrubber followed by Alkali scrubber

iii Fugitive emission details with its mitigation measures:
As below:

Sources of fugitive emission
In proposed activities, there will be chances of VOCs, Acid Mist generation from solvent tank farm, process area & raw material storage area. There will be also chances of generation of PM from packing/finishing area.
Mitigation Measures:

- Close handling system provided for transfer of chemicals.
- Pneumatically transfer of liquid raw material in reactor.
- Provision of mechanical seals in pumps.
- Raw material will be stored in the covered structure.

- Regular maintenance of valves, pipes etc.
- Provision dust suppression system to control air borne dust.
- Internal road will be concreted or paved to reduce the fugitive emission during vehicular movement.
- Greenbelt will be developed around the plant to arrest the fugitive emission.
- Frequent work area monitoring will be done.

F Hazardous wastes
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

I

Sr. no.	Type/ Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules	Quantity (MT/ Annum)	Management of HW
1.	ETP sludge	ETP	35.3	36 MT/Annum	Collection, Storage, Transportation & Disposal at TSDF site for landfilling.
2.	MEE salt	MEE	35.3	25 MT/Annum	
3.	Discarded Containers/ liners/bags	Raw material & product	33.1	12 MT/Annum	Collection, Storage, Transportation and disposal by selling to registered recycler.
4.	Used oil	Machineries & DG Set	5.1	0.3 KL/Annum	Collection, Storage, Transportation and disposal by selling to authorized re-refiners.
5.	Distillation Residue	Solvent recovery	20.3	15 MT/Annum	Collection, Storage, Transportation, send to CHWIF for incineration or send for co-processing.
6.	Used activated carbon	Process	28.3	1.8 MT/Annum	Collection, Storage, Transportation, Disposal at CHWIF for incineration.
7.	Off specification products	--	28.4	Whatsoever generated	Collection, Storage, Transportation, send to CHWIF for incineration.
8.	Date expired product	--	28.5	Whatsoever generated	
9.	Exhausted scrubbing media (scrubber blow down)	Scrubber	--	156 KL/annum	Collection, Storage and treatment in in-house ETP followed by RO & MEE.
10.	Spent Solvent	Process	28.6	300 MT/Annum	Collection, reuse in process after distillation or sell to authorized distillation facility

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Ii Membership details of TSDF, CHWIF etc. | Membership of TSDF, CHWIF will be

	(For HW management)	obtained after getting EC.
Iii	Details of Non-Hazardous waste & its disposal (MSW and others)	--
G	Solvent management, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)	
	➢ Acetone, Acetonitrile, DMF, Ethanol, Ethyl Acetate, Isopropyl alcohol, Toluene, Xylene will be used as solvent. Self-reflux condenser will be provided with dual valve system for solvent recovery. At the end of reaction, solvent will be collected in receiving tank and reused again in next batch. Solvent recovery will be about 92-97%.	
ii	VOC emission sources and its mitigation measures	
	VOC generation will be from the manufacturing activities and raw material storage. Mitigation measures: ➢ Closed handling & charging system will be provided. ➢ Reflux condenser will be provided for chemicals. ➢ Mechanical seals to pumps will be provided to prevent leakages. ➢ Regular monitoring of VOCs will be done.	
H	➢ Details regarding storage of Hazardous chemicals	

Storage details	Name of major Hazardous chemicals	Remarks
Drum	Acetone	1 Drum x 5 KL
Drum	Acetonitrile	10 Drum x 0.2 KL
bottle	Acetic acid	4 Carboys x 0.065 KL
Drum	Benzyl Chloride	7 Drum x 0.2 KL
Drum	Dimethyl Formamide	10 Drum x 0.2 KL
Drum	Ethanol	10 Drum x 0.2 KL
Storage tank	Ethyl Acetate	1 Tank x 5.0 KL
Storage tank	Hydrochloric acid	1 Tank x 5.0 KL
Drum	Isopropyl alcohol	5 Drum x 0.2 KL
Drum	Toluene	2 Drum x 0.2 KL
Drum	Xylene	2 Drum x 0.2 KL

➢ Applicability of PESO: Not applicable

- Committee noted that reply submitted by PP found satisfactory except two stage alkali scrubber insisted for H2S gas process stack instead of water scrubber followed by alkali scrubber.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition.

1. PP shall provide two stage alkali scrubbers with H2S gas process emission stack.

03.	SIA/GJ/IND2/35802/2019	**M/s. Tejika Labs Private Limited** Plot No. D-2-CH-151-1, Dahej-II, Industrial Estate, Dahej.Taluka: Vagra, Dist.: Bharuch, Gujarat	EC –Reconsideration

Category of the unit: **5(f)**

Project status: **New**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/35802/2019 on dated 05/11/2019 for obtaining Environmental Clearance.
- SEIAA issued TOR to PP vide their letter dated 04/11/2019.

- Project proponent has submitted EIA Report prepared by M/s. Jyoti Om Chemical Research Centre Pvt. Ltd based on the TOR issued by SEIAA.
- This is a new project for manufacturing of synthetic organic chemical as tabulated below.

Sr. no.	Name of the Products	CAS No.	QUANTITY in MT/MONTH	End-use of the products
	GROUP-1 (Sr. NO:- 1 to 3) (Not more than 100 MT/Month)			
1.	2,3,4,5–bis-O-[1-Methyl Ethyl idene]B-D-Fructopyranose	20880-92-6	100	For Topiramate (API)
2.	Di Methyl Formamide Di Methyl Acetal	4637-24-5		For Imatinib (API)
3.	4-Methyl Catechol Di-acetic acid Dimethyl ester	52589-39-6		For Watermelone Ketone (FRAGRANCE)
	GROUP-2 (Sr No:-4 to 8) (Not More than 50 MT/Month)			
4.	4-Methyl Catechol	452-86-8	50	For Watermelon Ketone (FRAGRANCE)
5.	Methylene dioxy phenol	533-31-3		For Paroxetine (API)
6.	4-Chloro-4'Hydroxy Benzophenone	42019-78-3		For Fenofibrate (API)
7.	2-Bromo Veratryl Bromide	53207-004		For Pinaverium Bromide (API)
8.	7-Ethyl tryptophol	41340-36-7		For Etodolac (API)
	GROUP-3 (Sr No:-9 to 53) (Not More than 30 MT/Month)			
9.	Di Methyl Formamide Di Iso Propyl Acetal	18503-89-4	30	For Cocaine (API)
10.	4-Methoxy Benzaldehyde dimethyl Acetal	2186-92-7		For Paclitaxel/Octinoxate (API)
11.	Benzaldehyde dimethyl Acetal	1125-88-8		For Rosuvastatin (API)
12.	Dimethyl Acetamide Dimethyl Acetal	018871-66-4		For Zaleplon (API)
13.	O-Benzyl hydroxyl amine Hydrochloride	2687-43-6		For Larsartan(API)
14.	Endo-9-methyl-9-azabicyclo[3,3,1]nonane 3-amine	76272-56-5		For Granisetron (API)
15.	2 3 Dihydrofuran	1191-99-7		For Etodolac (API)
16.	2-Amino-4-fluoro Benzophenone	3800-06-4		For Pitavastatin (API)
17.	2-(2-ethoxy phenoxy)ethyl amine HCL	64464-07-9		For Tamsulosin (API)
18.	2-(2-ethoxy phenoxy)ethyl amine	6781-17-5		For Tamsulosin (API)
19.	N-(4-cyanophenyl)-glycin	42288-26-6		For Dabigatran (API)
20.	1-(2,'5' Dimethoxy phenyl amino ethanol)	3600-87-1		For Midodrine (API)
21.	Guanidine hydrochloride	50-01-1		For Triazine (API)
22.	Guanidine Nitrate	506-93-4		For Trimethoprim (API)
23.	Guanidine thiocyante	593-84-0		For Triazine (API)
24.	O-benzyl hydroxyl amine	2687-43-6		For Azaindoles (API)
25.	Syringaldazine	14414-32-5		For Cholrine Test (API)
26.	3-amino-2-thiophenecarboxylic acid	55341-87-2		For Tenoxicam (API)

27.	ethyl 2-(3-cyano-4-isobutoxyphenyl)-T-oxo-N,B-diphenylbenzenebutanamide	125971-96-2		For Atorvastatin (API)
28.	Sulfamerazine	127-79-7		For Antibiotic & Antimicrobial (API)
29	2-amino-4-methylpyrimidine	108-52-1		For Sulfamerazine (API)
30	Methyl-2-amino-3-nitrobenzoate	57113-91-4		For Candesartan (API)
31.	Guanidine carbonate	593-85-1		For Triazine (API)
32.	N-hydroxy phthalimide	524-38-9		For Catalyst Oxidation Reaction
33	Alpha –Bromo -2-Chloro Phenyl Acetic Acid Methyl Ester	85259-19-4		For Clopidogrel (API)
34	4-Methoxy-3-nitrobenzylsulfonylacetic acid	592542-51-3		For Oncology (API)
35	3,4-Dihydroxy Benzoic Acid	99-50-3		For Protochuic Acid (API)
36	3,4- Dihydroxy Benzoic Acid Methyl ester	2150-43-8		For Erlotinib (API)
37	Piperonylic Methyl Ester	326-56-7		For Fragrance Intermediate
38	Ethyl 3-[(pyridin-2-yl)-amino]-propanoate	103041-38-9		For Dabigatran (API)
39	3-nitro-4-methylamino benzoic acid	41263-74-5		For Dabigatran (API)
40	Hydroquinone dimethyl ester	150-78-7		For Midodrine (API)
41	Malonic Acid Methyl Ester Potassium salt	38330-80-2		For Gycosylation (API)
42	(1R,2R)-1,2 Cyclohexane Dicarboxylic Acid	46022-05-3		For LurasidonHcl (API)
43	1-Methylindazole-3-Carboxylic acid	50890-83-0		For GarnisetronHcl (API)
44	Isovanillic Acid	645-08-9		For Galantamine (API)
45	2-Methyl-3-Oxo-Pentanoate	759-66-0		For Etodolac (API)
46	2-(2-ethoxy phenoxy)-mesylate	106463-17-6		For TamsilosinHCl (Speciality Chemical)
47	3-(((2-methoxy-2-oxoethyl)amino)-sulfonyl)-2-thiopenecarboxylic acid methyl ester	106820-63-7		For Tenoxicam (API)
48	Methyl-6-methylnicotinate	2519-37-1		For Etoricoxib (API)
49	4-[(4-Methyl-1-piperazinyl)-methyl]-benzoic acid	106261-48-7		For Lematinib (API)
50	2-(((2'-cyano-(1,1'biphenyl)-4-yl)-methyl)amino)-3-nitro benzoic acid)	139481-28-0		For Cilexetile (API)
51	Ndlic anhydride (endo- cis- bicyclo-(2.2.1)-5-heptane-2,3-dicarboxylic acid)	3853-88-1		For Lurasidone Hcl (API)
52	4- Methoxy-3-(3-methoxypropoxy) benzoic acid	895240-50-3		For Aliskiren (API)
53	3- cyclopropyl-3-oxo Propionic Acid Methyl Ester	32249-35-7		For Pitavastatin (API)
	GROUP-4 (Sr No:-54To 127) (Not More Than 30 MT/Month)			

54	4-Hydroxy Benzyl Alcohol	623-05-2	30	For Bisoprolol Fumarate (API)	
55	2,4,6 TrimethoxyBenzaldehyde	830-79-5		For Oncology (API)	
56	4-Isopropyl catechol	2138-43-4		For Fragrance Intermediate	
57	3-Methoxy Phenol	150-19-6		For Antioxidants (API)	
58	Veratryl Alcohol	93-03-8		For Pinaverium Bromide (API)	
59	3,4 Dihydroxy Benzaldehyde	139-85-5		For Protochuic Acid (API)	
60	4-Propyl Catechol	2525-02-2		For Fragrance Intermediate	
61	(3S,4R)-4-(4-Fluorophenyl)-3-hydroxymethyl-1-methylpiperidine(-alcohol)	105812-81-5		For Paroxetine (API)	
62	3 –MethoxyPropiophenone	37951-49-8		For Tapentadol (API)	
63	4-Hydroxy Benzaladehyde	123-08-0		For Bisoprolol Fumarate (API)	
64	Piperonyl Alcohol	495-76-1		Antioxidants (API)	
65	3,4-Dimethoxy phenol	2033-89-8		For Thalicarpine (API)	
66	4- Methyl Guaiacol	93-51-6		For Fragrance Intermediate	
67	Isovanillyl Alcohol	4383-06-6		Aliskiren (API)	
68	3-Methoxy benzyl alcohol	6971-51-3		Sarpogrelate (API)	
69	2,5-dimethoxy Benzaldehyde	93-02-7		Midodrine (API)	
70	5-Nitrovanillin	6635-20-7		Entacapone (API)	
71	4-Hydroxy Anisole	150-76-5		For Fragrance Intermediate	
72	Salicylaldehyde	090-02-8		Midodrine (API)	
73	Isovanillin	621-59-0		For Galantamine (API)	
74	Watermelone ketone	28940-11-6		For Perfumes (Fragrance)	
75	(1R,2R)-1,2-cyclohexanedimethanol	65376-05-8		For Lurasidone Hcl (API)	
76	3',4'-(methylenedioxy)-acetophenone	3162-29-6		For Paroxetine Hcl (API)	
77	3,4-dihyroxy-5-nitro-benzaldehyde	116313-85-0		For Enatcapone (API)	
78	2,4- di Hydroxy Benzophenone	131-56-6		For Antioxidants (API)	
79	2-hydroxy benzyl alcohol	90-01-7		For Fragrance Intermediate	
80	N-benzyl-4-piperidinecarboxaldehyde	22065-85-6		For Donepezil (API)	
81	5,6- Dimethoxy indanone	2107-69-9		For Donepezil (API)	
82	3-(1-Piperaziny)-1,2-Benzisoxazole/Hydrochloride	87691-87-0/ 87691-88-1		For Ziprasidone (API)	
83	5-Chloroethyl-6-Chloro-2-Oxindole	118289-55-7		For Ziprasidone (API)	
84	4-[(4-Methyl-1-piperazinyl)-methyl]-benzoyl chloride dihydrochloride	106261-64-7		For Imatinib (API)	

85	1-(Benzo (d)(1,3)dioxol-5-yl))ethanol	6329-73-3		For Proline (API)
86	2 -Bromo 2',5' – dimethoxyacetophenone	1204-21-3		For Midodrine (API)
87	(1R,2R)-1-2-bis (methane sulfonyloxy methyl) cyclohexane	186204-35-3		For Lurasidone Hcl (API)
88	Tert-butyl(4-bromophenyl) Methylcarbamate	639520-70-0		For Protecting Group
89	(2-cyclopropyl-4-(4-fluorophenyl)quinolone-3yl)methanol	121660-11-5		For Pitavastatin (API)
90	2-Bromo-3'-Chloro –Propiophenone	34911-51-8		For Bupropion Hcl (API)
91	3- Bromo- 4-Hydroxy Benzaldehyde	2973-78-6		For Bromoxynil (API)
92	3,4-(methylenedioxy) bromo benzene	2635-13-4		4-Bromo 1,2-Methylene DioxyBenzene (Speciality Chemical)
93	3-Methoxy Benzyl chloride	824-98-6		Sarpogrelate (API)
94	4- Chloro Guaiacol	16766-30-6		For Fragrance Intermediate
95	4- Chloro Veratrole	16766-27-1		For Reactant (Speciality Chemical)
96	2-Bromo-4- Chloro Phenol	695-96-5		For Reactant (Speciality Chemical)
97	4- Bromo Anisole	104-92-7		4-Bromo –(3-Methyl Phenol) Methanamine (Speciality Chemical)
98	4-BromoPhenetole	588-96-5		For irritability (Fragrance)
99	Endo-9-methyl-9-azabicyclo[3,3,1]nonane 3-amine 2 HCL	135906-03-5		For GranisetronHcl Int. (API)
100	2-Bromo-4-Cyanophenol	82380-17-4		For 2-Bromo -4-Hydroxy -Benzonitrite (Speciality Chemical)
101	2-Chloro-4,6-dimethoxy-[1,3,5]-triazine	3140-73-6		For Pemetrexed Disodium (API)
102	Bicyclo[2.2.1]hep-tane-2,3-exo-dicarboximide	14805-29-9		For Lurasidone (API)
103	4-Bromo Phenol	106-41-2		For Stilled Reaction (Speciality Chemical)
104	2-(2-ethoxy phenoxy) ethyl bromide	3259-03-8		For Tamsulosin (API)
105	Ethyl-3[1-(3 amino-4-(methyl amino)-phenyl)-n-(pyridine-2-yl)-foramido)proponate]	212322-56-0		For Dabigatran (API)
106	Ethyl-n-[2-((4-cyanophenyl)-amino)-methyl-1-methyl-1H-benzimidazol-5-yl)-carbonyl-n-pyridine-2-yl-b-alanimate	211915-84-3		For Dabigartan (API)
107	6-chloro 2-oxindole	56341-37-8		For Ziprasidone (API)
108	6-chloro-5-(chloroactyl)-1-3-dihydro-2H-indole-2-one	118307-04-3		For Ziprasidone (API)
109	3,4-(methylenedioxy)-toluene	7145-99-5		For Sitaxentan

				(API)
110	2-chloro-4,6-dimethoxybenzaldehyde	18093-05-5		For Fenoldopam Mesylate (API)
111	2-chloro-2',5'-dimethoxy Acetophenone	1204-22-4		For Midodrine (API)
112	4-fluoro-alpha-(2-methyl-1-oxopropyl)-t-oxo-N,B,Diphenylbenzenebutanamide	125971-96-2		For Atorvastatin (API)
113	5-Bromo-6-bromomethyl-1,3-benzodioxole	5434-47-9		For Iloperidone (API)
114	6-Fluoro-3-(4-piperidinyl)1,2-benzisoxazole	84163-77-9		For Resperidone (API)
115	2,4-dimethoxy benzyl chloride	55791-52-1		For Coumestan (Speciality Chemical)
116	methyl-4-(Bromomethyl)-benzoate	2417-72-3		For Eprosartan (API)
117	1,2,3,4- tetrahydro-9-methyl-4H-carbazol-4-one	27387-31-1		For Ondansetron (API)
118	4,5-dimethoxy-2- nitro toluene	7509-11-7		For Chemical Ingredient (Speciality Chemical)
119	Alpha-bromo-ortho-chloro-phenyl acetic acid	29270-30-2		For Clopidogrel (API)
120	3,4-(Dimethoxy)-6-methylbenzyl chloride	34523-76-7		For Antibiotics (API)
121	Anisole	100-66-3		For Fragrance Intermediate
122	Veratrol	91-16-7		For Salmeterol Int. (API)
123	Vanillin	121-33-5		For Vanilla Bean (API)
124	Ethyl Vanillin	121-32-4		For Chocolate &Antioxidants (API)
125	3,4-methylenedioxy Benzaldehyde (piperonal)	120-57-0		For Tadalafil Int. (API)
126	1-[3-(benzyloxy)propyl]-5-formylindoline-7-carbonitrile	1375180-30-5		For Silodosin (API)
127	Dimethylformamide di-tert-butyl Acetal	36805-97-7		For Int. Veterinary Uses (API)
	GROUP-5 (Sr No:- 128 to 209) (Not More than 20 MT/Month)			
128	AfatinibDimaleate	850140-73-7	20	For Metastatic (pharma)
129	Arbutin	497-76-7		For Glycoside (pharma)
130	Agomelatine	138112-76-2		For Antidepressant (pharma)
131	Apixaban	503612-47-3		For Anticoagulant (pharma)
132	Aripiprazole	129722-12-9		For Antipsychotic (pharma)
133	Asenapine	65576-45-6		For Schizophrenia (pharma)
134	Axitinib	319460-85-0		For Carcinoma (pharma)

135	Azilsartan	147403-03-0		For Hypertension (pharma)
136	Abacavir Sulfate	188062-50-2		For HIV Medications (pharma)
137	Atorvastatin Calcium	134523-03-8		For Cardiovascular Diesease (pharma)
138	Bupropion HCL	31677-93-7		For Depressive Order (pharma)
139	Bisoprolol Fumarate	104344-23-2		For Antihypertensive (pharma)
140	Bazedoxifene	198481-32-2		For Cancer (pharma)
141	Canagliflozin	842133-18-0		For Diabetes (pharma)
142	Candesartan Cilexetil	145040-37-5		For Angiotensin (pharma)
143	Celecoxib	169590-42-5		For Non-Steroidal &Anti-inflammatory (pharma)
144	Clopidogrel sulphate	120202-66-6		For Antiplatelet (pharma)
145	Dabigatran	211915-06-9		For Anticoagulant (pharma)
146	Dapagliflozin	461432-26-8		For Glycemia (pharma)
147	Darifenacin	133099-04-4		For Overative Bladder (pharma)
148	Donepezil	120014-06-4		For Dementia (pharma)
149	Dronedarone	141626-36-0		For atrial fibrillation (pharma)
150	Desvenlafaxine Succinate monohydrate	386750-22-7		For Depressive Disorder (pharma)
151	Duloxetine Hydrochloride	136434-34-9		For Depression &Anxiety (pharma)
152	Erlotinib	183321-74-6		For Cancer (pharma)
153	Etoricoxib	202409-33-4		For Pain &Swelling (pharma)
154	Etodolac	41340-25-4		For Arthritis (pharma)
155	Escitalopram oxalate	219861-08-2		For Depression &Anxiety (pharma)
156	Febuxostat	144060-53-7		For Arthritis (pharma)
157	Felodipine	72509-76-3		For Hypertension (pharma)
158	Fluconazole	86386-73-4		For Antifungal (pharma)
159	Fenofibrate	49562-28-9		For High Good And loco cholesterol (pharma)
160	Granisetron HCl	107007-99-8		For Cancer (pharma)
161	Gefitinib	184475-35-2		For Lung Cancer (Pharma)
162	Gabapentin	60142-96-3		For Neurontin (Pharma)

163	ILoperidone	133454-47-4		For Proton Pump (Pharma)
164	Irbesartan	138402-11-6		For Hypertension (Pharma)
165	Itopride Hydrochloride	122892-31-3		For Dyspepsia (Pharma)
166	Lapatinib	388082-78-8		For Cancer (Pharma)
167	Lurasidone Hydrochloride & its intermediate	367514-88-3		For Schizophrenia (Pharma)
168	Losartan Potassium	124750-99-8		For Hypertension (Pharma)
169	Mem Chloride	3970-21-6		For API (Antibiotics)
170	Minodronic Acid	155648-60-5		For osteoporosis (Pharma)
171	Moclobemide	71320-77-9		For Depression &Anxiety (Pharma)
172	Modafinil	68693-11-8		For Sleep apnea& narcolepsy (Pharma)
173	Metoprolol Tartrate	37350-58-6		For Hypertension (Pharma)
174	Nisoldipine	63675-72-9		For Hypertension (Pharma)
175	Omeprazole	73590-58-6		For Antacids and Peptic Ulcer(Pharma)
176	O Des Venlafexine	93413-62-8		For Major Depression Disorder (Pharma)
177	Olmesartan	144689-63-4		For Hypertension (Pharma)
178	Pitavastatin	147511-69-1		For High & Low Cholesterol (Pharma)
179	Piperonylic Acid	94-53-1		For Piperonal (API)
180	PramipexoleDihydrochloride Monohydrate	191217-81-9		For Renal Liver (Pharma)
181	Prasugrel Hydrochloride	389574-19-0		For Heart Disease (Pharma)
182	Paroxetine hcl	61869-08-7		For Depression (Pharma)
183	Pinaverium Bromide	53251-94-8		For Irritable Bowel Syndromes (Pharma)
184	Pioglitazone HCl	112529-15-4		For Diabetes (Pharma)
185	QuetiapineFumarate	111974-72-2		For Schizophrenia (Pharma)
186	Rabeprazole Sodium	117976-90-6		For Gastroesophageal Reflux Disease (Pharma)
187	Rivaroxaban	117976-90-6		For Atrial fibrillation (Pharma)
188	Ropinirole Hydrochloride	91374-20-8		For Restless Legs Syndrome (Pharma)
189	Resperidone	106266-06-2		For Schizophrenia (Pharma)

190	Sertraline Hydrochloride	79559-97-0		For Depression (Pharma)
191	Solifenacin Succinate	242478-38-2		For Urination &incontinentia (Pharma)
192	Tadalafil	171596-29-5		For Erectile DysFunction (Pharma)
193	Ticagrelor	274693-27-5		For Angioplasty (Pharma)
194	Topiramate	97240-79-4		For Seizures (Pharma)
195	Vilazodone Hydrochloride	163521-08-2		For (Pharma)
196	Valsartan	137862-53-4		For Hypertension (Pharma)
197	Vortioxetine Hydrbromide	960203-27-4		For Depression (Pharma)
198	Vemurafinib	1029872-54-5		For Melonoma (Pharma)
199	Warfarin Sodiumclatharte	67430-45-9		For AntiCoagulant (Pharma)
200	Ziprasidone HCl	138982-67-9		For Schizophrenia (Pharma)
201	Vildagliptin	274901-16-5		For Diabetes (Pharma)
202	Memantine HCL	41100-52-1		For Alzeheimer (Pharma)
203	Linezolid	165800-03-3		For Infections (Pharma)
204	Ramelteon	96597-26-9		For Insomnia (Pharma)
205	Timolol maleate	26839-75-8		For Antibiotic (Pharma)
206	Salmeterol Xinafoate	94749-08-3		For Adrenergic (Pharma)
207	Ezetimibe	163222-33-1		For Primary Hypercholesterolemia (Pharma)
208	Ritonavir	155213-67-5		For HIV Protease Inhibitors (Pharma)
209	Glimepiride	93479-97-1		For Diabetes (Pharma)
GROUP- 6R&D PRODUCTS				
	Various New Product developed by In-House R & D	--	1	--
	TOTAL PRODUCTION CAPACITY	--	231	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 18/03/2020.
- During the meeting dated 18/03/2020, technical presentation made by the Project proponent.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and

details presented during the meeting.

- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the March 2019 to May 2019. Ambient Air Quality monitoring was carried out for PM2.5, PM10, SO2, NO2, NH_3, HCl, Br2, HBr & VOC at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST. The resultant concentrations are within the NAAQS.
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Committee noted that proposal is new in GIDC Dahej. Source of water is GIDC. PP mentioned that high COD effluent generated from process will be treated in in-house neutralization tank and treated effluent will be sent to CMEE of BEIL, Dahej for final treatment and disposal however Low COD effluent generated from process will be treated in in-house ETP consisting of Primary, Secondary & Tertiary treatment along with scrubber solution, boiler blow down, washing, cooling tower blow down and domestic sewage and treated effluent and sewage will be disposed into deep sea via GIDC pipeline. Committee asked PP to clarify about disposal of Hazardous Waste of the Category Class C inorganic Acid into ETP and further into deep sea. PP could not reply satisfactorily for the same. PP has proposed two steam boiler and one TFH. Fuel used will be Natural Gas/Coal/Briquette. Committee noted PP has not addressed Process gas emission properly. Committee noted PP has not addressed Hazardous Waste as per HWR – 2016.
- After detailed discussion, it was decided to consider the proposal only after submission of the following documents:
    1. Membership Certificate from Common Facility (mentioning total capacity, consented quantity, occupied capacity and spare capacity and norms of acceptance of effluent from member units) in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
    2. Clarification as to why Hazardous Waste of Class C Inorganic Acid along with SBS Solution, HBr solution, Sodium Bromide solution and Ammonium Sulfate Solution is taken into ETP instead of reuse/recycle or selling under rule – 9 as a valuable material and finally disposing into deep sea via GIDC pipeline which is having trace contaminants of API.
    3. Revised Water Balance Diagram along with its Characteristic with Proper stream segregation.
    4. Process gas emission Matrix along with its adequate APCM.
    5. Leak Detection and Repairing Programme (LDAR) for all the volatile organic solvent proposed for use in-house with detailed chemical properties including vapor pressure. LDAR shall endeavor prevention of losses of solvents to the best minimum extent.

