

Executive Summary of Draft Environmental Impact Assessment Report



Alex Industries

Plot No. : CH - 11, Dahej Industrial Estate,
GIDC Dahej, Ta : Vagra, Dist. : Bharuch, Gujarat

Prepared By:



Ramans Enviro Services Pvt. Ltd.

SF -23 & 24, Camps Corner, Near AUDA Garden, Prahaladnagar
Ahmedabad 380 015 Phone: 079-26937472. Fax: 079-40064440
E-mail :ramans_consultancy@rediffmail.com,
ramans.consultancy@gmail.com

INTRODUCTION :

1. M/s. Alex Industries is setting up a unit at Plot No CH/11, GIDC, Dahej Industrial Estate, Tal. Vagra, Dist. Bharuch, for manufacturing of pigment and other inorganic products.
2. M/s. Alex Industries has obtained Consent To Establish (CTE) on 11/04/2011 for manufacturing of pigments through blending and other inorganic products at the said location.
3. To cater to the growing needs of its clients, unit intends to expand its existing facility. The unit has proposed manufacturing of new products namely Pigment Beta Blue, Pigment red-122, pigment violet-19, Calcium Chloride (90%), Pigment Green-7 and Pigment Violet-23.
4. The proposed expansion project for manufacturing of various pigments falls under item 5(f) of the Schedule of EC notification dated 14th September 2006 and its subsequent amendments.
5. Alex Industries had applied to State level Expert Appraisal Committee (SEAC) in prescribed Form-1 for obtaining Environmental Clearance in December-2011. Based on the application submitted and discussion held during various meetings and lastly on 27 February, 2013, TOR was issued by SEAC vide letter no. EIA-10-2011-1142-E/659 dated 30/05/2013.
6. This Environment Impact Assessment (EIA) report has been prepared to take stock of the existing environmental quality surrounding the plant site and to assess the environmental impacts associated with the proposed manufacturing activity as well as to plan and implement environmental control measures to mitigate, if not prevent completely, the adverse impacts.

PROJECT DESCRIPTION :

7. As per CTE No. 41211, the proposed unit will be engaged in manufacturing of Pigment by physical mixing @ 600 MT per month and also other inorganic products @ 417 MT per month i.e. collective production of @ 1017 MT per month.

8. The additional collective production of various products (Pigment Beta Blue, Pigment Red-122, Calcium Chloride (90%), Pigment Green-7 and Pigment Violet-23) due to expansion will be @ 210 MT per month.
9. The total plot area for the industrial premises will be @ 11,000 sq.m. Out of which, @ 2100 sq.m. area will be developed as green-belt.
10. The ultimate requirement of power for the project inclusive of proposed expansion will be @ 1550 KVA and it will be satisfied through Dakshin Gujarat Vij Company Ltd. (DGVCL).
11. In case of emergency, during power failure, 2 no. of D.G. sets of capacity 250 KVA each will be operated with natural gas @ 60 SCM/hr.
12. The fresh water requirement due to the proposed expansion will increase from 260 KL/day to 576 KL/day. The water requirement for the process, utility (Boiler & cooling), washing, filtration and for domestic purpose. The fresh water requirement of @ 576 KLD will be satisfied through water supply system of GIDC, Dahej.
13. The estimated quantity of wastewater will be 478 KL/day. Out of which the process wastewater generation will be 460 KL/day. Total industrial effluent is 475 KL/day (The quantity of wastewater generated due to boiler blow down and cooling tower blow down will be treated separately and used for gardening purpose. Only, 472 KL/day as mentioned will be treated in ETP).
14. Proposed Boiler, D.G. Set and Thermo Pack Heater are identified as sources of Flue gas emission. Since, it is proposed to use natural gas as a fuel, for boilers as well as thermo pack, no pollution control device is required except the suitable stack height for effective dispersion.
15. Spray dryer and spin flash dryer are identified as the sources of Particulate matter. Spin Flash Dryer will be provided with bag filter as an APC measure and Spray dryer will have cyclone separator followed by scrubber as an APC measure.
16. Reactor used for chlorination process in pigment green-7 process will be the source of Cl₂ and HCl emissions. Two stage scrubber, water scrubber and alkali scrubber will be provided as an APC measure for the same.

