

No. SEIAA/GUJ/EC/5(f)/ 03 /2012

Date: 22 MAR 2012  
Time Limit

Sub: Environment Clearance to M/s. Aditya Birla Epoxy (India) Ltd. for setting up of Epoxy and Epichlorohydrin Plants at Plot No. 1 (P), GIDC Industrial Estate, Vilayat - 392 140, Tal. Vagra, Dist. Bharuch. in Category 5(f) of Schedule annexed with EIA Notification dated 14/9/2006.

Dear Sir,

This has reference to your Application Form 1 along with Pre-feasibility Report, EIA Report submitted vide their letter dated 29/11/2011, Additional details submitted vide letters dated 25/02/2012 submitted to the SEAC, seeking Environmental Clearance under Environment Impact Assessment Notification, 2006.

The proposal is for Environmental Clearance to M/s. Aditya Birla Epoxy (India) Ltd. for setting up of Epoxy and Epichlorohydrin Plants at Plot No. 1 (P), GIDC Industrial Estate, Vilayat - 392 140, Tal. Vagra, Dist. Bharuch. The list of proposed products are as below :

Sr. No.	Product	Capacity (TPA)
EPOXY PLANT		
1	Liquid Epoxy Resin	35000 TPA
2	Formulated Resins	9000 TPA
3	Hardeners	14000 TPA
4	Reactive Diluents	7350 TPA
5	Powder Coating	10500 TPA
6	Can Coating Resin	1500 TPA
7	Solution Cut Resins	5000 TPA
EPICHLOROHYDRIN PLANT		
8	Epichlorohydrin (Through Glycerine Route)	36500 TPA
9	Hydrochloric Acid (20% Technical Grade) as 20%	4247 TPA

The project activities fall under category no. 5(f) of the schedule of the EIA Notification, 2006. The project is located within the notified industrial estate, and hence does not require public consultation as per para 7(f) III (b) of EIA Notification 2006.

The SEAC, Gujarat had recommended to the SEIAA, Gujarat, to grant the Environment Clearance to this project for the above-mentioned products. The proposal was considered by SEIAA, Gujarat in its meeting held on 15.03.2012 at Gandhinagar. SEIAA hereby accords Environmental Clearance to above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 subject to the compliance of the following conditions:

**A. SPECIFIC CONDITION**

1. Entire 4247 TPA of Hydrochloric Acid (20%) generated from the ECH Plant shall be completely reused in the HCl gas generation system.

**A.1 WATER**

2. Total water requirement for the project shall not exceed 5300 KLD [2800 KLD for Epoxy Plant & 2500 KLD for ECH Plant] and it shall be met through the GIDC water supply only. No ground water shall be tapped for the project requirements in any case.
3. Total effluent generation from the project including domestic wastewater shall not exceed 3951 KLD [2390 KLD for Epoxy Plant & 1561 KLD for ECH Plant].
4. Salt recovery system consisting of three stage crystallizers shall be installed for recovery of salt from the untreated effluent from Epoxy & ECH Plants so as to make it biologically treatable.

5. The effluent shall be treated in the ETP consisting of primary, secondary and tertiary treatment facilities. The ETP shall be operated regularly and efficiently so as to achieve the GPCB norms at the ETP outlet.
6. The treated waste water conforming to the GPCB norms shall be discharged into the GIDC underground drain for its final disposal into the deep sea.
7. A Guard / Polishing Pond shall be provided before discharge of treated effluent into GIDC underground drain. The unit shall provide on line pH meter, flow meter & TOC meter for online monitoring of the treated effluent.
8. The domestic wastewater shall also be treated along with the industrial effluent in the ETP.
9. The unit shall provide metering facility at the inlets and outlets of the ETP and maintain records of the same.
10. Proper logbooks of ETP operation and also showing the quantity of effluent generated, discharged into GIDC underground drain, utilized for plantation / gardening etc. shall be maintained and furnished to the GPCB from time to time.
11. Regular performance evaluation of the ETP shall be undertaken every year to check its adequacy, through credible institutes like L.D. College of Engineering, NPC or such other institutes of similar repute, and its records shall be maintained.
12. The unit shall join and participate financially and technically for any common environmental facility / infrastructure as and when the same is taken up either by the GIDC or GPCB or any such authority created for this purpose by the Govt. / GIDC.

