# Pro-Active and Responsive Facilitation by Interactive, Single-Window Hub and Virtuous Environmental



#### **Government of India** Ministry of Environment, Forest and Climate Change (Issued by the State Environment Impact Assessment Authority(SEIAA), Tamil Nadu)

To,

The VP

M/S SOLARA ACTIVE PHARMA SCIENCES LIMITED

28 Batra Centre Sardar Patel Road Post Box 2630 Guindy Chennai -600032

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity

under the provision of EIA Notification 2006-regarding

Sir/Madam.

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/IND2/175529/2020 dated 28 Jan 2021. The particulars of the environmental clearance granted to the project are as below.

1. EC Identification No. EC23B058TN133737

2. File No. 7896

3. **Project Type** Expansion 4.

Category B2 5. Project/Activity including 5(f)-API

Schedule No. "Upgradation of Existing R&D facility into 6. Name of Project

Intermediates for API manufacturing unit"

Name of Company/Organization M/S SOLARA ACTIVE PHARMA 7.

SCIENCES LIMITED

8. **Location of Project** Tamil Nadu

9. N/A **TOR Date** 

The project details along with terms and conditions are appended herewith from page no 2 onwards.

(e-signed) Thiru.Deepak Ś.Bilgi Date: 12/10/2023 **Member Secretary** SEIAA - (Tamil Nadu)



Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.

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## THIRU. DEEPAK S. BILGI, I.F.S. MEMBER SECRETARY

## STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY-TAMILNADU

3<sup>rd</sup> Floor, Panagal Maaligai, No.1, Jeenis Road, Saidapet, Chennai - 600 015. Phone No. 044-24359973 Fax No. 044-24359975

## ENVIRONMENTAL CLEARANCE (EC) Letter No. SEIAA-TN/F.No.7896/EC/5(f)/110/2023 dated: 19.09.2023

To

M/s. Solara Active Pharma Sciences Limited,

"Research Centre"

27, Vandaloor Kelambakkam Road,

Keelakottaiyur Village,

Melakottaiyur (Post),

Chennai - 600 127.

Sir.

Sub: SEIAA-TN – Environmental Clearance – Proposed Upgradation of Existing R&D facility into Intermediates for API manufacturing unit by M/s. Solara Active Pharma Sciences Limited at S.F. No. 38/2, 38/3A, 38/3B, 38/4, 38/5, 38/6, 40B/1, 40B/2, 40B/3, 41B/1, 41B/2, 41B/1A, 41B/1B, 57/1, 57/2, 57/3, 56/1, 56/2, 56/3, 56/4, 56/5, 58/1, 58/2, 61/1A, 61/1B, 61/2 & 64/2A, Plot No.27, Vandaloor-Kelambakkam Road, Keelakottaiyur Village, Melakottaiyoor (PO), Kancheepuram (now Chengalpattu) District, Tamil Nadu – Category - "B2" and Schedule 5(f) - "Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)" under the EIA Notification, 2006 as amended – Issued – Regarding.

Ref: 1. MoEF&CC Notification S.O. 1223(E) dated: 27.03.2020

- 2. MoEF&CC Office Memorandum F.No. 22-25/2020-IA.III dated: 13.04.2020
- 3. MoEF&CC Notification S.O. 3636(E) dated: 15.10.2020

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- 4. MoEF&CC Notification S.O. 2859(E) dated: 16.07.2021
- 5. Online Proposal No. SIA/TN/IND2/175529/2020, dated: 26.09.2020
- 6. Your application for Environmental Clearance dated: 30.09.2020
- 7. Minutes of the 196th SEAC meeting held on 29.01.2021
- 8. Site inspection by the sub-committee on 10.03.2021
- 9. Minutes of the 214th SEAC meeting held on 23.06.2021
- 10. Proponent reply dated: 25.10.2021
- 11. Minutes of the 276<sup>th</sup> SEAC meeting held on 21.05.2022
- 12. Proponent reply dated: 04.07.2022
- 13. Minutes of the 307th SEAC meeting held on 26.08.2022
- 14. Minutes of the 552<sup>nd</sup> SEIAA meeting held on 20.09.2022
- 15. Proponent reply dated: 15.02.2023
- 16. Minutes of the 366th SEAC meeting held on 30.03.2023
- 17. Minutes of the 613th SEIAA meeting held on 21.04.2023
- 18. Proponent reply dated: 05.09.2023
- 19. Minutes of the 655th SEIAA meeting held on 19.09.2023

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This has reference to your application under reference 5<sup>th</sup> & 6<sup>th</sup> cited, wherein you have submitted proposal for obtaining Environmental Clearance for the Proposed Upgradation of Existing R&D facility into Intermediates for API manufacturing unit by M/s. Solara Active Pharma Sciences Limited at S.F. No. 38/2, 38/3A, 38/3B, 38/4, 38/5, 38/6, 40B/1, 40B/2, 40B/3, 41B/1, 41B/2, 41B/1A, 41B/1B, 57/1, 57/2, 57/3, 56/1, 56/2, 56/3, 56/4, 56/5, 58/1, 58/2, 61/1A, 61/1B, 61/2 & 64/2A, Plot No.27, Vandaloor-Kelambakkam Road, Keelakottaiyur Village, Melakottaiyoor (PO), Kancheepuram (now Chengalpattu) District, Tamil Nadu under Item No. 5(f) – "Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)" & Category 'B2' of the Schedule to the EIA Notification, 2006.

S. No	Description	Details						
1	Name of the	Proposed Upgradation of Existing R&D facility into Intermediates for API						
	Project	manufacturing unit by M/s. Solara Active Pharma Sciences Limited						
2	Location	S.F. No. 38/2, 38/3A, 38/3B, 38/4, 38/5, 38/6, 40B/1, 40B/2, 40B/3, 41B/1,						
		41B/2, 41B/1A, 41B/1B, 57/1, 57/2, 57/3, 56/1, 56/2, 56/3, 56/4, 56/5, 58/1,						

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		58/2 6	1/1A, 61/1B, 61/2 & 64/2A, Plot No						
	8363)		Keelakottaiyur Village, Melakottaiyoo						
	1, 5			(10), Kaner	recpuram (ne				
2	T CD		llpattu) District, Tamil Nadu	1 ' 1 '	(1 0 1				
3	Type of Project		le 5(f) - Synthetic organic chemic	_					
			ediates; bulk drugs and intermediates						
		synthetic rubbers; basic organic chemicals, other synthetic organic chemical							
	-	and che	emical intermediates)	1	0				
4	Total Area	37635.8	37635.80 Sq.m (9.30 Ha)						
5	Cost of Project (INR)	Rs. 0.80 Crores							
6	Brief description	M/s. So	olara Active Pharma Sciences Limited (	SAPSL) an inte	egrated, leading				
	of the project	global s	supplier for development and manufac	turing services	of Bulk drug				
		interme	ediates, API (Active Pharmaceut	ical Ingredie	ents) to t				
		Pharma	ceutical Industry, the existing R&D fac	ility is being op	perated for sca				
		A ASSE							
		up activ	vities with maximum production of Ac	tive Pharma In	gredients (AF				
	3.9	A TOTAL	vities with maximum production of Actermediate of Kilogram basis with max						
	3 9	cum int	termediate of Kilogram basis with max	kimum scale of	f operation 10				
		cum int	termediate of Kilogram basis with may or R&D purpose. Now Solara propose	kimum scale of e an Upgradati	f operation 10				
		cum int	termediate of Kilogram basis with may or R&D purpose. Now Solara propose facility into an Intermediates for AF	ximum scale of e an Upgradati I manufacturii	f operation 10 ion of Existing unit at 2				
		cum into	termediate of Kilogram basis with may or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur	ximum scale of e an Upgradati I manufacturii	f operation 10 ion of Existing unit at 2				
		cum int	termediate of Kilogram basis with may or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur	ximum scale of e an Upgradati I manufacturii Village, Keelak	f operation 10 ion of Existing unit at 2 cottaiyur (Pos				
		cum into	termediate of Kilogram basis with may or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur	ximum scale of e an Upgradati I manufacturii Village, Keelak Total Per	f operation 10 ion of Existing unit at 2 cottaiyur (Pos				
		cum into	termediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products	ximum scale of e an Upgradati I manufacturii Village, Keelak	f operation 10 ion of Existing unit at 2 cottaiyur (Pos				
		cum interest for R&D for Vandalo Chenna	termediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products	ximum scale of e an Upgradati I manufacturii Village, Keelak Total Per	f operation 1 ion of Existing unit at 2 cottaiyur (Pos				
		cum interest for R&D for Vandalo Chenna	termediate of Kilogram basis with maxor R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate	ximum scale of e an Upgradati I manufacturii Village, Keelak Total Per (MTPM)	f operation 1 ion of Existi ng unit at 2 cottaiyur (Pos Total Per (MTPA)				
		cum interest for R&D for Vandale Chenna  S.No.  Propo	termediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)	vimum scale of an Upgradation of an Upgradation of the another of the anothe	f operation 10 ion of Existing unit at 2 cottaiyur (Postatella Per (MTPA)				
		cum interest for R&D for Vandalo Chenna  S.No.  Propo	termediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)  Obeticholic Acid (stage – 1 & 2)	rimum scale of an Upgradati PI manufacturii Village, Keelak  Total Per (MTPM)  0.135  0.044	f operation 1 ion of Existing unit at 2 cottaiyur (Postate MTPA)  1.62  0.528				
		cum interest for R&D for Vandalo Chenna  S.No.  Propo  1  2  3	termediate of Kilogram basis with maxor R&D purpose. Now Solara propose facility into an Intermediates for AP oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)  Obeticholic Acid (stage – 1 & 2)  Safinamide (stage – 1 & 2)	rimum scale of an Upgradati PI manufacturii Village, Keelak  Total Per (MTPM)  0.135  0.044  0.035	f operation 10 ion of Existing unit at 2 cottaiyur (Postal Per (MTPA)  1.62  0.528  0.42				
		cum into litres for R&D for Vandalo Chenna  S.No.  Propo  1  2  3  4	remediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)  Obeticholic Acid (stage – 1 & 2)  Safinamide (stage – 1 & 2)  Buspirone (stage – 1 & 2)	Total Per (MTPM)  0.135  0.044  0.035  0.041	f operation 10 ion of Existing unit at 2 kottaiyur (Postati Per (MTPA)  1.62  0.528  0.42  0.492				
7		cum interest for R&D for Vandale Chenna  S.No.  Proport  1 2 3 4 5	remediate of Kilogram basis with maxor R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)  Obeticholic Acid (stage – 1 & 2)  Safinamide (stage – 1 & 2)  Buspirone (stage – 1 & 2)  R & D products	Total Per (MTPM)  0.135  0.044  0.035  0.041  0.042	f operation 10 ion of Existing unit at 2 kottaiyur (Postate Per (MTPA)  1.62  0.528  0.42  0.492  0.5				
7	25 Ex - 1	cum interest for R&D for Vandalo Chenna  S.No.  Propo  1  2  3  4  5	remediate of Kilogram basis with man or R&D purpose. Now Solara propose facility into an Intermediates for AF oor Kelambakkam Road, Melakotaiyur ii  Products  Seed  Diethyl Amino Malonate Hydrochloride (stage – 1 & 2)  Obeticholic Acid (stage – 1 & 2)  Safinamide (stage – 1 & 2)  Buspirone (stage – 1 & 2)  R & D products  TOTAL	Total Per (MTPM)  0.135  0.044  0.035  0.041  0.042	f operation 10 ion of Existing unit at 2 kottaiyur (Pos Total Per (MTPA)  1.62  0.528  0.42  0.492  0.5				