6. Undertaking regarding not using FO as Fuel as per GPCB Notification dated 12th December, 2019.
7. Hazardous Waste Matrix as per HWR – 2016 along with its proper source of generation, treatment and disposal mechanism.
8. Revised Need based CER as per MoEF&CC's OM dated 01/05/2018 along with EMP with Fixed Capital Cost and Recurring Cost.

- **Project proponent submitted reply through email for the above points vide dated 08/04/2020 which is considered in SEAC video conference meeting dated 17.04.2020.**
- PP presented replied as below:

1. PP submitted membership certificate of common MEE of M/s BEIL, Dahej with mentioning spare capacity and consented capacity.
2. PP submitted Clarification as to why Hazardous Waste of Class C Inorganic Acid along with SBS Solution, HBr solution, Sodium Bromide solution and Ammonium Sulfate Solution is taken into ETP instead of reuse/recycle or selling under rule – 9 as a valuable material and finally disposing into deep sea via GIDC pipeline which is having trace contaminants of API.PP stated that concentration of exhausted scrubbing media is not commercially feasible for selling under Rule-9 to end users
3. PP submitted revised water balance diagram along with its Characteristic with Proper stream segregation.
4. PP submitted revised process emission matrix with APCM.
5. PP submitted Leak Detection and Repairing Programme (LDAR) for all the solvents/volatile organic chemicals proposed with detailed chemical properties including vapour pressure. PP submitted LDAR with all mitigation measures shall endeavour prevention of losses of solvents/Volatile organic compounds to the best minimum extent
6. PP submitted revised flue gas emission matrix showing FO as fuel not proposed for boilers.
7. PP submitted revised Hazardous waste matrix with its proper source of generation, treatment and disposal mechanism,
8. PP submitted needs based CER for surrounding villages with budgetary provision for five years along with EMP with Fixed Capital Cost and Recurring Cost.

- This case was reconsidered in SEAC meeting dated 17/04/2020.
- Salient features (Revised) of the project including Water, Air and Hazardous waste management:

Sr. no.	Particulars	Details
A		
A	Total cost of Proposed Project (Rs. in Crores):	20 Crores
	EMP Details	

COMPONENT	CAPITAL COST OF EMP	RECURRING COST OF EMP (per Month)
TOTAL COST	600 lacs	1320 Lacs

Bifurcation of EMP Cost

Sr. No	Unit	Installed Capacity (KLD)	Capital Cost (Rs. in Lacs)	Operating Cost (Lacs /Month)	Maintenance Cost (Lacs /Month)	Total Recurring Cost (Lacs /Month)
1	Air pollution control	--	40	1.25	0.42	1.66
2	Water pollution control	100 KLD ETP	150	30.04	31.27	61.31
3	Noise pollution monitoring	-	1	0.09	0.07	0.16
4	Solid and hazardous waste management	-	20	19.36	9.53	28.89
5	Environment monitoring and management	-	300	12.99	3.67	16.66
6	Green belt	-	10	0.46	0.20	0.66
7	Occupational health (OHC) & Safety Equipments	-	79	0.46	0.20	0.66

The unit has planned to spend 2% of the total cost of the project over a period of five years towards CER activity. So, as per the project cost Rs. 40 Lakhs used in the CER activities.

BUDGETARY ALLOCATION FOR CER ACTIVITIES

The unit has planned to spend 2% of the total cost of the project over a period of five years towards CER activity. So, as per the project cost Rs. 40 Lakhs used in the CER activities. Budgetary allocation is given in below table.

SR. NO.	ACTIVITY	FUND EARMARKED FOR ACTIVITY IN LAKHS						Time Schedule
		FOR 5 Years	Y1	Y2	Y3	Y4	Y5	
1	L.E.D Bulb and Solar light Facility provided in village.	5	1	1	1	1	1	5 Years

2	Standard basic amenities, Water purifier distribution and promotion of safe drinking water practices Safe drinking water R.O. to school & village	25	21	1	1	1	1	
3	Laying of pewer blocks on road sides.	10	4	2	2	1	1	
TOTAL		Rs. 40 Lakh						

B	Total Plot area (sq. meter)	8984.55 Sq. m.
	Green belt area (sq. meter)	2968.32
C	Employment generation	150
D	Water	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC
	Status of permission from the concern authority.	Water permission letter from GIDC Dahej is attached as Annexure-VIII in EIA Report.
Ii	Water consumption (KLD)	

Category	Quantity KLD	Remarks
(G) Domestic	5	Unit will use fresh water for it.
(H) Gardening	11	Unit will use fresh water for it.
(I) Industrial		
Process	75	Unit will use fresh water for it.
Washing	10	
Boiler	15	
Cooling	42	

Others	15	Process scrubber :- 3 KLD Fresh + Boiler Scrubber :- 12 KLD (recycled) (Boiler Blow down water)
Industrial Total	157	
Total (A + B + C)	173	Fresh water requirement:- 161 KLD + Recycled water requirement:- 12 KLD

1) Total water requirement for the project: 173 KLD
2) Quantity to be recycled: 12 KLD
3) Total fresh water requirement: 161 KLD

(Total water requirement = Fresh water + Recycled water)

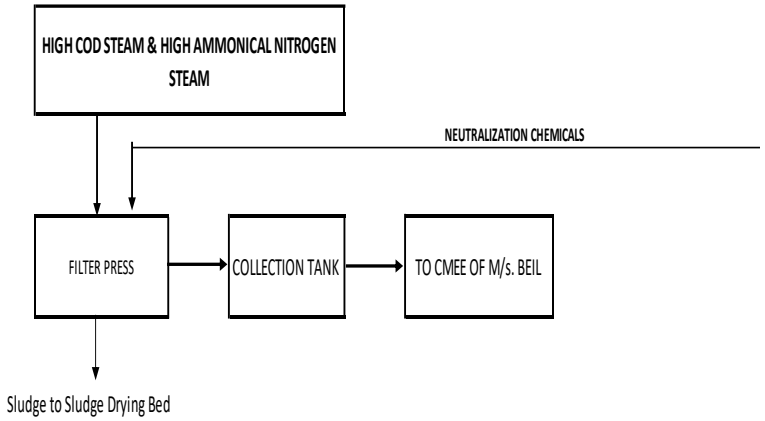
Iii Waste water generation (KLD)

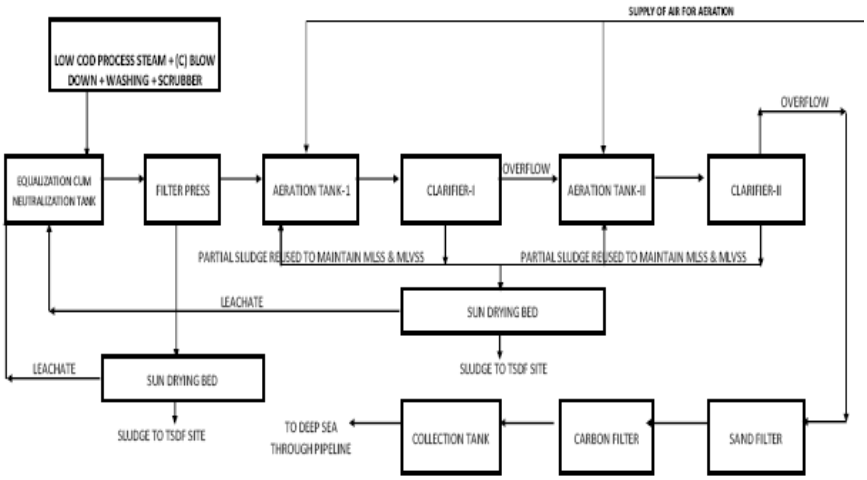
-

Category	Waste water KLD	Remarks
• Domestic	5	Unit will treat domestic effluent along with industrial effluent.
• Industrial		
Process	80	Unit will bifurcate industrial effluent into 2 steams based on characteristics . STEAM 1:- High Ammonical Nitrogen Steam + High COD Steam (32 KLD) STEAM 2:- LOW COD steam (48 KLD) - treated in unit's own

					effluent treatment plant.		
			Washing	10	10 KLD WASHING WATER will be treated in unit's own effluent treatment plant.		
			Boiler	12	Total 12 KLD Boiler Blow Down will be generated. Unit will use this Boiler Blow Down water in the water scrubber of Boiler. Total 6 KLD effluent will be lost in to atmosphere. Remaining 6 KLD saturated Water will be used in Coal Handling and Ash quenching. So unit will use entire BOILER BLOW DOWN water with in premises.		
			Cooling	6	6 KLD Cooling Tower Blow Down water will be subjected to unit's own effluent treatment plant.		
			Others	3	3 KLD washing water will be subjected to unit's own effluent treatment plant.		

			Total Industrial waste water	111	Total 111 KLD effluent will be generated from Industrial activity. STREAM 1:- High Ammonical Nitrogen Steam + HIGH COD steam – send to incinerator of M/s. BEIL after neutralization. (32 KLD) STREAM 2:- LOW COD steam (67 KLD) - treated in unit's own effluent treatment plant. Unit will use 12 KLD Boiler Blow Down water within the premises.		
			Total [A + B]	116	Total 116 KLD effluent will be generated from unit. Total 72 KLD effluent will be treated in unit's own effluent treatment plant along with (5 KLD Domestic effluent + 67 KLD Industrial Effluent). 1 KLD ETP effluent chemical will also be added with treatment. Total 3 KLD water will be going along with ETP		

					Sludge. Hence total 70 KLD effluent will be discharged to U/G drainage of GIDC Dahej.	
	iv	Treatment facility within premises with capacity [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc. ➢ Unit is having primary, secondary and tertiary treatment. High COD+ High TDS+ Ammonical nitrogen steam will be subjected to CMEE of M/s. BEIL.				
		Treatment scheme including segregation at source. ➢ High COD, High TDS and High Ammonical nitrogen stream will be segregated at the source and sent to CMEE of M/s. BEIL after neutralization and LOW COD and LOW Ammonical nitrogen steam will be treated in units own effluent treatment plant and subjected to sea through GIDC pipeline. ETP DESCRIPTION: Total 2 types of streams will be generated during the manufacturing process. 1) HIGH COD STREAM- (> 10,000 mg/l) + HIGH AMMONICAL NITROGEN STREAM- (> 100 mg/l) 2) LOW COD AND LOW TDS STREAM (FROM PROCESS + WASHING+ BOILER BLOW DOWN + COOLING TOWER BLOW DOWN + DOMESTIC + SCRUBBER) MANAGEMENT OF STREAMS 1) STREAM NO:-1:- HIGH COD STREAM Unit will segregate HIGH COD stream-stream which is having more than 10,000 mg/l COD-& HIGH Ammonical Nitrogen Stream- Stream more than 100 mg/l-from the source. It will be directly subjected to CMEE of M/s. BEIL after neutralization. 2) STREAM NO:-3:- LOW COD AND LOW TDS STREAM This stream will be treated in conventional effluent treatment plant along with Cooling Tower Blow Down, Washing, and Scrubber Solution and with Domestic effluent. Unit will develop primary, secondary and tertiary treatment to achieve the stipulated norms of GPCB. DIAGRAM OF HIGH COD, HIGH TDS & HIGH AMMONICAL EFFLUENT TREATMENT PLANT  DIAGRAM OF CONVENTIONAL ETP				



Note: (In case of CETP discharge) :

Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- 18(1)-B is not applicable. Unit will achieve the stipulated norms of GPCB.

DISCHARGE EFFLUENT STAGE WISE CHARECTERISTICS

Sr. No.	Parameters	Units	Composite Sample	After Primary Treatment	After Secondary Treatment	After Sand Filter & Carbon Filter	Discharge Effluent Quality	GPCB Stipulated Norms
1.	pH	--	4-9	6-9	6-9	6-9	6-9	5.5-9
2.	TSS	mg/l	150-200	80-90	30-40	20-30	20-30	100
3.	TDS	mg/l	5000-8000	<10000	<10000	<10000	<10000	---
4.	Ammonical Nitrogen	mg/l	< 100	< 80	<50	<50	<50	50
5.	C.O.D.	mg/l	7000-8000	5000-6000	< 400	<250	<250	250

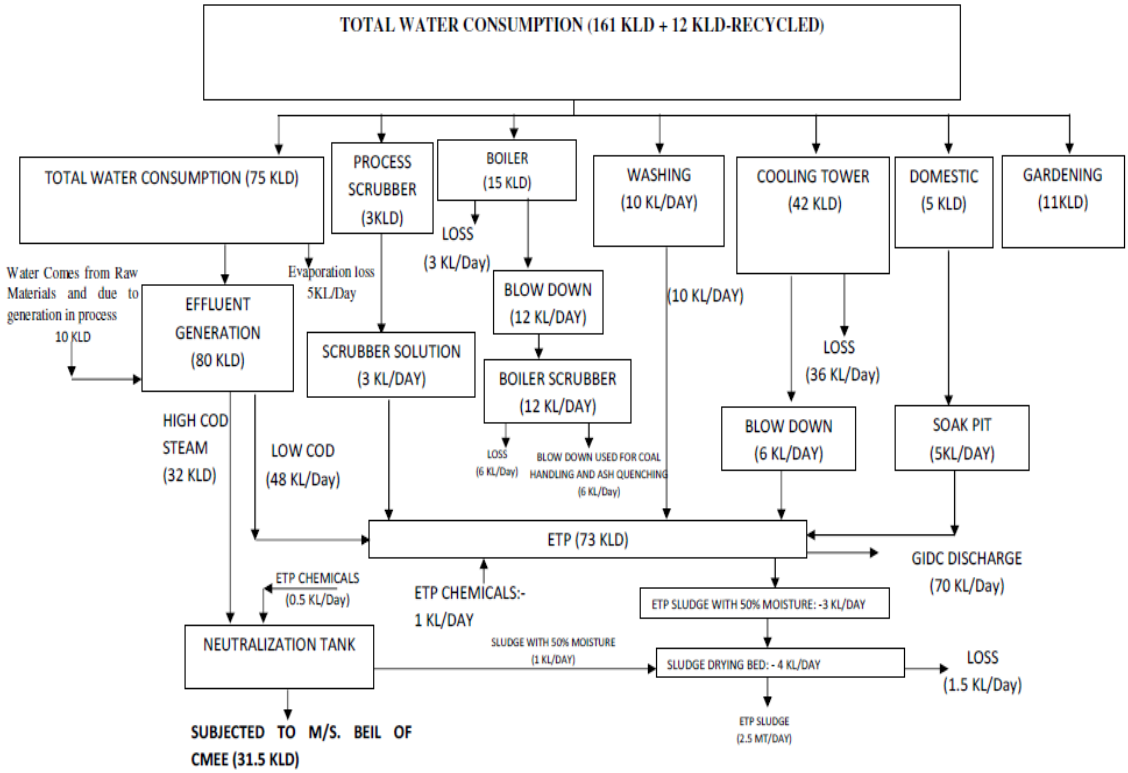
Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):

- Not applicable

v Mode of Disposal & Final meeting point

Domestic:	GIDC Discharge
Industrial:	GIDC Discharge

vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. Name of CF ➢ M/s. BEIL, CMEE	
	Membership of Common facility (CF) (For waste water treatment)	
	TSDF BEIL certificate is attached as Annexure-XII in EIA Report.	
Vii	Simplified water balance diagram with reuse / recycle of waste water	



Vii	Reuse/Recycle details (KLD)	
	Total reuse…….KLD	

Source of waste water for reuse with quantity in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse i.e.
12 KLD Boiler blow down	Water scrubber of boiler	pH: 8-9.5 COD: 50-70 mg/l TDS: 2500-3000mg/l	

E	Air	
I	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.	
	-	

Sr. no.	Source of emission With	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air	Air Pollution Control

	Capacity				Pollutants	Measures (APCM)
1	Boiler-1 (2 MT/Hr.)	30	Natural Gas	2800 m^3/Day	PM SO_2 Nox	Adequate Height.
2	Boiler-2 (5 MT/Hr.)	30	Coal/Briquette	13 MT/Day OR 15 MT/Day	PM SO_2 Nox	Bag Filter, Multi Cyclone Separator and Water Scrubber.
3	Thermic Fluid Heater (4 Lacs Kcal/Hr)	30	Natural Gas	2000 m3/Day	PM SO_2 Nox	Adequate Height
4	D.G.Set (750 KVA) (2 Nos)	12	Diesel	50 Lit/Hr	PM SO_2 Nox	Adequate Height

ii Process gas emission details i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Process Vessels attached to header line.	HCl SO_2 Br_2 HBr	15	Water Scrubber followed by Alkali Scrubber
2	Process Vessels attached to header line.	Ammonia	15	2- Stage acid Scrubber

iii Fugitive emission details with its mitigation measures:
As below:

Unit has proposed to install water scrubber followed by alkali scrubber and acid scrubber to curb the emission.

F Hazardous wastes
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

I

Sr. No.	Type of Waste	Specific Source of generation (Name of the Activity,	Category and Schedule	Quantity (MT/Annum)	Management of HW

	Product etc.)	as per HW Rules			
1.	ETP sludge	From ETP	35.3	920	Collection, Storage, Transportation, Disposal at TSDF site authorized by the GPCB.
2.	Process Salt	From manufacturing Process Product no:- 10,11,17,18,27,58,75,89, 91,93,95,98,121, 122,123,124,125,154,168 ,174,175,179,195,196,20 2,204	35.3	720	
3	Used Oil	From lubricate of plant and machineries	5.1	6	Collection, Storage, And internally reused in the lubrication of plant and machinery or sell it to authorized re-refiners/recycler.
4	Discarded containers/Em pty barrels/ Bags/ Liners	Packing of raw materials.	33.1	60	Disposal, by send it to authorized decontamination facility/ recycled or reuse or send back to supplier.
5	Spent Catalyst	From manufacturing Process Product no:- 14,33,54,81,99,102, 106,119,130,140,146,182 ,198,206,207	28.2	30	Collection, Storage, and send to authorized units for regeneration who are having rule-9 permission.
6	Spent Carbon	From manufacturing Process Product no:- 132,133,148,164,168,171 180,192	28.3	36	Collection, Storage, and send for co-processing
7	Distillation Residue	From manufacturing Process Product no:- 56,60,126,130,132,133,1 40,141,145,146,147,155, 159,162,168,172,178,191	26.3	360	

			8	Formic acid solution (50 to 60% soln);	From manufacturing Process Product no:- 5,27	26.3	1765	Collection, Storage, And sell to those units who are having permission of RULE-9 or who have applied under RULE-9.	
			9	Zinc chloride Solution (20 to 22% soln);	From manufacturing Process Product no:- 5,76,83,86,117	26.3	3876	Collection, Storage, And sell to those units who are having permission of RULE-9 or who have applied under RULE-9.	
			10	Sodium Bromide Solution (10 to 12% soln);	From manufacturing Process Product no:- 4,56,60,69,71,206	26.3	6180	Collection, Storage, And sell to those units who are having permission of RULE-9 or who have applied under RULE-9.	
			11	Aluminium Chloride Solution	From manufacturing Process Product no:- 6,16,43,59,62,65,78,108, 111,156,	26.3	3710	Collection, Storage, And sell to those units who are having permission of RULE-9 or who have applied under RULE-9.	
			12	Acetic Acid (35% to 40% solu)	From manufacturing Process Product no:- 35	26.3	972	Collection, Storage, And sell to those units who are having permission of RULE-9 or who have applied under RULE-9.	
			13	Scrubber Solution	From Scrubber	--	1080	It will be treated in unit's own effluent treatment plant. (HCl solution :- 548 MT/Annum, SBS Solution:- 250 MT/Annum, HBr solution:-200	

					MT/Annum, Sodium Bromide solution:-40 MT/Annum, Ammonium Sulfate Solution:-42 MT/Annum)
14	Off Specification Products	--	28.4	2	Collection, Storage, And send to co-processing.
15	Date Expired Products	--	28.5	2	
16	Spent Solvents	Product no:- 9,15,30,60,139,	28.6	560	Collection, Storage and send for co-processing or incinerator of M/s. BEIL. Or sale to sell to those units who are having permission of RULE-9 or who have applied under RULE-9.
17	Sodium sulfate salt	Product no:- 2,36.,40, 43, 44,63,69,72,	35.3	960	Collection, Storage and sell to those units who are having permission of rule-9 or who have applied under rule-9 or dispose through TSDF site.
18	Recoverable Solvents	From all the process	--	8400	It will be reused by the unit.

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ii	Membership details of TSDF, CHWIF etc. (For HW management)	Membership certificate from BEIL is attached as Annexure-XII, and LOI are attached as Annexure-XVI, XVII, XVIII, XIX& XX.
iii	Details of Non-Hazardous waste & its disposal (MSW and others)	--
G	Solvent management, VOC emissions etc.	

	i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)							
		Name of Product	Name of Solvent	Boiling Point	Vapour Pressure	Total Quantity (MT/MT)	Quantity Fresh (MT/MT)	Quantity recovered (MT/MT)	% Recovery
		2,3,4,5–bis-O-[1-Methyl Ethylidene]B-D-Fructopyranose	Acetone	56	30.6 kPa (25 °C)	2	0.1	1.9	95
			Toluene	111	2.8 kPa (20 °C)	0.6	0.04	0.56	94
		4-Methyl Catechol Di-acetic acid Dimethyl ester	Methanol	54	13.02 kPa (at 20 °C)	5	0.15	4.85	97
			Toluene	111	2.8 kPa (20 °C)	2	0.06	1.94	97
		4-Methyl Catechol	N-butanol	116	6 mmHg (20 °C)	1.4	0.05	1.35	98
		Methylene dioxy phenol	Methelyen dichloride	39.8	2 kPa −40 °C)	1.6	0.1	1.5	94
			Toluene	111	2.8 kPa (20 °C)	3.3	0.08	3.22	97.5
			Methanol	54	13.02 kPa (at 20 °C)	0.6	0.02	0.58	8
		4-Chloro-4'Hydroxy Benzophenone	1,2 Di Chloro benzene	180.19 °C	1 mmHg (20° C)	1.6	0.06	1.54	96.2
		2-Bromo Veratryl Bromid	Methe ye n dichloride	39.8	2 kPa (−40 °C)	1	0.5	0.95	95
			Toluene	111	2.8 kPa (20 °C)	1	0.08	0.92	92
		7-Ethyl	Tolu ne	111	2.8	1	0.1	0.9	90

tryptophol			kPa (20 ° C)				
2 -Bromo 2',5'-dimethoxyacetophenone	Methelene chloride	39.8	2 kPa (−40 °C)	1.2	0.1	1.1	2
4-M thoxy Benzaldehyde Dimethyl Acetal	Methanol	54	13.02 kPa (at 20 °C)	1.4	0.07	1.33	95
Benzaldehyde dimethyl Ace al	Methanol	54	13.02 kPa (at 20 °C)	1.4	0.07	1.33	95
4-Hydroxy Benzyl Alcohol	Methanol	54	13. 2 kPa (at 20 °C)	2	0.08	1.92	96
O-Benzyl hydroxyl amine Hydrochloride	Methelene dichloride	39.8	2 kPa (−40 °C)	3	0.15	2.85	95
	Toluene	111	2.8 Pa (20 ° C)	1.6	0.05	1.55	97
	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95
Alpha –Bromo - 2-Chloro Pheny Acetic Acid Methyl Ester	Toluene	111	2.8 kPa (20 ° C)	4	0.2	3.8	95
	Methanol	54	13.02 kPa (at 0 °C)	1.4	0.1	1.3	93
	Chloro benzene	131 °C	9 mmHg	2	0.1	1.9	95
	Methelene dichloride	39.8	2 kPa (−40 °C)	1	0.1	0.9	90
3-(1-Pleperazinuyl)-1,2 Hydrochl ride	Methanol	54	13.02 kPa (at 20 °C)	7	0.1	6.9	97.5
	Toluene	111	2.8	8	0.5	7.5	94

				kPa (20 ° C)						
	-Chloroethyl-6-Chloro-2-Oxindole	Methelene dichloride	39.8	2 kPa (−40 °C)	1.4	0.1	1.3	93		
		D METHYL SULFOXIDE (DMSO)	189 °C	0.46 mm Hg @ 20 deg C	2	0.1	1.	95		
		Methanol	54	13.02 kPa (at 20 °C)	2	0.05	1.95	97.5		
	2,4,6 Trimethoxy Benzaldehyde	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95		
	4-Methoxy-3-nitrobenzylsulfonylacetic acid	Chloroben zene	131 °C	9 mmHg	3.8	0.12	3.68	97		
		Methanol	54	13.02 kPa (at 20 °C)	3	0.3	2.87	96		
	(1R,2R)-1-2-bis (methane sulfonyloxy methyl) cyclohexane	Methelyen dichloride	39.8	2 kPa (−40 °C)	2	0.2	1.8	90		
		Tetrahydro furan (THF)	66 °C	132 m mHg	1	0.04	0.96	96		
	4-Isopropyl catechol	Methelyne dichloride	39.8	2 kPa (−40 °C)	2	0.1	1.9	95		
		N-Butanol	116	6 mmHg (20 ° C)	2.8	0.06	2.74	98		
		Copper sulfate	decom poses	--	2	0.1	1.9	95		
	3-Methoxy Phenol	Toluene	111	2.8 kPa (20 ° C)	2	0.1	1.9	95		
	Veratrol Alcohol	Toluene	111	2.8 kPa (20 ° C)	3.76	0.26	3.5	93		

				Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95	
				Methelyen dichloride	39.8	2 kPa (−40 °C)	1	0.1	0.9	90	
			4-Propyl Catechol	N-Butanol	116	6 mmHg (20 ° C)	2.8	0.06	2.74	98	
				Methelyen dichloride	39.8	2 kPa (−40 °C)	2	0.1	1.9	95	
			Dimethyl Acetamide Dimethyl Acetal	Methanol	54	13.02 kPa (at 20 °C)	1	0.02	0.98	98	
			Tert-butyl(4-bromophenyl)	Dimethyl Formamide (DMF)	152 to 154 °C	516 Pa	1	0.05	0.95	95	
			Methylcarbamate	Methelyen dichloride	39.8	2 kPa (−40 °C)	3	0.2	2.8	94	
			4-[(4-Methyl-1-piperazinyl)-methyl]-benzoyl chloride dihydrochloride	Methelyen dichloride	39.8	2 kPa (−40 °C)	1	0.05	0.95	95	
				Thionyl chloride	76	4.7 k Pa	4	0.1	3.9	97.5	
				chloroforom	61.15 ° C	7.89 kPa (0 °C)	2	0.1	1.9	95	
			(2-cyclopropyl-4-(4-fluorophenyl)quinolone-3yl)methanol	Methanol	54	13.02 kPa (at 20 °C)	1.2	0.05	1.15	96	
				Toluene	111	2.8 kPa (20 ° C)	4	0.1	3.9	97.5	
				Cyclohaxen	80.74 ° C	78 mmHg (20 °C)	1	0.05	0.95	95	
			(-) Alcohol	Iso propyl alcohol	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95	
				DIMETHYL	152 to 154 °C	516 Pa	0.4	0.02	0.38	95	

	FORMAMIDE (DMF)						
3 –Methoxy	EDC	84 °C	65mm Hg @29 deg C	2	0.1	1.9	95
Propiophenone	DIMETHYL FORMAMIDE (DMF)	152 to 154 °C	516 Pa	0.6	0.05	0.55	92
	Toluene	111	2.8 kPa (20 °C)	2	0.1	1.9	95
AfatinibDimalate	Methanol	54	13.02 kPa (at 20 °C)	1.29	0.3	1.26	97.67
Arbutin	MDC	39.8	2 kPa (−40 °C)	2	0.1	1.9	95
	Methanol	54	13.02 kPa (at 20 °C)	1.6	0.08	1.52	95
Agomelatine	Methanol	54	13.02 kPa (at 20 °C)	3	0.1	2.9	96.66
Apixaban	Ethyleglycoal	135 °C	4 mmHg (20°C)	2	0.1	1.9	0.95
Aripiprazole	Dimethylformamide	152 to 154 °C	516 Pa	1.7	0.06	1.64	96.47
	Iso Propyl Alcohol	82.6 °C	44 hPa (20 °C)	3.1	0.14	2.96	95.48
Asenapine	Methanol	54	13.02 kPa (at 20 °C)	2.4	0.1	2.3	95.83
	MDC	39.8	2 kPa (−40 °C)	2.4	0.1	2.3	95.83
	Butanol	116	6 mmHg	2	0.1	1.9	95