#### **A.2 AIR:**

13. Process emission shall be controlled with the air pollution control equipments (APCE) as mentioned below.
  - a. ECH Plant - (i) Caustic Scrubber at Incinerator; (ii) Water Scrubber for control of vent gases and normal purges from equipments.
  - b. Liquid Epoxy Resin Plant - (i) Bag filters for control of SPM; (ii) Guard Condenser for condensation of solvent vapours.
  - c. Reactive Diluents Plant - (i) Bag filters for control of SPM; (ii) Guard Condenser for condensation of solvent vapours
  - d. Hardeners Plant - (i) Water Scrubber for absorption of unreacted Amines.
  - e. Powder Coating / Can Coating Resin Plant - (i) Bag Filters for control of SPM; (ii) Guard Condenser for condensation of solvent vapours.
  - f. Solution Cut Resins Plant - (i) Bag Filters for control of SPM; (ii) Guard Condenser for condensation of solvent vapours.
14. The APCE shall be operated efficiently and effectively to achieve the norms prescribed by the GPCB at stack outlets. Adequate stack height as per prevailing norms shall be provided for the process emissions.
15. Natural gas shall be used as a fuel in Incinerator of the ECH Plant.
16. The unit shall undertake measures for solvent recovery and Guard Condensers shall be provided for control of evaporation of solvents.
17. Solvent recovery shall not be less than 95 percent.
18. Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system.
19. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health).
20. Regular performance evaluation of the air pollution control systems shall be undertaken every year to check its adequacy, through credible institutes like L.D. College of Engineering, NPC or other such other institutes of similar repute, and its records shall be maintained.
21. Regular monitoring of ground level concentration of HCl, SO<sub>2</sub>, NO<sub>x</sub>, ECH, Toluene, Xylene, PM<sub>10</sub> and PM<sub>2.5</sub> shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by Gujarat Pollution Control Board. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with GPCB.

#### **A.3 HAZARDOUS / SOLID WASTE:**

22. The company must strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008, as may be amended from time to time. Authorization from the GPCB must be obtained for collection / treatment / storage / disposal of hazardous wastes.
23. The hazardous wastes shall be stored in separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.

24. The unit shall dispose its ETP sludge and waste polymers at the nearest common TSDF. The unit shall obtain membership of the nearest common TSDF for disposal of aforesaid wastes.
25. Light end from Chlorohydrination and light ends and heavy ends from the ECH Purification Unit shall be incinerated with help of in-house incinerator.
26. Discarded containers / barrels / bags / liners shall be either reused or sold only to the authorized recyclers after decontamination.
27. Used oil shall be sold only to the registered recyclers.

#### **A.4 SAFETY**

28. Provisions of the Manufacture, Storage & Import of Hazardous Chemicals Rules, 1986 & Factories Act, 1948 shall be strictly complied with.
29. A well designed fire hydrant system shall be installed as per the prevailing standards.
30. All the risk mitigation measures, general & specific recommendations mentioned in Chapter 6 of the EIA Report shall be implemented.
31. All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic / hazardous chemicals.
32. Storage and use of hazardous chemicals shall be minimized to the extent possible and all necessary precautions shall be taken to mitigate the risk generated out of it. Storage of hazardous chemicals shall be in multiple small capacity tanks / containers instead of one single large capacity tank for safety purpose.
33. During material transfer, spillages shall be avoided and gulland drain be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.
34. All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/dyke walls shall be provided for storage tanks for Hazardous Chemicals. Close handling system for chemicals shall be provided.
35. Tie up shall be done with nearby health care unit for seeking immediate medical attention in the case of emergency, regular medical check up of the workers and keeping its record etc.
36. Personal Protective Equipments shall be provided to workers and its usage shall be ensured and supervised.
37. First Aid Box and required antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.
38. Training shall be imparted to all the workers on safety and health aspects of chemicals handling.
39. Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.
40. Handling and charging of the chemicals shall be done in such a manner that minimal human exposure occurs.
41. Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act & Rules.

#### **A.5 NOISE**

42. The overall noise level in and around the plant area shall be kept well within the prescribed standards by providing noise control measures including acoustic insulation, hoods, silencers, enclosures, vibration dampers etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act and Rules. Workplace noise levels for workers shall be as per the Factories Act and Rules.