17. Hazardous solid waste to be generated from the proposed project will be disposed off as per prescribed guidelines. Unit has obtained membership of TSDF site of Bharuch Enviro Infrastructure Ltd. (BEIL), Ankleshwar.
18. Transportation of hazardous waste to the TSDF Site will be governed as per the guidelines.
19. Unit is committed towards Health and Safety of workers and will provide a facility of pre-medical and regular medical check-up of employees for detecting any kind of adverse effect on the health of employees due to the chemical or work place condition.
20. All the workers will be provided with required personal protective equipments as and when required as per the nature of job.
21. Estimated cost of proposed project will be around Rs. 707 Lacs which includes cost of expansion of @ Rs. 225 Lacs.

DESCRIPTION OF ENVIRONMENT :

22. Baseline study was carried out during the period of January to March 2012 and as well as during April to May 2013 within 5 km radius considering the project site as centre.
23. Site specific meteorological data for both the study period has been collected by installing weather monitoring station at a distance of 4.8 km from the site near village Jolwa.
24. 6 Ambient Air Quality (AAQ) stations have been chosen in the radius of 5 km from the project site as centre considering the various factors.
25. During both the respective study period the average concentrations of PM₁₀, PM_{2.5}, SO₂, NO_x and Ammonia recorded below the permissible limit at all locations and HCl and Chlorine were found below detection limit.
26. For characterization of water sources, Water samples were collected, from GIDC water supply, Ground water sample from Dahej village borewell and surface water samples from Dahej pond and Jolwa pond were collected and analyzed for the prescribed drinking water quality parameters.
27. During monitoring period, the Leq (dB(A)) noise levels varied between 55.75 to 63.08 during daytime and 43.07 to 52.61 during the night time for whole study area.

28.Characterization of soil was carried out within the study area. Physical characteristics of soil have been delineated through specific parameters, viz. particle size distribution (grain size analysis), porosity, water holding capacity and permeability. Whereas data for chemical characterization of soil, selected parameters viz. pH, electrical conductivity, cation exchange capacity, and alkali matter and sodium absorption ratio have been analyzed.

IMPACT IDENTIFICATION AND PREDICTION :

29.Impact identification has been carried out for various activities involved in construction as well as operational phase of the project through a matrix and prediction has been done for significant impacts

30.When predicted 24 hourly ground level concentrations of SO_x, NO_x and Particulate Matter (PM) emissions from the proposed plant is added to background monitored values, resultant values remain well below the prescribed National Ambient Air Quality Standards at all location.

31.Predicted maximum 24 hourly average GLC values for proposed scenario as 0.057 µg/m³ for Cl₂, 0.12 µg/m³ for HCl and background monitored values for Cl₂ and HCl are found below detection limit. Therefore, there is no significant impact is anticipated on ambient air quality of the area due to proposed project.

32.There will not be any withdrawal of ground water as the proponent will continue to satisfy the water need through water supply from GIDC, Dahej and there will not be direct discharge of effluent except into underground drainage system of GIDC.

33.As the treated effluent will be meeting with the prescribed statutory norms of GIDC underground drainage system, the resultant quality of GIDC drainage as well as sea is not likely to be affected.

34.The proposed expansion project site is located within the existing premises of the proponent in GIDC, Dahej in notified industrial area; therefore there will be no conflict on land-use pattern in the surroundings.

35.The impact of the proposed expansion project is likely to be insignificant during construction phase and marginally normal in operation phase. The

proposed project does not envisage any destruction or displacement of any endemic faunal species; hence the impact will be insignificant.

36. The traffic load to be increased due to proposed project for the transportation of finished goods and raw materials will be low as compared to the carrying capacity of the road and existing traffic prevailing in project region. Hence, the impact of increase in traffic density and air quality due to minor increase in traffic movement will be insignificant.
37. Solid / hazardous waste generated due to proposed production activity will be stored separately in Hazardous Waste storage area within the factory premises. It will have non-percolating RCC floor and covered roof. Hence, no significant negative impact is envisaged on the surrounding soil quality due to presence of solid / hazardous waste within the plant premises.
38. Impact in terms of displacement of habitation and settlements due to the proposed project is totally absent.