			(20 ° C)				
	N-Butyl alcohol	117.7 ° C	6 mmHg (20 ° C)	1.4	0.1	1.3	92.85
Azilsartan	MDC	39.8	2 kPa (−40 °C)	1.6	0.1	1.5	93.75
	Acetone	56	30.6 kPa (25 ° C)	2	0.1	1.9	95
	Ethyl acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	2	0.1	1.9	95
Abacavir Sulfate	Iso Propyl Alcohol	82.6 ° C	44 hPa (20 °C)	6	0.3	5.7	95
	Triethyl ortho formate	146 °C	10 hPa @ 40 °C	4	0.1	3.9	97.5
	Acetone	56	30.6 kPa (25 ° C)	0.4	0.02	0.38	95
Atorvastatin Calcium	Cyclohexane	80.74 ° C	78 mmHg (20 °C)	1	0.05	0.95	95
	Ethyle acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	1	0.05	0.95	95
	Methyl ethyl ketone	79.64 ° C	78 m mHg (20 ° C)	1	0.05	0.95	95
	T-butanol	116	6 mmHg (20 ° C)	0.5	0.05	0.45	90
	Methanol	54	13.02 kPa (at 20 °C)	1.5	0.09	1.41	94

			Bupropion HCl	Iso Propyl Alcohol	82.6 ° C	44 hPa (20 °C)	1	0.05	0.95	95
				Methelene dichlorie	39.8	2 kPa (−40 °C)	2	0.1	1.9	95
				Ethlye acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	1	0.05	0.95	95
			Bazedoxifene	Acetone	56	30.6 k Pa (25 ° C)	1.8	0.1	1.7	94.44
			Canagliflozin	Methanol	54	13.02 kPa (at 20 °C)	2.4	0.1	2.3	95.83
				Ethyle acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	2.4	0.1	2.3	95.83
				Toluene + Heptane	111	2.8 kPa (20 ° C)	2	0.1	1.9	95
			Candesartan Cilexetil	Methelene dichloride	39.8	2 kPa (−40 °C)	4.6	0.2	4.4	95.65
				Acetone	56	30.6 k Pa (25 ° C)	2	0.1	1.9	95
				Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95
				Acetonitrile	81.6	9.71 kPa (at 20.0 ° C)	2	0.1	1.9	95
			Clopidogrel bi sulfate	Methanol	54	13.02 kPa (at 20 °C)	3	0.2	2.8	93.33
			Dabigatran	Acetone	56	30.6 k Pa	3	0.1	2.9	96.66

			(25 ° C)				
Dapagliflozin	Methanol	54	13.02 kPa (at 20 °C)	2.2	0.1	2.1	95.45
Darifenacin	Dimethyl formamide	152 to 154 °C	516 Pa	2	0.1	1.9	95
	Acetone	56	30.6 k Pa (25 ° C)	2	0.1	1.9	96
	Methelene dichloride	39.8	2 kPa (−40 °C)	2	0.2	1.8	90
Donepezil	Methelye dichloride	39.8	2 kPa (−40 °C)	2.2	0.1	2.1	95.45
	Methanol	54	13.02 kPa (at 20 °C)	2.2	0.1	2.1	95.45
	Di isopropyl ether	68.5 °C	119 mmH g (20°C)	2	0.1	1.9	95
Dronedarone	Methelye dichloride	39.8	2 kPa (−40 °C)	4.2	0.1	4.1	98
	Ethyl acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	4.2	0.1	4.1	98
Desvenlafaxine Succinate monohydrate	Acetonitrile	81.6	9.71 kPa (at 20.0 ° C)	2	0.1	1.9	95
	Thiophenol	169 °C	1 mmH g	0.306	0.026	0.28	91
	Dimethyl sulfoxide (DMSO)	189 °C	0.46 mm Hg @ 20 deg C	1	0.05	0.95	95
Duloxetine Hydrochloride	Methanol	54	13.02 kPa (at 20 °C	3	0.15	2.85	95

			)				
	Dimethyl Sulfoxide (DMSO)	189 °C	0.46 mm Hg @ 20 deg C	1	0.05	0.95	95
	Diisopropyl e amine	68.5 °C	119 mmHg (20°C)	1	0.05	0.95	95
	Acetone	56	30.6 k Pa (25 ° C)	1	0.05	0.95	95
Erlotinib	Methelyen e dichloride	39.8	2 kPa (−40 °C)	1.6	0.1	1.5	94
	Methanol	54	13.02 kPa (at 20 °C)	2.95	0.35	2.6	90
Etoricoxib	Tetrahydro furan	66 °C	132 m mHg	1.8	0.1	1.7	94.44
	Toluen	111	2.8 kPa (20 ° C)	2.2	0.1	2.1	95.45
	IPA-Hexane	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95
Etodolac	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95
Escitalopram oxalate	Iso propyl alcohol	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95
	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95
	MDC	39.8	2 kPa (−40 °C)	1.5	0.1	1.4	93.33
	Toluene	111	2.8 kPa (20 ° C)	2	0.1	1.9	95

Febuxostate	Methanol	54	13.02 kPa (at 20 °C)	2.4	0.1	2.3	95.83	
	Acetone	56	30.6 k Pa (25 ° C)	1	0.05	0.95	95	
Felodipine	Cyclo hexane	80.74 ° C	78 mmH g (20 °C)	1	0.05	0.95	95	
	Isopropyl alcohol	82.6 ° C	44 hPa (20 °C)	1	0.05	0.95	95	
Fluconazol	Ethyle acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	2	0.1	1.9	95	
	Methanol	54	13.02 kPa (at 20 °C)	3	0.1	2.9	96	
Granisetron HCl	MDC	39.8	2 kPa (−40 °C)	2	0.1	1.9	95	
Gefitinib	Iso propyl alcohol	82.6 ° C	44 hPa (20 °C)	1.6	0.1	1.5	93.75	
	N-Propanol	97 to 98 °C	1.99 kPa (at 20 °C)	2	0.1	1.9	95	
Gabapentin	Iso propyl alcohol	82.6 ° C	44 hPa (20 °C)	1	0.05	0.95	95	
	Acetone	56	30.6 k Pa (25 ° C)	1	0.1	0.9	90	
	Methanol	54	13.02 kPa (at 20 °C)	1	0.05	0.95	95	
Irbesartan	Iso propyl alcohol	82.6 ° C	44 hPa	2	0.1	1.9	95	

			(20 °C)				
	Methyl-T-Butyl ether	55.2 ° C	268 mbar @ 20 °C	2	0.1	1.9	95
	Xylene	138.5 ° C	6.7 - 8.7 hPa	2	0.1	1.9	95
Itopride Hydrochloride	Toluene	111	2.8 kPa (20 ° C)	2	0.05	1.95	97.5
	Acetone	56	30.6 k Pa (25 ° C)	2	0.05	1.95	97.5
Lapatinib	Tetrahydro furan	66 °C	132 m mHg	2	0.1	1.9	95
Lurasidone Hydrochloride	IPA	82.6 ° C	44 hPa (20 °C)	3	0.1	2.9	96.66
	Acetone	56	30.6 k Pa (25 ° C)	0.4	0.04	0.36	90
	Toluene	111	2.8 kPa (20 ° C)	2	0.1	1.9	95
	N-Xylene	138.5 ° C	6.7 - 8.7 hPa	0.4	0.04	0.36	90
Losartan Potassium	Methanol	54	13.02 kPa (at 20 °C)	2.4	0.1	2.3	96
Mem Chloride	1,3,5 Trioxane	115 °C	7.5 mbar @ 20 °C	1	0.1	0.9	90
Moclobemide	Toluene	111	2.8 kPa (20 ° C)	2	0.1	1.9	95
	IPA	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95
Modafinil	Acetic acid	117.9	2.09 kPa at 25°C	2	0.1	1.9	95

			Metoprolol Tartrate	Acetone	56	30.6 k Pa (25 ° C)	1	0.1	0.9	90	
				Toluene	111	2.8 kPa (20 ° C)	2	0.05	1.95	97.5	
			Nisoldipine	Acetone	56	30.6 k Pa (25 ° C)	1	0.05	0.95	95	
				Toluene	111	2.8 kPa (20 ° C)	1.6	0.1	1.5	93.75	
			Omeprazole	Methanol	54	13.02 kPa (at 20 °C)	1	0.05	0.95	95	
				Acetone	56	30.6 k Pa (25 ° C)	1	0.05	0.95	95	
			O Des Venlafexine	DIMETHYL FORMAMIDE (DMF)	152 to 154 °C	516 Pa	1.3	0.1	1.2	92.3	
				Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95	
				Toluene	111	2.8 kPa (20 ° C)	2.2	0.1	2.1	95.45	
			Olmesartan	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95	
				Acetone	56	30.6 k Pa (25 ° C)	2	0.1	1.9	95	
			Pitavastatin	Methanol	54	13.02 kPa (at 20 °C)	1	0.05	0.95	95	
				acetone	56	30.6 k Pa	1	0.05	0.95	95	

			(25 ° C)				
PramipexoleDihydrochloride Monohydrate	Methanol	54	13.02 kPa (at 20 °C)	4.9	0.2	4.7	95.91
Prasugrel Hydrochloride	Ethyl methyl ketone	80 °C	105 mbar @ 20 °C	2	0.1	1.9	95
	IPA	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95
Paroxetine	Dimethyl Formamide (DMF)	152 to 154 °C	516 Pa	1	0.05	0.95	95
	Toluene	111	2.8 kPa (20 ° C)	3	0.1	2.9	96.66
Pinaverium Bromide	IPA	82.6 ° C	44 hPa (20 °C)	2	0.1	1.9	95
	Acetone	56	30.6 k Pa (25 ° C)	2	0.1	1.9	95
Pioglitazone HCl	Toluene	111	2.8 kPa (20 ° C)	3	0.2	2.8	93.33
	Dimethyl Sulfoxide (DMSO)	189 °C	0.46 mm Hg @ 20 deg C	0.5	0.04	0.46	92
	Ethanol	78 °C	59.3 mm Hg @ 20 deg C	1	0.05	0.95	95
QuetiapineFumarate	Toluene	111	2.8 kPa (20 ° C)	3	0.2	2.8	93.33
	Ethanol	78 °C	59.3 mm Hg @ 20 deg C	2	0.1	1.9	95
	Dimethyl	189 °C	0.46	0.5	0.04	0.46	92

	Sulfoxide (DMSO)		mm Hg @ 20 deg C					
Rabeprazole Sodium	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95	
	Toluene	111	2.8 kPa (20 ° C)	2	0.1	1.9	95	
Rivaroxaban	Acetic acid	117.9	2.09 kPa at 25°C	2	0.1	1.9	95	
Ropinirole Hydrochloride	Ethyl Acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	2	0.1	1.9	95	
	Methanol	54	13.02 kPa (at 20 °C)	2.5	0.1	2.4	96	
	MDC	39.8	2 kPa (−40 °C)	2	0.1	1.9	95	
Resperidone	Dimethyl Formamid e (DMF)	152 to 154 °C	516 Pa	2	0.05	1.95	97.5	
Sertraline Hydrochloride	Ethyl Acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	1	0.05	0.95	95	
	Methanol	54	13.02 kPa (at 20 °C)	1	0.05	0.95	95	
	Acetonitrile	81.6	9.71 kPa (at 20.0 ° C)	2	0.1	1.9	95	
1-[3-(benzyloxy)	Dimethyl Formamid e (DMF)	152 to 154 °C	516 Pa	2	0.1	1.9	95	
propyl]-5-formaylindoline-7-carbonitrite	Methanol	54	13.02 kPa (at	2	0.1	1.9	95	

					20 °C)					
		Solifenacin Succinate	Dimethyl Sulfoxide (DMSO)	189 °C	0.46 mm Hg @ 20 deg C	2	0.1	1.9	95	
		Dimethylformamide di-tert-butyl Acetal	t-butanol	116	6 mmHg (20 ° C)	3	0.1	2.9	96.66	
		Tadalafil	Methanol	54	13.02 kPa (at 20 °C)	2.4	0.1	2.3	95.83	
			IPA	82.6 ° C	44 hPa (20 °C)	2	0.06	1.94	97	
		Ticagrelor	Methanol	54	13.02 kPa (at 20 °C)	2	0.1	1.9	95	
			Cyclohexane	80.74 ° C	78 mmHg (20 °C)	2	0.1	1.9	95	
		Topiramate	O-Xylene	144 °C	6.62 mm Hg at 25°C	2	0.1	1.9	95	
			Tetrahydrofuran (THF)	66 °C	132 m mHg	3	0.1	2.9	96.66	
			N-Hexane	68.5 to 69.1 ° C	17.60 kPa (at 20.0 ° C)	6	0.3	5.7	95	
		Valsartan	Ethyl Acetate	77.1 ° C	73 m mHg (9.7 k Pa) at 20 °C	2.4	0.1	2.3	95.83	
			Di isopropyl ether	68.5 °C	119 mmHg (20°C)	2	0.1	1.9	95	

Vortioxetine Hydrbromide	Tetrahydro furan (THF)	66 °C	132 m mHg	2	0.1	1.9	95
Vemurafinib	Acetonitrile	81.6	9.71 kPa (at 20.0 ° C)	2	0.1	1.9	95
Vemurafinib	Acetonitrile	81.6	9.71 kPa (at 20.0 ° C)	2	0.1	1.9	95
Ziprasidone HCl	IPA	82.6 ° C	44 hPa (20 °C)	1	0.05	0.95	90

Ii VOC emission sources and its mitigation measures

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	• Routine & periodic inspection to check leakage • Preventive maintenance, follow SOP for maintenance • Pumps & motors mechanical seal type • LDAR program is followed.
2	Liquid raw material transferring to reactor	Air pollutant (VOC, Acid fumes)	• Feeding of liquid raw material is carried out by closed pipeline and mechanical seal pump.
3	Loading /unloading at storage area	Air pollutant (VOC)	• Unloading through pipeline to tank in a close system.

➢

H

➢ Details regarding storage of Hazardous chemicals

Storage details	Name of major Hazardous chemicals	Remarks (Storage Capacity)
Storage tanks	- - -	- - -
Drum/Barrel storage	Hydrogen Gas Cylinder	7 M^3 Cylinder
	Trimethyl amine	50 Kg. Cylinder
	Bromine	18 Kg Glass Bottle
	Ammonia Solution.	2 MT
	Sulphric acid	2 MT
	Acetone	2 MT
	Toluene	2 MT
	Dimethyl formamide	2 MT
	Dimethyl sulphate (DMS)	2 MT
	Sodium Methoxide 25%	2 MT

			solution (SMO)		
			Hydrochloric acid (HCL)	2 MT	
			Methanol	2 MT	
			Methyl Phenol	2 MT	
			Hydro Bromic Acid(HBR)	2 MT	
			Hydrogen Peroxide	2 MT	
			Butanol	2 MT	
			Methylene dichloride (MDC)	2 MT	
			Zinc Chloride	2 MT	
			Acetic Anhydride	2 MT	
			Formic Acid	2 MT	
			Ethyl Acetate	2 MT	
			Iso Propyl Alcohol	2 MT	
			Tri Ethyl Amine	2 MT	
			Acetic Acid	2 MT	
			Cyclohexane	2 Mt	
			Benzaldehyde	2 MT	
			Nitric Acid	2 MT	
			Thionyl Chloride	2 MT	
			Phenol	2 MT	
			Phosphoric Acid	2 MT	
			Acetonitrile	2 MT	
			Cyclohexane	2 MT	
			Xylene	2 MT	

- Committee noted that reply submitted by PP found saisfactory. However committee insisted for install online monitoring system for flow, pH, TOC and Ammonical nitrogen meter at final outlet of ETP.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition.

1. Project proponent (PP) shall install online monitoring system for flow, pH, TOC and Ammonical nitrogen meter at final outlet of ETP.

04.	SIA/GJ/IND2/22188/2018	**M/s. Nimish Chemicals** Plot No: 4705/2/7, GIDC- Ankleshwar, Ta- Ankleshwar, Dist - Bharuch	EC-Reconsideration

Category of the unit: **5(f)**

Project status: **Expansion**

- MoEF&CC issued Office Memorandum vide F.NO. 22-23/2018-IA.III vide dated 30/12/2019 regarding compliance of orders of Hon'ble NGT in OA No. 1038/2018 dated 19.08.2019 – Disposal of the applications received on or before 31.10.2019 for ToR/EC.
- In continuation of the OM dated 31/10/2019, there are **three classes** of cases that may emerge for disposal of the applications received as on date of OM i.e. 31/10/2019, for ToR/EC. This proposal falls under Class II as per the said OM.
- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/22188/2018 dated 16/03/2019 for obtaining Environmental Clearance.

- SEIAA issued TOR to PP vide their letter dated 31/08/2018.
- Project proponent has submitted EIA Report prepared by M/s: Envisafe Environment Consultants based on the TOR issued by SEIAA.
- This is an existing inorganic unit and now proposes for manufacturing of synthetic organic chemical as tabulated below:

  Existing Products**: Dyes intermediate**

  Proposed Expansion Products**: Pharmaceutical Bulk drugs and intermediates**

Sr. No.	Product Name		CAS No.	Capacity (TPM)	
				Intermediate	Finished Product
➢	EXISTING PRODUCT				
E1	Naphthol ASG		91-96-3	-	3.0
➢	PROPOSED PRODUCT				
•	Group A				
A1	Famotidine & Its following intermediates	&/OR	76824-35-6	-	3.00 (Cumulative capacity of either one or all products)
	i) 5-(2-Guanidino-thiazole-4-yl-methyl) isothiourea dihydrochloride		-	2.62	
	ii) N-Sulfamyl-3-chloropiperidinamidine hydrochloride		-	1.93	
A2	Benzbromarone & Its following intermediates	&/OR	-	-	
	i) (2-Ethyl-3-benzofurany) (4-Hydroxyphenyl) methanone BENZARONE		-	2.18	
A3	Aceclofenac	&/OR	89796-99-6	-	
A4	Mebendazole & Its following intermediates	&/OR	31431-39-7	-	
	i) 2-Chloro 3-Nitro Benzoic Acid		-	3.75	
	ii) 4-Chloro 3-Nitro Benzophenone		-	10.09	
	iii) 4-Amino 3-Nitro Benzophenone		-	3.75	
	iv) 3-4 Diamino benzophenone		-	3.00	
A5	Methyl Parabene	&/OR	99-76-3	-	
A6	Propyl Parabene	&/OR	94-13-3	-	
A7	Sodium Citrate	&/OR	68-04-2	-	
A8	Disodium Hydrogen Citrate		6132-05-04	-	
•	Group B				
B1	4-Chloro-4-hydroxy benzophenone	&/OR	42019-78-3	-	3.00 (Cumulative capacity of either one or all products)
B2	Glimiepride & Its following intermediates	&/OR	93479-97-1	-	
	i) 3-Ethyl-4-Methyl-2-oxo-N-(2-phenyl ethyl)-2,5-dihydro-1H-pyrrole-1-H-1-carboxiamide		-	2.42	
	ii) N-[2-[(amino sulfonyl) phenyl] ethyl]-3-ethyl-4-methyl-2-oxo-2, 5-dihydro-1H-pyrrole-1-carboxiamide		-	2.63	
B3	Ambroxole Hydrochloride & Its following intermediates	&/OR	18683-91-5	-	

	i) 2-amino-3-5-dibromobenzaldehyde		-	2.53	
	ii) 4-[[(E)-2-amino-3,5-dobromophenyl) methylidiene] amino] cyclohexanol		-	2.92	
B4	Glibenclamide & Its following intermediates	&/OR	10238-21-8	-	
	i) 4-(Cyanomethyl) benzene sulfonamide		-	1.63	
	ii) 4-(2-aminoethyl) benzene sulfonamide		-	1.60	
	iii) 5- Chloro-N-[2-[4- aminosulfonyl) phenyl] ethyl]-2-methoxy benzamide		-	2.56	
B5	Amlodipin & Its following intermediates	&/OR	88150-42-9	-	
	i) 2-(2-Hydroxy ethyl-1H-isoindole-1,3-(2H)dione		-	1.95	
	ii) Ethyl-4-[2-(1,3-dioxo-1,3-dihydro-2H-isoindole-2-yl) ethoxy]-3-oxobutanoate		-	3.00	
	iii) 4-(2-Chlorophenyl)-2-[3-(1,3-dioxo-1,3-dihydro-isoindol-2-yl)propionyl]-6-methyl pyridine-3,5-dicarboxilic acid -3-ethyl ester-5-methyl ester		-	4.10	
	iv) 3-Ethyl-5-methyl-2-[(2-aminoethoxy)methyl]-4-(2-Chlorophenyl)-6-methyl-1,4-dihydropyridine-3,5-dicarboxilate (Amlodipine base)		-	3.00	
B6	Tadalafil & Its following intermediates	&/OR	171596-29-5	-	
	i) D-Methyl Tryptophan		-	3.24	
	ii) 6R,12R-Methyl-1,2,3,4-tetrahydro-1-(3,4-methylenedioxphenyl)-9H-pyrido-3-(3.4B)-indole-3-carboxylate		-	3.99	
	iii) 6R,12R-Methyl-1,2,3,4-tetrahydro-2-Chloromethyl-1-(3,4-methylenedioxphenyl)-9H-pyrido-3-(3.4B)- Indole-3-carboxylate		-	4.36	
B7	Hydrazobenzene	&/OR	122-66-7	-	
B8	2-Chloro-p-Toluene Sulfonyl Chloride		55311-94-9	-	
•	Group C				
C1	4-Chlorobenzhydrol piperazine & Its intermediates	&/OR	303-26-4	-	3.00 (Cumulative capacity of either one or all products)
	i) 4-Chlorobenzophenone			2.35	
C2	3,4-Dihydroxy-y-5-Nitrobenzaldehyde & Its intermediates	&/OR	116313-85-0	-	
	i) 5-Nitro-4 Hydroxy-3-Methoxy Benzaldehyde-5 Nitro Vanilline		-	2.55	
C3	Zolpidic acid & Its following intermediates		189005-44-5	-	
	i) 2-(6-methyl-2-(4-methyl phenyl) imidizo (1,2-a) pyridine-3-yl) acetonitrile. (Zolpiden cyno compound)		-	2.75	
	ii) 2-(6-methyl-2-(4-methyl phenyl) imidizo (1,2a) pyridine-3-yl) acetic acid (zolpidic acid)		-	2.75	
	iii) N,N-Dimethyl-2-(6-methyl-2-(4-methyl phenyl) imidizo (1,2-a) pyridine-3-yl) acetamid (Zolpidem base)		-	2.69	

	Total Production Capacity (Cumulative)	9.00
	Grand Total	12.00

Note -

A. Cumulative production capacity of proposed products of Group A (A1-A8) will be 3.0 TPM, Group B (B1-B7) will be 3.0 TPM and Group C (C1-C3) will be 3.0 TPM. Total cumulative production capacity for proposed products will be 9.0 TPM.

B. During manufacturing of the proposed products, intermediates will be generated. Intermediates will either be used captively for manufacturing of respective finished products or will be sold as products individually.

C. Quantities of intermediates generated may be higher than that of respective finished products. However, considering worst case scenario, pollution potential from intermediates will remain the same or lesser than their respective products.

End use of Proposed Products

Sr. No.	Name of Products	Product Code	End use
1	Famotidine & Its intermediates	A1	Used in treatment of peptic ulcer disease
2	Benzbromarone & Its intermediates	A2	Inhibitor of xanthine oxidase, used in treatment of gout
3	Aceclofenac	A3	Nonsteroidal anti-inflammatory drug used in treatment of arthritis, osteoarthritis
4	Mebendazole & Its intermediates	A4	Used for mild to moderate infestations
5	Methyl Parabene	A5	Used as preservative in pharmaceutical Industry, antifungal agent used in cosmetics & personal care
6	Propyl Parabene	A6	Used as Antimicrobial preservative in food
7	Sodium Citrate	A7	Used in treatment of gout, Kidney stones & other kidney problems
8	Disodium Hydrogen Citrate	A8	Antioxidant in food, Used in patients to alleviate discomfort from urinary tract infections.
9	4-Chloro-4-hydroxy benzophenone	B1	Used in sunscreen
10	Glimiepride & Its intermediates	B2	Sulfonylurea antidiabetic drug
11	Ambroxole Hydrochloride & Its intermediates	B3	Secretolytic agent used for treatment of respiratory diseases
12	Glibenclamide & Its intermediates	B4	Antidiabetic drug
13	Amlodipin & Its intermediates	B5	Used in treatment of high blood pressure
14	Tadalafil & Its intermediates	B6	PDE 5 inhibitor for treating erectile dysfunction
15	Hydrazobenzene	B7	Used as Intermediate for pharmaceutical Industries
16	2-Chloro-p-Toluene Sulfonyl Chloride	B8	Used in organic synthesis

17	4-Chlorobenzhydrol piperazine & Its intermediates	C1	Used in gas chromatography-mass spectrometry
18	3,4-Dihydroxy-y-5-Nitrobenzaldehyde & Its intermediates	C2	Clinical XO inhibitory drug
19	Zolpidic acid & Its following intermediates	C3	Bisphosphonate drug used for treatment of bone diseases

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 08/05/2019 and 27/02/2020.
- Earlier, SEIAA in its minutes of the 288th Meeting held on 15th October, 2019 decided to return the application for environment clearance to project proponent as recommended by SEAC vide Letter dated 03/10/2019.
- Subsequently a letter from SEIAA, Gujarat vide no. SEIAA/GUJ/GEN/17/2020 dated 21/01/2020 is received. SEIAA forwarded 150 proposals to SEAC which were returned to the project proponent in view of location of the project for necessary action in line to OM dated 30/12/2020.
- This case was reconsidered in SEAC meeting dated 27/02/2020 as per the MoEF&CC OM dated 30/12/2019.
- Committee asked PP to address on the draft mechanism as per MoEF&CC's OM dated 31/10/2019. PP presented on additional conditions under Air Act, Water Act, Hazardous Waste Management Rules and other general condition. Committee noted that PP has proposed Natural Gas/Bio Fuel/LDO as fuel in proposed TFH, steam boiler, however Committee disagree with the use of solid fuel and insisted for only Natural Gas as fuel. Committee noted PP has provided two stage scrubbing system. Committee noted that PP has not addressed water balance diagram along with its segregation properly as per the draft mechanism of MoEF&CC's OM dated 31/10/2019 and did not submit the certificate mentioning actual capacity, spare capacity, consented capacity and occupied capacity. Committee noted that PP has also not provided specific area for green belt development 40 % as per draft mechanism under water act. Committee noted that PP has not addressed Hazardous Waste Management Rules and Other General Condition as per the mechanism. Committee asked PP to submit revised EMP as per the mechanism along with detailed LDAR.
- After detailed deliberation, Committee unanimously decided to consider the project only after submission of the following documents.
- Membership Certificate from Common Facility (mentioning total capacity, consented quantity, occupied capacity and spare capacity and norms of acceptance of effluent from member units) in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
- Leak Detection and Repairing Programme (LDAR) for all the solvents/volatile organic chemicals proposed with detailed chemical properties including vapor pressure. LDAR with all mitigation measures shall

endeavor prevention of losses of solvents/Volatile organic compounds to the best minimum extent.