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		Purpose		Existing	Proposed	After Expansion	
		Domestic		10	0.5	10.5	
		Process	N.	8.5	1.75	10.25	
		Utility		1	0.5	1.5	
2		Others		1.5	0.5	2.0	
		Greenbelt	2	2	0	2	
		Fresh water (A)		23	3.25	26.25	
		Greenbelt (Treated se	ewage) (B)	9	0.5	9.5	
		Utility makeup (Trea effluent) (C)	ted	10.4	2.22	12.62	
		Total (A+B)		42.4	5.97	48.37	
	b) Source of water	Local Panchayat				1	
8	Sewage	Sewage Generation – 10					
	generation, treatment and	Description	Existing (KLD)	Proposed (KLD)		After Expansion (KLD)	
	disposal	Toilet 7.0		0.4		7.4	
	disposai	Canteen	3.0	0.1		3.1	
		Total	10.0	4 7 (	0.5	10.5	
	1.	STP capacity - 40 KLD			7/1		
	5,0	1. Collection Sump	,			The state of	
		2. Storage Tank					
		3. Aeration Tank					
6 B		4. Plate Type Clari	fier				
e di		5. Filter Feed Tank					
100 H		6. Pressure Sand Filter					
		7. Activated Carbo	n Filter				
	× 1 2 2	8. Treated Water Tank					
		9. Sludge Drying E	Bed				
	422	Treated Sewage is used	for Gardeni	ng			
9	Effluent	Effluent Generation – 1	2.25 KLD			2 2 2	
	generation, treatment and	Description	Existing (KLD)	8	posed (LD)	After Expansion (KLD)	

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Total	10	2.25	12.25
Cooling Tower	1.0	0	1.0
Scrubber	0.5	0.5	1
Process Kilo Lab	1.5	0.75	2.25
Process Lab	7	1	8

Effluent is treated through Primary treatment followed by RO (70 KLD) and MEE (24 KLD).

- 1. Collection Sump 1
- 2. Collection Sump 2
- 3. Neutralization Tank
- 4. Coagulation Tank
- 5. Sedimentation Tank
- 6. Aeration Tank
- 7. Secondary Clarifier
- 8. Treated Water Storage Tank
- 9. Pressure Sand Filter
- 10. Activated Carbon Filter

RO and MEE Permeate are used for utility makeup. Concentrate from MEE sent to centrifuge and Solid waste disposed through TWML.

Mode of Discharge - ZLD system

10	Quantity of Solid
	Waste generated
	per day (in Kgs),
	Mode of
	treatment and
	Disposal of Solid
	Waste

disposal

Waste	Existing	Proposed	After Expansion	Method of disposal		
Organic	71.01 kg/day	2.7 kg/day	73.71 kg.day	Local bins		
Inorganic	47.34 kg/day	1.8 kg/day	49.14 kg/day	Authorized Recyclers		
STP sludge	0.2 TPA	0.01 TPA	0.21 TPA	Used as a Manure for gardening		

11 Hazardous waste Management:

Category No.	Description of Hazardous Waste	Existing (MT/Y)	Proposed (MT/Y)	After Expansion (MT/Y)	Proposed Mode of Disposal
5.1	Used oil / Spent oil	0.2	0	0.2	Generation,

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	28.5	Date Produ	Expired	0.36	0		0.36		lection, storage,
	28.6	-	Solvents	11.5	14.2		25.7		disposal
	33.1	Empt conta conta	y barrels / iners / liners minated with dous chemicals	0.05	0.2		0.25		
	35.3	Chem from treatn	vastewater	0.3	3.92		3.95	5	
	То	tal (in	MT/Y)	12.41	18.32		30.4	6	
12	Power		1250 kVA (TAN	GEDCO)				7	-3 G
	requirement		1 No. of 0.85 TP	H Boiler					
13	Details of D	.G.	1 No. of 725 kV	1					
	set with Cap	acity							
14	Air Pollution	n ·	Point	APC		Stack heig		Fuel	
	Control Mea	sures	emission source	measures		ight n)	Dia (m)	type	Consumption
	(Stack)		D.G. set 1 - 725 KVA	Stack	W	2.5	0.3	Diesel	80 Litre / Hr
			Boiler 1 - 0.85 TPH	Stack	18	3.5	0.18	Furnace oil	45 Litre / Hr
		5	Process emission	1:					
			Point emission source	APC mea	sures	Stac Heig	40.00	ht bia fuel type	Consumption
			Existing			AND DESCRIPTION OF THE PERSON		7	•
			Fume Cupboard-36 Nos (Organic lab-1)	Wet scrubb with stack	oer S	12.5 (AGI	1 (1)	47 N/A	N/A
			Fume Cupboard-36 Nos (Organic lab-1)	Wet scrubb with stack	oer	12.5 (AGI	1 ()	47 N/A	N/A
			Fume Cupboard-1 No, LEV-4 Nos (QC Lab)	The second second	ubber	12.5 (AGI	1.0	26 N/A	N/A

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		Reactor-4 Nos in Scale up lab	Adsorption column Alkaline Scrubber stack	+ with	12.5 (AGL)	0.86	N/A	N/A
		Proposed						
1 9	ones de la composition della c	Fume Cupboard - 6 nos (Organic Lab-2)		ober	12.5 (AGL)	0.47	N/A	N/A
	[1] p8-3- [1	Acid Storage Room	Wet Scrub with stack	ober	12.5 (AGL)	0.28	N/A	N/A
rixe	any salamana	Walk-in Fume hood (Stores)	Wet Scrul with stack	bber	12.5 (AGL)	0.38	N/A	N/A
7.54		Reactor – 4 nos in Scale up Lab	Wet Scrul with stack	ober	12.5 (AGL)	0.86	N/A	N/A
15	Fuel requirement	Description	Existing	Pr	oposed	After		Source
		FO requirement (For Boiler-	requirement (For Boiler-				Local	
		MEE) Diesel Requirement (For DG set)	80 L/hr	40	) L/hr	120	L/hr	Local
16	Details of man	263 Nos. (Existin	g)			1	7/1	14.5°
	power	10 Nos. (Propose	d)					
	9	273 Nos. (After E	Expansion)					
17	Details of Green	13014.68 Sq.m (F	Proposed) (34.6	5% o	f total plo	t area)	C	
	Belt Area							
18	Details of	744.62 Sq.m.				-	-	
	Parking Area	ore	Ctoil					
19	EMP Cost (INR)	Capital Cost - Rs.	. 151.46 Lakhs	(Exi	isting)			
		Capital Cost - Rs.	. 152.76 lakhs	(Afte	er Expansi	on)		
		Recurring Cost -	Rs. 6.3 lakhs p	er ar	num			
20	CER activity	Rs. 0.8 Lakhs						

