

# **Executive Summary**

**of**

## **EIA report**

**by**

**M/s. Apoorva Laminates Pvt. Ltd.**

Survey No. 113/p3,  
Village: Nava Sadulka,  
Tal: Morbi, Dist: Rajkot,  
Gujarat

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## **E-1 BACKGROUND**

Since India is a developing country and industries have always played major role in the economic development of the country. Gujarat is a one of the well developed industrialized State, has a significant contribution in industrial as well as economic development of the country.

M/s. Apoorva Laminates Pvt. Ltd. is the existing unit, located at Survey No. 113/p3, Vill: Nava Sadulka, Tal: Morbi, Dist: Rajkot, Gujarat. From the establishment, the unit has been engaged in manufacturing of Laminated sheets with production capacity of 1800 MTPM (450000 nos./month). Now, the unit proposes to manufacture different types of resins i.e. Phenol Formaldehyde Resin 200 MTPM and Melamine Formaldehyde Resin 100 MTPM at the same premises.

The total area of the premises is 7285 m<sup>2</sup> and the proposed expansion will be in the same premises. There will not be any additional land requirement for the proposed expansion.

## **E-2 PROJECT DESCRIPTION**

### **Location of project**

M/s. Apoorva Laminates Pvt. Ltd. is the existing unit located at Survey No. 113/p3, Vill: Nava Sadulka, Tal: Morbi, Dist: Rajkot, Gujarat. The location of the project site is given here under in terms of longitude and latitude.

**Latitude:** 22<sup>0</sup>53'32.78"N

**Longitude:** 70<sup>0</sup>50'03.87"E

### **Site Selection**

Unit has been already in existence since long and its owners are familiar with the surrounding environment; therefore, it becomes easy for the unit to expand the project in the same premises. In addition, there will not be any industrial effluent discharge from the proposed project activities. Thus, it will become easier for the management to expand the project.

The selection of the project site at this location was considered on the availability of the following amenities:

- The nearest town Morbi & city Rajkot are 10 km and 70 km away from the project site which is very well connected with other parts of the country by road & rail.
- Availability of all basic facilities like fuel, water, power, man power, raw materials, etc.
- Good communication and transportation facilities.
- No R & R will be required.
- No national parks or wildlife habitats fall within 10 km radius of location.

### **Alternative Locations**

Suitability of transportation facilities; and availability of existing infrastructure such as power, roads, telecommunications, water at the existing project, the unit has decided to develop proposed expansion at the same premises. Therefore there is no need of alternative locations.

### **E-3 PROPOSED PRODUCTION CAPACITIES OF PLANT**

The unit is an existing unit, involved in manufacturing of laminated sheets and now, proposed to expand the production capacity with addition of new products. The details of products are given hereunder,

#### **Detail of the products**

<b>Sr. No.</b>	<b>Name of product</b>	<b>Production capacity</b>		
		<b>Existing</b>	<b>Proposed</b>	<b>Total</b>
1.	Laminated sheets	450000 Nos./Month <b>or</b> 1800 MT/Month	Nil	450000 Nos./Month <b>or</b> 1800 MT/Month
2.	P.F. Resin	0.0	200 MT/Month	200 MT/Month
3.	M.F. Resin	0.0	100 MT/Month	100 MT/Month

### **Investment of the project**

The total cost of the project after proposed expansion is estimated around Rs. 4.6 crores. Out of which 12 lakhs will be used for Environmental Pollution control measures.

#### **E-4 DESCRIPTION OF ENVIRONMENT**

To predict the impact of the proposed activities on the surrounding environment, the current baseline environmental status was studied by collecting the data and carrying out monitoring for the period of April-12 to June-12.

The environmental quality has been analyzed with respect to ambient air quality, water quality, noise levels, soil characteristics, flora & fauna and parameters concerning human interest. Based on the data, the relevant impacts on various environmental components were also predicted by using appropriate mathematical models as well as impact assessment techniques. An appropriate environmental management plan was also delineated to minimize the adverse impacts.

#### **E-5 AIR ENVIRONMENT**

The ambient air quality monitoring was carried out at six AAQM locations, with a frequency of twice a week, to assess the existing sub-regional air quality status during the month of April-12 to June-12. Respirable Dust Sampler along with the analytical methods, prescribed by CPCB was used for carrying out air quality monitoring. At all these sampling locations; PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> were monitored on 24-hourly basis to enable the comparison with ambient air quality standards prescribed by the Central Pollution Control Board.

The data on concentrations of various pollutants were processed for different statistical parameters like arithmetic mean, standard deviation, minimum and maximum concentration and various percentile values.

