

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

SEAC- 2012/CR-201/TC-2
Environment department
Room No. 217, 2nd floor,
Mantralaya Annex,
Mumbai- 400 032.
Dated: 31 December, 2015

To,
M/s. Pidilite Industries Limited,
Plot no A 22/1, MIDC Mahad,
Dist. Raigad -402309.

Subject: Environment Clearance for proposed expansion for manufacturing of Polymers based on Vinyl Acetate Monomer, Acrylate, Sterene, Ethylene Monomers & Adhesives based on PVA at Plot No.A-22, MIDC, Mahad, Dist. Raigad by M/s. Pidilite Industries Limited

Sir,

This has reference to your communication on the above mentioned subject. The proposal was considered as per the EIA Notification, 2006, by the State Level Expert Appraisal Committee-I, Maharashtra in its 100th meeting and decided to recommend the project for prior environmental clearance to SEIAA. Information submitted by you has been considered by State Level Environment Impact Assessment Authority in its 88th meeting.

2. It is noted that the proposal is considered by SEAC-I under screening category 5(f) B1 as per EIA Notification 2006.

Brief Information of the project submitted by Project Proponent is as:

Name of project	Polymers based on Vinyl Acetate Monomer, Acrylate, styrene, Ethylene monomers & Adhesives based on PVA
Project proponent	Rakesh Kaushal Pidilite Industries Limited
Consultant	M/s. Goldfinch Engineering Systems Pvt. Ltd.
New project/expansion	Expansion in existing project
If expansion/diversification, whether environmental clearance has been obtained for existing project	No, The activity started way back in 1996.
Activity schedule in the EIA Notification	5 (f) B
Area Details	Net Plot area – 26572 m ² Built up Area – 12179.54 m ²

Name of the Notified Industrial Area/ MIDC area	Mahad MIDC, Raigad
TOR given by SEAC? (If yes then specify the meeting)	NO. Applied as B2 project. Considered in 73 rd and 74 th meeting of SEAC. Model TOR covering Risk Assessment followed and EIA prepared.
Estimated capital cost of the project	Land :- Exiting land (No cost) Plant , building and Machinery:- 1.3 cr
Location details of the project:	Site is located at Latitude 18° 06' N and Longitude 73° 28' E. At the elevation above MSL is 95 ft. (29 m).
Distance from protected areas/ critically polluted areas/ Eco Sensitive area/ inter- state boundaries	Western Ghats Ecological Sensitive Area (Matwan Village at distance of 4.20 Km)

Raw materials (including process chemicals, catalysts & additives)		Refer Table Below:		
Sr. No.	Description	Qty. (Kgs.)	Storage quantity details in MT	
1	2-ETHYL HEXYL ACRYLATE	8995	35	
2	ACRYLIC ACID	58600	50	
3	ACRYLONITRILE	9860	15	
4	BUTYL ACRYLATE	407981	200	
5	BX CSEM 25/80	200		
6	CAUSTIC SODA LYE	21000	25	
7	DI BUTYL MALEATE	35900	15.7	
8	DI BUTYL PATHALATE	5500	15.7	
9	DI OCTYL MALEATE	18750	15.7	
10	DIACETONE ACRYLAMIDE (DAAM) (CAS2873-97-4)	40		
11	DIMETHYLAMINOETHYL METHACRYLATE	720		
12	ETHYL ACRYALTE	129090	87X2	
13	HEC M-6, TYLOSE H20YG4, CELL QP3L	2000		

14	HYDROXY ETHYL CELLULOSE – M2	395	
15	IBMA (N-ISO-butoxymethyl acrylamide)	50	
16	INCOREZ W 830/140	400	
17	LAFFONICS MB-400 (70%) / STEROL MB-400	1500	
18	LIQUOR AMMONIA	19250	25
19	MALEIC ANHYDRIDE	3400	
20	METAZOLONE EHF- 4/NIPACIDE CFX	250	
21	METHACRYLIC ACID	34800	25
22	METHYLMETHACRYLATE	63300	15.7X2
23	METHYL POLYSIOLXANE/SPECTRA SD	200	
24	P.V.A. GOHSENL GL-05/KUR POVAL 205	4090	
25	PIDINON AOT	4840	
26	PIDIWAX C 60	1850	
27	PVA 173/EL T-25/BF 17/PVA 117/DENKA K17E	300	
28	RHEOLATE 278	9800	
29	SODIUM PENTACHLOROPHENATE	50	
30	STYRENE	283665	46.7X2
31	SULP. CASTOR OIL/TRO/BONIC CAS075	2170	
32	SYNPERONIC – A9 (LQ) TH	400	
33	UREA	7400	
34	VINYL ACETATE MONOMER	243100	193
35	VINYL ESTER OF VERSATIC – 10/SHIVENA-10	5191	
36	POLY VINYL ALCOHOL		35
37	ACRYLAMIDE		15