#### Affidavit

I, Mr. S.Rajkumar (Factory Manager) Authorized Signatory, representing M/s. Solara Active Pharma Science Limited for "Upgradation of Existing R&D facility into Intermediates for API manufacturing

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unit" at Survey No: 38/2, 38/3A, 3B, 4, 5, 6, 40B/1, 2, 3, 41B/1, 2, 1A, 1B, 57/1, 2, 3, 56/1, 2, 3, 4, 5, 58/1, 2, 61/1A, 1B, 61/2 & 64/2A (Plot No-27) Vandaloor- Kelambakkam Road, Keelakottaiyur Village, Melakottaiyoor (PO), Kancheepuram (now Chengalpattu) District, Tamil Nadu State, hereby take oath and state as under in this affidavit:

- I. The total water requirement of the project is 48.37 KLD (Fresh water-26.25 KLD & recycle water-22.12 KLD). Total fresh water requirement for the existing project 23 KLD, which is being met from Ground Water. Total fresh water requirement for the proposed upgradation is 3.25KLD, which will be sourced from private tanker.
- II. Green Belt Area developed within the project site is 13014.68 Sq.m which is 34.60% of the Total Plot area. Around 500 trees and 1800 flowering plants are maintained within the project site. Total 1.0 lakhs was spent for greenbelt development and additional 0.5 lakh will be spent for further expansion. Additional trees Species will be planted as per the Recommendation of DFO.
- III. After upgradation the sewage generation will be 10.5 KLD, which will be treated through STP of capacity 40 KLD already provided and treated sewage will be utilized for green belt after meet out the discharge standards prescribed by the CPCB/TNPCB.
- IV. After upgradation the effluent generation will be 12.25 KLD, which will be treated in the already provided primary & secondary treatment plant followed by RO (70 KLD) and MEE (24KLD). RO and MEE Permeate will be used for utility makeup. Concentrate from MEE will be sent to centrifuge and Solid waste disposed through TNWML.
- V. We are liable for the operation and maintenance of ETP, STP & MEE from the date of operation of the project.
- VI. We will provide, operate and maintain adequate Air-pollution control measures for the process area.

	CTCI	Stack height			
Point emission source	APC measures	Height (m)	Dia (m)	Fuel type	Consumption
Existing					
Fume Cupboard-36 Nos (Organic lab-1)	Wet scrubber with stack	12.5 (AGL)	0.47	N/A	N/A
Fume Cupboard-36 Nos (Organic lab-1)	Wet scrubber with stack	12.5 (AGL)	0.47	N/A	N/A
Fume Cupboard-1 No, LEV-4 Nos (QC Lab)	Wet scrubber with stack	12.5 (AGL)	0.26	N/A	N/A

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Reactor-4 Nos in Scale up lab	Adsorption column + Alkaline Scrubber with stack	12.5 (AGL)	0.86	N/A	N/A
Proposed					
Fume Cupboard - 6 nos (Organic Lab-2)	Wet Scrubber with stack	12.5 (AGL)	0.47	N/A	N/A
Acid Storage Room	Wet Scrubber with stack	12.5 (AGL)	0.28	N/A	N/A
Walk-in Fume hood (Stores)	Wet Scrubber with stack	12.5 (AGL)	0.38	N/A	N/A
Reactor – 4 nos in Scale up Lab	Wet Scrubber with stack	12.5 (AGL)	0.86	N/A	N/A

In case of toxic fume emissions, the reactor vents are connected to scrubber to neutralize the toxic vapors.

- VII. We will provide and maintain continuous monitors within and around the premises and ensure that VOC levels are within permissible limits.
- VIII. We will obtain and maintain valid safety licenses at any time for (Non IBR) boiler/Thermic fluid heater. Solvent/fuel/raw material/products storage areas etc from the concerned departments before obtaining CTO from TNPCB.
  - IX. All the recommended preventive and safety measures by the concerned authority for the dedicated solvent/fuel/raw material/products storage areas & boiler/Thermic fluid heater will be completed before obtaining CTO from TNPCB.
  - X. All the solvent/fuel/raw material/products will be stored within the permitted storage quantity at any time.
  - XI. We will strictly follow the norms and guidelines mentioned in the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as amended for the handling and disposal of Hazardous Waste. All the Hazardous waste will be disposed to nearby TSDF as well authorized recyclers.

Heading as per			Proposed			
HWM rules	Sub-heading	Approved	Existing	Additional.	Total	mode of disposal
5 - Industrial operations using Mineral or synthetic oil as lubricant in hydraulic systems or other applications	5.1 Used oil / Spent oil	0.3	0.2	0	0.2	Generation, collection, storage, Transportation and disposal

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28 - Production / Formulation of Drugs / pharmaceuticals and health care products 28 - Production / Formulation of	28.5 Date Expired Products	0.5	0.36	0	0.36	
Drugs / pharmaceuticals and health care products	Solvents	40	11.5	14.2	25.7	
33 – Handling of hazardous chemicals and wastes	33.1 Empty barrels/ containers/ liners contaminated with hazardous chemicals/ wastes	6	0.05	0.2	0.25	
35-Purification and treatment of exhaust air/gases, water and wastewater from the processes in this schedule and common industrial effluent treatment plants (CETP's)	35.3 chemical sludge from wastewater treatment	4.5	0.3	3.92	3.95	
Total (in MT/Y)		51.3	12.41	18.32	30.46	

- XII. We will periodically conduct and submit fire safety study, emergency evacuation plan, risk assessment Study, occupational health safety study for the worst case scenario in regard to existing safety measures/standard operating procedures adopted for the process/equipment/utilities for operation &maintenance and the Storage areas of products, raw materials, Solvent, fuel, etc.in the different operating zones of the plant at least once in a year to regularly identify safety fragile areas within the plant which requires regular monitoring and the proponent will submit the same along with timeline for implementation of the said recommendations to the concerned departments.
- XIII. A detail report on the safety measure and health aspects including periodical audiometry, pulmonary lung function etc. test report once in a for all the workers will be submitted to TNPCB.
- XIV. As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health Centre activities will be trained in occupational health surveillance

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(OH5) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.

XV. As per the MoEF&CC Office Memorandum F.No. 22-65/2017 dated: 30.09.2020 and 20.10.2020, we will adhere the EMP as committed.

C	W p	Capital inv	estment in INR	Total manuscing and non-
S. No	Particulars	Existing (A)	Additional (B)	Total recurring cost per annum in INR
EMP	ioni risa			
Wate	r Pollution Control			
1	STP	4.20	0	
2	ETP	43.96	0	3.00
3	MEE	90	0	
Noise	pollution			
2	DG Acoustics	2.0	0	0.3
Envi	ronmental Monitoring			
3	Environmental lab	1.1	0	1.0
4	Online monitoring system	3.0	0	1.0
Air p	ollution controls			
5	DG chimney	1.2	0	1.0
6	Boiler chimney	3.0	0	1.0
Solid	Waste Management			
7	Hazardous waste storage shed	2.0	0	0.3
Gree	n Belt Development			
8	Green Belt Development	1.0	0.5	0.7
9	CER activities	1.10	0.8	<del></del>
	Total	151.46	1.3	6.3
	Total (A+B)	1	52.76	

XVI. We will install solar panels 100% roof top area excluding air & light vent.

XVII. As per CER OM F.No. 22-65/2017-IA.III dated: 01.05.2018 and OM F.No. 22-65/2017-IA.III dated: 30.09.2020, proponent need to spend 1.0 % of the total project cost (Proposed) – 0.8 Crores (<100 crores Green field projects) for CER activities which is 0.8 Lakhs. M/s. Solara Active Pharma Science Limited will be spending Rs. 0.8 Lakhs (Rupees Eighty Thousand Only) for the development of Avenue Plantation in nearby villages before obtaining CTO from TNPCB.

#### Appraisal by SEAC: -

Proposed "Upgradation of Existing R&D facility into intermediates for API Manufacturing Unit" at S.F.No.27, Vandaloor Kelambakkam Road, Keelakottaiyur Village, Melakottaiyur

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## Post, Kancheepuram (Now Chengalpattu) District, Tamil Nadu by M/s. Solara Active Pharma Sciences Limited - For Environmental clearance

Earlier, this proposal was placed in this 307<sup>th</sup> SEAC meeting held on 26.08.2022. The details of the project furnished by the proponent are available on the website (parivesh.nic.in).

