STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

SEAC-2016/CR-124/TC-2
Environment department,
Room No. 217, 2nd floor,
Mantralaya Annexe,
Mumbai- 400 032.
Date: 3rd December, 2016.

To,
M/s. Pidilite Industries Ltd.
Plot No. C-58, MIDC, Mahad,
Raigad- 402 309.

EC SEIAA-Item No.74, Meeting No.103.

Subject: Environment clearance for Expansion of Manufacturing facility of at plots no 58 MIDC Mahad, Raigad by M/s. Pidilite Industries Ltd.

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 127th 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 103rd 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:

1	Name of project	Proposed Expansion of Synthetic Organic Chemicals Manufacturing Facility
2	Name, address, e-mail &Contact number ofProponent	B. T. Latthe Unit head, Pidilite Industries Ltd. Plot No.C-58, MIDC Mahad, DistRaigad , 402309 Phone Nos : +91 2145 232929 Mobile : 9422247373 E mail : latthebt@pidilite.com
3	Name ofconsultant	Aditya Environmental Services Pvt Ltd,
4	Accreditation of Consultant (NABET Accreditation)	5(f)-A
5	New Project / Expansion in existing	Expansion

<table>
<tr><td></td><td>project/Modernization/ Diversification in exiting project</td><td></td></tr>
<tr><td>6</td><td>If expansion / Diversification, whether environmental clearance has been obtained for existing project (If yes,enclose a copy withcompliance table)</td><td>No</td></tr>
<tr><td>7</td><td>Activity schedule in the EIA Notification</td><td>5(f)-B</td></tr>
<tr><td>8</td><td>Area Details</td><td>Total plot area (sq. m.): 6,750
Total plinth area (Existing + Proposed) (Sq. m.): 2148.12</td></tr>
<tr><td>9</td><td>Name of the Notified Industrial area / MIDCarea</td><td>MIDC Mahad, DistRaigad</td></tr>
<tr><td>10</td><td>TOR given by SEAC? (If yes then specify the meeting)</td><td>Yes. 101st SEAC-I meeting, dated 5th May 2015, Item No. 9</td></tr>
<tr><td>11</td><td>Estimated capital cost of the Project (including cost for land, building, plant and machinery separately)</td><td>3.41 Crore</td></tr>
<tr><td>12</td><td>Location details of the project</td><td>Latitude: 18°6'28.91"N
Longitude: 73°29'18.37"E
Location: MIDC Mahad
Elevation above Mean Sea Level (metres): 16 Mtrs</td></tr>
<tr><td>13</td><td>Distance from Protected Areas / Critically Pollutedareas / Eco-sensitive areas/ inter-State boundaries</td><td>No wildlife/ Sanctuary in 10 km surrounding area.</td></tr>
<tr><td>14</td><td>Raw materials (including Process chemicals, catalysts, & additives).</td><td>VAM, Polyvinyl alcohol, Di-butyl phthalate, emulsifier, surfactants etc.</td></tr>
<tr><td>15</td><td>Production details</td><td><table><tr><td>S. N.</td><td>Product</td><td>Enhanced Production Quantity(Mt / Month)</td></tr><tr><td>1</td><td>Polymer of Vinyl acetate and Poly Vinyl alcohol and</td><td>2,500 (1500 existing + 1000 proposed</td></tr></table></td></tr>
</table>