- Revised Water balance diagram as per draft mechanism of MoEF&CC.
- Revised Hazardous Waste Matrix mentioning the disposal of Hazardous Waste outside CPA Area for landfilling/co-processing/pre-processing/CHWIF/etc. as a part of compliance of Honorable NGT order dated 10/07/2019 in original application No. 1038/2018.
- Details of Online Monitoring System Proposed for Water & Air as per draft mechanism of MoEF&CC.
- In addition to above it was decided to obtain following additional details with respect to new mechanism in-line with OM dated 30/12/2019.
    1. Addendum to EIA report with all relevant information/details (Revise Form 2, EMP, CER, Water balance, fuel consumption, Air modelling etc.) considering new mechanism prescribed as per Annexure A.
    2. MoU/LoI with land owner/concern authority with layout plan showing exact location (with Latitude – Longitude) and area in sq. mt. (In case of green belt development outside premises)
    3. Comparative statement regarding Environment Management Plan w.r.t. Environmental Impact and its mitigation measures (As applicable) as per the table below:
- Project proponent submitted reply through email for the above points vide dated 10/04/2020 which is considered in SEAC video conference meeting dated 17.04.2020.Committee noted following points.
    1. PP has obtained NOC for effluent disposal as well as TSDF from BEIL Infrastructure Ltd, Dahej. The copy of the same is submitted.
    2. PP has submitted Solvent wise details for solvent handling and losses with the LDAR programme.
    3. PP presented Revised water balance diagram considering MOEF&CC mechanism as well as guidelines issued by SEAC,Gujarat has been prepared and submitted and as per revised water balance diagram with mentioning high COD stream shall be sent to CMEE of M/s BEIL, Dahej
    4. PP submitted For disposal of hazardous wastes anticipated to be generated due to proposed expansion, we have obtained NOC of TSDF of BEIL Infrastructure Ltd., the copy of the same is submitted and for incineration / co-processing, they have approached to SEPPL, Bhachau and Undertaking to obtain membership this regard is submitted.
    5. PP submitted details of Online Monitoring System proposed for Water & Air as per draft mechanism of MoEF&CC.
- Project proponent submitted reply of CEPI mechanism through email dated 10.04.2020.
    1. Addendum of Water balance, Air Emissions, Hazardous waste, Air quality of emissions, EMP, CER, Form-2 is submitted. Need based CER inline with OM submitted.
    2. Unit has submitted MoU with layout plan showing 310 sq.metre(33%) green belt area within premises and additional green belt area in Ankleshwar notified area and invoice for same is submitted.

3. Comparative statement regarding Environment Management Plan w.r.t. Environmental Impact and its mitigation measures table submitted as below:

Attributes	**Existing Scenario**	**Proposed Scenario**	**Mitigation measures**		**Remarks**
			Pre-OM dated 30/12/2019	**Post-OM dated 30/12/2019**	
Air	Natural gas / Wood	Natural gas / Bioufel LDO	Natural gas / Bioufel LDO	Natural gas	Discontinue use of wood. Only Natural Gas will be used
	No process gas emissions	For process gas emissions from proposed expansion project – HCl, SO_2, HBr, there will be installation of two stage alkali scrubbers.	Installation of two stage alkali scrubbers for proposed expansion.	--	--
Water	**Water consumption :** 3.02 KLD **Industrial effluent generation :** 0.6 KLD (discharge in CETP of ETL)	**Total water Consumption** 23.67 KLD Fresh -22.57 KLD Reuse – 1.1 KLD **Total Waste Water Generation** 10.15 KLD Reuse – 1.15 KLD Net eff discharge – 9.05 KLD Discharge to CETP of ETL – 3.0 KLD Discharge to CMEE of ACPTCL – 6.05 KLD (high COD/TDS stream from process)	Net eff discharge – 9.05 KLD Discharge to CETP of ETL – 3.0 KLD Discharge to CMEE of ACPTCL – 6.05 KLD (high COD/TDS stream from process)	Net eff discharge – 9.05 KLD Discharge to CETP of ETL – 0.6 KLD Discharge to CMEE of BEILInfrasturcture Ltd. – 8.45 KLD	Existing consented discharge of 0.6 KLD will be continued. For additional discharge of CMEE of BEIL Infra Ltd., Dahej, NOC has been obtained. Membership will be obtained prior to commencement of operative phase.

Hazardous waste	**36.2** Filter medium **28.6** Spent solvent **36.2** Distillation residue **33.1** Discarded containers/bags/ liner **5.2** Spent oil	**36.2** Filter medium **28.6** Spent solvent **36.2** Distillation residue **33.1** Discarded containers/bags/ liner **5.2** Spent oil **28.1** Process waste (inorganic) **28.2** Spent nickel catalyst **B36** Bleed liquor from scrubbers	The TSDF/ CHWI site are be in CEPI area	Common environmental infrastructure will be outside CEPI area (BEIL-Dahej, SEPPL-Bhahcau)	Bleed liquor from scrubber will be mixed alongwith process effluent for disposal to CMEE.
Fugitive / Dust emission	In the existing plant, there is wall to wall carpeting to minimize the dust emission. Measures for control of fugitive emission are also adopted.	We have proposed two stage scrubbing system for process reactor and the required measures for fugitive emission control will be adopted.	We have proposed two stage scrubbing system for process reactor and the required measures for fugitive emission control will be adopted.	---	--
EMP	Rs. 3.5 Lacs/Month	Rs. 10.92 Lacs/Month	Rs. 12.00 Lacs/Month	Additional cost will be due to transportation of waste outside CEPI area and additional greenbelt development	
CER	**--**	Rs.20,000/-	Rs.20,000/-	Rs.40,000/-	The amount is doubled considering CPA mechanism. It will be used in Jitali village for school / anganwadi.

- This case was reconsidered in SEAC meeting dated 17/04/2020.
- Revised Salient features of the project including Water, Air and Hazardous waste management:

Sr. no.	Particulars	Details
A	Cost of Project, EMP & CER	

I	Total cost of Proposed Project (Rs. in Crores):	Existing: 0.43 Proposed: 0.20 Total:0.63

ii Details of EMP

COMPONENT	ADDITIONAL CAPITAL COST OF EMP	RECURRING COST OF EMP (per Month)
TOTAL COST	Rs. 5.03 Lakhs	Rs. 12.0Lakhs

Bifurcation of EMP Cost

Sr. No	Unit	Installed Capacity	Additional Capital Cost (Rs. in Lacs)	Operating Cost (Lacs/ Month)	Maintenance Cost (Lacs/ Month)	Total Recurring Cost (Lacs/ Month)
1	Water Pollution Control (ETP &MEE)	ETP: 10KLD Booked capacity with CEI CETP of ETL : 3.0 KLD CMEE of BEIL, Dahej: 10.0 KLD	1.20	--	--	8.77
2.	Air Pollution Control (Scrubber, Cyclone Separators)	--	2.50	0.075	0.008	0.083
3.	Hazardous / Solid Waste Management	--	1.50	--	--	1.20
4.	Noise Pollution	--	0.30	--	0.20	0.20
5.	Occupational Health	--	0.10	--	--	1.00
6.	Green Belt development	--	0.15	--	--	0.04
7.	Environmental Monitoring	--	--	--	--	0.67
8.	Community Welfare	--	--	--	--	0.034
		Total	5.75			12.0

iii Details of CER

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Brownfield projects have to contribute 1% of the Additional Capital Investment, the company will contribute Rs. 0.2 Lakhs as funds for CER activities

Component	As per Norms	Allocation
CER	Rs. 20,000 (1%)	Rs.40,000 (2%) as

				per CPA mechanism

Activities to be carried out under CER:

- Educational scholarship / RO plant in Jitali Village

B	Total Plot area (sq. meter)	Proposed expansion will be carried out within existing premise. Hence, no additional land will be required for the proposed expansion. Total: 932
	Green belt area (sq. meter)	Within premises : Existing :140 Proposed : 170 Outside premises : 70 Total: 380
C	Employment generation	Existing: 8 Proposed:6 Total:14
D	Water	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC
	Status of permission from the concern authority.	Permission obtained from GIDC

ii Water consumption (KLD)

Category	Existing KL/day	Proposed (Additional) KL/day	Total after Expansion KL/day	Remarks
(J) Domestic	1.0	0.75	1.75	Fresh
(K) Gardening	-	0.50	0.50	Fresh
(L) Industrial				
Process	0.22	5.50	5.72	Fresh
APCE	-	1.10	1.10	Reuse from Boiler & Cooling
Boiler	0.50	7.50	8.00	Fresh
Cooling	1.00	5.00	6.00	Fresh
Washing	0.30	0.30	0.60	Fresh
Total (A+B+C)	3.02 (Fresh : 3.02+ Reuse : Nil)	20.65 (Fresh : 19.55+ Reuse : 1.10)	23.67 (Fresh : 22.57 + Reuse : 1.10)	

1) Total water requirement for the project: 23.67 KLD
2) Quantity to be recycle: 1.10 KLD (utility effluent)
3) Total fresh water requirement: 22.57 KLD

iii Waste water generation (KLD)

Category	Existing KL/Day	Proposed (Additional) KL/day	Total after Expansion KL/day	Remarks	

• Domestic	0.95	0.35	1.40	
• Industrial				
Process	Nil	6.65	6.65	TO CMEE of BEIL, Dahej
APCE	-	1.80	1.80	
Boiler	0.05	0.55	0.60	Reuse in APCE
Cooling	0.10	0.40	0.50	
Washing	0.30	0.30	0.60	To CETP of ETK
Total Industrial waste water	0.60	9.55	10.15	Generation: 10.15 Discharge: 9.05 Reuse : 1.10

iv Treatment facility within premise with capacity[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.]

- ETP: 10 KLD (standby arrangement)

Treatment scheme including segregation at source

- Total industrial effluent generation will increase upto10.15 KLD after proposed expansion.
- Effluent from washing having low COD/TDS @ 0.6 KLD will be segregated and sent to CETP of M/s. ETL for treatment after providing primary treatment if required.
- Effluent to be generated from Process & APCM having high COD/TDS @ 8.45 KLD will be sent to Common MEE of BEIL Infrastructure Ltd., Dahej. High Ammonical stream generated from products (A4 (Mebendazole) and B5 (Amlodipin)) @0.68 KLD will be collected separately and sent to CMEE of BEIL, DahejL.
- Effluent anticipated to be generated from Boiler & Cooling @1.10 KLD will be reused in APCM.

Note: (In case of CETP discharge):

Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- As per the consent no AWH-72118 dt.15/9/2015, the unit has been granted 0.6 KLD discharge to CETP of ETL.
- Effluent from washing having low COD/TDS @ 0.6 KLD will be segregated and sent to CETP of M/s. ETL for treatment after providing primary treatment if required.

Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):

- Not applicable.

v Mode of Disposal & Final meeting point

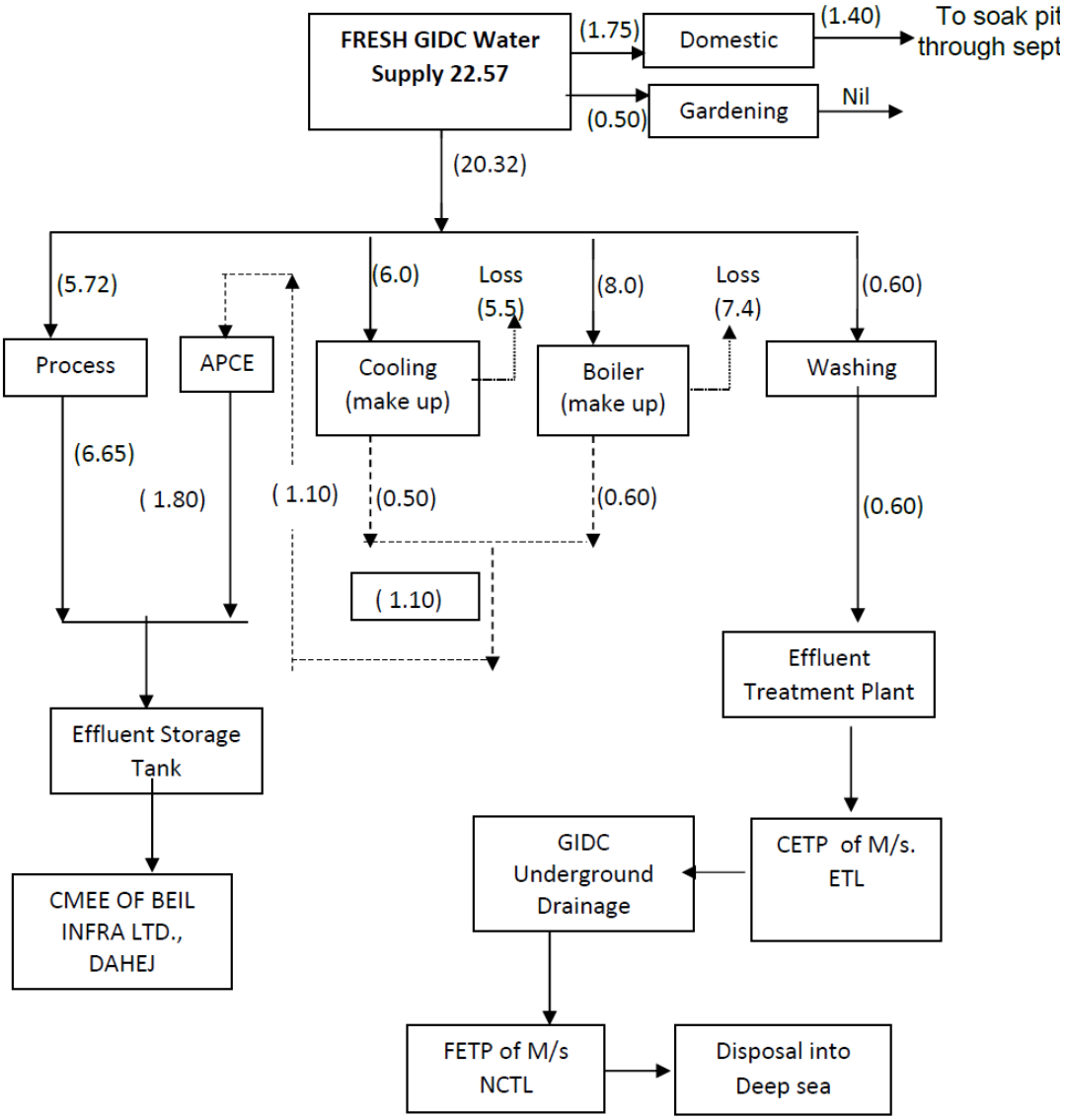
Domestic:	1.4 KLD To soak pit through septic tank
Industrial:	0.6 KLD discharge into CETP of M/s ETL 8.45 KLD discharge to CMEE of BEIL, Dahej

vi In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc.
Name of Common facility : CETP of ETL and CMEE of BEIL, Dahej

Membership of Common facility (CF) :

Membership of ETL and provisional membership of CMEE of BEIL, Dahej

vii Simplified water balance diagram with reuse / recycle of waste water



- **All units are expressed in KLD.**

viii	Reuse/Recycle details (KLD) [Source of reuse & application area]
	Total reuse…….KLD

Source of waste water for reuse with quantity in KLD	Application area with quantity in KLD	Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)
Boiler blow down and cooling bleed off	APCM	pH : 6.5 – 8.0 TDS : 1500 mg/l COD : 40 mg/l

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E	Air
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc. Existing & Proposed
	-

SR. no.	Source of emission With Capacity	Status	Stack Height (meter)	Name of the fuel	Quantity of Fuel MT/hr & MT/Day	Type of emissions i.e. Air Pollutants	APCM	Emission Standards
1	Steam boiler (0.8 TPH)*	Existing	15	Natural Gas &/or Wood	96 SCM/Day &/or 130kg/day	PM SO_2 NO_x	Adequate Stack Height as per CPCB guidelines	PM ≤ 120 mg/Nm^3 SO_2 ≤ 80 ppm NO_x ≤ 40 ppm
		Proposed		Natural Gas	1150 SC /Day			
2	Thermic Fluid Heater (1,00,000 kcal/h)	Proposed	15	Natural Gas	160 SCM/Day		Adequate Stack Height as per CPCB guidelines	
3	DG Set (125 KVA)	Proposed	10	Diesel	30 Lit hr	PM SO_2 NO_x	Adequate Stack Height as per CPCB guidelines	

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.) Existing & Proposed

-

Sr. no	Source of emission	Type of emission	Stack/Vent Height (meter)	APCM	Emission Standards (mg/Nm^3)
1	Reactors of Process Plant (Proposed)	HCl, SO_2 and HBr	12.0	Two stage Alkali Scrubber	PM ≤ 120 SO_2 ≤ 32 HB_2 ≤ 24 HCl ≤ 16
2	Fluidized Bed Dryer (Proposed)	PM	12.0	Adequate Stack Height	
3	Tray Dryer	PM	12.0		

-

iii Fugitive emission details with its mitigation measures.

There will be a chance of fugitive emission and odor nuisance during manufacturing process as well as due to storage & handling of raw materials and products. The unit takes following precaution for the control of fugitive emission and will implement the same for the proposed expansion.

Probable Sources	Control Measures

	Manufacturing activities during charging into reactors	• Liquid raw materials are charged by pumping & closed loops. • Dosing is done by metering system to avoid fugitive emissions. • Dedicated measuring tanks are provided to each reactor. • Usage of closed handling system for odorous chemicals /solvents
	Solvent recovery during filling and withdrawal from tanks and vessels	• Breather valves, PSVs, Rupture discs will be installed for process/storage tank vents. • Vapor recovery systems shall be provided at required locations. • Proper Control of the operating parameters, mainly temperature, vacuums, cooling media circulation, during plant operation and solvent recovery.
	Chemical vapor from wet cake in filtration and drying area	• Covered transfer systems will be adopted, workers shall be provided PPE. • Fume extraction systems will be provided, wherever required
	Emission from bulk storage tanks during storage, loading, unloading	• Breather valves, PSVs, Rupture disc, Vapor recovery system are installed for process/storage tank vents. • Unit adopts bulk handling of odorous chemicals and avoid usage of drums/carboys for such materials
	Hazardous chemical storage area	• Dedicated storage area is provided • Adequate ventilation systems are provided • All the containers are kept tightly closed • Trolley/Forklift is used for transfer of drums and containers • Transfers of odorous waste is preferably during day time. Transfers during odd hours is avoided.
	Pump and compressor Emissions	• Mechanical seals are provided in pumps and agitators • Standby arrangement for critical equipment and parts is ensured. • Drip trays will be placed for each pump to collect leakages and spillages.
	Pressure relief valve emission from pipelines	• For highly pressurized lines, vent pipes of PRVs are connected in case of toxic gases.
	Valves, Flanges, plugs and instrument connections	• Welded pipes are used wherever feasible. • Suitable gasket materials are used. • Suitable glad packing is used in valves. • Periodic inspection and maintenance of pipes and pipe fittings is carried out.
	Release from sampling lines	• Closed loop system is used.

F — Hazardous waste
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
Existing & Proposed

i —

Type of waste	Source	Category	Quantity per Annum			Mode of Disposal
			Existing	Proposed	Total	
Filter & Filter	ETP	Sch-I, 36.2	60 Nos.	-	60 Nos.	Collection, Storage, Transportation,

Materials						Disposal at common incineration facility of BEIL, Ankleshwar
Spent Solvent	Process (A1,A2,A4,B2,B3,B4,B5,B6,C1,C2,C3)	Sch-I, 28.6	99.22MT	2650 MT	2749 MT	Collection, storage and send to authorized recyclers for recovery OR by selling to GPCB authorized end users
Distillation Residue	Solvent distillation	Sch-I, 36.2	0.624 MT	26.7 MT	27.4 MT	Collection, Storage, Transportation, Disposal by Disposal by co-processing on priority basis OR In case of non availability of co-processing disposal by incineration at CHWIF,
ETP Sludge	ETP	Sch-I, 35.3	Nil	1.0 MT	1.0 MT	Collection, Storage, Transportation, Disposal at TSDF facility of BEIL, Dahej
Off specification products	Process	Sch-I, 28.5	Nil	12.0 MT	12.0 MT	Collection, Storage, Transportation, Disposal at CHWIF
Bleed liquor from Scrubbers	APCM	Sch-II B36	-	540 KL	540 KL	Collection, Storage and Treatment along with low strength effluent from process and washing
Spent Nickel Catalyst	Mfg. of Prod B4	Sch-I, 28.2	Nil	2.5 MT	2.5 MT	Collection, storage, transportation and disposal by selling to authorized reprocessers
Process wastes (Inorganic)	Mfg. of Prod B7	Sch-I, 28.1	Nil	210 MT	210 MT	Collection, storage, transportation and disposal by land filling at BEIL, Dahej
Discarded Bags/ Carboys/	Raw Material Storage &	Sch-I, 33.1	240 Nos.	310 Nos.	550 Nos.	Collection, Storage, Decontamination and Disposal by selling to

Containers	Handling					scrap dealers
Discarded Bags/Liners			1200 Nos.	800 Nos.	2000 Nos.	
Spent oil	Plant and Machineries	Sch-I, 5.1	12 Liters	3 Liters	15 Liters	Collection, Storage, Transportation, sell to registered Re-processor / MoEF&CC approved recyclers

-

ii	Membership details of TSDF, CHWIF etc. (For HW management)	Existing TSDF - BEIL, Ankleshwar Proposed TSDF- BEIL, Dahej CHWIF- SEPPL - Bhachau (will be obtained prior to commencement)
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	--
G	Solvent management, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery. reuse of recovered Solvents	

Details of Solvent Requirement and In-Process/In-situ Recovery (Product wise)

Sr. No	Product Code	Name of Solvent	Solvent Requirement, TPM			Solvent Requirement, %		
			Fresh	Recovered	Total	Fresh	Recovered	Total
1	A2	Toluene	0.27	8.82	9.09	3.00	97.00	100.00
2	A3	t-Butanol	0.90	2.60	3.50	25.71	74.29	100.00
		Toluene	0.15	4.85	5.00	3.00	97.00	100.00
		Total of A3	1.05	7.45	8.50	14.36	85.64	100.00
3	A4	Benzene	0.34	6.41	6.75	5.00	95.00	100.00
		Group A Max.	1.05	7.45	8.50	14.36	85.64	100.00
4	B2	Acetone	0.11	8.66	8.77	1.26	98.74	100.00
5	B4	Methanol	2.00	30.07	32.07	6.24	93.76	100.00
6	B5	Toluene	0.31	18.51	18.82	1.65	98.35	100.00
7	B6	Toluene	0.59	28.09	28.67	2.04	97.96	100.00
8	B7	Methanol	1.20	34.80	36.00	3.33	96.67	100.00
		Group B Max.	2.00	30.07	32.07	6.24	93.76	100.00
9	C1	Methanol	0.89	13.70	14.59	6.11	93.89	100.00
		Toluene	0.32	9.41	9.73	3.33	96.67	100.00

		Total of C1	1.22	23.11	24.32	4.72	95.28	100.00
10	C2	Dichloro methane	0.23	16.64	16.88	1.39	98.61	100.00
11	C3	Ethylene Dichloride	0.25	10.00	10.25	2.44	97.56	100.00
		Group C Max.	1.22	23.11	24.32	4.72	95.28	100.00
		GRAND TOTAL (Total of Group- Max)	4.27	60.64	64.90	6.57	93.43	100.00

Details of Solvent Requirement and Spent Solvent Generation (Product wise)

Product Code	Name of Solvent	Solvent Requirement, TPM		Spent Solvent Generation, TPM	
		Solvent wise	Total	Solvent wise	Total
E1	*Solvent Mix (Ortho Xylene & Methanol)	1.20	1.20	8.27	8.27
A1	Acetone	5.37	27.76	13.59	36.61
	Methanol	22.39		23.01	
A2	Methanol	13.64	13.64	11.40	11.40
A4	Methanol	25.88	43.69	32.29	53.14
	Isopropyl Alcohol	17.81		20.85	
	Group A Max.	--	43.69	--	53.14
B2	N-Hexane	3.69	20.31	3.78	23.68
	Methanol	16.62		19.89	
B3	Toluene	14.21	26.84	14.61	27.99
	Isopropyl Alcohol	12.63		13.38	
B5	Methanol	8.77	8.77	9.14	9.14
B6	Methanol	11.70	20.21	28.51	37.32
	Isopropyl alcohol	8.51		8.81	
	Group B Max.	--	26.84	--	37.32
C1	Piperazine	4.22	4.22	16.26	16.26
C2	Dichloromethane	22.97	22.97	24.00	24.00
C3	Methanol	14.44	46.07	12.63	45.38
	Acetone	20.25		21.00	
	Isopropyl alcohol	11.38		11.75	
	Group C Max.	--	46.07	--	45.38

	GRAND TOTAL (Total of Group- Max)		116.6		135.84**

Note: *It includes Unreacted Ortho Xylene and Methanol generated during the chemical synthesis of Napthol ASG.
**The quantity of spent solvent generation is higher than the solvent requirement, as it carries the water and unreacted raw material.

ii VOC emission sources and its mitigation measures

As mentioned in section E (iii) above.

H
- Details regarding storage of Hazardous Chemicals

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Bromine, , Sulfuric Acid	All the hazardous chemicals will be stored in dedicated storage area based on their compatibility
Drum/Barrel storage	Acetic Acid, Acetone, Acetonitrile, Benzene, Benzoic acid, Chlorosulfonic acid, Hydrochloric Acid, Methanol, Tolune, Propanol, t-butanol, Pyridine, n-Hexane	

- Applicability of PESO:
  Unit will obtain license from Petroleum & Explosives Safety Organization (PESO) for the storage of Various Petroleum Class A chemicals viz. Acetone, Acetonitirle, Benzene, T-Butanol, Ethylene dichloride, n-Hexane, Methanol, Iso propyl alcohol, n-propanol, Pyridine, Toluene and Petroleum Class B chemicals viz. Isobutyl alcohol, Acetic Acid and Diesel under various statues of the Petroleum Act, 1934 and subsequent amendments as their total storage capacity for these chemicals exceed beyond threshold limit

- Committee noted that reply submitted by PP found satisfactory.
- Considering the details submitted and commitments given by PP during appraisal of the project, Committee observed that Waste water management and Hazardous waste management found satisfactory. Zero Liquid Discharge (ZLD) is proposed by unit for additional wastwater. PP has proposed to use Natural Gas as fuel for proposed project. PP has also submitted revised details in line to mechanism published vide MoEF&CC OM dated 31/10/2019.
- Compliance of ToR found satisfactory.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.

05	SIA/GJ/IND2/28859/2019	**M/s. Phorvik Pharma Intermediate,**	EC Reconsideration

		Block Number 452, Village indrad, Tehsil, Kadi, District- Mehsana.	

Category of the unit : **5(f)**

Project status: **New**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/28859/2019 on dated 16/03/2020 for obtaining Environmental Clearance.
- The SEAC had recommended TOR to SEIAA and SEIAA issued TOR to PP vide their letter dated 31/12/2018.
- Project proponent has submitted EIA Report prepared by M/s. Green Circle Inc, Vadodara based on the TOR issued by SEIAA.
- **Public Hearing** of the Project was conducted by **Gujarat Pollution Control Board** at Project Site of **M/s. Phorvik Pharma Intermediate,** Block Number 452, Village indrad, Tehsil- Kadi, District- Mehsana dated **13/12/2019**.
- This is a new project for manufacturing of synthetic organic chemical as tabulated below.

Sr. No	Product Name	Cas No.	Proposed (MT/Month)	End Use
1	Fast Boudreaux G. P. Base	96-96-8	45	Pharmaceutical Industries
2	Fast Red B Base	97-52-9		
3	Meta Nitro Para Toluidine	119-32-4		
4	2 Nitro 4 Thiocyno Aniline (TCN)	54029-45-7	30	
5	Biss 2 Chloro Ethyl Amine Hydro Chloride	821-48-7	60	
6	Fast Scarlet R Base (By Product)	99-59-2	6.5	Dyes and Dyes Intermediates
Total			141.5	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- The presentation was considred in the meeting dated 19/03/2020 as per the submission by PP via E-mail dated 17/03/2020.
- During the meeting dated 19/03/2020, technical presentation made by the Project proponent.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the January 2019 to March 2019. Ambient Air Quality monitoring was

carried out for PM2.5, PM10, SO2, NOx, &VOC at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using AERMOD. The resultant concentrations are within the NAAQS.

- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Committee deliberated on the Minutes of the Public Hearing dated **13/12/2019** along with the representation made by the Public and observed that Project Proponent has not submitted Point wise Compliance of the Public Hearing and asked them to address the same along with its status as on date.
- Committee noted that proposal is new in Village: Indrad. Source of water is Bore well.Committee deliberated on product profile submitted by PP and asked to readdress the same in-line with Hazardous Waste Rules – 2016. PP submitted that effluent generated from process and boiler blow down will be treated in in-house primary ETP and after treatment partly effluent will be reused/recycle while partly it will be sent to Common Spray Dryer of Chhatral environmental management system for the Evaporation for final treatment and disposal. Committee noted that PP has not submitted membership certificate as per direction given by GPCB to common facility dated 8th January, 2020. Committee noted that PP has not submitted the characteristic of effluent that is going to be treated and disposed into common facility. PP submitted that they have proposed one steam boiler and one TFH. Fuel used will be Natural Gas/ Agro Waste. Committee noted that PP has not submitted LDAR along with its mitigation measures properly. Committee noted PP has not submitted Hazardous Waste as per HWR – 2016.
- ***After detailed discussion, Committee unanimously decided to call the project proponent for presentation only after satisfactory submission of the following details.***

    1. Revised Product Profile in-line with consideration of Hazardous Waste Rules – 2016.
    2. Manufacturing Process of Fast Scarlet R Base (By Product) along with Material & Mass Balance with Justification as to why it should be considered as By-Product instead of Hazardous Waste as per HWR – 2016.
    3. Compliance of issues raised during Public Hearing in Tabular Form and current status of compliance.
    4. Characteristic of effluent generated from Manufacturing Process and its fesibility for reuse/recycle after Primary treatment along with Justification as to why only part of the effluent is getting resued/recycle and rest is sent to Common Facility.
    5. Membership Certificate from Common Facility (mentioning **total capacity, consented quantity, occupied capacity and spare capacity** and norms of acceptance of effluent from member units) in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
    6. Leak Detection and Repairing Programme (LDAR) for all the volatile organic solvent proposed for use in-house with detailed chemical properties including vapor pressure. LDAR shall endeavor prevention of losses of solvents to the best minimum extent.
    7. Revised Need based CER as per Compliance of MoEF&CC OM dated 01/05/2018 and EMP with Fixed Capital Cost and Recurring Cost.
    8. Adendum to EIA Report incorporating all the above mentioned changes.
- Project proponent submitted presentations vide their e-mail dated 15/04/2020 for the above mentioned points.

- PP presented replied as below:
  1. PP presented revised product profile in-line with consideration of Hazardous Waste Rules – 2016. They clarified regarding forth step of manufacturing process namely separation of Fast Red B Base (Fast Scarlet R Base) from the other material, the separated mass has two content 1. Moisture contains mass of Fast Red B Base which is again drying and we will get Fast Red B Base as product and 2. Other layer from the separation process which is mixed and neutralized with caustic and after further separation of that neutralize mass they will get Fast Scarlet R Base which is one of the raw material consume in Dyes and Pigment. Hence it is not considered as Hazardous Waste as per Hazardous Waste Rule 2016. The effluent after separation of Fast Scarlet R base will be treated in ETP.
  2. PP presented forth step of manufacturing process namely separation of Fast Red B Base (Fast Scarlet R Base) from the other material, the separated mass has two content 1. Moisture contains mass of Fast Red B Base which is again drying and we will get Fast Red B Base as product and 2. Other layer from the separation process which is mixed and neutralized with caustic and after further separation of that neutralize mass we will get Fast Scarlet R Base which is one of the raw material consume in Dyes and Pigment. Hence it is not considered as Hazardous Waste as per Hazardous Waste Rule 2016. The effluent after separation of Fast Scarlet R base will be treated in ETP
  3. PP presented revised Compliance of issues raised during Public Hearing in Tabular Form and current status of compliance.
  4. PP presented technical justification regarding reuse of partly treated effluent in brief showing there are two sources of wastewater generation from industrial operation are manufacturing activity and utility. The wastewater generation from manufacturing process is further bifurcated as washing, separation and hydrolysis process. PP presented the stream wise wastewater characteristic considering worst case scenario. There will be two products namely Fast Red B Base and 2 Nitro 4 Thiocyno Aniline from where they will reuse the water. In Fast Red B Base wastewater generated from hydrolysis process and its water will be partially reuse back in the same process after mixing with the fresh water and its feasible to hydrolysis process. The wastewater generated from the manufacturing of 2 Nitro 4 Thiocyno Aniline will be from Washing and Centrifuge process which will be reuse in chlorination process after mixing with the fresh water in the same process and remaining will be utilize in washing. This wastewater will be utilized in the washing, chlorination process and hydrolysis process due to its low pollution potentiality.
  5. PP presented letter of membership certificate of common spray dryer of M/s. Chhatral Enviro Management System Pvt. Ltd, Chhatral.
  6. PP submitted detailed Leak Detection and Repairing Programme (LDAR) for all the volatile organic solvent proposed for use in-house with detailed chemical properties including vapor pressure. PP submitted mitigation measures for prevention of losses of solvents to the best minimum extent.
  7. PP submitted revised Need based CER as per Compliance of MoEF&CC OM dated 01/05/2018 and EMP with Fixed Capital Cost and Recurring Cost.
  8. PP submitted Addendum to EIA Report incorporating all the above mentioned changes
- This case was reconsidered in Video Conference SEAC meeting dated 17/04/2020.
- Salient features (Revised) of the project including Water, Air and Hazardous waste management:

Sr.	Particulars	Details

no.		
A	Total cost of Proposed Project (Rs. in Crores):	Proposed: 3.5 Cr.

ii EMP details (Capital cost & Recurring cost)

Sr. No	Unit	Installed Capacity (KLD)	Capital Cost (Rs.in Lacs)	Operating Cost (Lacs/Month)	Maintenance Cost (Lacs/Month)	Total Recurring Cost (Lacs/Month)
1	Effluent Treatment Plant	14.7	12.0	1.45	0.10	1.55
2.	APCM	---	6.0	0.40	0.10	0.50
3	TSDF Membership	--	0.50	0.15	-	0.15
4	Health & Safety	--	0.60	-	-	-
5	AWH Monitoring	--	-	0.50	-	0.5
6	Green belt Development	-	2.9	0.50	-	0.5
Total			22.0	3.0	0.20	3.2

Iii CER details (As per MoEF&CC OM dated 01/05/2018)

No.	Area	CER-Proposed Planned Activities	Identified Villages	Year wise Budget (Lakhs)					
				1st Year		2nd Year		3rd Year	
				C	R	C	R	C	R
1	Education	Promoting education through training and awareness Programme in consultation with regulatory authority	Dhanot, Indrad, Rajpur, Chandarda	1.0	-	0.3	-	0.3	-
		Distribution of notebooks and school bags and other required item		0.2	-	0.3	-	0.3	-
		Scholarship to bright students (1^{th}& 2^{th}) and appreciation pries to primary teacher		0.5	-	0.3	-	0.3	-
2	Health	Conduct medical camp and distributing first aid boxes in schools	IndradAmbavpura, Rajpur,	0.2	-	0.3	-	0.3	-
		General awareness health program		0.3	-	0.2	-	0.2	-
3	Environment	Distribution of tree guard and pots	Indrad, Bileshvarpura, Rajpur, Indrad, Ambavpura	0.2	0.5	0.2	0.2	0.2	0.3
		Training and awareness Programme in school on Environment day and Safety Day in consultation with regulatory authority		0.3	-	0.2	-	0.2	-
4	Agriculture	Agricultural tour & guide to farmers	IndradAbavpura, Dhanot,	0.3	-	0.2	-	0.2	-
Total (Year Wise)				3.0	0.5	2.0	0.2	2.0	0.3

	Grand Total	7.00 (Capital – 6.0 and Recurring – 1.0)
B	Total Plot area (sq. meter)	Proposed: 4199 Sq. m.
	Green belt area (sq. meter)	Proposed: 1385 Sq. m
C	Employment generation	10
D	Water	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	Bore well Water Supply
	Status of permission from the concern authority.	The unit has applied to obtained permission from CGWA
Ii	Water consumption (KLD)	

Sr. no	Category	Water Consumption KLD
1	Domestic and	1.0
2	Gardening	
3	Industrial	
	Mfg. Process	14.7
	Boiler	6.0
	Cooling	1.0
	Total Domestic and Gardening	1.0
	Total Industrial Water Consumption	21.7

1) Total water requirement for the project: 22.7 KLD
2) Quantity to be recycle: 4.7 KLD
3) Total fresh water requirement: 18.0 KLD

iii Waste water generation (KLD)

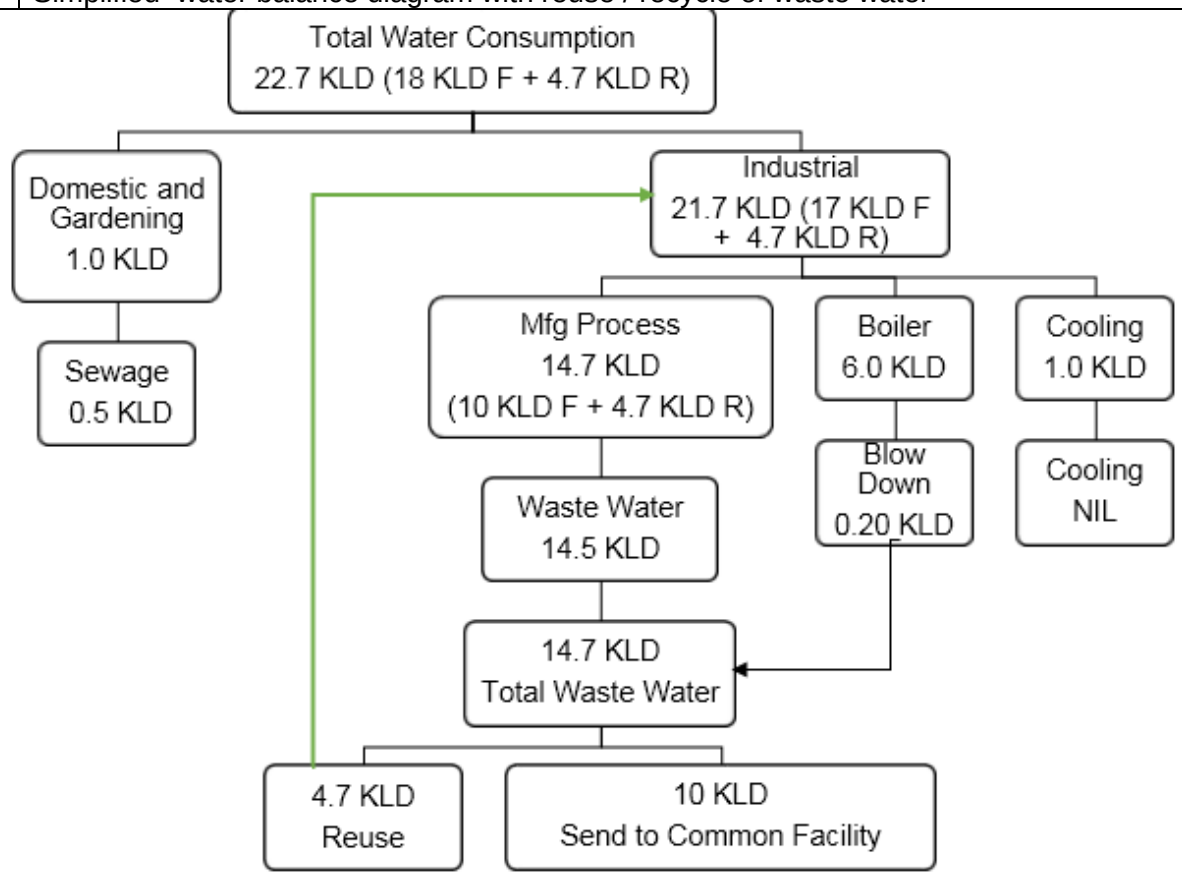
Sr No	Category	Waste water generation KLD
1	Domestic	0.5
2	Industrial	
	Mfg. Process	14.5
	Boiler	0.2
	Cooling	NIL
	Total Domestic sewage	0.5
	Total Industrial waste water	14.7

iv Treatment facility within premises with capacity
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

Sr No.	Description	Unit	Capacity
1	Collection cum Equalization Tank	1	18 KL
2	Primary Settling	1	5 KL
3	Filter press	1	450 X 450 X 12 Plate
4	Holding tank	1	20 KL

Treatment scheme including segregation at source.

	Note: (In case of CETP discharge) : Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP. ➢ Total Waste Water generation 14.7 KLD will be from manufacturing activity and other ancillary operation. These Waste Water will be collected in a tank out of which 4.7 KLD will be reused in the Process. After that the remaining 10 KLD will be sent to Common Spray Dryer of Chhatral environmental management system for the Evaporation.	
v	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): ➢ Total Waste Water generation 14.7 KLD will be from manufacturing activity and other ancillary operation. These Waste Water will be collected in a tank out of which 4.7 KLD will be reused in the Process. After that the remaining 10 KLD will be sent to Common Spray Dryer of Chhatral environmental management system for the Evaporation.	
	Domestic:	The generated sewage @0.5 KLD will be disposed through soak pit/septic tank.
	Industrial:	Total Waste Water generation 14.7 KLD will be from manufacturing activity and other ancillary operation. These Waste Water will be collected in a tank out of which 4.7 KLD will be reused in the Process. After that the remaining 10 KLD will be sent to Common Spray Dryer of Chhatral environmental management system for the Evaporation.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. Name of Common facility (CF) (For waste water treatment) • Not Applicable	
	Membership of Common facility (CF) (For waste water treatment) • Not Applicable.	
Vii	Simplified water balance diagram with reuse / recycle of waste water	



Viii	Reuse/Recycle details (4.7 KLD)

Total reuse (4.7 KLD)

Source of waste water for reuse with quantity in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse i.e.
ETP 4.7KLD	Manufacturing Process of Fast Red B Base and2 Nitro 4 Thiocyno Aniline (TCN) in washing and chlorination process 4.7KLD	Sr No / Parameter / REUSE WATER 1. pH 7-8 2. T.S.S 20-30 3. C.O.D 90-95 4. TDS 1500-1700	The wastewater generated with law pollution potential will be resue in the process with fresh water

E Air

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

Sr. no.	Stack attached to	Stack height in meter	Fuel	Consumption	APCM	Pollutant
1	Boiler (2 TPH)	21	Natural Gas OR Agro Waste	140 SCM/hr. OR 200 Kg/hr	Dust Collector and Multi cyclone Separator	SPM ≤ 150 mg/Nm^3 SOx ≤ 100 ppm NOx ≤ 50 ppm
2	Thermic Fluid Heater (3 Lac. Kcal)	21	Natural Gas OR Agro Waste	35 SCM/hr OR 100 kg/Hr	Dust Collector and Multi cyclone Separator	

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_xetc)

Sr. no.	Vent Attached to	Stack height in meter	APCM	Pollutant
1	Chlorination	11	Two stage Alkali scrubber	SO_2

iii Fugitive emission details with its mitigation measures.

- The entire manufacturing activities will be carried out in the closed reactors and regular checking and maintenance of reactors will be carried out to avoid any leakages.
- The tank vents will be equipped with either a carbon filter or an oil trap to prevent water vapour from entering the tank as it breathes.
- Control of all parameters on a continuous basis will be done by adequate control valves, pressure release valves and safety valves etc.
- All the flange joints of the pipe lines will be covered with flange guards.
- All the raw materials will be stored in isolated storage area and containers tightly closed.
- There will also be provision of adequate ventilation system in process plant and

hazardous chemical storage area

- A regular preventive maintenance will be planned to replace or rectify all gaskets, joints etc.
- The unit will also develop green belt within the factory premises to control the fugitive emission from spreading into surrounding environment.

F Hazardous wastes
(As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

i

Sr. No	Types of Hazardous Waste	Sources	Category	Proposed (MT/Year)	Disposal
1	ETP Waste	ETP Plant	35.3	12	Collection, Storage, Transportation and disposal by sending to Active TSDF Site.
2	Used Oil	Plant Machinery	5.1	0.72	Collection, storage, Reused within premises.
3	Discarded Container/ Bags	Material Storage and Handling	33.1	44	Collection, storage, Transportation and Dispose to Registered Recycler
4	Sodium acetate tri hydrate	Fast Boudreaux G.P. Base, Meta Nitro Pera Toluene	--	575	Collection, storage, Transportation and Dispose to Actual Users mainly manufacture of Sodium Acetate and Sodium Anhydride having permission under rule-9.
5	Acetic Acid (35 % to 55 %))	Fast Boudreaux G.P. Base, Fast Red B Base, Meta Nitro Pera Toluene	26.3	260	Collection, storage, Transportation and Dispose to Actual Users involve in manufacturing of Acetanilide or reduction process which required acetic acid having permission under rule-9.
6	Spent HCl Acid (12% to 20 %)	2 Nitro 4 Thiocyno Aniline (TCN) and Biss 2 Chloro Ethyl Amine Hydro Chloride	26.3	325	Collection, storage, Transportation and sell out to unit having permission under rule-9
7	Ammonium Chloride	2 Nitro 4 Thiocyno Aniline (TCN)	--	220	Collection, storage, Transportation and Dispose to Actual Users
8	Spent Solvent	Fast Boudreaux G.P. Base, Fast Red B Base, Meta Nitro Pera Toluene, 2 Nitro 4 Thiocyno Aniline, Biss 2 Chloro Ethyl Amine Hydro Chloride	26.1	5650	Collection, Storage and reuse within plant after in house distillation process in same product.

9	Solvent Residue	Distillation Unit	26.1	120	Collection, storage and disposal by sending to Co processing	
10	Sodium bi sulfite (SBS)	Scrubbing Media	-	100	Collection, storage, Transportation and sell out to unit having permission under rule-9	

Ii	Membership details of TSDF, CHWIF etc. (For HW management)	We will obtained after getting NOC from GPCB.
Iii	Details of Non-Hazardous waste & its disposal(MSW and others)	Not Applicable.
G	Solvent management, VOC emissions etc.	
I	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format).	

Sr. No.	Name of Product	Solvent	B.P °C	V.P	Total Solvent Input (Kg)	Qty of Solvent Recycled (Kg)	Qty of Losses (Kg)	% recovery	% Losses
1	Fast Boudreaux G.P. Base	MDC	39	350 mbar @ 20°C	4166	4120	46	99	1
2	Fast Red B Base	MDC	39	350 mbar @ 20°C	4166	4120	46	99	1
3	Meta Nitro Para Toluidine	MDC	39	350 mbar @ 20°C	4166	4120	46	99	1
4	2 Nitro 4 Thiocyno Aniline (TCN	Methanol	64.7	16.9 kPa at 25 °C	3430	3395	70	98	2
5	Biss 2 Chloro ethyl amine hydro chloride	EDC	84.0	81.3 hPa at 20 °C	2976	2945	31	99	1

ii VOC emission sources and its mitigation measures

- Sources of fugitive emissions include storage of chemicals, solvents storage, loading and unloading section, raw material handling and, hazardous waste storage area Measures:
- The fugitive emissions in terms of handling losses will get reduced by proper storage and handling.
- Hazardous chemicals will be stored as per standard criteria.
- Periodically monitoring will be carried out as per the post project monitoring plan.
- Proper ventilation in storage & production area shall be ensured
- All materials must be stored in suitable packing to prevent contamination of air
- Enclosed system & efficient procedures for materials charging shall be ensured.
- Procedures for start-up shut down, operation & maintenance procedures shall be established & maintained.
- The coverage of greenbelt around the plant also acts as natural barrier to stop carrying of

dust along with the wind current.

H

- Details regarding storage of Hazardous chemicals

Storage details	Name of major Hazardous chemicals	Remarks
Drum/Barrel storage	Acetic Anhydride	
	Ammonium ThioCyanate	
	Caustic Flakes	
	Di Ethanol Amine	
	HNO_3 (98 %)	
	Ortho Anisidine	
	Para Toluidine	
	Para Anisidine	
Storage tanks	Sr. No. / Name of Chemical / Storage capacity in MT	
	1 / Methylene dichloride (MDC) / 5 KL	
	2 / Methanol / 5 KL	
	3 / Ethylene Dichloride (EDC) / 5 KL	
	4 / Thionyle Chloride / 05 MT	
	5 / Sulphuric Acid / 10 MT	
Tonner	Chlorine Gas	0.9 MT X 2 Tonner

- Applicability of PESO : Not Applicable

- Committee noted that reply submitted by PP found satisfactory.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance

6	**SIA/GJ/IND2/151548/2020**	**M/s. Nivika Chemo Pharma Pvt. Ltd.** Plot No 1808, 1809/2, 1811, 1812, 1813, 1814 & 1815, GIDC Estate, Ankleshwar, Ta.: Ankleshwar, Dist: Bharuch.	Appraisal

Category of the unit : **5(f)**

Project status: **Expansion**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/151548/2020 dated 15/04/2020 for obtaining Environmental Clearance.
- Project proponent has submitted *Form – 1, Pre-Feasibility Report & Environment Management Plan* as per *Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category*.
- As per the MoEF&CC's OM dated 31/10/2020, B2 category projects shall be considered at State Level stipulating Environmental Clearance conditions as applicable for category B1 projects/activities.
- This is an expansion project for manufacturing of synthetic organic chemicals **[COVID-19specific API-Bulk Drug and Drug Intermediates]** as tabulated below.

Sr. No	Products	CAS No	Production capacity (MT/Month)			End use of the products
			Existing	Additional	Total proposed	
EXISITING PRODUCTS						
1	*Optical Brightening Agent*	13001-39-3	1.0	0	1.0	Whitening
2	*Ortho Toluene Nitrite*	88-72-2	4.0	0	4.0	Intermediate
3	Darunavir & intermediates	206361-99-1	42	0	0	Prevent HIV/AIDS
4	Levosulpiride	23672-07-3				Anti Psychotic
5	Montelukast Sodium	151767-02-1				Anti Asthamatic
6	Tramadol hydrochloride& intermediates	36282-47-0				Pain killer
7	Nifedipine & intermediates	21829-25-4				Control angina, high bloodpressure
8	Quetiapinehemifumarate	111974-72-2				Anti Depression
9	Furosemide	54-31-9				Hypertensive Diuretic
10	Risedronate Sodium & intermediates	105462-24-6				Treat Osteoporosis
11	Iohexol/Iopamidol/ Iodixanol	66108-95-0/60166-93-0/92339-11-2				contrast Agent- X-rays
12	Lauryl Pyridinium	104-74-5				Antiseptic
13	Vildagliptin & intermediates	274901-16-5				Anti hyperglycaemic
14	Ambroxol Hydrochloride	23828-92-4				Respiratory diseases
15	Pantaprazole Sodium & intermediates	138786-67-1				Treat Gastro oesophageal
16	Miconazole Nitrate & intermediates	22916-47-8				Anti Fungal
17	Dorzolamide Hcl	130693-82-2				Treat High pressure-Eye

18	Bosentan & intermediates	147536-97-8				pulmonary arterial Hyper tension
19	Febuxostat & intermediates	144060-53-7				Treat Arthritis
20	Fesoterodine NDMF & intermediates	286930-02-7				antimuscarinic
21	Rizatriptan	145202-66-0				Treat migraine
22	Olanzapine	132539-06-1				Anti psychotic
23	Levocetirizine	130016-77-8				Antihistamine
24	Revaroxaban & intermediates	366789-02-8				Anti coagulant
25	Ciprofloxacin	85721-33-1				Anti bacterial
26	Agomelatine	138112-76-2				Anti depressant
27	Brinzolamide	138890-62-7				Treat glaucoma
28	Atorvastatin Calcium & intermediates	134523-00-5				Lipid Lowering agent
29	Capacitabine	154361-50-9				Anti cancer
30	Diacerein	13739-02-1				Treat osteo artharities
31	Dabitgatran & intermediates	211915-06-9				Anti coagulant
32	Vilazodone Hydrochloride & intermediates	163521-08-2				anti depressant
33	Posaconazole	171228-49-2				Anti fungal
34	Dapoxetine Hydrochloride	129938-20-1				Premature ejaculation
35	Canagliflozin	842133-18-0				Anti Diabitic
36	Bronopol (BP)	52-51-7				Preservative agent
37	Carbamazepine	298-46-4				Treat neuro-pathic Pain

38	Cefsulodine Sodium & intermediates	52152-93-9				Anti biotic
39	Cilinidipine	132203-70-4				Antagonist
40	Nebivolol	99200-09-6				Treat Hypertension
41	Nebivolol HCL & intermediates	152520-56-4	1.0	0	0	Treat Hypertension
42	Donepezil Hydrochloride & intermediates	120011-70-3	5.0	0	0	Treat Alzheimer's
43	Brimonidine Tartrate & intermediates	70359-46-5				Treat Ocular Hypertension
44	Captopril & intermediates	62571-86-2				Anti Hypertensive
45	Cilostazol & intermediates	73963-72-1				Treat Vascular dieses
46	Clopidogrel bisulphate & intermediates	120202-66-6				Treat heart Strokes
47	Entacapone & intermediates	130929-57-6				Treat Parkinsoris
48	Graniserton HCL & intermediates	107007-99-8				Antagonist
49	Meloxicam & intermediates	71125-38-7				Anti-inflammatory
50	Modafinil & intermediates	68693-11-8				Treat Disorders
51	Piogltazone HCL & intermediates	112529-15-4				Anti Diabetic
52	Zaltoprofen & intermediates	74711-43-6				Anti inflammatory
53	Zonisamide & intermediates	68291-97-4				treat Parkinsons
54	Pregabalin & intermediates	148553-50-8				Treat neuropathic Pain

55	Rampril & intermediates	87333-19-5				treat High blood pressure
56	Sodium Valproate	1069-66-5				Treat migraine
TOTAL (EXISTING)			**53**	**0**	**0**	
Proposed						
57	Hydroxy Chloroquine Sulfate	747-36-4	---	10	10	API-Bulk Drug and Drug Intermediates
58	Chloroquine Phosphate	50-63-5/	---	10	10	API-Bulk Drug and Drug Intermediates
59	Azithromycin	83905-01-5	---	10	10	API-Bulk Drug and Drug Intermediates
TOTAL(Proposed)			**0**	**30**	**30**	
TOTAL (EXISTING+PROPOSED)			**53**	**30**	**83**	

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- The proposal was considered in the meeting dated 17/04/2020.
- Salient features of the project including Water, Air and Hazardous waste management:

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	Existing:25 Crores Proposed:3 Crores Total: 28 Crores
	Details of EMP	

COMPONENT	**CAPITAL COST OF EMP**	**RECURRING COST OF EMP (per Year)**
Cost	Rs. 0.56 Crore	Rs. 9.17 Crore

Bifurcation of EMP Cost

Sr. No	**Unit**	**Installed Capacity (KLD)**	**Capital Cost (Rs. in Lakhs)**	**Operating Cost (Lacs/ Year)**	**Maintenance Cost (Lacs/ Year)**	**Total Recurring Cost (Lacs/ Year)**
1	Effluent Treatment Plant Cost	ETP= 11.37 KLD ETP: 56.7	20.9	700	29.01	729.01

		KLD				
2.	APCM	--	12.5	--	1.3	1.3
3.	Hazardous Waste	--	9	185	--	185
4.	AWH Monitoring Cost	--	--	1	--	1
5.	Greenbelt	--	13.39	--	0.65	0.65
	Total	**--**	**55.79**	**886**	**30.96**	**916.96**

Details of CER as per OM dated 01/05/2018

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), brownfield projects have to contribute 1% of the Additional Capital Investment, the company will contribute Rs. 25.0 Lakhs as funds for CER activities.