The project proponent gave detailed presentation of the project. SEAC noted the following:

- The Project Proponent, M/s. Solara Active Pharma Sciences Limited has applied seeking Environmental Clearance for the proposed "Upgradation of Existing R&D facility into intermediates for API manufacturing unit" at S.F.No.27, Vandaloor Kelambakkam Road, Keelakottaiyur Village, Melakottaiyur Post, Kancheepuram (Now Chengalpattu) District, Tamil Nadu.
- Further, the application was submitted by the Proponent as Per the Office Memorandum issued by MoEF & CC vide F.No. 22-25/2020-IA.III dated: 13.04.2020 and as per S.O. 1223(E) dated: 27.03.2020 for the projects or activities in respect of 5(f) Active Pharmaceutical Ingredients (API) to appraise as Category 'B2' Projects.
- 3. Hence, the project/activity is covered under Category "B2" of Item 5(f) "Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)" of the Schedule to the EIA Notification, 2006.

Previously this proposal was placed for appraisal in the 196<sup>th</sup> meeting of SEAC held on 29.01.2021 and based on the presentation made and documents furnished by the Project proponent, SEAC decided to seek the following additional details from the Proponent:

- Proponent shall clarify whether the unit is already into commercial production of the products listed or newly proposed.
- 2. Physical, Chemical and Physiological properties of the products shall be furnished.
- 3. Production details shall only be furnished in Tonnes Per Annum.
- 4. Certified compliance report from TNPCB for the existing facility.
- 5. The proponent shall furnish the Stoichiometric material balance for all the reactions to assess the quantum of pollutant emission from the proposed project.
- 6. The proponent shall furnish the details of the material and source of fuel used for boilers.
- 7. The project proponent shall furnish the Raw materials used for the individual product along with its storage details.
- 8. The Project proponent shall furnish details of all the products with chemical name and formula and the reaction kinetics including the list of intermediate products.

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- 9. The Proponent shall propose the scientific mode of disposal of spent solvents and detailed proposal for solvent recovery which is going to be exposed to atmosphere shall be furnished by the project proponent.
- 10. The project proponent shall submit the expected characteristics of the Effluent generated during the processes and the design of the treatment plant based on those characteristics.
- 11. The proponent shall submit the proposal for treatment of sewage and design of the STP.
- 12. The project proponent shall furnish detailed baseline monitoring data with prediction parameters for modeling for the VOC Emissions and model the same.
- 13. Height of the stack for the process emission and the DG Sets should be recalculated by considering the nearest tallest building as per the CPCB guidelines.
- 14. Status of Agitated Thin Film Dryer provided at the unit shall be furnished.
- 15. The proponent shall carry out the Risk Assessment Study based on the MSDS of the individual chemicals during handling/Solvent storage/Storage of chemicals.
- 16. The proponent shall submit the Health hazard management and industrial hygiene assessment report carried out for the employees at the existing plant.
- 17. The project proponent shall obtain necessary permission from Competent Authority for the extraction of Ground water.
- 18. The Proponent shall ensure that the Solvent storage area is not located near the boiler and the proponent shall submit the safety measures undertaken in this regard.
- 19. The project proponent shall furnish the detailed study report on industrial Hygienic Survey and furnish the detailed report on Occupational Health and Safety Management for the employees.
- 20. The Environmental Management Plan (EMP) for the proposed project shall be revised considering the above points and same shall be submitted.
- 21. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall furnish the detailed EMP mentioning all the activities as proposed in the CER.

On submission of the above details, SEAC decided that an on-the-spot inspection shall be carried out by the subcommittee constituted by the SEAC to assess the present status of the site as this is an expansion project. Based on the inspection report by the Proponent, SEAC would further deliberate on this project and decide the further course of action.

The sub-committee constituted by the SEAC, the Sub-committee visited the site on 10.03.2021. The sub-committee submitted inspection report to SEAC on 23.06.2021.

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The sub-committee inspection report was placed in this 214<sup>th</sup> SEAC meeting held on 23.06.2021. The following details were observed during the site inspection,

- The sub-committee visited the R&D area, Effluent treatment plant, Multiple Effect Evaporator and Sewage treatment plant in the unit premises.
- 2. The unit is functioning as an R&D unit with scale up area and has obtained Consent from TNPCB for its R&D Activities and have not obtained Environmental clearance.
- 3. Project Proponent planning to convert their R&D facility into intermediates for API manufacturing unit within the existing premises and the same needs to be clarified by the project proponent and shall submit revised proposal for the same if any change.
- 4. The unit having lab facility of maximum 100 litre vessel capacity (reactor)
- 5. At the time of inspection STP of capacity 40 KLD and ETP of 60 KLD operating at the site
- 6. The flow measurement at both STP and ETP are of electronic flow meter in nature and at the time of inspection receiving flow of 10 KLD and 15 KLD respectively
- 7. In the STP, the aeration tank of 3m height with diffused air aeration system with recirculation sludge facility designed as extended ASP
- 8. The MLSS concentration in the aeration tank at the time of inspection around 2500 mg/l which needs to be build up to 3500-4000 mg/l to maintain F/M=0.4 for effective functioning of ASP
- 9. The MLSS concentration in the ETP is also around 2300 mg/l needs to be build up to 3500-4000 mg/l for effective functioning of aeration system
- 10. The project Proponent to furnish all the reactions with stoichiometrically balanced showing molecular formula and structure clearly showing reactant and products details indicating mass balance.
- 11. The project proponent to furnish performance evaluation reports of STP and ETP for the last 6 months
- 12. The Project proponent to furnish details and the characteristics of raw influent and treated effluent for both STP and ETP along with flow measurement records for the last 6 months
- 13. The facilities available for checking of quality control of chemicals handled by the project proponent to be furnished
- 14. Details of solid and hazardous waste generated and their management to be furnished by project proponent
- 15. Distance between the Boiler and solvent storage tank around 750m and to relocate the solvent storage tank to possible maximum distance to avoid any risks in the future
- 16. Salt recovered from the MEE/ATFD shall be computed and to be furnished

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- Project proponent shall furnish Risk Assessment for 1.) In case of Hazardous 2.) In case of Fire accidents
- 18. Project proponent shall submit the Ground water clearance for its proposed project form the Competent Authority
- 19. Report on occupational risk assessment shall be furnished: Risk ranking of chemical used based on the toxicity and exposure assessment for the hazardous chemicals (TWA or STEL measurements based on the exposure situation);
- 20. Health surveillance plan (Industrial Hygiene assessments) and exposure assessment specific to API exposure to be furnished from an industrial hygiene laboratory
- 21. Ambient and workplace VOCs signatures and level to be furnished. Bulk sample analysis to be performed
- 22. Water analysis of API in open well and bore well to be furnished
- 23. Hydrocarbon analysis from DG stack to be furnished in addition to the routine parameters as per the CPCB standards
- 24. Height of DG stack to be in accordance to the regulation,

Based on the inspection report and the documents furnished by the Proponent, the SEAC decided to direct the proponent to furnish the following additional particulars.

- Project Proponent planning to convert their R&D facility into intermediates for API
  manufacturing unit within the existing premises and the same needs to be clarified by the
  project proponent and shall submit revised Form-1 for the same if any change.
- The project Proponent to furnish all the reactions with stoichiometrically balanced showing molecular formula and structure clearly showing reactant and products details indicating mass balance.
- 3. The project proponent to furnish performance evaluation reports of STP and ETP for the last 6 months.
- 4. Project proponent shall furnish Risk Assessment for 1.) In case of Hazardous 2.) In case of Fire accidents.
- Report on occupational risk assessment shall be furnished: Risk ranking of chemical used based on the toxicity and exposure assessment for the hazardous chemicals (TWA or STEL measurements based on the exposure situation);
- 6. Health surveillance plan (Industrial Hygiene assessments) and exposure assessment specific to API exposure to be furnished from an industrial hygiene laboratory.

Based on the receipt of the proponent's reply this proposal was again placed in 276th SEAC meeting

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held on 21.5.2022 and SEAC noted that the Arignar Anna Zoological Park, Vandaloor is located very near to the project site and hence the PP shall obtain NOC/ opinion from the Director, Arignar Anna Zoological Park, Vandaloor. The EIA Coordinator shall also submit a detailed report on the implications of setting up this unit on the Zoological Park. On receipt of these details SEAC will examine the proposal further.

The project proponent has submitted the details on 04.07.2022 to SEIAA.

Again, this proposal was placed in this 307<sup>th</sup> SEAC meeting held on 26.08.2022. Based on the presentation and documents furnished by the project proponent, SEAC decided to seek the certain additional details from the Proponent.

The query and the reply submitted by the PP is as follows.