#### **Respirable Suspended Particulate Matter (PM<sub>10</sub>)**

An average and 98<sup>th</sup> percentile value of 24-hourly PM<sub>10</sub> values at all - the locations ranged between 59.5-69.2 µg/m<sup>3</sup> and 66.6-75.4 µg/m<sup>3</sup> whereas the stipulated standard of CPCB is 100 µg/m<sup>3</sup>.

### **Sulphur Dioxide (SO<sub>2</sub>)**

An average and 98<sup>th</sup> percentile value of 24-hourly SO<sub>2</sub> value of arithmetic mean at all the locations ranged between 12.9-15.6 µg/m<sup>3</sup> and 14.5-19.3 µg/m<sup>3</sup> respectively, which are well within the stipulated standards of 80 µg/m<sup>3</sup>.

### **Oxides of Nitrogen (NO<sub>x</sub>)**

An average and 98<sup>th</sup> percentile value of 24 hourly NO<sub>x</sub> value of arithmetic mean at all the locations ranged between 14.3-17.7 µg/m<sup>3</sup> and 15.5-20.8 µg/m<sup>3</sup> respectively, which are much lower than the standards stipulated by CPCB, i.e. 80 µg/m<sup>3</sup>.

## **E-6 WATER ENVIRONMENT**

### **Surface Water Quality:**

The study area does not cover any perennial surface water source.

### **Ground water quality**

**Color:** All the samples were color less and meeting desirable norms.

**pH:** All the samples meet the desirable standards (pH ranges from 7.2 to 7.9).

**Total Dissolved Solids (TDS):** TDS in samples ranges from 792 mg/L (Nava Sadulka) to 1129 mg/L (Dharampar). All the samples meet the permissible limit of 2000 mg/L, (If alternate sources of potable water are not available).

**Calcium:** Calcium contents in the water ranges from 26 mg/L (Nava Sadulka) to 42 mg/L (Pipali), all the samples meet the permissible limit of 200 mg/L, (If alternate sources of potable water is not available).

**Magnesium:** Magnesium content in the water ranges from 23 mg/L (Gor Khijadia) to 36 mg/L (Pipali). All the samples meet even the permissible limit of 100 mg/L (if alternate source of potable water in not available).

**Sulphate:** Sulfate content in the water ranges from 39 mg/L (Nava Sadulka) to 72 mg/L (Pipali). All the samples meet the permissible

limit of 400 mg/L for drinking water (if alternate source of potable water is not available).

**Fluoride:** Fluoride content in the water ranges from 0.46 mg/L (Nava Sadulka) to 0.83 mg/L (Pipali). All the samples meet the desirable limit (1.0 mg/L).

**Total Alkalinity:** Total alkalinity in the water samples ranges from 198 mg/L (Dharampar) to 251 mg/L (Pipali). All the samples are within the permissible limit of drinking water (600 mg/L) (if alternate source of portable water is not available).

**Other Parameters:** Potassium (ranges from 31 mg/L to 52 mg/L), Sodium (ranges from 156 mg/L to 252 mg/L) and Chloride (ranges from 207 mg/L to 396 mg/L).

**Heavy metals** like copper, lead, chromium and zinc are found below detectable limit in all samples.

**Conclusions:** Ground water samples from villages meet the permissible limit set by the authority (BIS).

## **E-7 NOISE ENVIRONMENT**

The  $L_{eq}$  values of noise levels during daytime ( $L_d$ ) varied between 52.3 to 62.5 dB (A). Highest  $L_d$  value was recorded Nr. National Highway (62.5 dB (A)), While the  $L_{eq}$  values of noise levels during night time ( $L_n$ ) varied between 40.3 to 56.4 dB (A). Highest  $L_n$  value was recorded Nr. National Highway (56.4 dB (A)).

## **E-8 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **Air Environment**

#### **Source of Air Pollution**

The main source of emission from the plant is common stack attached to the Boiler and TFH, which will remain same after expansion.

At present, lignite or wood is used as fuel and after expansion; unit will use coal/Biofuel (Briquette). Multi Cyclone is provided to mitigate emission level. Adequate height of 30.0 m is provided to the stack for proper atmospheric dispersion of pollutants.

The probable emitted pollutants will be SPM, SO<sub>2</sub> and NO<sub>x</sub>. However, it will be almost within the emission norms.

Since HSD is used as fuel for D.G. set, which is used on in case of emergency, the flue gas emission will also be well within gaseous emission norms and there is no need of any air pollution control measures.

### **Air Quality Modelling and Predictions**

It is predicted that the maximum contribution in GLCs, with units operating at full capacity, is 0.511 µg/m<sup>3</sup>, 0.142 µg/m<sup>3</sup> and 0.103 µg/m<sup>3</sup> for SPM, SO<sub>2</sub> and NO<sub>x</sub> respectively. The point of maximum concentration by unit would be 1.4 km from centre of industry in NE direction.