<table>
<tr><td></td><td></td><td><table><tr><td></td><td>adhesives based on vinyl acetate and polyvinyl.</td><td>expansion)</td></tr></table></td></tr>
<tr><td>16</td><td>Rain Water Harvesting (RWH)</td><td>Level of the Ground water table- NA
Size and no of RWH tank(s) and Quantity-NA
Location of the RWH tank(s)-NA
Size, nos of recharge pits and Quantity-NA
Budgetary allocation (Capital cost and O&M cost)-NA</td></tr>
<tr><td>17</td><td>Total Water Requirement</td><td>Total water requirement: 141 cmd (Existing: 77 cmd + Proposed: 64 cmd)
Use of the water: (Existing + Proposed)
Domestic use (CMD): 4 (Existing: 2.5 + Proposed: 1.5)
Industrial cooling (CMD): 43 (Existing: 17 cmd + Proposed: 26 cmd)
Process (CMD): 85 (Existing: 51 + Proposed: 34)
Agriculture/gardening (CMD): 9 (Existing: 6.5 + Proposed: 2.5)</td></tr>
<tr><td>18</td><td>Storm water drainage</td><td>Natural water drainage pattern-NA
Quantity of storm water-NA
Size of SWD-1 Mtrs x 1 Mtrs x 125 mtr -2 Nos</td></tr>
<tr><td>19</td><td>Sewage generation and treatment</td><td>Amount of sewage generation (CMD) : 2 (Existing + Proposed)
Proposed treatment for the sewage: Sewage will be soaked in soak pit and overflow, if any, shall be used for gardening.
Capacity of the STP (CMD) (If applicable): N/A</td></tr>
<tr><td>20</td><td>Effluent characteristic</td><td><table>
<tr><th>Sr. No.</th><th>Parameters (pH, BOD, COD, heavy metal, etc)</th><th>Inlet effluent Characteristic (Unit mg/lit except pH)</th><th>Outlet effluent Characte Ristic (Unit mg/lit except pH)</th><th>Effluent discharge Standards (MPCB)(Unit mg/lit except pH)</th></tr>
<tr><td>1</td><td>pH</td><td>6.9</td><td>6.9</td><td>5.5 - 9</td></tr>
<tr><td>2</td><td>TDS</td><td>220</td><td>200</td><td>2100</td></tr>
<tr><td>3</td><td>COD</td><td>90</td><td>36</td><td>250</td></tr>
<tr><td>4</td><td>TSS</td><td>10</td><td>10</td><td>100</td></tr>
<tr><td>5</td><td>BOD</td><td>34</td><td>12</td><td>30</td></tr>
<tr><td>6</td><td>O & G</td><td>ND</td><td>ND</td><td>10</td></tr>
<tr><td>7</td><td>Chlorides</td><td>23</td><td>21</td><td>600</td></tr>
<tr><td>8</td><td>Sulphates</td><td>50</td><td>15</td><td>1000</td></tr>
</table></td></tr>
<tr><td>21</td><td>ETP Details</td><td>Amount of effluent generation (CMD) : 8 cmd (Existing+ Proposed)
Capacity of the ETP (CMD): 10 cmd
Amount of treated effluent recycled (CMD): 8 cmd (Existing+ Proposed) for gardening / CT make up
Amount of water send to the CETP (CMD): nil</td></tr>
<tr><td>22</td><td>Note on ETP technology to be used</td><td>The existing ETP of 10 cmd capacity is adequate to treat the effluent after proposed expansion.</td></tr>
<tr><td>23</td><td>Disposal of the ETP sludge (If applicable)</td><td>ETP sludge will be sent to CHWTSDF.</td></tr>
<tr><td>24</td><td>Solid waste Management</td><td>Solid waste generation (Existing + Proposed)</td></tr>
</table>

Sr. No.	Type of waste	Quantity	Disposal method
1	Paper bags	635 kg/M	Sale
2	Carboys	4 No/M	Sale
3	Paper/cloth	14 kg/M	Sale

Hazardous Waste Generation (Existing + Proposed)

S. N.	Category of Waste	Type of Waste	Quantity	Mode of Disposal / Recycle/ Sale
1	5.1	Used/spent oil	200 Ltr/A	Sale to MPCB authorized party
2	23.1	Waste residue	20.7 MT/A	CHWTSDF
3	33.3	Discarded containers/barrels/liners used for hazardous wastes/chemicals	2500 No/A	CHWTSDF
4	34.3	Chemical sludge for waste water treatment	5 MT/A	CHWTSDF

If waste(s) contain any hazardous/toxic substance/ radioactive materials or heavy metals then provide quantity, disposal data and proposed precautionary measures: PPEs will be provided, separate segregated storage will be provided.

What are the possibilities of recovery and recycling of wastes? As given above

Possible users of solid waste. As given above

Method of disposal of solid waste. As given above

| 25 | Atmospheric Emissions (Flue gas characteristics SPM, SO2, NOx, CO, etc.) |

Sr. No.	Pollutant	Source of Emission	Emission rate (kg/hr)
1	SPM/TPM	Boiler	<150 mg/Nm^3
2	SO_2		90 kg/day

<table>
<tr><td>26</td><td>Stack emission Details (All the stacks attached toprocess units, Boilers,captive power plant, D.G. Sets, Incinerator both for existing and Proposed activity). Please indicate the specific section towhich the stack is attached. E.g.: Process section, D.G. Set, Boiler, Power Plant,incinerator etc. Emission rate (kg/hr.) for eachpollutant (SPM, SO_2, NO_xetc. should be specified</td><td>
<table>
<tr><th>S. N.</th><th>Stack Attached to</th><th>APC Provided</th><th>Height (Mtrs.)</th><th>Type of Fuel</th><th>Quantity (lit/day)</th><th>% Sulphur</th><th>SO2 (kg/day)</th></tr>
<tr><td colspan="8">Existing</td></tr>
<tr><td>1</td><td>Boiler</td><td>Dust collector</td><td>34</td><td>FO</td><td>700</td><td>4.5</td><td>63</td></tr>
<tr><td>2</td><td>Process vent</td><td>scrubber</td><td>20</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>3</td><td>DG set (320KVA)</td><td>Acoustic enclosure</td><td>3.5*</td><td>HSD</td><td>Emergency use</td><td>-</td><td>-</td></tr>
<tr><td colspan="8">Existing + Proposed</td></tr>
<tr><td>1</td><td>Boiler</td><td>Dust collector</td><td>34</td><td>FO</td><td>1000</td><td>4.5</td><td>90</td></tr>
<tr><td>2</td><td>Process vent</td><td>scrubber</td><td>20</td><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr>
<tr><td>3</td><td>DG set 500 KVA(new*)</td><td>Acoustic enclosure</td><td>3.5*</td><td>HSD</td><td>Emergency use</td><td>-</td><td>-</td></tr>
</table>
(* above the roof) Note: 320 KVA DG Set will be replaced by 500 KVA DG Set in the proposed project.
</td></tr>
<tr><td>27</td><td>Details of Fuel to be used</td><td>
<table>
<tr><th>Sr. No.</th><th>Fuel</th><th>Daily Consumption (KLD)</th><th>% Sulphur</th></tr>
<tr><td>1</td><td>FO</td><td>1</td><td>4.5</td></tr>
</table>
</td></tr>
<tr><td>28</td><td>Energy</td><td>Power supply:
Existing power requirement: 0.863 MW
Proposed power requirement: 1.14 MW
DG sets: 1 Existing 350 KVA DG set to be replaced by proposed 500 KVA DG set.
Details of the non-conventional renewable energy proposed to be used : NA</td></tr>
<tr><td>29</td><td>Green Belt Development</td><td>Green belt area (Sq. m.): 586.75 (Total)
Number and species of trees to be planted: Trees will be planted as per proposed green belt.
Number, size, age and species of trees to be cut, trees to be transplanted:-- NA</td></tr>
</table>