Component	**As per Norms**	**Allocation**
CER	Rs. 3.0 Lakhs (1%)	Rs. 3.0 Lakhs (1%)

Activities to be carried out under CER:

CER Activities	**Year**	**Fund (Rs.)**
To provide computers, Projector screens &equipments required for extracurricular activities in the primary schools of GadkholPatiya&KharchiBhilwadavillage.	2020-2021	1,60,000
To provide training and Guidance camp for skill development of Umarwada, GadkholPatiya&KharchiBhilwadavillagers for employment opportunities for groups or individuals.	2020-2021	1,40,000
Total		**Rs. 3,00,000/-**

B	**Total Plot area** (sq. meter)	Existing: 5835 Sq. m. Proposed: 0 Sq. m. Total: 5835 Sq. m.
	Green belt area (sq. meter)	Existing: 1750 Sq. m. Proposed: 0Sq. m. Total: 1750 Sq. m.
C	**Employment generation**	Existing:75 Nos. Proposed:0 Nos. Total: 75 Nos.
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC Water Supply Authority, Ankleshwar.
	Status of permission from the concern authority.	Yes obtained, GIDC water supply letter No. NA//DEE/(W/S)/277 dated 28/02/2018
ii	**Water consumption (KLD)**	

	Existing KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(M) Domestic	**3.0**	**1.5**	**4.5**

(N) Gardening	**1.0**	**1.0**	**2.0**
(O) Industrial			
Process	68.0	8.4	76.4
Washing	2.0	-	2.0
Boiler	40.0	5.0	45.0
Cooling	22.0	3.0	25.0
Others -Scrubbing	3.0	1.0	4.0
Industrial Total	**135.0**	**17.4**	**152.4**
Grand Total (A+B+C)	**139.0**	**19.9**	**158.9**

4) **Total water requirement** for the project: **158.9** KLD
5) Quantity to be **recycled: 5**KLD
6) Total **fresh water** requirement: **153.9** KLD

(Total water requirement = Fresh water + Recycled water)

iii **Waste water generation (KLD)**

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD	Remarks
• Domestic	**2.0**	**1.25**	**3.25**	
• Industrial				
Process	58.0	8.87	66.87	
Washing	2.0	-	2.0	
Boiler	2.3	0.2	2.5	
Cooling	1.5	0.2	1.7	
Others -Scrubbing	4.36	1.14	5.4	
Total Industrial waste water	**68.16**	**10.41**	**78.47**	5.4 KL/day scrubbing media will be reuse in plant premises OR will be sold to authorized end user registered under Rule -9.

iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc..
ETP: 11.37KLD (Primary treatment)&ETP: 56.7 KLD(Primary treatment)&ETP- 6.2 KLD

Treatment scheme including segregation at source. **(Give Characteristics of each stream i.e. COD, BOD, TDS etc.)**
EXISTING= EXPECTED CHARACTERISTICS OF WASTEWATER: LOW COD STREAM: 11.37 KLD (GENERATED FROM PROCESS & RO REJECT) BEFORE & AFTER TREATMENT

Sr. No.	**Parameter**	**Characteristics (mg/L)**	
		Untreated	**Primary Treated**
1	pH	3.0 - 9.0	7.0 - 7.5

2	TDS (mg/l)	10000	12000
3	COD (mg/l)	9000	7000
4	BOD_3 (mg/l)	2500	2000

EXPECTED CHARACTERISTICS OF WASTEWATER BEFORE & AFTER TREATMENT: HIGH COD STREAM: 56.7 KLD

Sr. No.	Parameter	Characteristics (mg/L)	
		Untreated	Primary Treated
1	pH	3.0 - 9.0	7.0 - 7.5
2	TDS (mg/l)	35000	37000
3	COD (mg/l)	30000	20000
4	BOD_3 (mg/l)	7500	6200
5	Ammonical Nitrogen (mg/l)	15	14

DETAILS OF CHARACTERISTICS OF PROPOSED EFFLUENT: LOW COD STREAM: 6.2 KLD
(GENERATED FROM BOILER, COOLING & WASHING) BEFORE & AFTER RO TREATMENT.

Sr. No.	Parameter (Composite of Boiler, cooling & washing)	Before treatment	After RO treatment	
			RO Permeate	RO reject
1.	pH	7.0 – 8.0	7.0 – 8.0	7.0 – 8.0
2.	COD, mg/L	500	<100	300
3.	BOD_3, mg/L	300	<30	200
4.	TDS, mg/L	2000	<500	15000

Note: (In case of CETP discharge) :

Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Industrial waste water **(Total:11.37 KL/Day= Existing:2.5 KLD+ Proposed:8.87KLD)** will be treated in ETP (primary treatment) and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal.

Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):

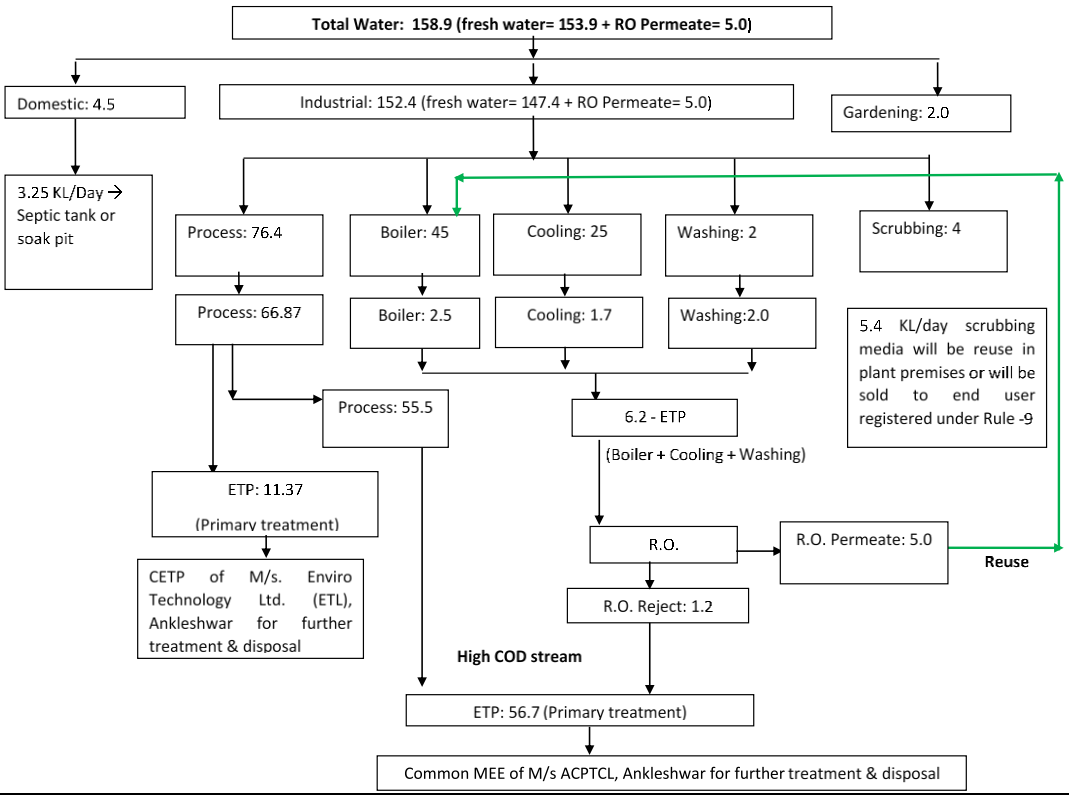
Total waste water generation will be 81.72 KL/day (78.47 KL/day Industrial + 3.25 KL/day domestic). Industrial waste water 11.37 KL/day will be treated in ETP (primary treatment) and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal. Industrial effluent 56.7 KL/day i.e. High COD stream (Process: 55.5 KL/day + RO Reject: 1.2 KL/day) will be treated in ETP (primary treatment) and neutralized effluent will be sent to common MEE of M/s. Ankleshwar Cleaner Process Technology Centre Ltd. (ACPTCL), Ankleshwar for further treatment and disposal. 5.4 KL/day scrubbing media will be reuse in plant premises or will be sold to end user registered under Rule -9.In RO, 6.2 KL/day (Boiler: 2.5 KL/day + Cooling: 1.7 KL/day + Washing: 2.0 KL/day) effluent will be treated. RO permeate (5.0 KL/day) will be reused in boiler & RO reject (1.2 KL/day) will be treated in ETP which consists of primary treatment than it will be sent to common MEE of M/s. ACPTCL, Ankleshwar.

→ Domestic Waste water 3.25 KL/day will be disposed through septic tank or soak pit system.

v Mode of Disposal & Final meeting point

Domestic: → Domestic Waste water 3.25 KL/day will be disposed through septic tank

		or soak pit system.
	Industrial:	Total waste water generation will be 81.72 KL/day (78.47 KL/day Industrial + 3.25 KL/day domestic). Industrial waste water 11.37 KL/day will be treated in ETP (primary treatment) and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal. Industrial effluent 56.7 KL/day i.e. High COD stream (Process: 55.5 KL/day + RO Reject: 1.2 KL/day) will be treated in ETP (primary treatment) and neutralized effluent will be sent to common MEE of M/s. Ankleshwar Cleaner Process Technology Centre Ltd. (ACPTCL), Ankleshwar for further treatment and disposal. 5.4 KL/day scrubbing media will be reuse in plant premises or will be sold to end user registered under Rule -9.In RO, 6.2 KL/day (Boiler: 2.5 KL/day + Cooling: 1.7 KL/day + Washing: 2.0 KL/day) effluent will be treated. RO permeate (5.0 KL/day) will be reused in boiler & RO reject (1.2 KL/day) will be treated in ETP which consists of primary treatment than it will be sent to common MEE of M/s. ACPTCL, Ankleshwar.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. **Name of Common facility (CF)(For waste water treatment)**	
	➢ Common MEE facility of M/s. Ankleshwar Cleaner Process Technology Centre Ltd. CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar ➢	
	Membership of Common facility (CF)	
	(For waste water treatment) Membership of common MEE Facility, M/s. ACTPCL, Ankleshwar vide letter no. ACPTCL/1300000086/2017-2018/176, dated: 05/03/2018. CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar vide letter no. ETL/ANK-MARK/2016-17/1558 dated: 28/01/2017	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



vii	Reuse/Recycle details (KLD)

[Source of reuse & application area]

Total reuse 5 KLD

-

Source of waste water for reuse with quantity in KLD (From where it is coming)	**Application area with quantity in KLD (Where it is used)**	**Characteristics of waste water to be reused (COD, BOD, TDS etc.)**	**Remarks regarding feasibility to reuse i.e.**
In RO, 6.2 KL/day (Boiler: 2.5 KL/day + Cooling: 1.7 KL/day + Washing: 2.0 KL/day) effluent will be treated.	RO permeate (5 KL/day) will be reused in boiler.	RO Permeate having COD < 100 mg/L, BOD < 30 mg/L & TDS < 500 mg/L will be reused in boiler.	-

E **Air**

i Flue gas emission details

No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

Existing & Proposed

-

Sr. No.	**Source of emission With Capacity**	**Stack Height [m]**	**Name of Fuel & its consumption**	**APCM**	**Pollutant**
1.	**Existing**: Small Industrial Boiler [Cap. 400 kg/Hr]	8	Natural Gas (140 Sm^3/Day)	Adequate stack height	PM SO_2 NO_x
2.	**Existing**: Small Industrial Boiler [Cap. 400 kg/Hr]	9			
3.	**Existing**: Steam Boiler [Cap. 3 TPH]	30	Natural Gas (1200 Sm^3/Day)		
4.	**Existing**: Thermic Fluid Heater [Cap. 2 Lac K Cal./hr]	30	Natural Gas (1200 Sm^3/Day)		
5.	DG set **Existing**: 66 KVA standby	11	Diesel (100Ltrs/day)		
6.	DG set **Existing:** 250 KVA+83 KVA in emergency case only	11	HSD (400Ltrs/ day)		
	Proposed				
7	Steam Boiler (1 TPH)	18	Natural Gas (400 Sm^3/Day)	Adequate stack height	PM SO_2 NO_x

-

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)
Existing & Proposed

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	**Existing**: Chlorination Reactor	Cl_2 HCl	11	Two Stage Wet Scrubber
2	**Existing**: Chlorination Reactor	HCl	11	Two Stage Water Scrubber
3	**Existing**: Reactor	SO_2	11	Two Stage Alkali
4	**Existing**: Reactor	HBr	11	Two Stage Water +Alkali
Proposed:				
5	**Process Vent -1 (Hydroxy Chloroquine)**	HCl	11	Two Stage Wet Scrubber

-

iii **Fugitive emission** details with its mitigation measures.

➢

F **Hazardous waste**
(As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
Existing & Proposed

i

Sr. No.	Name of Hazardous Waste	Source of generation	Category as per HWM, 2016	Quantity MT/ Year			Management of HW
				Existing	Proposed	Total	
1.	Used Oil	Equipment & Machineries	Sch-I (5.1)	470 Ltr/Year	0.02 MT/Year	470.02 MT/Year	Collection, Storage, and reuse as lubricants in the machineries within the premises or sent to authorized re-processors.
2.	Spent	Mfg.	Sch-I	5	---	5	Collection,

				Catalyst	Process of Ramipril	(28.2)	MT / Year		MT/Year	storage, transportation and common TSDF or return back to supplier for regeneration		
			3.	Distillation and process residue	Distillation &Mfg Process	Sch-I (36.1)	39.6 MT / Year	186 MT/Year	225.6 MT/Year	Collection, storage, transportation and disposal by RSPL, Panoli or co-processing in cement industries or incineration at common incinerator site.		
			4.	Spent Carbon	Mfg. Process of Darunavir, Quet Iapinehemi fumarate, Miconazole Nitrate	Sch-I (28.3)	15 MT/Year	7.0	22.0 MT/Year			
			5.	Dil HCl Sol (30%)	Scrubber	Sch-II Class B (15)	726 MT/Year	374 MT/Year	1100 MT/Year	Collection, storage and reuse in plant premises or send it to authorized end user registered under Rule-9 after making MoU		
			6.	Discarded Drums / Bags / Liners	Storage & handling of Raw Materials	Sch-I (33.1)	121.2 MT/Year	31.5 MT/Year	152.7 MT/Year	Collection, Storage. Transportation, decontamination & sell to GPCB approved decontamination facility		
			7.	Spent Solvents	Manufacturing Process	Sch-I (28.6)	650 MT/Year	800 MT/Year	1450 MT/Year	Collection, storage & send to authorized end user registered under Rule-9 after making		

											MoU.
			8.	Date expired discarded drugs / medicines	Manufacturing Process	Sch-I (28.5)	1 MT/Year	---	1 MT/Year	Collection, storage, transportation, and disposal by RSPL Panoli or coprocessing in cement industries or incineration at common incinerator site.	
			9.	Organic Residue	Mfg. Process of Product no. 25 & 53.	Sch-I (28.1)	660 MT/Year	20 MT/Year	680 MT/Year		
			10	Spent Hyflow	Mfg. Process of Product no.11 & 47	Sch-I (28.1)	474 MT/Year	---	474 MT/Year		
			11	ETP Sludge	Inhouse ETP	Sch-I (35.3)	86.4 MT/Year	12 MT/Year	98.4 MT/Year	Collection, storage, transportation and disposal at common TSDF site.	
			12	Inorganic Salt	Mfg process of Product no. 24,52 & 54	Sch-I (28.1)	341 MT/Year	---	341 MT/Year		
			13	Sodium Bisulfite (25%)	Scrubber	Sch-I (28.1)	720 MT/Year	---	720 MT/Year	Collection, storage, transportation, disposal by selling to authorized end user registered under Rule-9 after making MoU.	
			14	Dil Sodium Bromide Sol (30%)	Scrubber	Sch-II Class-B(5)	132 MT/Year	---	132 MT/Year		
			15	Methane Sulphonic Acid*	Mfg. process of Posaconazole	Sch-I (28.1)	80.04 MT/Year	---	80.04 MT/Year	Collection, storage, transportation, disposal by selling to authorised end user registered under Rule-9 after making MoU	
			16	Sodium Sulphate	Mfg. process of Diacerein	Sch-I (28.1)	521 MT/Year	---	521 MT/Year	Collection, storage, transportation, disposal by selling to authorised end user registered	

								under Rule-9 after making MoU
	17	Calcium Acetate	Mfg. process of Atorvastatin Calcium	Sch-I (28.1)	21 MT/Year	---	21 MT/Year	Collection, storage &reuse in manufacturing of the produce Atorvastatin Calcium in which it is used as raw material in next batch with fresh raw material. Required quantity is 90.216 MT/Year.
	18	Sodium Acetate	Mfg. process of Atorvastatin Calcium	Sch-I (28.1)	17 MT/Year	---	17 MT/Year	Collection, storage, transportation, disposal by selling to authorised end user registered under Rule-9 after making MoU
	19	Acetic Acid	Mfg. process of Cefsulodine Sodium	Sch-I (28.1)	65 MT/Year	---	65 MT/Year	Collection, storage, transportation, disposal by selling to authorised end user registered under Rule-9 after making MoU

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ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	Membership of TSDF, CHWIF- M/s BEIL,Ankleshwar vide letter no. CI/Ank/013 dated 26/07/2017
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	Non Hazardous Waste will not generated.
G	**Solvent management**, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents	

		etc. (Details in Table Format)
		• All the solvents shall be directly distilled from product mixes and; if required shall be purified in packed column with the help of reflux. • The solvent distillation system shall be designed so as to achieve minimum 95.0 % recovery of solvent. • Wherever required, the solvents shall be directly pumped into day tanks from the storage tanks and shall be charged into the reactors without involving any manual handling. • All the pumps shall be mechanical seal type to avoid any leakage of solvent. • All necessary fire fighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap. • All the storage tank and day tank shall be connected to a vent system through chilled water condensers to prevent loss of solvents in the atmosphere. • All the distillation column vents are also connected to cooling water/ chilled brine condensers for maximum possible recovery of the solvents. • All the vents will be connected to a common carbon Adsorber for removing traces of solvent from vent gases. • Residue generated from the distillation will be sent to BEIL incinerator site. • Two condenser will install with cooling water and chilled brine to recover the solvent. • Primary Condenser HE-01: Cooling water or Chilled water (at 10^0C) will be used to condense the solvents depend on the vapor pressure at its operating conditions and the non condensedvapors will be condensed in a Secondary Condenser • VOC Trap Condenser HE-02: Chilled Brine at -05 ^{0}C will be used to trap any traces of Solvent which is slipped from Secondary condenser
ii		**VOC emission** sources and its mitigation measures
		We will be using various kinds of VOC during the proposed products manufacturing. But, we have adopted following mitigation measures to ensure that safe working conditions are provided to our employees and there is no adverse effect due to handling of VOC. 1. **RISK ASSESSMENT**: We will be conducting detail risk assessment of our proposed products to identify risks involved, process hazards, and health hazards and suggest corrective measure to each and every identified risk. All the corrective measures suggested in the risk assessment will be implemented before starting of production activities. 2. **CLOSE SYSTEM HANDLING**: The entire plant will be designed on the concept of close system handling of chemicals. Whether it is dispensing, charging, filtering, packing or any other activity we will provide the latest technology in material handling to ensure that there is no exposure to VOC. 3. **CONDENSER**: We will provide minimum 2 condensers to all the process reactors with 2 different utilities to ensure that there is no uncondensed vapours escaping in the working area or atmosphere. 4. **SCRUBBING**: All the process vents, receiver vents, tanks vents wherein toxic and hazardous chemicals are stored will be connected to scrubber appropriately to ensure that no obnoxious vapours are released in to the atmosphere causing any health risk. Appropriate Carbon bed is provided in the vent of scrubber to ensure that any escaping VOC is absorbed. 5. **LOCAL EXHAUST VENTILATION**: We will also provide local exhaust ventilation within the working are appropriately. Whenever any open handling is involved it will be done only under local exhaust ventilation connected to scrubber. 6. **TRAINING**: All the concerned employees will be adequately trained in the health hazards of the chemicals being used, safety precautions to be taken while chemical handling 7. **PPE**: We will provide the best quality and all the required personal Protective Equipment to all our employees. They will be trained in effective use of PPE. **Atmospheric Distillation of Solvents:**

	Primary Condenser HE-01: Cooling Tower water or Chilled water (at 10 ^{0}C) will be used to condense the solvents depend on the vapor pressure at its operating conditions and the non condensedvapors will be condensed in a Secondary Condenser **Secondary Condenser HE-02:** Chilled Brine at -5 ^{0}C will be used to trap any traces of Solvent which is slipped from Secondary condenser
H	➢ **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks (If any)	Acetone	-
	Methanol	-
	Ethanol	-
	Toluene	-
	Hexane	-
	MDC	-
Drums	Thionyl chloride	-
	Sulphuric acid	-
	Tetrahydrofuran	-
	Acetonitrile	-
	Methyl ethyl ketone	-
	Ethyl acetate	-
	Isopropyl Alcohol	-
	DMSO	-
	Pyridine	-
	Triethyl amine	-
	Acetic acid	-
	Mono ethylene glycol	-
	HCL	-
	Nitric Acid	-
Bottles	Bromine	-
Tonner	Chlorine gas	-
Hydrogen bank	Hydrogen gas	-

➢ **Applicability of PESO** :
➢ Company has apply for PESO for storage of solvents.

- During the meeting dated 17/04/2020, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report & Environment Management Plan.
- The video conference meeting was organized on a very short notice to facilitate the production of COVID-19 specific drugs which are in presently in global demand. Looking to the grim situation arose due to COVID-19, Government of India has lifted the export ban of these drugs and a policy decision is taken to cater the global demand of these medicines.
- The expert *Committee felt the need to rise to the occasion* appraisal on a very short notice. Committee also felt to put a specific condition to start the production within a period of 45 days and also critically evaluate the EC after first six monthly compliance report submitted by PP.
- *Committee noted that PP intends to manufacture Bulk Drug Intermediate viz. (1) Hydroxy Chloroquine Sulfate, (2) Chloroquine Phosphate and (3) Azithromycin which all are showing apparent efficiency in treatment of COVID – 19*.
- *Committee noted that the proposal is for expansion. Unit has valid EC and CC&A for existing plant. Copy of EC and CC&A, its self-certified compliance report is submitted. PP mentioned that they are in compliance of all the EC conditions.PP ensured that there are no court cases pending and no public complaints against the project. Source*

of water is GIDC.

- *PP submitted that low COD effluent generated from process shall be treated in in-house ETP – 1 and treated effluent will be sent to CETP of ETL, Ankleshwar for final treatment and disposal while low COD effluent generated from utility viz. boiler blow down, cooling tower blow down & washing will be treated in RO, RO – permeate will be reused/recycled as boiler feed while RO – Reject will be treated in primary ETP – 2 while high COD effluent generated from process will be treated in ETP – 2 along with RO – Reject and treated effluent will be sent to Common MEE of ACPTCL, Ankleshwar for final treatment and disposal.*
- *Committee deliberated on the additional discharged asked by PP in CETP of ETL, Ankleshwar and all the Committee members unanimously agreed to grant conditional discharge into CETP of ETL, Ankleshwar as proposed by project proponent and after obtaining permission of CETP and review by GPCB while granting CC&A as per the discussion held in 620th SEAC (VC) meeting dated 12/04/2020.*
- Committee noted that MoEF&CC has taken certain liberal approach in granting EC by issuing OM dated 11/03/2020 and Notification dated 27/03/2020 by classifying the bulk drug units as B2 category. Committee felt that discharge during this phase can be permitted as there is an urgent requirement of medicine in the world for treatment of COVID-19 diseases and at this point of time the load on the CETP will also not increase.
- ~~Further, Committee noted that this discharged granted in the Environmental Clearance will be conditional and review of the same will be done by GPCB at the time of granting CC&A and a six monthly review will also be done by GPCB to ensure that overall organic and hydraulic load in the CETP does not increase beyond the capacity of CC&A granted by GPCB at any point of time.~~
- PP submitted that they have proposed one steam boiler. Fuel used will be Natural Gas. PP submitted that they will provide adequate APCM with Flue gas and Process stack. PP submitted Hazardous Waste Matrix as per HWR – 2016.
- Committee deliberated on CER, EMP and Safety aspects.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA for grant of Environment Clearance to the project subject to the strict compliance of the following specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.

SPECIFIC CONDITIONS:

1. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.
2. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.
3. PP shall start production activity within 45 days from the date of issue of Environmental Clearance to facilitate the production of COVID–19 specific drugs which is in presently in demand worldwide as life saving drug for human.
4. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.
5. GPCB shall ensure compliance of direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP and also that the pollution load is not

increased in the CEPI for the compliance of Hon'ble NGT.

6. PP shall ensure that the effluent generated (Originated) from the production of API/Bulk Drug Products having concern with present Pandemic situation of COVID-19 shall only be discharge to CETP with appropriate permission of concern authority after meeting with the norms and discharge quantity shall be proportional to production of Covid-19 related medicines and shall maintain records thereof.
7. Project proponent shall provide continuous online monitoring system for waste water discharge to Common Facilities (CETP, Common MEE, Common, Spray dryer etc.) as per the prevailing guidelines of SPCB/GPCB and shall maintain records of the same thereof.
8. Treated waste water shall be sent to common facilities (CETP, Common MEE, Spray dryer etc.) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
9. PP shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.
10. PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable)
11. PP shall use natural gas for utilities preferably but in case use of other fuel, PP shall put properly designed APCM with regular, periodic stack monitoring system to ensure that there shall be no increase in pollution load for the compliance of directives of Honorable NGT.
12. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapors in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
13. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
14. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.

7	SIA/GJ/IND2/151406/2020	**M/s. Suleshvari Pharma** Plot No. 6012/1, GIDC Estate, Ankleshwar, Dist: Bharuch – 393002, Gujarat	Appraisal

Category of the unit : **5(f)**

Project status: **Expansion**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/151406/2020 dated 15/04/2020 for obtaining Environmental Clearance.
- Project proponent has submitted *Form – 1, Pre-Feasibility Report & Environment Management Plan* as per *Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category*.
- This is an expansion project for manufacturing of synthetic organic chemicals **[COVID-19specific API-Bulk Drug and Drug Intermediates]** as tabulated below.