#### **A.5 ENERGY CONSERVATION**

43. The project proponent shall install energy efficient devices and appliances conforming to the Bureau of Energy Efficiency norms.
44. The energy audit shall be conducted at regular intervals and the recommendations of the audit report shall be implemented.
45. Energy conservation measures shall include use of high efficiency screw air compressor, VFD on cooling water pumps and cooling tower fans, high efficiency motors for all utility equipments and high efficiency centrifugal air blowers etc.
46. Energy saving practices as follows shall be practiced:-
  - > Constant monitoring of energy consumption and defining targets for energy conservation.
  - > Adjusting the settings and illumination levels to ensure minimum energy used for desired comfort level.
  - > Use of solar cells for lighting.
  - > Use of solar water heater for canteen & washing area.
  - > Proper load factor shall be maintained by the unit.
  - > Provision of day light roof to utilize maximum natural light in the production plant instead of electrical lighting.
  - > Use of electronic ballast to save energy.

- > Automatic switching system for lighting & water tank pumping shall be used.
- > To the maximum extent possible and technically feasible, energy efficient equipment like motors, pumps, air conditioning systems shall be selected.
- > Gravity flow shall be preferred wherever possible to save pumping energy.
- > Promoting awareness on energy conservation.
- > Training to the staff on methods of energy conservation and to be vigilant for this.

#### **A.7 CLEANER PRODUCTION AND WASTE MINIMIZATION**

47. The unit shall undertake the Cleaner Production Assessment study through a reputed institute / organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.
48. The company shall undertake following waste minimization measures:
  - a) Complete reuse of HCl (20%) in HCl Gas Generation Unit.
  - b) Metering and control of quantities of active ingredients to minimize waste.
  - c) Reuse of by-products from the process as raw materials or raw materials substitutes in other process.
  - d) Use of automated and enclosed filling to minimize spillages.
  - e) Use of close feed system into batch reactors in Epoxy Plant.
  - f) Dry cleaning / mopping of floor instead of floor washing
  - g) Use of high pressure hoses for cleaning to reduce wastewater generation
  - h) Regular preventive maintenance for avoiding leakage, spillage etc.

#### **A.7 GREEN BELT AND OTHER PLANTATION**

49. The unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in the GIDC estate, nearby schools, gram panchayat areas and any other open areas in consultation with the GIDC / local bodies / GPCB and submit an action plan of plantation for next three years to the GPCB.
50. Drip irrigation / low volume, low angle sprinkler system shall be used for the green belt development.

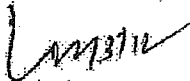
#### **B. GENERAL CONDITIONS**

51. In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.
52. A separate Environment Management Cell equipped with full fledged laboratory facilities and qualified personnel shall be set up to carry out the Environment Management and Monitoring functions and a separate budget shall be allocated for this purpose.
53. The funds earmarked for environment protection measures shall be maintained in a separate account and there shall not be any diversion of these funds for any other purpose. A year-wise expenditure on environmental safeguards shall be reported.
54. Pucca flooring / impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.
55. Leakages from the pipes, pumps, shall be minimal and if occurs, shall be arrested promptly.
56. All the recommendations made in the EIA Report submitted by the project proponent shall be strictly implemented.
57. The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of the environmental protection and management.
58. No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.
59. The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of the clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/ SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in the Gujarati language and the other in English. A copy each of the same shall be forwarded to the concerned Regional Office of the Ministry.
60. It shall be mandatory for the project management to submit half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned, on 1st June and 1st December of each calendar year.
61. The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.
62. The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
63. The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.

64. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.
65. This Environmental Clearance is valid for five years from the date of issue.

With regards,

Yours sincerely,



(R.G.SHAH)

Member Secretary

Issued to:

✓ Mr. K. C. Jhanwar, Group Executive President,  
M/s. Aditya Birla Epoxy (India) Ltd.  
Grasim Industries Limited, Chemical Division,  
P.O. Birladham, Nagda - 456 331,  
Dist. Ujjain (M.P.)

Copy to:-

1. The Secretary, Department of Environment and Forests, Govt. of Gujarat, Secretariat, Gandhinagar-382010.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD -cum-Office Complex, East Arjun Nagar, New Delhi-110032
3. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office (WZ), E-5, Arera Colony, Link Road-3, Bhopal-462016, MP
4. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003
5. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10 A, Gandhinagar-382010.
6. Select File.

(R.G.SHAH)

Member Secretary