PROPOSED MITIGATION MEASURES :

39. Optimum use of water will be done for construction phase as well as for labours with adequate water supply to labours for drinking water and sanitation facilities.
40. Adequately designed cooling & boiler systems with optimized water requirements will be installed & will be maintained regularly.
41. The records of water usage & waste water discharge, water recycling etc. will be maintained in appropriately developed log sheets for easy verification.
42. Implement routine plant maintenance and good house-keeping to keep small leaks and spills to a minimum
43. Regular monitoring of raw & treated effluent will be carried out to determine the plant efficiency.
44. For suppression of dust during construction activities, water will be sprinkled at regular interval.
45. Efficient working of proposed APC system will be ensured
46. All the hazardous solid waste generated will be segregated properly and will be stored in identified area for storage and for further disposal

47. Proper storage, handling and disposal of all type of hazardous solid wastes as per the guidelines prescribed will be ensured
48. High noise generating machines and processes will be enclosed and insulated.
49. There will be periodical noise level measurements for verifying compliance with relevant laws.
50. Workers exposed to high noise generating operations will be provided with suitable ear protection devices
51. Locally available man-power will be employed by the management in the manufacturing activity.
52. A greenbelt of proper width will be developed at the periphery of the plant site and survival and maintenance of the same will be closely monitored.
53. Workers will be trained for all the hazardous process operations within the plant and will be supervised by experienced supervisors
54. Training will be provided to the designated staff & workers for fire fighting work permit system, first aid & safe handling with the machines.

RISK ASSESSMENT & DISASTER MANAGEMENT PLAN :

55. The raw material and products will be stored in separate and / or isolated area and required safety measures will be provided.
56. There will be handling of Chlorine and will have permission for storage as per the guidelines provided by PESO, India. Storage will be in tonners and will be stored at isolated place with safe handling provision.
57. Maximum Credible Scenario for important / critical chemicals i.e. Chlorine and Methanol are considered for ALOHA modelling. Whereas, Acetic Acid, Aniline, Diethylene Glycol (DEG), Isobutyl alcohol (IBA), Mono chloro benzene (MCB), Ortho dichlorobenzene (ODCB), Xylenes, Hydrochloric Acid, Phosphoric Acid, Nitric Acid and Sulphuric Acid have too small quantity, or stored in small bags / drums / containers / tanks can be controlled by proper control mechanism for handling and storage, safety precautions and training.
58. Necessary safety measures including inherent safety devices, fire fighting facilities will be provided to attend any emergency arising due to plant operation.

59. Probable affected person, including in neighbourhood industries, will be aware / educated about probable hazard risk and response in case of emergency.
60. Disaster management plan consisting of emergency response organization, communication system, action on the site and facilities available at site will be formulated.

ENVIRONMENTAL MONITORING PROGRAM :

61. For the proposed project, monitoring activity is mainly envisaged for stack emissions, work zone and ambient air to analyze the performance of APC system, to measure the prevailing noise levels due to plant operation and to analyze the performance of proposed ETP.
62. The in-charge of environment, health and safety department of the unit has to co-ordinate all monitoring programmes at site and data generated shall be submitted regularly to the statutory agencies.
63. For carrying out regular environment monitoring, it is to be outsourced to outside agencies. MoEF / GPCB recognized agencies should be deployed.

ENVIRONMENT MANAGEMENT PLAN :

64. The unit shall form an Environment Management Cell to collect information from regular monitoring and create a database, analyze the data and decide the critical areas for immediate attention and corrective actions, work out action plan for implementation of the recommendations made under Environment Management Plan and prepare budget for environment management program.
65. Qualified and experienced person in the field of Environment either environmental engineer or environmental scientist should be appointed for overall responsibility for the management of all the issues related to Environment, Health and Safety within the plant.
66. In consultation with in-charge of the plant, he shall directly report to the Senior Management (Director / Executive Director) of the company for issues related to the Environment Management System of the unit.

67. Nature and criticality of the noncompliance reported to the top management will be further reviewed and will be placed before the Board of Directors either for information along with action taken for non compliance or for approval for the major actions to be initiated.