	Production Details	Refer Table Below:
	Proposed products for Environmental Clearance	Proposed products quantity (MT/A)
		Existing Total (After Expansion)
	Polymeric based on VAM, Acrylate, Styrene monomers and Adhesive based on PVA	34664 41100

17	Rain water Harvesting (RWH)	Roof Rain Water Harvesting available at site
18.	Total Water Requirement	Refer Table Below:

Dry Season

Source	Consumption			Loss			Effluent		
	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	8	2	10	1	1	2	7 (To STP & Gardening)	1 (To STP & Gardening)	8 (To STP & Gardening)
Industrial Processing	92	18	110	58.5	10.5	69	33.5	7.5	41
Cooling Tower	30	40 + (12 from RO) = 52	70 + (12 from RO)	29.5	39.0	68.5	0.5	1.0	1.5
Gardening	25 (7 from Domestic)	0 (1 from domestic)	25 (8 from domestic)	32	1	33	-	-	-
Total	155	60	215	121	51.5	172.5	34	8.5	42.5 (30.5 to CETP & 12 to RO for recycle)

Net Water Requirement	155	60	215						
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Wet Season

Source	Consumption			Loss			Effluent		
	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	8	2	10	1	1	2	7	1	8
Industrial Processing	92	18	110	58.5	10.5	69	33.5	7.5	41
Cooling Tower	30	40	70 + (20 from RO)	29.5	39.0	68.5	0.5	1.0	1.5
Gardening	-	-	-	32	1	33	-	-	-
Total	130	60	190	121	51.5	172.5	34	8.5	50.5 (30.5 to CETP & 20 to RO for recycle)
RWH	59	-	59	-	-	-	-	-	-
Net Water Requirement	71	60	131						

19.	Storm water drainage	Natural water drainage pattern : Proper and separate storm water drains will be provided as per natural slope
20.	Sewage generation and treatment	<ul style="list-style-type: none"> • Domestic Effluent: Quantity & Disposal: 8 m³/day • Capacity of STP: 10 m³
21.	Effluent Characteristics	Refer Table Below:

Sr. No.	Parameter	Unit	Raw Effluent	After Treatment	MPCB Consent
1	pH		9.2	6.5-7.5	5.5-9
2	Total suspended solids	mg/l	290	5-30	100
3	COD	mg/l	15490	100-300	250

4	BOD 3 days @ 27°C	mg/l	2063	20-50	100
5	Total dissolved solids	mg/l	4100	1500-2100	2100
22.	ETP details	<ul style="list-style-type: none"> Amount of effluent generation (CMD): 42.5 CMD Capacity of the ETP: 50 CMD Amount of treated effluent recycled : 12.0 CMD Amount of water sent to the CETP: 30.5 CMD Membership of CETP (if require): Yes 			
23.	Note on ETP technology to be used	Full-fledged Effluent Treatment Plant followed by conventional aerobic & RO system to cater to the pollution load of effluent. Treated effluent shall be sent to CETP for further treatment and disposal.			
24.	Disposal of The ETP sludge	ETP Sludge shall be disposed through Common Hazardous Waste treatment storage disposal facility			
25.	Solid Waste Management	Refer Table Below:			
Sr. No.	Type of waste	Category No.	Qty	Disposal	
1	Spent oil	5.1	400lit/ annum	Sale to authorized recycler	
2	Waste residue containing oil	5.2	3 kg/ annum	Sale to authorized recycler	
3	Waste/residue (Adhesive) & residue including filters	23.1	50MT/ month 571.4 kg/annum,	CHWTSDF	
4	Discarded containers/barrels liners used for HW/Chemicals	33.3	1855 no./ annum 4017no. / annum	Sale to authorized recycler	
5	ETP Sludge	34.3	35 MT/annum + 10 kg/day from evaporator	CHWTSDF	
28.	Emission Standard	Refer Table Below:			
Pollutants (SPM, SO2, etc)		Emission Standard Limit	Proposed Limit	MPCB Consent	
SPM		500mg/Nm ³	120-140 mg/Nm ³	150 mg/Nm ³	
SO2		120 kg/day	3.5-4.5 kg/day	4.5 kg/day	
29.	Ambient Air quality data	Refer Table Below:			
	Pollutant	Average values at site	Permissible Standard	Remarks	
	SPM	21.3 µg/m ³	100 µg/m ³	As per standards	
	RSPM	56.8 µg/m ³	60 µg/m ³		
	SO ₂	21.6 µg/m ³	80 µg/m ³		
	Energy	Power Supply :			