Sl.N o				Queries &	Replies	10	<b>X</b>	
1.	The proponent /month and th Further, the de effluents, air characteristics, category of pofurnished.	etails of the emissions, appropriate	sion into the process flucture hazardoute pollution	he final prow diagrar grant gr	roduct, by in including generated in measures of	product ar the quant including contemplate	nd waste gene ity of various the quantity ed for contro	rated, etc. items, the and their lling each
	For 1 Kg Out Name of the proposed products	Input Quantit y in Kg/Batc h	Recycle Quantit y in Kg/batc h	Liquid Effluent in o	Solid	Emissio n Quantit y in Kg/ batch	Intermedia te Kg/Batch	Final produ ct in Kg
	BuspironeH Cl Stage 1 &2	35.12	Output 11.46	21.53	0.00	0.13	1.00	1
	Obeticholic acid Stage 1, 2A & 2	76.70	2.95	69.45	1.58	0.05	1.68	1
	Safinamide Mesylate Stage 1 ,2A & 2	115.58	9.70	100.40	1.57	0.28	2.62	1
	Diethyl Malonate	6.83	0.52	1.92	2.36	0.08	0.94	1

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Stage 1 & 2							
Overall	234.2	24.6	193.3	5.5	0.5	6.2	4.0
	234.2	234.2				-	

Detailed mass balance along with process flow diagram including the quantity of various items, the effluents, air emissions, hazardous waste generated including the quantity and their Characteristics, appropriate pollution control measures contemplated for controlling each category of pollution and the pollutants getting discharge into the environment is detailed in Annexure-1

2. The details furnished in wastewater generation are not matching with presentation and Form I submitted, which need to be rectified. Even after the upgradation, the total effluent and sewage generation were found to be within the consented quantity of TNPCB. This needs to be confirmed

**Sewage Generation:** 

In form-1: 8.7 KLD

307th SEAC meeting- 10.5 KLD (requested)

Description	Existing	Proposed	After Expansion
Toilet	7.0	0.4	7.4
Canteen	3.0	0.1	3.1
Total		A 9	10.5

Note: Existing Manpower 263 Number (Employees 191 Nos & Contractual Labours 72 Nos), Proposed Manpower 10 Numbers (Employees 6 Nos & Contractual Labours 4 Nos).

3. Historical data from the electronic flow meter of STP & ETP for the past 3 years shall be furnished.

For period of December 2019	to August 2022		el .
Point	Max. (M <sup>3</sup> )	Min. (M <sup>3</sup> )	CTO (M <sup>3</sup> )
STP Treated Water outlet	9.0 (28.07.2022)	6.5 (10.06.2022)	11
ETP inlet	9.8 (08.04.2022)	3.0 (26.04.2022)	13.5
RO Permeate	6.5 (14.02.2022)	2 (26.04.2022)	-

4. The existing effluent generation for the R &D facility with the maximum scale of operation 100 liters, generates effluent of 10 klD. Now, it is proposed to upgrade the existing R & D facility into intermediates for API manufacturing unit to produce 0.2975 MTPM of products and proposed to generate 12.25 klD ( 2.25 klD only after upgradation) of effluent only. This may be justifed with a flow diagram

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Description	Existing (KLD)	Additional (KLD)	After Expansion(KLD)
Process Lab	7	1	8
Process Kilo Lab	1.5	0.75	2.25
Scrubber	0.5	0.5	1
<b>Cooling Tower</b>	1.0	0	1.0
	10	2.25	12.25

5. After the upgradation, it is reported that total effluent generation will be 12.25 klD, which will be treated in the already provided primary & secondary treatment plant followed by RO (70 klD) and MEE (24 klD). The operation methodology of the RO and MEE shall be detailed with respect to the efficiency of working. Similarly, Sewage generation will be 9.5 klD, which will be treated through 40 klD STP already provided. A detail of the operational methodology of STP shall be furnished

The operation flow diagram of the RO and MEE along with ZLD and Operational methodology of existing STP & ETP are attached

6. The detail of disposal of waste/discarded products from the existing R&D products shall be furnished.

Detail of waste/discarded products from the existing R&D Products along with disposal mechanism and latest Form-4 (2021-22) is attached

As per existing HWA, we have authorization to disposal of 0.5 MT of Date expired products under category 28.5.

Now we have applied to TNPCB for obtaining HWA renewal for disposal of 0.4 MT of off specification products under category 28.4 and disposal of 0.1 MT of Date of expired products under category 28.5 and the same is under process.

7. The project proponent shall have dependable water source instead of relying on groundwater.

Request letter submitted to local Panchayat body for the supply of fresh water to the project site and it is under process. Acknowledged by Panchayat president (Ms.Gowthami) of Melakottaiyur and the copy of the same is attached

8. Details of the discarded products in the upgradation facility shall be included in hazardous waste details. Methodology for handling the process waste, storage, and disposal shall be furnished.

Methodology for handling the process waste, storage, and disposal details are furnished Details of discarded products in the up gradation facility will be included in hazardous waste details as category 28.4 off specification products after obtaining Environmental Clearance

As per existing HWA, we have authorization to disposal of 0.5 MT of Date expired products under category 28.5.

Now we have applied to TNPCB for obtaining HWA renewal for disposal of 0.4 MT of off specification products under category 28.4 and disposal of 0.1 MT of Date of expired products under category 28.5 and the same is under process.

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Subsequently, it was placed in 552<sup>nd</sup> SEIAA meeting held on 20.9.2022 and the query raised by the SEIAA and the PP reply is as follows

	SEIAA query				Repl	y furnish	ed	
mic con in con	tamination process &	Pharmace controlled final stag	euticals ld in this e and als	intermedia intermed	ates (A iate sta vill be	API). So nage which	nicro con h	Products are Active ontamination cannot be done by end users Microorganism on the
Det Mic							3	
and pro der	non-sterile ducts to be ived	Stage 1, 2 2A & 2 a There are	2A & 2, re comir e no steri	Diethyl Mag under rolle produc	Malona non ster ts envi	te Stage rile categ saged in	1 & 2 a ory. both ex	& 2, Obeticholic Ac and Safinamide Stage isting & proposed.
	at is the anticipal igation measures sh			V V	lue to	voc,	CO <sub>2</sub> , I	H <sub>2</sub> S, odour etc? Co
S.I	No Source	Fuel used	No of Stack	Height (m)	Dia (m)	Temp (°C)	voc	Remarks
1	Boiler(0.85	Fuel oil	1	18.5	0.18	104.85	9//	Within 3-5 meter radius it will reach to ambient
	ТРН)						1	temperature
2	DG(725 KVA)	Diesel	1	12.5	0.3	195.85	// o	The state of the s
	3	Diesel	Cis	12.5	0.3	-	0.23	temperature Within 6-8 meter radius it will reach to ambient

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Ambient

Ambient

Temperature

Temperature

0.26

0.28

0.47 38

0.86 39.85

12.5

12.5

1

1

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Organic Lab-

12 Fume Hood

Reactors - 4

Nos (Scale up

5

	Lab)				
Total	(g/s)			1.01	

#### **Mitigation Measures**

Further reduction of Environmental impact in the product manufacturing will be achieved by adopting the following mitigation measures.

**Renewable Power** – utilization of renewable energy sources such as wind and solar energy will be increased in future and this will reduce the environmental impact.

**Raw Material Sourcing** – the raw material procuring will be explored from the nearby sources rather than transporting from very long distances

**Green Belt** - Providing more green is an important factor to reduce carbon release from the industry. Green belt expansion will be considered as an environmental factor for development.

**Energy Optimization** – installing energy efficient equipment and adopting energy efficient process in the product manufacturing process will reduce the environmental impacts

**Transportation** – latest emission ratings of vehicles for transport. Regular maintenance of transporting vehicles & this will be ensured by the proponent from transporter. Ensuring proper maintenance of emission standards guideline given by Government of India. Regular maintenance of all the vehicles used for material transportation.

**Research & Development** – research work can be carrying out to reduce or replace the raw material which is causing maximum environmental impact and replacing with the raw materials which produce lesser environmental impact.

4 Details of Water, soil & Air quality standards, and monitoring measures shall be furnished.

1 . V.	S. No	Area of Monitoring	Number of Sampling Stations	Frequency of Sampling	Parameters to be Analyzed
	1.	Micro Meteorology	One	Hourly and Daily basis.	Wind speed and direction, Temperature, Relative Humidity, Atmospheric pressure, Rainfall.
50 50	2.	Ambient Air Quality	2 Stations (one in up wind and one in downwind)	Twice a week:24 hourly period	All the 12 parameters as per NAAQ Standards, VOC and Hydrocarbons
	3.	Noise	2 (one within plant premises and one outside plant premises)	Once a month	Ambient Equivalent continuous Sound Pressure Levels (Leq) at day and Night time.
	4.	Water	One surface and ground water sample near the site	Once a month	All the parameters as per IS 10500:2012
	5.	Soil	2 (one within plant premises and one	Once in six months	Physicochemical properties, Nutrients and Heavy metals