Sr. No.	Products	Production Capacity (MT/Month)	CAS No.	End Use

		Existing	Proposed	Total		
Group-A						
1	Iso Amyl Acetate	1	--	1	123-92-2	Pharma Intermediate
2	Iso Amyl Propionate	1	--	1	105-68-0	Pharma Intermediate
3	Iso Amyl Butyrate	1	--	1	106-27-4	Pharma Intermediate
4	Phenyl Ethyl Acetate	1	--	1	103-45-7	Pharma Intermediate
5	Phenyl Ethyl Propionate	1	--	1	122-70-3	Pharma Intermediate
6	Methyl -3- Amino Crotonate	5	--	5	14205-39-1	Pharma Intermediate
7	Phthalimido Amlodipine	5	--	5	88150-62-3	Pharma Intermediate
8	Diaminomethyleneamino (1-amino-1-iminomethylene) thiomethyl thiozole dihydrochloride [ITU]-50	50	--	50		Pharma Intermediate
9	N-Sulfomyl-3-chloropropionamide hydrochloride[IF]-50	50	--	50	106649-95-0	Pharma Intermediate
10	Famotidine	10	--	10	76824-35-6	Anti Ulcer
11	Poly Allaylamine Hydrochloride	200	--	200	71550-12-4	Pharma Intermediate
AND						
Group-B						
12	Sevelamer Hydrochloride	20	--	20	152751-57-0	Hyper phosphataemia
13	Sevelamer Carbonate				845273-93-0	Hyper phosphataemia
14	Fomepizole				7554-65-6	Hemodialysis
15	Colsevelam hydrochloride				182815-44-7	Hyper phosphataemia
16	Glimepiride				93479-97-1	Anti Diabetic
17	Furosemide				54-31-9	Anti Diuretic
18	Betahistine Dihydrochloride				5579-84-0	Pharma
19	Adapalene				106685-40-9	Skin allergic
20	Telmisartan				144701-48-4	Hypertension
21	Tapentadol Hydrochloride				175591-09-0	Analgesic
22	Colistimethate Sodium				8068-28-8	Pharma Intermediate
23	Rusvastatin Calcium				147098-20-2	High cholesterol
24	1-3 dichloro Acetone				534-07-6	Pharma Intermediate
25	Gunylthiourea				2114-02-5	Pharma Intermediate

26	Rabeprazole Sodium				117976-90-6	Pharma
27	Carvediol				72956-09-3	Hypertension
28	Celecoxib				169590-42-5	Arthritis
29	Clopidogrel Bisulfate				120202-66-6	Heart attacks
30	Atoravastatin Calcium				134523-03-8	High cholesterol
31	Etoricoxib				202409-33-4	Spondylitis
32	Valsartan				137862-53-4	Antihypertensive
33	Tranexamic Acid				1197-18-8	Antifibrinolytic
34	Folic Acid				59-30-3	Folate deficiency
35	Zolpidic Acid				189005-44-5	Bone diseases
36	Pregabaline				148553-50-8	Anti diabetes
OR						
37	Hydroxy Chloroquine Sulphate	0	15	15	747-36-4	Treat Auto Immune disease
38	Azithromycin Dihydrate	0	15	15	83905-01-5	Antiboitics
39	Hydroxy Novaldiamine				69559-11-1	Anti malarial
	Total	**345**	**+10 (Considering either or Scenario)**	**345 or 355**		

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- The proposal was considered in the meeting dated 17/04/2020.
- Salient features of the project including Water, Air and Hazardous waste management:

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	Existing: 5.94 Proposed: 0.0 Total: 5.94
	Details of EMP	

Brief details of EMP

COMPONENT	CAPITAL COST OF EMP	RECURRING COST OF EMP (per Month)
Cost	Rs. 55.5 Lakhs	Rs. 19.18 Lakhs

Bifurcation of EMP Cost

Sr. No	Unit	Installed Capacity (KLD)	Capital Cost (Rs. in Lakhs)	Operating Cost (Lacs/Month)	Maintenance Cost (Lacs/Month)	Total Recurring Cost (Lacs/Month)
1	Effluent	25	21.5	15.0	0.41	15.41

	Treatment Plant					
2.	APCM	--	15	--	0.07	0.07
3.	Hazardous Waste (Expense)	--	9	3.55	--	3.55
4.	AWH Monitoring Cost	--	5	0.12	--	0.12
5.	Greenbelt	--	5	--	0.03	0.03
	Total		**55.5**			**19.18**

Details of CER as per OM dated 01/05/2018

CER Activities	**Year**	**Fund (Rs.)**
2020-2021		
Provision of water distribution system in village – Jitali	2019-2020	3,50,000/-
2021-2022		
To provide the fund for operation and medicine to Animal hospital, Valia	2020-2021	1,50,000/-
TOTAL		**5,00,000**

B	**Total Plot area** (sq. meter)	Existing: 2345 Sq. m. Proposed: …….Sq. m. Total: 2345 Sq. m.
	Green belt area (sq. meter)	Existing: 790 Sq. m. Proposed: 0 Sq. m. Total: 790 Sq. m.
C	**Employment generation**	Existing: 65 Proposed: 0 Total: 65
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC
	Status of permission from the concern authority.	Unit has obtained permission from GIDC for water supply vide letter no NO/NA/DEE(W/S)/860 dated 25/05/2018.
ii	**Water consumption (KLD)**	

	Existing KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(P) Domestic	3	0	3
(Q) Gardening	1	0	1
(R) Industrial			
Process	27	0	27
Washing	2	0	2
Boiler	10	0	10
Cooling	10	0	10
Scrubber	1	0	1
Industrial Total	**50**	**0**	**50**
Grand Total (A+B+C)	**54**	**0**	**54**

1) **Total water requirement** for the project: 54 KLD
2) Quantity to be **recycled:** 0 KLD
3) Total **fresh water** requirement: 54 KLD

(Total water requirement = Fresh water + Recycled water)

iii **Waste water generation (KLD)**

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD	Remarks
• Domestic	2.4	0	2.4	
• Industrial				
Process	22	0	22	
Washing	2	0	2	
Boiler	0.5	0	0.5	
Cooling	0.5	0	0.5	
Others	1.16*	0	1.16*	Sold to end user under Rule-9 permission
Total Industrial waste water	**25**	**0**	**25**	

Iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc..

- In-house ETP consist of Primary Treatment: 20.55 KL/Day & 4.45 KL/Day

Treatment scheme including segregation at source. **(Give Characteristics of each stream i.e. COD, BOD, TDS etc.)**

- Low COD Industrial waste water from utilities and process (4.45 KL/day out of 25 KL/Day) will be treated in ETP and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal.
- Remaining Composite Industrial wastewater (20.55 KL/Day out of 25 KL/Day) will be treated in ETP and treated waste water will be sent to Common MEE for further treatment and disposal.

Note: (In case of CETP discharge) :
Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Low COD Industrial waste water from utilities and process (4.45 KL/day out of 20.55 KL/Day) will be treated in ETP and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal confirming to ETL standards.

Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):

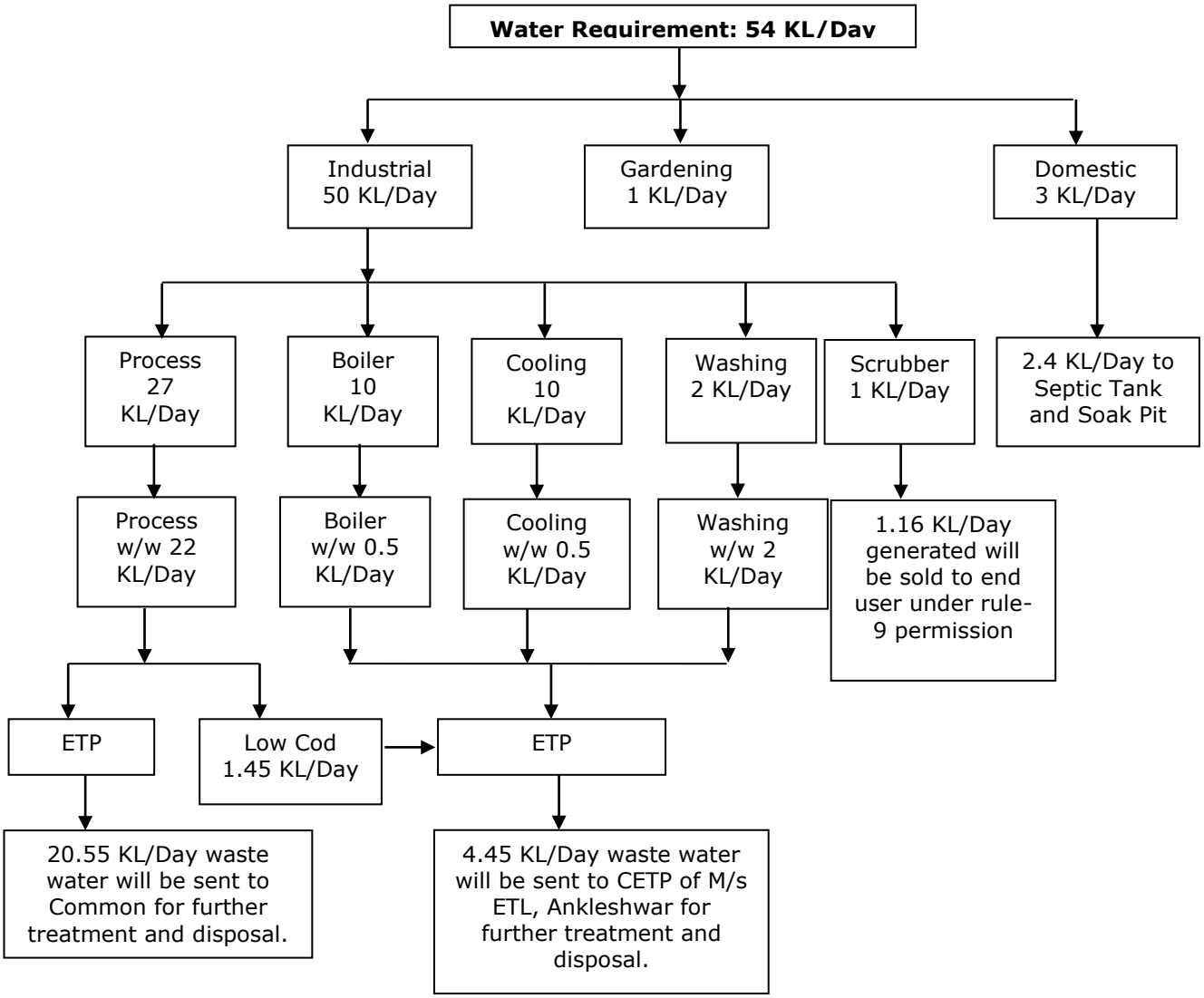
- Composite Industrial wastewater (20.55 KL/Day out of 25 KL/Day) will be treated in ETP and treated waste water will be sent to Common MEE for further treatment and disposal.

V Mode of Disposal & Final meeting point

Domestic:	2.4 KL/Day domestic wastewater will be disposed through Septic Tank/Soak Pit.
Industrial:	1) Industrial waste water (4.45 KL/day out of 25 KL/Day) will be treated in ETP and treated waste water will be sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal. 2) Remaining Industrial wastewater (20.55 KL/Day out of 25 KL/Day) will be treated in ETP and treated waste water will be sent to Common MEE for further treatment and disposal.

Note: The unit has proposed for manufacturing of either Group-B or Group-C products along with Group-A products where Group-B consists of existing manufacturing products mention in EC. Therefore, there is no change in water consumption and waste water generation.

Vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. **Name of Common facility (CF) (For waste water treatment)**
	➢ CETP of M/s. ETL, Ankleshwar
	Membership of Common facility (CF)
	(For waste water treatment) Membership obtained
Vii	**Simplified water balance diagram with reuse / recycle of waste water**



vii	Reuse/Recycle details (KLD) [Source of reuse & application area]
	Total reuse…….KLD -

Source of waste water for reuse	**Application area with**	**Characteristics of waste water to be**	**Remarks regarding**

		with quantity in KLD (From where it is coming)	quantity in KLD (Where it is used)	reused (COD, BOD, TDS etc.)	feasibility to reuse i.e.	

E **Air**

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.
Existing & Proposed

-

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
Existing:						
1.	Boiler (Capacity: 0.6 TPH)	15	Natural Gas	300 Sm^3/Day	SPM SO_2 NOx	Adequate Stack Height
2.	Boiler (Capacity: 2.0 TPH)	30	Natural Gas	1000 Sm^3/Day	SPM SO_2 NOx	Adequate Stack Height
3.	Thermic fluid heater (Capacity: 4 Lac KCal/Hr.)	30	Natural Gas	1000 Sm^3/Day	SPM SO_2 NOx	Adequate Stack Height
4.	D. G. Set (150 KVA)	11	HSD	20 Lit/ Hr.	SPM SO_2 NOx	Adequate Stack Height

-**Existing Boiler and TFH is sufficient for proposed expansion scenario.**

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)
Existing & Proposed

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
Existing:				
1	Process Vent (Chlorination or Amination) (Product Name: Glimepride & IF)	Cl_2 HCl NH_3	11	Two Stage Water & Caustic scrubber
2	Process Vent (Chlorination) (Product Name: Rosuvastatin Calcium)	Cl2 HCl	11	Two Stage Water + Alkali scrubber
3	Process Vent (Sulphonation) (Product Name: Cetrizine Dihydrochloride)	SO2	11	Two Stage Alkali scrubber
4	Process Vent (Amination) (Product Name: Glimepride)	NH3	11	Two Stage Acid scrubber

Existing Process Vent is sufficient for proposed expansion scenario. Amination Process Vent will be used for Hydroxy Novaldamine product.

-

iii **Fugitive emission** details with its mitigation measures.

Following measures will be adopted to prevent and control fugitive emissions…

- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Raw materials loading and unloading will be done in covered area
- Care will be taken to store construction material properly to prevent fugitive emissions, if any.
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Breather valves will be provided on solvent tanks.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Minimum number of flanges, joints and valves in pipelines.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- Adequate ventilation will be provided.
- Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules.

F **Hazardous waste**
(As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
Existing & Proposed

i

Sr. no.	**Type/ Name of Hazardous waste**	**Specific Source of generation (Name of the Activity, Product etc.)**	**Category and Schedule as per HW Rules.**	**Quantity (MT/Annum)**			**Management of HW**
				Existing	**Proposed**	**Total**	
1	**Used Oil**	Equipment & Machinery	**Sch-I/ 5.1**	24	0	24	**Collection, Storage, Transportation and reuse or sell to Registered recycler.**
2	**Organic Waste**	Process (Rosuvastatin Calcium & Azithromycin Dihydrate)	**Sch-I/ 28.1**	180	0	180	**Collection, Storage, Transportation and given to cement industries for co-processing or disposal at CHWIF site.**
3	**Discarded Bags & Liners** **Discarded**	**Raw Material & Storage**	**Sch-I/ 33.1**	66	0	66	**Collection, Storage, Transportation and sell to GPCB Registered Re-processors after**

	Containers						**Decontamination.**
4	Inorganic Process Waste	Process (Rabeprazole Sodium & Azithromycin Dihydrate)	**Sch-I/** 28.1	60	0	60	**Collection, Storage, Transportation and disposal at Common TSDF of site.**
5	Spent Carbon	Process (Clopidogrel Bisulphate + Hydroxy Chloroquine Sulphate)	**Sch-I/** 28.2	24	12	36	**Collection, Storage, Transportation and given to cement industries for co-processing or disposal at CHWIF site.**
6	Hydrochloric Acid (30%)	Scrubber (10 MT/M) + Process (IF)(20 MT/ M)	**Sch-II/** B15	360	0	360	**Collection, Storage, Transportation and sell to end user having permission under Rule-9.**
7	Ammonium Chloride (30%)	Scrubber	**Sch-II/** B15	420	0	420	
8	Di Potassium Phosphate	Process (Guanyl Thiourea)	**Sch-I/** 28.1	420	0	420	
9	Sodium Sulphite (25%)	Scrubber	**Sch-II/** B36	420	0	420	
10	Spent Solvent	Process	**Sch-I/** 28.6	600	0	600	Collection, Storage, in-house distillation or sent to job work for distillation to end user registered under Rule-9 permission and Reuse within premises.
11	Sodium Chloride (30%)	Scrubber (10MT/M) + Process (Colsevelam Hydrochloride) (20 MT/M)	**Sch-I/** 28.1	360	0	360	Collection, Storage, and sent to ETP.
12	Spent Catalyst	Process (Atorvastatin Calcium + Hydroxy Chloroquine Sulphate)	**Sch-I/** 28.2	20	10	30	Collection, Storage, Transportation and sent to registered regenerator.
13	Distillation	Distillation	**Sch-I/**	20	0	20	Collection, Storage,

	Residue		20.3				Transportation and sent for co-processing in cement industries or sent to common incineration site.
14	ETP Sludge	ETP	**Sch-I/** 35.3	120	0	120	**Collection, Storage, Transportation and disposal at Common TSDF site.**

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ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	Company has membership of M/s. BEIL, Ankleshwar vide letter No. BEIL/ANK/2017 dated 18/03/2017.
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	No such waste will be generated.

G **Solvent management**, VOC emissions etc.

i Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)

SOLVENT	**Boiling Point (°C)**	**Vapor Pressure (kPA@ 20°C)**	**INPUT (MT)**	**RECOVER (MT)**	**LOSSES (MT)**	**%RECOVER (MT)**	**%LOSSES (MT)**
Acetone	56.2	24	600	580	20	96.67	3.33
Dichloromethane	39.75	46.5	580	570	10	98.27	1.73
Dimethylformamide	153	0.3	120	117.8	2.2	98.17	1.83
Ethanol	78.5	5.7	85	83	2	97.64	2.36
Hexane	68	17.3	72	70.2	1.8	97.5	2.5
Iso Propyl Alcohol	82.5	4.4	490	480.2	9.8	98.0	2
Methanol	64.5	12.3	550	536.2	13.8	97.5	2.5
Toluene	110.6	3.8 @ 25°C	180	175	5	97.22	2.78

ii **VOC emission** sources and its mitigation measures

During operation stage, leakage through valves/pumps, leakage and emission from open drum containing chemicals, open feeding, storage tanks, etc. will be major sources of fugitive emissions and VOCs. Excess use of solvent/s may also results fugitive emission from the process vessels.

- Solid raw material charging will be done through closed system.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, will be collected through hoods and ducts by induced draft and controlled by scrubber/dust collector.
- Emphasis will be given to solvent management/solvent loss prevention.
- Control by having proper scrubbing system.

- Condenser to trap VOC.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber/dust collector to be ensured.
- Proper maintenance schedule will be adhered to avoid emissions through flange joints, pump seals etc.
- Minimum number of flanges, joints and valves in pipelines.
- Proper gland packing will be maintained for pumps and valves and to the extent possible pumps with mechanical seal.
- All the raw materials will be pneumatically transfer to the reactor.
- All rotating equipments like pumps will be installed with mechanical seals to arrest any sort of emissions.
- A regular preventive maintenance schedule will be in place to replace or rectify all gaskets and joints etc. as a part of ISO systems to ensure no fugitive emissions take place.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Solvent tank vents will be connected to vent chillers.
- Adequate ventilation will be provided.
- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Breather valves will be provided on solvent tanks.

H

➢ **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks (If any)	Methanol, EDC, MDC, DMF, Toluene, Acetone, Ethyl Acetate, IPA, HCl , H2SO4	

➢ **Applicability of PESO** :

➢ Will be obtained

H

➢ **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals
Storage tanks (If any)	Acetone
	Methanol
	Ethanol
	Toluene
	Hexane
	MDC
Drums	Thionyl chloride
	Sulphuric acid
	Tetrahydrofuran
	Acetonitrile
	Methyl ethyl ketone
	Ethyl acetate
	Isopropyl Alcohol
	DMSO
	Pyridine
	Triethyl amine
	Acetic acid
	Mono ethylene glycol
	HCL
	Nitric Acid
Bottles	Bromine
Tonner	Chlorine gas

		Hydrogen bank	Hydrogen gas

- **Applicability of PESO** :
- Company has apply for PESO for storage of solvents.

- During the meeting dated XX/04/2020, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report & Environment Management Plan.
- The video conference meeting was organized on a very short notice to facilitate the production of COVID-19 specific drugs which are in presently in global demand. Looking to the grim situation arose due to COVID-19, Government of India has lifted the export ban of these drugs and a policy decision is taken to cater the global demand of these medicines.
- The expert Committee felt the need to rise to the occasion and did the appraisal on a very short notice. Committee also felt to put a specific condition to start the production within a period of 45 days and also critically evaluate the EC after first six monthly compliance report submitted by PP.
- *Committee noted that PP intends to manufacture Bulk Drug Intermediate viz. (1) Hydroxy Chloroquine Sulfate, (2) Azithromycin Dihydrate and (3) Hydroxy Novaldiamine which all are showing apparent efficiency in treatment of COVID – 19*.
- *Committee noted that the proposal is for expansion. Unit has valid EC and CC&A for existing plant. Copy of EC and CC&A, its self-certified compliance report is submitted. PP mentioned that they are in compliance of all the EC conditions. PP ensured that there are no court cases pending and no public complaints against the project. Source of water is GIDC.*
- At present total waste water generation is 25 KLD. Out of which 4.45 KL/day (Low COD stream) is treated in ETP-1 and treated waste water is sent to CETP of M/s. Enviro Technology Ltd. (ETL), Ankleshwar for further treatment and disposal. Remaining composite Industrial wastewater (20.55 KL/Day out of 25 KL/Day) is treated in ETP-2 and treated waste water is sent to Common MEE for further treatment and disposal.
- Committee noted that PP has proposed new products as they will manufacture either Group-B products or COVID-19 specific products (Proposed) and worst case scenario is Group B products (Existing). Hence, water consumption, waste water generation and fuel consumption remains same.
- Existing Boiler and TFH is sufficient for proposed expansion scenario. Existing Process Vent is sufficient for proposed expansion scenario. Amination Process Vent will be used for Hydroxy Novaldamine product. Natural gas will be used as fuel. Two stage. Scrubbers will be provided with process stacks. PP addressed hazardous waste management.
- Committee deliberated on CER, EMP and Safety aspects.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following additional and specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.**

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA for grant of

Environment Clearance to the project subject to the strict compliance of the following specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.

SPECIFIC CONDITIONS:

1. Unit shall manufacture either group B or group C products at the same time. Hence, there shall be no increase in water consumption, waste water generation and fuel consumption after proposed expansion.
2. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.
3. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.
4. PP shall start production activity within 45 days from the date of issue of Environmental Clearance to facilitate the production of COVID–19 specific drugs which is in presently in demand worldwide as life saving drug for human.
5. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.
6. Project proponent shall provide continuous online monitoring system for waste water discharge to Common Facilities (CETP, Common MEE, Common, Spray dryer etc.) as per the prevailing guidelines of SPCB/GPCB and shall maintain records of the same thereof.
7. Treated waste water shall be sent to common facilities (CETP, Common MEE, Spray dryer etc.) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
8. PP shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.
9. PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable)
10. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapors in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
11. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
12. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.

8	**SIA/GJ/IND2/151553/2020**	**M/s. Amar Pigments** Plot No. 3012-3013, Phase-III, GIDC Estate, Panoli, Tal: Ankleshwar, Dist: Bharuch, Gujarat - 394 116	Appraisal

Category of the unit : **5(f)**

Project status: **Expansion**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/151553/2020 dated 15/04/2020 for obtaining Environmental Clearance.

- Project proponent has submitted *Form – 1, Pre-Feasibility Report & Environment Management Plan* as per *Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category*.
- This is an expansion project for manufacturing of synthetic organic chemicals **[COVID-19specific API-Bulk Drug and Drug Intermediates]** as tabulated below.

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity (MT/Month)			End-use of the products
			Existing	Proposed	Total	
Existing:						
1	α-Phenyl-2-Pyridyl Acetonitrile	500 -36-7	40	00	40	For organic prepara ion
2	α-Phenyl-2-Pyridyl Acetamide	7251-52-7				For organic preparati
3	L-(+) 4-Nitro Tartranilic Acid	60908-35-				For organic preparati
4	9-Methyl-1,2,3,9-Tetrahydro-4HCarbaz l-4-One	27387-31-1				For organic p eparation
5	2,2',4'-Trichloro Ace ophenone	4252-78-2				For organic preparati
6	1-(2,4-Dichloro Phenyl)-2-(1HImidazol-yl) Ethanol	24155-42-8				For organic preparati
7	Ritanilic Acid	19395-41-6				For organic preparati
8	α-Phenyl-2-Piperidyl Acetamide	19395-39-2				For organic pr parati
9	P-Chloro Benzophenone	134-85-0				For organic preparati
10	P-Chlorobenzhydryl Chloride	134-83-8				For organic preparati
11	p-Chlorobenzhydryl Piperazine	303-26-4				For organic preparatio
12	2-[4-(4- hlorobenzhydryl)-1-Piperazinyl] Ethanol	109806-71-5				For organic preparati
13	Lamotrigine	84057-84-1				Anticonvulsant
14	Roxithromycin EP/BP	80214-83-1				Antibacterial
Proposed:						
15	Hydroxy Chloroquine Sulfate	747-36-4	0	25	25	Antimalarial
16	Chloroquine Phosphate	50-63-5				Antimalarial
17	Chloroquine Sulphate	6823-83-2				Antimalarial
18	Erythromycin	114-07-8				Antibacterial
19	Azithromycin	83905-01-5				Antibacterial
Total			**40**	**25**	**65**	

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- The proposal was considered in the meeting dated 17/04/2020.
- Salient features of the project including Water, Air and Hazardous waste management:

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	Existing: 7.5 Proposed: 1.0 Total: 8.5
	Details of EMP	

EMP details (Capital cost & Recurring cost)

COMPONENT	CAPITAL COST OF EMP	RECURRING COST OF EMP (per Month)
TOTAL COST	Rs. 81.0 Lakhs	Rs. 23.88 Lakhs

Bifurcation of EMP Coast

Sr. No	Unit	Installed Capacity (KLD)	Capital Cost (Rs.in Lacs)	Operating Cost (Lacs/Month)	Maintenance Cost (Lacs/Month)	Total Recurring Cost (Lacs/Month)
1	Effluent Treatment Plant	40.5 KLD	36.5	20	0.26	20.26
2.	APCM	---	12.0	0.08	0.0	0.08
3.	Hazardous Waste	---	26.0	--	3.37	3.37
3.	AWH Monitoring Cost	---	5.0	---	0.13	0.13
4.	Greenbelt	10%	1.5	--	0.04	0.04

Details of CER as per OM dated 01/05/2018

As per OM no. 22-65/2017 on dated 01/05/2018 regarding “Corporate Environment Responsibility” (CER), Brownfield projects have to contribute 1% of the Capital Investment, the company will contribute Rs. 2 (2.00%) Lakhs as funds for CER activities.