31.		<ul style="list-style-type: none"> Proposed power requirement : 752 KWH DG sets: <ul style="list-style-type: none"> Number and capacity DG sets to be used (Existing and proposed): No DG set at site 																																
32.	Green Belt Development	<ul style="list-style-type: none"> Green belt area: 2995 m² Number of trees & shrubs planted at site: 1825 																																
33.	Details of pollution control Systems:	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Source</th> <th>Existing pollution control system</th> <th>Proposed to be installed control system</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Solid Waste</td> <td>Disposing to authorized site by pollution control</td> <td>Disposing to authorized site by pollution control</td> </tr> </tbody> </table>	Sr. No.	Source	Existing pollution control system	Proposed to be installed control system	4	Solid Waste	Disposing to authorized site by pollution control	Disposing to authorized site by pollution control																								
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34.	Environmental Management plan Budgetary Allocation	<ul style="list-style-type: none"> Capital cost (with break up): Rs. 1.3 cr O&M cost (with break up): <table border="1"> <thead> <tr> <th>Sr. No.</th> <th></th> <th>Recurring Cost per Annum in Lakhs</th> <th>Capital Cost in Lakhs</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Water Pollution Control</td> <td>42.80225</td> <td>170 (For RO system)</td> </tr> <tr> <td>3</td> <td>Noise Pollution Control</td> <td>0.5</td> <td></td> </tr> <tr> <td>4</td> <td>Environment Monitoring and Management</td> <td>0.75</td> <td></td> </tr> <tr> <td>6</td> <td>Occupational Health (</td> <td>1.5</td> <td></td> </tr> <tr> <td>8</td> <td>Hazardous waste management</td> <td>7.5</td> <td>----</td> </tr> <tr> <td>9</td> <td>Others (CSR)</td> <td>5.0</td> <td>----</td> </tr> <tr> <td colspan="2">Total</td> <td>58.05225</td> <td></td> </tr> </tbody> </table>	Sr. No.		Recurring Cost per Annum in Lakhs	Capital Cost in Lakhs	2	Water Pollution Control	42.80225	170 (For RO system)	3	Noise Pollution Control	0.5		4	Environment Monitoring and Management	0.75		6	Occupational Health (1.5		8	Hazardous waste management	7.5	----	9	Others (CSR)	5.0	----	Total		58.05225	
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Storage of chemicals (inflammable/ explosive/hazardous/toxic substances)

Sr. No.	Name	Number of Storage's	Capacity (TPD)	Physical and Chemical Composition	Consumption (in TPD)	Maximum quantity of storage at any point of time	Means of Transport
1	Styrene	2	46.7X 2	Liquid, Vinyl Benzene	10 MT	46.7X 2	Road Tanker
2	Dibutyl maleate	2	15.7 x 2	Liquid Acrylan	1 MT	15.7 x 2	Road Tanker
3	Dibutyl Pthalete	1	15.7	Liquid	0.5 MT	15.7	Road Tanker
4	Diocetyl Maleate	1	15.7	Liquid, Diocetyl Ester	0.5 MT	15.7	Road Tanker
5	Vinyl Acetate Monomer	1	193	Colourless liquid, ethynyl Acetate	8 MT	193	Road Tanker
6	Methyl Methacrylate	1	15	Liquid	2 MT	15	Road Tanker
7	Butyl Acrylate	1	200	Liquid, N butyl acetate	15 MT	200	Road Tanker
8	2-Ethyl Hexyl Acrylate	1	15	Liquid	3 MT	15	Road Tanker

9	Ethyl Acrylate	2	87	Liquid	5 MT	87	Road Tanker
10	Polyvinyl Alcohol	Bags		Solid powder, Polyvinyl alcohol film	3 MT		By Truck
11	Acrylonitrile	1	15	Liquid, Acrylan	1 MT	15	Road Tanker
12	Acrylic Acid	1	50	Liquid, 2propionic acid	2 MT	50	Road Tanker
13	Methacrylic Acid	1	25	Liquid, 2 Methyl propionic acid	1.25 MT	25	Road Tanker