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			outside premises						
	6.	Liquid Effluents	Effluent outlet	inlet and	Weekly			emp, Condu rease, TSS,	ctivity, Oil TDS, BOD.
			STP inle	et and outlet	Monthly		pH, TS	SS, BOD &	COD
	7.	Exhaust from boilers &DG set& TFH	Stack of &DG set		Monthly		PM, S	O <sub>2</sub> , NO <sub>x</sub> & (	CO
	8.	Vehicular Emissions	Parking	area	Periodic monitorin vehicles	ng of	Air em	nission and	noise, PCU
	9	Solid waste / Hazardous waste	Solid and hazardou storage a	us waste	Once a w	eek	Quanti	ty	
5	Anti	cipated land use cl	hange and	l mitigation	measures s	shall b	e furni	shed.	
		e is no change in laining R&D facility.	nd use sine	ce the propos	sed up grad	ation p	oroject v	will be com	ing within the
6	Anti	cipated threads on	the wetla	and surroun	ding the pi	roject	site		
7	proje	rest wetland - Palli ect site. ails of change if ar	er e		O CONTRACTOR				
7	proje Deta	ect site.	ny from t	he groundw	ater on th	e gene	eral con	re paramet iny may be	ers from the
7	proje Deta oper	ect site.  nils of change if ar  ration of the R&D	ny from t	he groundw	ater on th	e gene	eral con	re paramet	ers from the
7	proje Deta oper	ect site.  nils of change if ar ration of the R&D s rameter	ny from ti shall be fu	he groundw urnished and	ater on th	e gene	eral con inge if a	re paramet iny may be	ers from the
7	Deta oper Par pH	ect site.  nils of change if ar ration of the R&D s rameter	ny from the shall be fuel 2017	he groundwarnished and 2018	ater on the anticipate 2019	e gene ed cha	eral cor inge if a 20	re paramet ny may be 2021	ers from the modelled.
7	proje Deta oper Par pH	ect site.  nils of change if ar ration of the R&D s rameter	ny from the shall be fuel 2017 8.17	he groundwarnished and 2018 7.82 752	2019 7.63 857	e gene ed cha 202 8.0 675	eral coringe if a	re paramet any may be 2021 7.95	ers from the modelled.  2022  8.25
	projecta oper Par PH TD Deta	ect site.  ails of change if ar ration of the R&D s rameter  S, mg/l  ail of the Aseptic pu	ny from the shall be fur 2017 8.17 907 rocessing ap gradation	he groundwarnished and 2018 7.82 752 environmen	vater on the anticipate 2019 7.63 857 at shall be f	e gene ed cha 202 8.0 675	eral coinge if a	re paramet ny may be 2021 7.95 826	ers from the modelled.  2022  8.25  582
	projecta oper Par Ph TD Deta	ect site.  nils of change if ar ration of the R&D r rameter  S, mg/l nil of the Aseptic pr	ny from the shall be fur 2017 8.17 907 rocessing on p gradation.	he groundwarnished and 2018 7.82 752 environment	2019 7.63 857 At shall be fediate produ	e general 202 8.0 675 Furnish	eral coinge if a	re paramet ny may be 2021 7.95 826	ers from the modelled.  2022  8.25  582
8	Par PH TD Deta As the process of the	cet site.  ails of change if ar ration of the R&D s rameter  S, mg/l  ail of the Aseptic pu the proposed R&D u the proposed R&D u the proposed resing environment ail on safety hygien ty hygienic assessm	ny from the shall be fure 2017 8.17 907 rocessing on paradation in the management study	he groundwirnished and 2018 7.82 752 environment on for intermedement shall was conduct	7.63  857  At shall be fediate produced for the p	8.0 675 Furnish	eral con inge if a 20 5 ned	re paramet any may be 2021 7.95 826	ers from the modelled.  2022  8.25  582  ent for aseptic
8	projecta oper Par pH TD Deta As the proce Deta Safe Late	ect site.  ails of change if ar ration of the R&D s rameter  S, mg/l  ail of the Aseptic pu he proposed R&D u essing environment ail on safety hygien	ny from the shall be fure 2017 8.17 907 rocessing and action in the management study for employing the shall be fure at the study of the shall be fure at th	he groundwarnished and 2018 7.82 752 environment on for intermed ement shall was conduct by ees are atta	7.63  857  At shall be fediate produced for the peched	8.0 675 Furnish action ed	eral contage if a 20 5 5 hed hence n	re paramet any may be 2021 7.95 826	ers from the modelled.  2022  8.25  582  ent for aseptic
8	Par Par PH TD Deta As the proce Deta Safe Late	ect site.  ails of change if are ration of the R&D strameter  S, mg/l  ail of the Aseptic put the proposed R&D ut the proposed R&D ut to a safety hygien ty hygienic assessment the theory itation and cleaning itation and cleaning the safety hygienic assessment hygienic assessment hygienic assessment hygienic a	ny from the shall be fure 2017 8.17 907 rocessing and action in the management study for employemental	he groundwarnished and 2018 7.82 752 environment on for intermed ement shall was conduct by ees are attained protocol	7.63  857  At shall be fediate produced for the peched of shall be federated.	8.0 675 Furnish action ed	eral contage if a 20 5 5 hed hence n	re paramet any may be 2021 7.95 826	ers from the modelled.  2022  8.25  582  ent for aseptic
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driven pump & engine driven pump, smoke detectors & fire alarm system, public address system for emergency communication, CCTV cameras at strategic location.

List of fire safety equipment along with latest Fire license and SOP is attached

Project site have a PESO License for the storage of 54.00 KL Petroleum product (Class A) and 17.5 KL Class C product above ground Tank. PESO license is attached

With the above remarks it was again placed in 366<sup>th</sup> SEAC meeting held 30.03.2023. Based on the presentation & documents furnished and the Committee carefully examined the points raised by SEAC & SEIAA and the replies given by the PP, decided to recommend the proposal for the grant of Environmental Clearance subject to the following specific conditions, in addition to normal conditions stipulated by MOEF &CC:

- 1. The project proponent shall provide the Green belt area not less than 34.6% of the total land.
- 2. The project proponent shall provide STP of capacity 40 KLD and treated sewage shall be utilized for green belt after meet out the discharge standards prescribed by the CPCB/TNPCB.
- 3. The project proponent shall provide ETP of capacity 4 KLD with ZLD system (MEE).
- 4. The proponent shall provide, operate and maintain adequate Air-pollution control measures for the process area.
- 5. The proponent shall provide and maintain continuous monitors within and around the premises and ensure that VOC levels are within permissible limits.
- The proponent shall obtain and maintain valid safety licenses at any time for boiler/Thermic fluid heater, solvent/fuel/raw material/products storage areas etc from the concerned departments before obtaining CTO from TNPCB.
- 7. All the recommended preventive and safety measures by the concerned authority for the dedicated solvent/fuel/raw material/products storage areas & boiler/Thermic fluid heater shall be completed before obtaining CTO from TNPCB.
- 8. All the solvent/fuel/raw material/products shall be stored within the permitted storage quantity at any time.
- 9. The proponent shall strictly follow the norms and guidelines mentioned in the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as amended for the handling and disposal of Hazardous waste to be generated.
- 10. The proponent shall periodically conduct and submit fire safety study, emergency evacuation plan, risk assessment study, occupational health safety study for the worst case scenario in regard to existing safety measures/standard operating procedures adopted for the process/equipment/utilities for operation &maintenance and the storage areas of products, raw

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materials, solvent, fuel, etc. in the different operating zones of the plant at least once in a year to regularly identify safety fragile areas within the plant which requires regular monitoring and the proponent shall submit the same along with timeline for implementation of the said recommendations to the concerned departments.

- 11. A detail report on the safety measure and health aspects including periodical audiometry, pulmonary lung function etc. test reports once in a year for all the workers shall be submitted to TNPCB.
- 12. As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health Centre activities shall be trained in occupational health surveillance (OHS) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.
- 13. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020, the proponent shall adhere the EMP as committed.
- 14. The proponent shall install solar panels 100% roof top area excluding air& light vent.
- 15. As accepted by the Project Proponent the CER cost is Rs. 0.8 lakhs and the amount shall be spent for avenue plantation in nearby villages before obtaining CTO from TNPCB

#### Appendix -I

### List of Native Trees Suggested for Planting

- 1. Aeglemarmelos-Vilvam
- 2. Adenaantherapavonina-Manjadi
- 3. Albizialebbeck-Vaagai
- 4. Albiziaamara-Usil
- 5. Bauhinia purpurea Mantharai
- 6. Bauhinia racemosa Aathi
- 7. Bauhinia tomentosa-Iruvathi
- 8. Buchananiaaillaris-Kattuma
- 9. Borassusflabellifer- Panai
- 10. Buteamonosperma Murukkamaram
- 11. Bobaxceiba- Ilavu, Sevvilavu
- 12. Calophylluminophyllum Punnai
- 13. Cassia fistula- Sarakondrai
- 14. Cassia roxburghii- Sengondrai
- 15. Chloroxylonsweitenia Purasamaram