BUDGETARY ALLOCATION FOR CER ACTIVITIES		
The unit has planned to spend 2.0 % of the total cost of the proposed expansion project (Rs. 100 Lakhs) over a period of year towards CER activity. So, as per the project cost Rs. 2 Lakhs used in the CER activities. Budgetary allocation is given in below table.		
Sr. No.	**Activity**	**Fund Earmarked for Activity in Lakhs**
1	Providing required funds to nearby farmers within 10 kms of the project site for farming purpose.	2.0
TOTAL		**Rs. 2 Lakhs**

B	**Total Plot area** (sq. meter)	Existing: 2000 Sq. m. Proposed: 00 Sq. m. Total: 2000 Sq. m.
	Green belt area (sq. meter)	Existing: 200 Sq. m. Proposed: 00 Sq. m. Total: 200 Sq. m.
C	**Employment generation**	Existing: 40 Proposed: 10 Total: 50
D	**Water**	
i	Source of Water Supply	GIDC Water Supply

	(GIDC Bore well, Surface water, Tanker supply etc...)	
	Status of permission from the concern authority.	Permission obtained

ii **Water consumption (KLD)**

	Existing KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(S) Domestic	2.0	0.8	2.8
(T) Gardening	1.00	0.0	1.0
(U) Industrial			
Process	21.5	6.7	28.2
Washing	12	3	15
Boiler	2	3	5
Cooling	0.5	0.5	1.0
Others	0.0	0.0	0.0
Industrial Total	**36**	**11.2**	**47.2**
Grand Total (A+B+C)	**39**	**12**	**51**

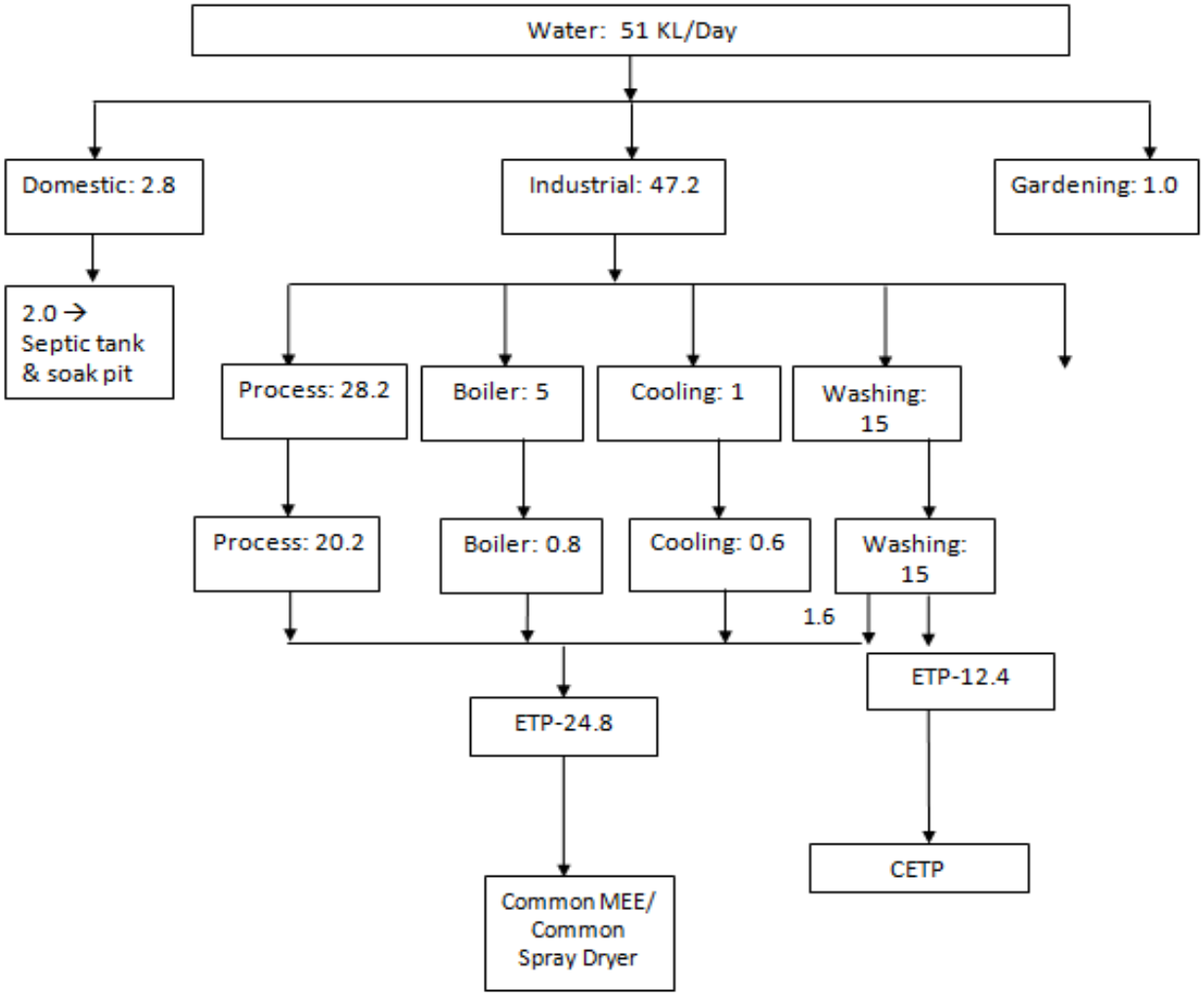
4) **Total water requirement** for the project: 51.0 KLD
5) Quantity to be **recycled:** 0.0 KLD
6) Total **fresh water** requirement: 51.0 KLD

(Total water requirement = Fresh water + Recycled water)

iii **Waste water generation (KLD)**

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
• Domestic	1.4	0.6	2.0
• Industrial			
Process	12.2	8.6	20.8
Washing	12	3	15
Boiler	0.3	0.5	0.8
Cooling	0.3	0.3	0.6
Others	0.0	0.0	0.0
Total Industrial	**24.8**	**12.4**	**37.2**

		waste water			
iv	Treatment facility within premises with **capacity** [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.. ➢ In-house ETP (Primary Treatment) – 24.8 KL/Day & 12.4 KL/Day				
	Treatment scheme including segregation at source. **(Give Characteristics of each stream i.e. COD, BOD, TDS etc.)** ➢ 24.8 KLD from process and utilities will be treated in ETP and disposed off to CMEE or Common Spray Dryer. ➢ 12.4 KLD from washing will be treated in ETP and then disposed off to CETP of M/s PETL, Panoli.				
	Note: (In case of CETP discharge) : **Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.** ➢ 12.4 KLD from washing will be treated in ETP and then disposed off to CETP of M/s PETL, Panoli.				
	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): ➢ 24.8 KLD from process and utilities will be treated in ETP and disposed off to CMEE or Common Spray Dryer.				
v	Mode of Disposal & Final meeting point				
	Domestic:	2.0 KLD Domestic effluent will be disposed off to Septic Tank/ Soak pit.			
	Industrial:	(i) 24.8 KLD from process and utilities will be treated in ETP and disposed off to CMEE or Common Spray Dryer. (ii) 12.4 KLD from washing will be treated in ETP and then disposed off to CETP of M/s PETL, Panoli.			
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. **Name of Common facility (CF) (For waste water treatment)**				
	➢ CETP of M/s. PETL, Panoli and CMEE & Common Spray Dryer				
	Membership of Common facility (CF)				
	(For waste water treatment) CETP of M/s. PETL, Panoli and CMEE & Common Spray Dryer				
vii	**Simplified water balance diagram with reuse / recycle of waste water**				



vii	Reuse/Recycle details (KLD) [Source of reuse & application area]
	Total reuse 0 KLD -

Source of waste water for reuse with quantity in KLD(From where it is coming)	**Application area with quantity in KLD**(Where it is used)	**Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)**

E	**Air**
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc. **Existing & Proposed**
	-

SR .	**Source of emission**	**Stack Heigh**	**Name of the fuel**	**Quantity of Fuel**	**Type of emission**	**APCM**

	no.	**With Capacity e.g. Boiler (8 TPH)**	**t (meter)**		**MT/hr & MT/Day**	**s i.e. Air Pollutants**	
	Existing						
	1	Boiler (1.0 TPH)	15	Natural Gas	700 Nm^3/Day	SPM SO2 Nox	Adequate Stack Height
	2	DG Set (62 KVA)	8	LDO	500 Lit/Day		Adequate Stack Height
	Proposed						
	1	Steam Boiler (1 TPH)	15	Natural Gas/ Briquettes of Bio-Coal	700 Nm^3/Day / 3 MT/Day	SPM SO2 Nox	Multi- Cyclone Separator with bag filter
	2	TFH (2 Lac KCal)	15	Natural Gas/ Briquettes of Bio-Coal	1000 Nm^3/Day / 4 MT/Day	SPM SO2 Nox	Multi- Cyclone Separator with bag filter

-

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)

Existing & Proposed

-

Sr. no.	**Source of emission**	**Type of emission**	**Stack/Vent Height (meter)**	**APCM**
Existing:				
1	Process Vent-1 (Chlorination)	HCl	15	Two Stage Water + Alkali Scrubber
2	Process Vent-2 (Amination)	NH_3	15	Acid Scrubber

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iii **Fugitive emission** details with its mitigation measures.

Following measures will be adopted to prevent and control fugitive emissions…

1. Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
2. Raw materials loading and unloading will be done in covered area
3. Care will be taken to store construction material properly to prevent fugitive emissions, if any.
4. Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
5. Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
6. Periodic monitoring of work area will be carried out to check the fugitive emission.

7. To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
8. Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
9. Minimum number of flanges, joints and valves in pipelines.
10. Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
11. Adequate ventilation will be provided.
12. Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules.

F **Hazardous waste**

(As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

Existing & Proposed

i

Sr. no.	Type/ Name of Hazardous waste	Source of generation	Category and Schedule as per HW Rules.	Existing Quantity (MT/Annum)	Proposed Quantity (MT/Annum)	Total Quantity (MT/Annum)	Disposal Method
1	ETP Sludge	ETP	SCH-I/35.3	120	50	170	Collection, Storage, transportation and Disposal in TSDF site.
2	Used Oil	Equipment and Machinery	SCH-I/5.1	216	10	226	Collection, Storage, transportation and Sale to registered re-processor or used for lubrication within premises.
3	Spent Catalyst	Process (αPhenyl-2- Piperidyl Acetamide)	SCH-I/28.2	4.8	0.0	4.8	Collection, Storage, Transportation and sent to registered r generator under Rule-9 permission.
4	Empty Bags	aw Materia and Storage	SCH-I/33.1	42	3	45	C llection, Storage, Trans ortation, econtamination & sale to registered vendors
5	Discarded Containers	Raw Material and Storage	SCH-I/33.1	3.6	0.4	4.0	Collection, Storage, Transportation, Decontamination & sale to registered vendors
6	Discarded Liners	Raw Material and Storage	SCH-I/33.1	6	1	7	Collection, Storage, Transportation, Decontamination & sale to registered vendors

	7	Distillation Residue	Distillation Unit	SCH-I/36.1	96	30	126	Collection, Storage, Transportation & Sent to Cement industries for Co-Processing or Common Incineration site.
	8	Aluminium Chloride Soln. (25%)	Process (2, 2', 4'-Trichloro Acetophenone)	SCH-II/B-10	960	0	960	Collection, Storage & Sold to end users having permission under Rule-9
	9	Ammonium Sulphate	Scrubber	SCH-I/28.1	1680	0	1680	
	10	Dil. HCl. (23%)	Scrubber	SCH-II/B-15	660	0	660	Collection, Storage and Sent to ETP for treatment & disposal
	11	Sodium Chloride	Process (pChlorobenzhydryl Piperazine)	SCH-I/28.1	864	0	864	Collection, Storage and Sent to ETP for treatment & disposal
	12	Spent Solvent	Process	SCH-I/28.6	600	400	1000	Collection, Storage, Re-process and Reuse within premises
	13	Spent Carbon	Process (DL Ritanilic Acid & Hydroxy Chloroquine Sulphate)	SCH-I/28.3	1.08	60	61.08	Collection, Storage, Transportation & coprocessing in cement industries or Send to CHWIF site.
	14	Organic Residue	Process (Azithromycin)	SCH-I/28.1	00	66	66	
	15	Inorganic Waste	Process (Azithromycin)	SCH-I/28.1	00	24	24	Collection, Storage, transportation and Disposal in TSDF site.

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ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	Membership obtained
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	No such wastes generated

G	**Solvent management**, VOC emissions etc.
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)

Sr. No.	Name of the Product	Name of Solvent used	Solvent Quantity in (Kg)	Solvent Recovered quantity (Kg)	Percentage Recovery (%)

1	α-Phenyl- -Pyridyl Acetonitrile	Toluene	3.0	2.7	90.00
		Methanol	1.5	1.35	90.00
2	α-Phenyl-2-Pyridyl Acetamide	IPA	3.0	2.7	90.00
3	L-(+) 4-Nitro Tartranilic acid	EDC	6.0	5.4	90.00
4	9-Methyl-1, 2, 3, -Tetrahydro-4H-Carbazol-4-One	Methanol	2.45	2.35	.92
		MDC	6.0	5.4	90.00
5	1-(2, 4-Dichloro phenyl)-2-(1H-Imidazol-1yl) Ethanol	Toluene	2	1.9	95.00
6	α-Phenyl-2-Piperidyl Acetamide	Acetic Acid	6.6	6	90.91
7	DL-Ritanilic Acid	Iso Butanol	4	3.7	92.50
8	p-Chloro Benzophenone	Methanol	3	2.86	95.33
9	Chlorobenzhydryl Chloride	Methanol	1	0.94	94.00
10	p-Chlorobenzhydryl Piperazine	Toluene	3	2.84	94.67
11	2-[4-(4-Chlorobenzhydryl)-1-Piperazinyl] Ethanol	Toluene	3.2	3.04	95.00
		TEA	0.8	0.76	95.00
12	Hydroxy Chloroquine Sulfate	Methanol	1.7	1.53	90.00
		MDC	2.43	2.19	90.12
		Ethyl Acetate	1.88	1.78	94.68
		IPA	1.06	1.00	94.34
13	Chloroquine Phosphate	Toluene	1.28	1.27	99.22
		Methanol	2.10	2.09	99.52
14	Chloroquine Sulphate	Toluene	1.28	1.27	99.22
		Methanol	2.10	2.0	95.24
15	Erythromycin	Ethyl Acetate	31.7	29.9	94.32
16	Azithromycin	Acetone	3.78	3.7	97.88

ii **VOC emission** sources and its mitigation measures

During operation stage, leakage through valves/pumps, leakage and emission from open drum containing chemicals, open feeding, storage tanks, etc. will be major sources of fugitive emissions and VOCs. Excess use of solvent/s may also results fugitive emission from the process vessels.

- Solid raw material charging will be done through closed system.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, will be collected through hoods and ducts by induced draft and controlled by scrubber/dust collector.
- Emphasis will be given to solvent management/solvent loss prevention.

	• Control by having proper scrubbing system. • Condenser to trap VOC. • Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber/dust collector to be ensured. • Proper maintenance schedule will be adhered to avoid emissions through flange joints, pump seals etc. • Minimum number of flanges, joints and valves in pipelines. • Proper gland packing will be maintained for pumps and valves and to the extent possible pumps with mechanical seal. • All the raw materials will be pneumatically transfer to the reactor. • All rotating equipments like pumps will be installed with mechanical seals to arrest any sort of emissions. • A regular preventive maintenance schedule will be in place to replace or rectify all gaskets and joints etc. as a part of ISO systems to ensure no fugitive emissions take place. • Periodic monitoring of work area will be carried out to check the fugitive emission. • Solvent tank vents will be connected to vent chillers. • Adequate ventilation will be provided. • Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
H	➢ **Details regarding storage of Hazardous chemicals** Storage details: MS Drums — Name of major Hazardous chemicals: Sodium Amide, Toluene, Methanol, Iso Propyl Alcohol, Acetic Anhydride, Hydrochloric Acid, Methylene Dichloride, Acetic Acid, MCB, TEA; Remarks: Storage details: HDPE Drums — Name of major Hazardous chemicals: 2-Chloro Pyridine, Dimethyl Sulphate, ; Remarks: ➢ **Applicability of PESO** : ➢ Will be taken after getting EC

- During the meeting dated 17/04/2020, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report & Environment Management Plan.
- The video conference meeting was organized on a very short notice to facilitate the production of COVID-19 specific drugs which is in presently in global demand. Looking to the grim situation arose due to COVID-19, Government of India has lifted the export ban of these drugs and a policy decision is taken to cater the global demand of these medicines.

- The expert Committee felt the need to rise to the occasion and did the appraisal on a very short notice. Committee also felt to put a specific condition to start the production within a period of 45 days and also critically evaluate the EC after first six monthly compliance report submitted by PP.
- *Committee noted that PP intends to manufacture Bulk Drug Intermediate viz. (1) Hydroxy Chloroquine Sulfate, (2) Chloroquine Phosphate, (3) Chloroquine Sulphatee (4) Azithromycin and (5) Erythromycin which all are showing apparent efficiency in treatment of COVID – 19*.
- *Committee noted that the proposal is for expansion. Unit has valid EC and CC&A for existing plant. Copy of EC and CC&A, its self-certified compliance report is submitted. PP mentioned that they are in compliance of all the EC conditions. PP ensured that there are no court cases pending and no public complaints against the project. Source of water is GIDC.*
- Low concentration effluent 12.4 KLD(Washing: 11KLD, Utility: 1.4KLD) will be treated in adequate ETP-1 consists of primary treatment units and treated effluent after conforming inlet norms/stipulation prescribed by GPCB will be sent to CETP of M/s. PETL for further treatment & disposal.
- High concentration effluent 24.8 KLD(Process: 20.8 KLD, Washing: 4 KLD) will be treated in adequate ETP-2 consists of primary treatment units and treated effluent after conforming inlet norms/stipulation prescribed by GPCB will be sent to common MEE/common spray dryer for further treatment & disposal.
- Committee noted that MoEF&CC has taken certain liberal approach in granting EC by issuing OM dated 11/03/2020 and Notification dated 27/03/2020 by classifying the bulk drug units as B2 category. Committee felt that discharge during this phase can be permitted as there is an urgent requirement of medicine in the world for treatment of COVID-19 diseases and at this point of time the load on the CETP will also not increase.
- Further, Committee noted that this discharged granted in the Environmental Clearance will be conditional and review of the same will be done by GPCB at the time of granting CC&A and a six monthly review will also be done by GPCB to ensure that overall organic and hydraulic load in the CETP does not increase beyond the capacity of CC&A granted by GPCB at any point of time.
- Natural gas/ Briquettes of Bio-Coal will be used as fuel. Two stage scrubbers will be provided with process stacks.
- PP addressed hazardous waste management.
- Committee deliberated on CER, EMP and Safety aspects.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA for grant of Environment Clearance to the project subject to the strict compliance of the following specific condition as well as the standard conditions prescribed as per 'ANNEXURE A' for Synthetic Organic chemicals projects falling under project activity no. 5(f) as per the schedule of the EIA Notification 2006.

SPECIFIC CONDITIONS:

1. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.
2. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification

vide S.O. 1223 (E) dated 27/03/2020.

3. PP shall start production activity within 45 days from the date of issue of Environmental Clearance to facilitate the production of COVID–19 specific drugs which is in presently in demand worldwide as life saving drug for human.
4. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.
5. In case of additional discharge quantity to CETP, GPCB shall ensure compliance of direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP and also that the pollution load is not increased in the CPA/SPA for the compliance of Hon'ble NGT order 10/07/2019 & 14/11/2019.
6. In case of additional discharge quantity to CETP, PP shall ensure that the effluent generated (Originated) from the production of API/Bulk Drug products having concern with present pandemic situation of COVID-19 only be discharged to CETP with prior appropriate permission of concern authority and only after meeting with the inlet norms/stipulations by concern authority. The additional discharge quantity to CETP shall be in proportion to the production of Covid-19 related drugs and PP shall maintain records thereof.
7. Project proponent shall provide continuous online monitoring system for waste water discharge to Common Facilities (CETP, Common MEE, Common, Spray dryer etc.) as per the prevailing guidelines of SPCB/GPCB and shall maintain records of the same thereof.
8. Treated waste water shall be sent to common facilities (CETP, Common MEE, Spray dryer etc.) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
9. PP shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.
10. PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable)
11. PP shall use natural gas for utilities preferably but in case use of other fuel , PP shall put properly designed APCM with regular/periodic stack monitoring system to ensure that there shall be no increase in pollution load for the compliance of directives of Honorable NGT.
12. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapors in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
13. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
14. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.

ANNEXURE A

CONSTRUCTION PHASE:

1. Water demand during construction phase shall be reduced by use of curing agents, super plasticizers and other best construction practices.
2. Project proponent shall ensure that surrounding environment shall not be affected due to construction

activity. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.

3. All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.
4. First Aid Box shall be made readily available in adequate quantity at all the times.
5. The project proponent shall strictly comply with the Building and other Construction Workers' (Regulation of Employment & Conditions of Service) Act 1996 and Gujarat rules made there under and their subsequent amendments. Local bye-laws of concern authority shall be complied in letter and spirit.
6. Ambient noise levels shall conform to residential standards both during day and night. Incremental pollution load on the ambient air and noise quality shall be closely monitored during construction phase.
7. Use of Diesel Generator (DG) sets during construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA Rules for air and noise emission standards.
8. Safe disposal of waste water and municipal solid wastes generated during the construction phase shall be ensured.
9. All topsoil excavated during construction activity shall be used in horticultural / landscape development within the project site.
10. Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quantity of excavated earth shall be disposed off with the approval of the competent authority after taking the necessary precautions for general safety and health aspects. Disposal of the excavated earth during construction phase shall not create adverse effect on neighbouring communities.
11. Project proponent shall ensure use of eco-friendly building materials including fly ash bricks, fly ash paver blocks, Ready Mix Concrete [RMC] and lead free paints in the project.
12. Fly ash shall be used in construction wherever applicable as per provisions of Fly Ash Notification under the E.P. Act, 1986 and its subsequent amendments from time to time.
13. "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.
14. "No uncovered vehicles carrying construction material and waste shall be permitted."
15. "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."
16. Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).
17. No excavation of soil shall be carried out without adequate dust mitigation measures in place.

18. Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.
19. Grinding and cutting of building materials in open area shall be prohibited.
20. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
21. Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

Specific condition:

1. Unit shall comply with all the orders passed by the Hon'ble National Green Tribunal (NGT), New Delhi in Original Application No. 1038/2018 dated 10/07/2018.

2. Unit shall stand in compliance to Office Memorandum (OM) vide Letter No. F. No. 22-23/2018 – IA.III (Pt) dated 31/10/2019 regarding Compliance of Hon'ble National Green Tribunal (NGT) order dated 19.08.2019 (Published on 23/08/2019) in Original Application No. 1038/2018.

3. No project/activity in contradiction to the orders passed by the Hon'ble National Green Tribunal (NGT), New Delhi in Original Application No. 1038/2018 dated 10/07/2018 shall be carried out else the granted Environment Clearance shall stand cancelled.

4. Unit shall install CEMS in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05.02.2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [Whichever (Air emission & Effluent discharge) is applicable as per the prevailing guidelines of GPCB/CPCB].

5. All measures shall be taken to prevent soil and ground water contamination.

6. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.

7. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.

8. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.

9. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control

Board, State Government and/or any other statutory authority.

10. Unit shall provide CCTV camera at strategic locations within premises with web link facility for the continuous monitoring and recording to ensure that there is no discharge from the premises. (As per the prevailing guidelines of GPCB).

11. Third party monitoring of the functioning of the EMS along with its efficiency shall be carried out once in a year through a GPCB recognized auditors.

12. Unit shall comply all the applicable standard conditions prescribed in Office Memorandum (OM) published by MoEF&CC vide no. F. No. 22-34/2018-IA.III dated 09/08/2018 for Pharmaceutical and Chemical industries (Industries as mentioned at serial no. XX).

OPERATION PHASE

Water:

1. The water meter shall be installed and records of daily and monthly water consumption shall be maintained.

2. Industry should provide separate dedicated washing area for hand washing/bathing of worker and the waste water generated from the same should be taken into ETP.

3. All efforts shall be made to optimize water consumption by exploring Best Available Technology (BAT).

4. The unit shall continuously strive to reduce, recycle and reuse the treated effluent.

5. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the GIDC or GPCB or any such authority created for this purpose by the Govt. / GIDC.

Air:

6. Acoustic enclosure shall be provided to the DG sets (If applicable) to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.

7. Stack/Vents (Whichever is applicable) of adequate height shall be provided as per the prevailing norms for flue gas emission/Process gas emission.

8. Adequate Air Pollution Control Measures [APCM] shall be provided.

9. Flue gas emission & Process gas emission (Whichever is applicable) shall conform to the standards prescribed by the GPCB/CPCB/MoEF&CC. At no time, emission level should go beyond the stipulated standards.

10. All the reactors / vessels used in the manufacturing process shall be closed to reduce the fugitive emission. (wherever feasible)

11. The unit shall adhere to Sector specific guidelines/ SOP published by GPCB / CPCB from time to time for effective fugitive emission control. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.

12. Unit shall take adequate measures to control odor nuisance from the industrial activities which may include measures like- use of masking agent with atomizer system (water curtain), closed / automatic material handling system, containment of the odor vulnerable areas etc.

13. Unit shall provide Wall to Wall carpeting in vehicle movement areas within premises to avoid dusting.

HAZARDOUS / SOLID WASTE :

14. The company shall strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection / treatment / storage / disposal of hazardous wastes.

15. Unit shall carry out transportation of hazardous wastes through GPS mounted vehicles only for disposal at TSDF/CHWIF, co-processing and end-users having Rule-9 permission.

16. The by-products which fall under the purview of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016 shall be handled as per the said rules and necessary permissions from the concern authority shall be obtained.

17. Unit shall submit the list of authorized end users of above mentioned wastes along with MoU signed with them at least two months in advance prior to commencement of production. In absence of potential buyers of these items, the unit shall restrict the production of respective item.

18. Hazardous wastes shall be dried, packed and stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.

19. The unit shall obtain necessary permission from the nearby TSDF site and CHWIF. (Whichever is applicable)

20. Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988, and rules made there under.

21. The design of the Trucks/tankers shall be such that there is no spillage during transportation.

22. Industry shall dispose its hazardous wastes through co-processing, pre-processing to the extent possible prior its disposal to incineration/ landfill as per provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

23. Management of fly ash (If any) shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

SAFETY:

24. The occupier/project proponent shall strictly comply the provisions under the Factories Act 1948 and the Gujarat Factories Rules 1963

25. The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for

handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosives and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.

26. First Aid Box shall be made readily available in adequate quantity at all the times.
27. Main entry and exit shall be separate and clearly marked in the facility.
28. Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency vehicle around the premises.
29. Storage of flammable chemicals shall be sufficiently away from the production area.
30. Sufficient number of fire extinguishers shall be provided near the plant and storage area.
31. All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.
32. All the toxic/hazardous chemicals shall be stored in optimum quantity and all necessary permissions in this regard shall be obtained before commencing the expansion activities.
33. The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment report.
34. Only flame proof electrical fittings shall be provided in the plant premises.(Wherever applicable)
35. Storage of hazardous chemicals shall be minimized and it shall be in multiple small capacity tanks / containers instead of one single large capacity tank / containers.
36. All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/dyke walls shall be provided for storage tanks for Hazardous Chemicals.
37. Handling and charging of the chemicals shall be done in closed manner by pumping or by vacuum transfer so that minimal human exposure occurs.
38. Tie up shall be done with nearby health care unit / doctor for seeking immediate medical attention in the case of emergency.
39. Personal Protective Equipments (PPEs) shall be provided to workers and its usage shall be ensured and supervised.
40. First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.
41. Training shall be imparted to all the workers on safety and health aspects of chemicals handling.
42. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-

employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.

43. Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules.

44. The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.

45. Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.

46. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be maintained.

47. Effective safety precaution shall be taken for chemical storage, process handling and transportation hazard.

48. Unit shall prepare and Implement SOP for safe operation of the works.

49. Comply the statutory provision of safety audit & its compliance report.

50. Effective step shall be taken for prevention of fire, explosion & toxic release.

NOISE:

51. The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

CLEANER PRODUCTION AND WASTE MINIMISATION:

52. The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.

53. The company shall undertake various waste minimization measures such as :

    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 materials substitutes.
    c) Use of automated and close filling to minimize spillages.
    d) Use of close feed system into batch reactors.
    e) Venting equipment through vapour recovery system.
    f) Use of high pressure hoses for cleaning to reduce wastewater generation.
    g) Recycling of washes to subsequent batches.
    h) Recycling of steam condensate
    i) Sweeping / mopping of floor instead of floor washing to avoid effluent generation.
    j) Regular preventive maintenance for avoiding leakage, spillage etc.

GREEN BELT AND OTHER PLANTATION:

54. The unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC / GPCB and submit an action plan of plantation for next three years to the GPCB (As per the documents submitted before SEIAA/SEAC).

55. Drip irrigation / low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.

OTHERS:

56. The provisions of the Solid Waste Management Rules, 2016, e-Waste (Management) Rules, 2016, the Construction and Demolition Waste Management Rules, 2016 and the Plastics Waste Management Rules, 2016 shall be followed.

57. Rain water harvesting (Off-site) shall be undertaken to conserve fresh water as well as to recharge ground water. Before recharging the surface run off, pre-treatment must be done to remove suspended matter. (Applicable for units consuming water ≥ 50 KLD in line with the prevailing guidelines of SPCB).

58. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the Industrial Association or GIDC or GPCB or any such authority created for this purpose by the Govt. / GIDC.

59. Application of solar energy shall be incorporated for illumination of common areas, lighting for gardens and street lighting in addition the provision for solar water heating system shall also be provided.

60. The area earmarked as green area shall be used only for plantation and shall not be altered for any other purpose.

61. All the commitments / undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to.

62. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.

63. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.

64. The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.

65. During material transfer there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.

66. Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.

67. Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.

68. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.

69. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act,1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules. The project proponent shall comply all the conditions mentioned in "The Companies (Corporate Social Responsibility Policy) Rules, 2014" and its amendments from time to time in a letter and spirit.

Meeting ended with vote of thanks from the chair.

Minutes approved by:

1.	*Dr. Dinesh Misra, Chairman, SEAC*	
2.	*Shri S. C. Srivastav, Vice Chairman, SEAC*	
3.	*Shri V. N. Patel, Member, SEAC*	
4.	*Shri R. J. Shah, Member, SEAC*	
5.	*Dr. V.K. Jain, Member, SEAC*	
6.	*Shri A. K. Mule, Member, SEAC*	
7.	*Shri Rajesh I. Shah, Member, SEAC*	
8.	*Dr. Mayuri H. Pandya, Member, SEAC*	