3. The proposal has been considered by SEIAA in its 88th meeting & decided to accord environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions :

General Conditions for Pre- construction phase:-

- (i) No additional land shall be used /acquired for any activity of the project without obtaining proper permission.
- (ii) PP to implement online air monitoring facility equipment
- (iii) For controlling fugitive natural dust, regular sprinkling of water & wind shields at appropriate distances in vulnerable areas of the plant shall be ensured.
- (iv) Regular monitoring of the air quality, including SPM & SO₂ levels both in work zone and ambient air shall be carried out in and around the power plant and records shall be maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with Maharashtra Pollution Control Board (MPCB) & submit report accordingly to MPCB.
- (v) PP to ensure that, COD level should be maintained below 200 mg/l after treatment.
- (vi) Necessary arrangement shall be made to adequate safety and ventilation arrangement in furnace area.
- (vii) Proper Housekeeping programmers shall be implemented.
- (viii) In the event of the failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieve.
- (ix) A stack of adequate height based on DG set capacity shall be provided for control and dispersion of pollutant from DG set.(If applicable)
- (x) A detailed scheme for rainwater harvesting shall be prepared and implemented to recharge ground water.

- (xi) Arrangement shall be made that effluent and storm water does not get mixed.
- (xii) Periodic monitoring of ground water shall be undertaken and results analyzed to ascertain any change in the quality of water. Results shall be regularly submitted to the Maharashtra Pollution Control Board.
- (xiii) Noise level shall be maintained as per standards. For people working in the high noise area, requisite personal protective equipment like earplugs etc. shall be provided.
- (xiv) The overall noise levels in and around the plant are shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures, etc. on all sources of noise generation. The ambient noise levels shall confirm to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989.
- (xv) Green belt shall be developed & maintained around the plant periphery. Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
- (xvi) Adequate safety measures shall be provided to limit the risk zone within the plant boundary, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.
- (xvii) Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.
- (xviii) The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.
- (xix) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 2003 (amended). Authorization from the MPCB shall be obtained for collections/treatment/storage/disposal of hazardous wastes.
- (xx) The company shall undertake following Waste Minimization Measures :
 - Metering of quantities of active ingredients to minimize waste.
 - Reuse of by- products from the process as raw materials or as raw material substitutes in other process.
 - Maximizing Recoveries.
 - Use of automated material transfer system to minimize spillage.
- (xxi) Regular mock drills for the on-site emergency management plan shall be carried out. Implementation of changes / improvements required, if any, in the on-site management plan shall be ensured.
- (xxii) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
- (xxiii) Transportation of ash will be through closed containers and all measures should be taken to prevent spilling of the ash.
- (xxiv) Separate silos will be provided for collecting and storing bottom ash and fly ash.

- (xxv) Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department
- (xxvi) The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at <http://ec.maharashtra.gov.in>
- (xxvii) Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1st June & 1st December of each calendar year.
- (xxviii) A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xxix) The proponent shall upload the status of compliance of the stipulated EC 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 MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorai parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (xxx) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
- (xxxi) The environmental statement for each financial year ending 31st 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 subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.
4. The environmental clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.
5. The Environment department reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.

6. **Validity of Environment Clearance:** The environmental clearance accorded shall be valid for a period of 7 years as per MoEF&CC Notification dated 29th April, 2015 to start of production operations.
7. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.
8. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.
9. Any appeal against this environmental clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune), New Administrative Building, 1st Floor, D-, Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.



(Malini Shankar)
Member Secretary, SEIAA.

Copy to:

1. Shri. R. C. Joshi, IAS (Retd.), Chairman, SEIAA, Flat No. 26, Belvedere, Bhulabhai desai road, Breach candy, Mumbai- 400026.
2. Shri T. C. Benjamin, IAS (Retired), Chairman, SEAC-I, 602, PECAN, Marigold, Behind Gold Adlabs, Kalyani Nagar, Pune -- 411014. .
3. Additional Secretary, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.
4. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
5. The CCF, Regional Office, Ministry of Environment and Forest (Regional Office, Western Region, Kendriya Paryavaran Bhavan, Link Road No- 3, E-5, Ravi-Shankar Nagar, Bhopal- 462 016). (MP).
6. Regional Office, MPCB, Raigad.
7. Collector, Raigad
8. IA- Division, Monitoring Cell, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.
9. Select file (TC-3)
(EC uploaded on 3/11/2015)