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- 16. *Cochlospermumreligiosum* Kongu, Manjalllavu
- 17. *Cordiadichotoma* Mookuchalimaram
- 18. Cretevaadansonii-Mavalingum
- 19. Dilleniaindica- Uva, Uzha
- 20. Dilleniapentagyna— SiruUva, Sitruzha
- 21. Diospyrosebenum- Karungali
- 22. Diospyroschloroxylon- Vaganai
- 23. Ficusamplissima- Kalltchi
- 24. Hibiscus tiliaceous—Aatrupoovarasu
- 25. Hardwickiabinata— Aacha
- 26. Holopteliaintegrifolia-Aayili
- 27. Lanneacoromandelica Odhiam
- 28. Lagerstroemia speciosa Poo Marudhu
- 29. Lepisanthustetraphylla- Neikottaimaram
- 30. Limoniaacidissima Vila maram
- 31. Litseaglutinosa-Pisinpattai
- 32. Madhucalongifolia Illuppai
- 33. Manilkarahexandra-UlakkaiPaalai
- 34. Mimusopselengi Magizhamaram
- 35. Mitragynaparvifolia Kadambu
- 36. Morindapubescens-Nuna
- 37. Morindacitrifolia- VellaiNuna
- 38. Phoenix sylvestre-Eachai
- 39. Pongamiapinnata-Pungam
- 40. Premnamollissima- Munnai
- 41. Premnaserratifolia- Narumunnai
- 42. Premnatomentosa-PurangaiNaari, PudangaNaari
- 43. **Prosopiscinerea** Vannimaram
- 44. Pterocarpusmarsupium Vengai
- 45. Pterospermumcanescens-Vennangu, Tada
- 46. Pterospermumxylocarpum Polavu
- 47. **Puthranjivaroxburghii**—Puthranjivi
- 48. Salvadorapersica— UgaaMaram

- 49. Sapindusemarginatus- Manipungan, Soapukai
- 50. Saracaasoca Asoca
- 51. **Streblusasper-** Pirayamaram
- 52. Strychnosnuxvomica—Yetti
- 53. Strychnospotatorum Therthang Kottai
- 54. Syzygiumcumini Naval
- 55. **Terminaliabellerica** Thandri
- 56. Terminalia arjuna- Venmarudhu
- 57. Toona ciliate Sandhanavembu
- 58. Thespesiapopulnea- Puvarasu
- 59. Walsuratrifoliata-valsura
- 60. Wrightiatinctoria- Veppalai
- 61. Pithecellobium dulce Kodukkapuli

#### Discussion by SEIAA and the Remarks: -

The subject was placed in the 655<sup>th</sup> authority meeting held on 19.09.2023. The authority noted that earlier, the subject was placed in 613<sup>th</sup> Authority meeting held on 21.04.2023. The Authority noted that vide minutes dated 30.03.2023 of 366<sup>th</sup> meeting of SEAC, the Committee has furnished its recommendations for the grant of Environmental Clearance to the project subject to the conditions stated therein.

After detailed discussion, SEIAA decided to obtain the following additional details from the PP.

- 1. What are the key ecological risk anticipated in the project site and vicinity?
- Impact on ground water, lakes nearby and other water bodies located in Mambakkam lake is 0.76 km, Melakottaiyur lake is 0.40 km Kilkottaiyur lake is 0.36 km by the pharmaceutical pollutants.
- 3. Direct and Indirect anticipated impact due to proliferation of antibiotics in the environment.
- 4. Toxicity on soil microorganisms
- 5. Environmental burden on urban and rural environment.
- Details of disposal of sewage & septage generated from the project site, since the Mambakkam R.F is located at 0.38 km from the project site.
- Environmental impact on the villages is located less than 1km viz Melkottaiyur, Kilkottaiyur, Mambakkam 1.57km and Kandigai 1.10km
- 8. Impact on climate, temperature due to these products.

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The proponent vide letter dated 05.09.2023 gave reply to the above details sought by SEIAA. In view of this, it was again placed in this 655<sup>th</sup> SEIAA meeting held on 19.09.2023. After detailed discussions, the Authority accepted the recommendations of SEAC and decided to grant Environmental Clearance subject to the conditions as recommended by SEAC in addition to the following conditions:

- The Proponent shall store the raw materials within the threshold limit adhering to the guidelines
  of the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended.
- 2. The project proponent shall provide & maintain adequate capacity STP, ETP with ZLD, & APC measures with treatment & disposal arrangements & adequate storage area for raw materials/solvent/Hazardous/solid wastes, as committed in EMP adhering to the mode of disposal & discharge standards prescribed by the CPCB/TNPCB.
- 3. The project proponent shall provide STP & ETP in an elevated closed area above the ground level.
- 4. The project proponent shall operate & maintain the STP & ETP with ZLD continuously & efficiently so as to comply with the discharge standards prescribed by the CPCB/TNPCB.
- 5. No untreated sewage, treated/untreated effluent shall be discharged inside & outside the project premises at any time.
- 6. The project proponent shall periodically monitor treated/untreated sewage, treated/untreated effluent, Noise levels & AAQ/Stack emission/VOC through the TNPCB laboratory and shall upgrade adequate mitigation measures, safety measures & monitoring mechanism as and when recommended by the competent authority.
- 7. The project proponent shall provide online/offline sensors/ analyzers for air quality parameters (AAQ/Stack emission), VOC, water quality parameters (sewage/Effluent) linked up to CAC/WQW websites of CPCB/TNPCB for continuous & effective monitoring as recommended by the CPCB/TNPCB before obtaining CTO and shall periodically calibrate the said sensors/ analyzers and submit report to TNPCB.
- The project proponent shall periodically dispose the Hazardous waste generated as per provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016 as amended.
- The project proponent shall periodically dispose the solid waste generated as per provisions of Solid waste Management Rules, 2016 as amended.
- 10. The project proponent shall ensure that the project activities do not cause harm to the natural vegetation/water bodies and other natural resources.

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- 11. The project proponent shall ensure that the project activities do not cause any damage to the soil and natural seed banks.
- 12. The project proponent shall provide medical facilities, possibly with a medical officer in the project site for continuously monitoring the health of construction workers during COVID and Post COVID period.
- 13. The project proponent shall ensure that there is no Green House Gases (GHG) emissions resulting in temperature rise and leading to climate changes.
- 14. As the plant operation involves sensitive processing, the medical officer and the supporting staff involved in the health centre activities shall be trained in occupational health surveillance (OHS) aspects through outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.

#### Validity:

The SEIAA hereby accords Environmental Clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 as amended, with validity for Seven years from the date of issue of EC, subject to the compliance of the terms and conditions stipulated below:

#### (A) Statutory compliance

- The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)
- iv. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

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- The project proponent shall obtain authorization under the Hazardous and other Waste
   Management Rules, 2016 as amended from time to time.
- vi. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989

#### (B) Air quality monitoring and preservation:

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.
- iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10and PM25 in reference to PM emission, and SO2and NOx in reference to SO2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120 each), covering upwind and downwind directions.
- iv. To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- v. Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.
- vi. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.

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

#### (C) Water quality monitoring and preservation:

- The project proponent shall provide online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD)
- ii. As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).
- iii. The effluent discharge shall conform to the standards prescribed under the Environment (Protection) Rules, 1986, or as specified by the State Pollution Control Board while granting Consent under the Air/Water Act, whichever is more stringent.
- iv. Total fresh water requirement shall not exceed the proposed quantity or as specified by the Committee. Prior permission shall be obtained from the concerned regulatory authority/CGWA in this regard.
- v. Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.
- vi. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
- vii. The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.

#### (D) Noise monitoring and prevention:

- i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
- ii. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation.
- iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time

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#### (E) Safety, Public hearing and Human health issues:

- Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- iii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
- iv. 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 imparted.
- v. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- vii. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places

#### (F) Corporate Environment Responsibility:

- The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1stMay 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

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- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other 5 purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

#### (G) Waste management:

- Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
- Process organic residue and spent carbon, if any, shall be sent to cement industries.
   ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
- iii. The company shall undertake waste minimization measures as below:
  - a. Metering and control of quantities of active ingredients to minimize waste.
  - b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
  - c. Use of automated filling to minimize spillage.
  - d. Use of Close Feed system into batch reactors.
  - e. Venting equipment through vapour recovery system.
  - f. Use of high pressure hoses for equipment clearing to reduce wastewater generation

#### **Air Environment**

- Stack emission levels should be stringent than the existing standards in terms of the identified critical pollutants.
- 2. CEMS may be installed in all large/medium red category industries (air polluting) and connected to SPCB and CPCB server.
- Effective fugitive emission control measures should be imposed in the process, transportation, packing etc.

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- 4. Transportation of materials by rail/conveyor belt, wherever feasible.
- 5. Encourage use of cleaner fuels (pet coke/ furnace oil/ LSHS may be avoided).
- 6. Best Available Technology may be used. For example; usage of EAF/SAF/ IF in place of Cupola furnace. Usage of Supercritical technology in place of sub-critical technology.
- 7. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever feasible.
- 8. Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.
- Assessment of carrying capacity of transportation load on roads inside the industrial premises.

#### **Water Environment**

- 1. Reuse/recycle of treated wastewater, wherever feasible.
- Continuous monitoring of effluent quality/quantity in large and medium Red Category Industries (water polluting).
- 3. A detailed water harvesting plan may be submitted by the project proponent
- 4. Zero liquid discharge wherever techno economically feasible.