30	Details of Pollution control system	

Sr. No.	Description	Existing pollution control system	Proposed to be installed
1	Air	Dust collector	Same as existing
2	Water	ETP	Same as existing
3	Noise	PPE	Same as existing
4	Solid Waste	Sale to Authorized parties	Same as existing

31	Environmental Management plan Budgetary Allocation	Capital cost and O&M cost (With break up):

Environmental Controlling Measure	Capital Investment (Rs. In Lakhs)	O&M Cost/Annum (Rs. In Lakhs)
Air Pollution Control	1	1
Water Pollution Control	8	0.5
Environment Monitoring	--	1.8
Hazardous waste & Solid waste management	4	1
Green Belt Development	1	1.2
Occupational Health & Safety	0.5	0.4
Others	1	0.2
Total	15.5	6.1

32	EIA Submitted (If yes then submit the salient features)	Period of data collected: Summer 2014 Details of the primary data collection (i.e. location of the sample collection, number of visit, etc) : 6 locations Details of the secondary data collection (i.e. Source and year of data): Secondary data collectd from Forest Dept, PHC centers Potential hazard and mitigation measures : Odors due VOC handling, Mitigation measures given in chapter 4 Conclusion of the EIA study: impacts due to proposed project will be within manageable limits

"Annexure 3.1"

BAG FILTER DESIGN

Following scenario has been worked out for design of pulse jet bag filter:

3 boilers in operation (worst case scenario)		
	Unit	
Flue gas rate	m3/hr	9780
Temperature	degree C	180
Concentration of the dust in gases	gm/m3	0.091
Calculation of filtering area		
Total filtering area required as per Calculation	m2	192.1
Volume occupied by filter	m3	63.4

Consumption of Compressed Air	Nm3/hr	41.3
Surface occupied by the filter	m2	9.0
Assumptions of bag size		
Diameter of the bags to be fixed	m	0.15
Length of the bags	m	2
No of bags required	nos	200
DISTRIBUTION		
Number of Rows in the Bag house	nos	10
Number of Columns in the Bag house	nos	20

MOC of bag filters
MOC : Nomex / Fibre glass (suitable for gas temp 190/260 deg C)
woven fabric bag cage
Dust capture efficiency > 90 %

3. The proposal has been considered by SEIAA in its 103rd 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) This environment clearance is issued subject to achieve Zero Liquid Discharge (ZLD).

(ii) Project Proponent to take utmost precaution for the health and safety of the people working in the unit as also for protecting the environment.

(iii) No additional land shall be used /acquired for any activity of the project without obtaining proper permission.

(iv) For controlling fugitive natural dust, regular sprinkling of water & wind shields at appropriate distances in vulnerable areas of the plant shall be ensured.

(v) Proper Housekeeping programmers shall be implemented.

(vi) 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.

(vii) A stack of adequate height based on DG set capacity shall be provided for control and dispersion of pollutant from DG set. (If applicable).

(viii) A detailed scheme for rainwater harvesting shall be prepared and implemented to recharge ground water.

(ix) Arrangement shall be made that effluent and storm water does not get mixed.

(x) 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.

(xi) 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.

(xii) 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.

(xiii) 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.

(xiv) 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.

(xv) Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.

(xvi) The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.

(xvii) 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.

(xviii) 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.

(xix) 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.

(xx) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.

(xxi) 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

(xxii) 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

(xxiii) 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.

(xxiv) 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.

(xxv) 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. SO_2, NOx (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.

(xxvi) 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.

(xxvii) 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.

(S. M Gavai)
Member Secretary, SEIAA.

Copy to:

1. Shri T. C. Benjamin, IAS (Retired), Chairman, SEAC-I, 602, PECAN, Marigold, Behind Gold Adlabs, Kalyani Nagar, Pune – 411014..
2. Additional Secretary, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.
3. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
4. 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).
5. Regional Office, MPCB, Raigad.
6. Collector, Raigad
7. IA- Division, Monitoring Cell, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.
8. Select file (TC-3)

(EC uploaded on)