With this marginal contribution due to the proposal of the project, the levels of SPM, SO<sub>2</sub> and NO<sub>x</sub> will remain well below the 24 –hourly ambient air quality standards for SO<sub>2</sub> & NO<sub>x</sub> (80 µg/m<sup>3</sup>) and PM<sub>10</sub> (100 µg/m<sup>3</sup>) prescribed by CPCB.

### **Water Environment**

The water requirement will be met by its own bore well. The total fresh water requirement will be 17 KLD that will be required for domestic, cooling and gardening purposes.

There will not be any industrial wastewater discharges from the unit as the generated effluent will be evaporated in existing evaporator after primary treatment to achieve zero discharge. Only domestic effluent will be generated which will be disposed to soak pit through septic tank.

Thus, there will not be any major impact on the water environment due to proposed project.

### **Solid Waste Management**

The entire quantity of hazardous waste will be handled and disposed as per Hazardous Waste (Management, Handling and Trans boundary Movement) Rules'2008 (amended time to time). The main hazardous

waste generation will be ETP sludge, used oil, discarded containers/drums/plastic bags and evaporation residue.

Sludge generated from ETP will be disposed at approved TSDF site while residue will send to CHWIF for incineration, used lubricating Oil can be reuse in own premises or sold to registered recyclers whereas discarded containers/Plastic bags will use for packing of ETP sludge. In case of excess, it will be sold to approved recycler or traders.

The unit will provide isolated area for the storage of hazardous waste. Thus, hazardous waste management system provided by the unit will be adequate and there will not be any major impact on the environment due to hazardous waste management.

### **Green Belt Development**

The unit proposes to expand green belt area up to 2405 m<sup>2</sup>, which will be of 33% of the total area.

## **E-9 ENVIRONMENT MONITORING PROGRAM**

The details of monitoring are as below:

Nature of Analysis	Frequency of Analysis with analyst organization details	Parameters
	Frequent or monthly	Monthly
Stack Monitoring of each stack	Monthly by External agency	PM, SO <sub>2</sub> , NO <sub>x</sub>
Ambient Air Quality Monitoring	Monthly for 24 hours or as per the statutory conditions by External agency	PM, SO <sub>2</sub> , NO <sub>x</sub>
Work zone monitoring	Monthly by External agency	Formaldehyde, Methanol
Noise Pollution	Monthly for 24 hours or as per the statutory conditions by External agency	Near boiler, office area, Main gate, Process area etc.

## **E-10 ADDITIONAL STUDIES**

### **Qualitative Risk Analysis**

Risk analysis and study have been carried out for identification of hazards, selection of credible scenarios, Risk Mitigation measures etc. All



the hazardous chemicals will be stored and handled as per MSDS guidelines.

#### **E-11 PROJECT BENEFITS**

The proposed project will become beneficial to the surrounding area or community in terms of infrastructural development, Social development, employment and other tangible benefits.

The proposed project expansion has a potential for employment of skilled, semi-skilled and unskilled employees during construction phase as well as operational phase.

#### **E-12 ENVIRONMENTAL MANAGEMENT PLAN**

##### **Overall objective of EMP**

**Prevention:** Measures aimed at impeding the occurrence of negative environmental impacts and/or preventing such an occurrence having harmful environmental impacts.

**Preservation:** Preventing any future actions that might adversely affect an environmental resource or attribute.

**Minimization:** Limiting or reducing the degree, extent, magnitude, or duration of adverse impacts.

EMP for Apoorva Laminates Pvt. Ltd. for proposed expansion project covers following aspects:

- Description of mitigation measures
- Description of monitoring program
- Institutional arrangements
- Implementation schedule

#### **E-13 CONCLUSION**

##### **Based on the study**

- There will be no major impact on water environment as generated waste water will be evaporated in evaporator. Hence there will be no discharge of effluent. Generated domestic effluent will be disposed to soak pit through septic tank.
- Adequate APC measures are provided to mitigate air pollution.

- To prevent fugitive emission various step will taken like regular sprinkling of water and pucca road.
- Adequate arrangement for handling and disposal of Hazardous solid waste will be made.
- Fire protection and safety measures will be provided to take care of fire and explosion hazard.
- Suggestions of qualitative risk analysis study will be followed to minimize accidents and for safe operations.
- Recommendations suggested in Environmental Management Plan will be followed to minimize the impact of proposed project.

Overall, direct and indirect employment opportunities, improvement in basic infrastructures by development of industry etc. will be observed with negligible impact on environment.

It can be concluded that on positive implementation of mitigation measures and environmental management plan during the construction and operational phase, there will be negligible impact on the environment.