#### **Land Environment**

- 1. Increase of green belt cover by 40% of the total land area beyond the permissible requirement of 33%, wherever, feasible for new projects.
- Stipulation of greenbelt outside the project premises such as avenue plantation, plantation in vacant areas, social forestry, etc.
- 3. Dumping of waste (fly ash, slag, red mud, etc.) may be permitted only at designated locations approved by SPCBs/ PCCs.
- More stringent norms for management of hazardous waste. The waste generated should be preferably utilized in co processing.
- 5. Monitoring of compliance of EC conditions may be submitted with third party audit every year.
- 6. The % of the CER may be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA in case of Environmental Clearance.

#### (H) **SPECIFIC CONDITIONS:**

1. It is mandatory for the project proponent to furnish to the SEIAA, Half yearly compliance report in hard and soft copies on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year in respect of the conditions stipulated in the prior Environmental clearance issued.

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- "Consent for Establishment" shall be obtained from Tamil Nadu Pollution Control Board and a copy of the same shall be furnished to the SEIAA, Tamil Nadu before start of project construction activity at the site.
- 3. "Consent to Operate" should be obtained from the Tamil Nadu pollution Control Board before the start of the operation of the project and copy shall be submitted to the SEIAA-TN.
- 4. The implementation of Environmental Management Plan in regard to treatment and disposal of sewage & Effluent, Solid waste Management, Hazardous - Waste Management, and CSR Activities should be carried out, as proposed and committed. Regular monitoring should be carried out during operation phases.
- 5. The residue collected from the evaporator shall be documented by maintaining proper register and it should be made available at the time of inspection.
- Adequate dust extraction system such as Ducting with dust extracting arrangement wherever required shall be established to achieve Occupational –health standards and ambient air quality standards.
- 7. The proponent shall carryout best housekeeping practices as spillage management for handling and maintenance of raw materials and products inside the unit premises.
- Nature of chemicals Handled, the Do and Don'ts shall be displayed at all vital locations as laid down in MSDS.
- 9. The proponent shall ensure that the quantity of Hazardous Waste handed over to the TSDF shall match with the quantity generated.
- 10. The proponent shall provide a separate closed area earmarked for storing solid waste including Hazardous Waste as proposed.
- 11. The proponent shall dispose Hazardous Waste generated as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed off through TNPCB registered recyclers.
- 12. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2016.
- 13. The e waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2016 as amended.
- 14. The Municipal solid waste generated shall be collected, segregated and disposed as per Solid Waste Management Rules, 2016.

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- 15. The industry shall conduct air sampling at least once in six months for the general core parameters (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x)</sub> through TNPCB/NABL Accredited Laboratory and maintain records of the same and it should be made available at the time of inspection.
- 16. Regular monitoring on the air quality, water quality and noise on the selected locations in and around the project site as mentioned in the EMP report for creating base line data shall be continued and records shall be maintained.
- 17. A separate environment and safety management cell with qualified staff shall be set up before establishment of the facility and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
- 18. The Green belt area already developed within the project area shall be properly maintained.
- 19. The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- 20. The industry shall promote tree plantation to neutralize their carbon foot print. The industry shall engage regularly in afforestation programme.
- 21. The proponent shall ensure effective risk management strategy regarding confined space management to avoid risk while handling raw materials, products in the process area and storage.
- 22. The energy sources for lighting purposes shall preferably be LED based.
- 23. The industry shall conduct air sampling at least twice in a week (104 times in a year), as stipulated under EP Act 1986.
- 24. Risk cum disaster management plan should be in placed in the industry premises at all time.
- 25. Water conservation scheme including rain water harvesting measures to augment ground water resources shall be implemented so as to collect and reuse the entire rainwater harvested as a supplement to fresh water.
- 26. The natural drainage pattern in the project area shall be maintained and storm water drain along the boundary and appropriate places shall be provided considering the Catchment area and maximum intensity of rainfall to collect runoff water/rain water for proper disposal to avoid flooding around the premises.
- 27. The Environmental Clearance is issued without prejudice to any order that may be passed by the Hon'ble NGT/ Honb'le High Court of Madras.
- 28. All the assurances given in EIA and EMP shall be adhered strictly.

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- 29. Detail study shall be carried out by engaging accredited agencies / reputed institutions for Risk management and detailed Disaster management plan prepared for compliance.
- 30. Sufficient funds should be provided for Disaster management.
- 31. The Project Proponent shall provide disinfection by UV system for the sewage treatment plant for treating the sewage before applying on land for gardening.
- 32. The project proponent shall provide sufficient ventilation (air circulation) in the hazardous waste storage yard where the hazardous waste like spent carbon, Chemical sludge, used or spent oil are being kept.
- 33. The Project Proponent shall carry out safety audit in the different operating zones of the plant at least once in a year and the same shall be considered as base for reviewing the unsafe conditions during the plant safety meeting.
- 34. The Project Proponent shall prepare a code of practice for safe operation for educating the safety standards to the work force deployed in the plant through appropriate training by the concerned experts.
- 35. As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health centre activities shall be trained in occupational health surveillance (OHS) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.
- 36. The Activity of the industry should not impact on agricultural, irrigation system and mangroves surrounding the area.
- 37. The EMP cost and operation and maintenance cost shall be deposited in a nationalized bank by opening separate account and the head wise expenses statement shall be submitted to TNPCB with a copy to SEIAA annually.
- 38. There should be no threat to Bio diversity due to the operation of the industry.
- 39. The flora & fauna present in and around the project site should be get affected due to the activity as reported.
- 40. The Project Proponent has to provide rain water harvesting collection tank capacity with Recharging pit in order to recover and reuse the rain water during normal rains.
- 41. The operation of the activity should not impact on the soil, micro flora & Fauna present in and around the project site.
- 42. The project proponent shall carry out risk assessment process for all the operations involved in the plant and a suitable risk management plan showing the contours of sensitive zones should be prepared.

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- 43. The project proponent shall take up better housekeeping measures including scraps disposal and up keeping the machineries, pipes, etc.
- 44. The proponent should continuously monitor the VOC and ensure that VOC levels are within permissible limits.

#### (I) GENERAL CONDITIONS: -

- This Environmental Clearance shall not be cited to relax any other rules applicable to this
  project.
- 2. The Project Proponent should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the Environmental Clearance informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with TNPCB.
- 3. A copy of the Environmental Clearance shall be sent by the project proponent to concerned local body and local NGO, if any from whom suggestions/representatives, if any were received while processing the proposal.
- 4. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- 5. The Environmental Clearance shall also be put on the website of the company.
- 6. No expansion or modernization in the project shall be carried out without prior approval of the SEIAA-TN. In case of any deviations or alterations in the project proposal from those submitted to this Authority for clearance, a fresh reference shall be made to the SEIAA-TN to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- 7. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- 8. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- 9. The implementation of the project vis-à-vis environmental action plans shall be monitored by the Regional office of MoEF& CC at Chennai, TNPCB and CPCB. A six monthly compliance status report shall be submitted to monitoring agencies regularly.

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- 10. Data on ambient air, stack and fugitive emissions shall be regularly submitted online to the Regional office of MoEF & CC, GOI, at Chennai, TNPCB and Central Pollution Control Board as well as hard copy once in six months and display data on RSPM, SO<sub>2</sub> and NOx outside the premises at the appropriate place for the general public.
- 11. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- 12. Proper house-keeping and cleanliness must be maintained within and outside the plant.
- 13. Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, especially for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre shall be strengthened and the medical records of each employee should be maintained separately.
- 14. The overall noise levels in and around the plant area shall be kept well within the standards prescribed for by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75dBA (day time) and 70 dBA (night time).
- 15. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- 16. The requisite amount earmarked towards capital cost and recurring cost/annum for implementing pollution control measures shall be used judiciously to implement the Environment Management Plan as furnished in the EIA report. The funds so provided shall not be diverted for any other purposes.
- 17. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF & CC, GOI at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO<sub>2</sub>, NOx (ambient levels as well as stack emissions) or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- 18. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended

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- subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.
- 19. Environmental Clearance is being issued without prejudice to the action initiated under Environment (Protection) Act, 1986 or any court case pending or any other court order shall prevail.
- 20. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- 21. The SEIAA/SEAC or any Competent Authority may suitably add any further condition(s) on receiving reports from the project authority. The above condition shall be monitored by the Regional Office of MoEF located at Chennai.
- 22. The SEIAA, TN may revoke or suspend the Environmental clearance, if implementation of any of the above conditions is not satisfactory.
- 23. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- 24. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- 25. The SEIAA-TN reserves the right to stipulate additional conditions if found necessary. The industry in a time bound manner shall implement these conditions.
- 26. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments ,draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- 27. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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#### Copy to:

- 1. The Additional Chief Secretary to Government, Environment, Climate Change and Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai 9.
- The Chairman, Central Pollution Control Board, Parivesh Bhavan,
   CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110 032.
- The Chairman, Tamil Nadu Pollution Control Board,
   Mount Salai, Guindy, Chennai-600 032.
- The APCCF (C), Regional Office, Ministry of Environment & Forest (SZ),
   HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai 34
- 5. Monitoring Cell, I A Division, Ministry of Environment & Forests, Paryavaran Bhavan, CGO Complex, New Delhi 110 003.
- 6. The District Collector, Chengalpattu District.
- 7. Stock File.