

**EXECUTIVE SUMMARY OF  
ENVIRONMENTAL IMPACT ASSESSMENT REPORT  
FOR  
EXPANSION IN EXISTING UNIT  
OF  
M/S. RUSSAKA PLY INDIA LIMITED**

**(S. No. 258/1, Village – Nani Chirai, Ta - Bhachau, Dist- Kutch, Gujarat.)**



**PREPARED BY**

**BHAGWATI ENVIRO CARE PVT. LTD.**

[ISO 9001, ISO 14001 & OHSAS: 18001 CERTIFIED COMPANY]

**CORPORATE OFFICE**

28, 29, 30, Parmeshwar Estate II, Opp. AMCO Bank,  
Phase I, GIDC Estate, Vatva, Ahmedabad – 382445. Gujarat, India  
**Phone No:** +91 79 29295043, 40083051/52 **Fax:** +91 79 40083053  
**Email:** [bhagwatienviro@gmail.com](mailto:bhagwatienviro@gmail.com) , [bhagwatienviro@yahoo.com](mailto:bhagwatienviro@yahoo.com)  
**URL:** [www.bhagwatienviro.com](http://www.bhagwatienviro.com)

## **1. INTRODUCTION**

M/s. Russaka Ply India Ltd. (RPIL) is located at S.No: 258/1, Village-Nani Chirai, Ta - Bhachau, Dist-Kutch, Gujarat. At, Present unit is manufacturing Veneers (99 lacs Sq. meter /Month) and sawn Timber (90 CBM /Month). For existing manufacturing activity, unit has already obtained permission from State Pollution Control Board.

For the same premises, unit has obtained CTE expansion for expanded quantity of Veneer (From 9.9 lacs Sq. meter /Month to 30 lacs Sq. Meter /Month), Sawn Timber (From 90 CBM /Month to 200 CBM /Month) and proposed products of Plywood, Block Board & Flush Door (302650 Sq. Meter /Month) from Gujarat Pollution Control Board, Gandhinagar, which is not fall under EIA Notification dated 14<sup>th</sup> September 2006.

M/s. Russaka Ply India Ltd. has proposed for the manufacture of Phenol Formaldehyde Resin (135 MTPM) and Melamine Formaldehyde Resin (34 MTPM).

The manufacturing of organic chemical falls under Category “A” of EIA Notification issued in September – 2006. For this the unit needs environmental clearance from Ministry of Environment & Forests. New Delhi

The total plot area of our unit is 12,295.75 Sq. Meter. From that the constructed area is ~ 7000 Sq. Meter and the Open Land is 5295.75 Sq.Meter. From that open area they have done gardening and plantation for ~ 1500 Sq. Meter. After expansion, they will do additional greenbelt development for 2800 Sq. meter. So, total greenbelt area will be 4300 Sq. meter and i.e. more than 33 %.

## **2. DETAILS OF PRODUCTS**

**Table: 01**  
**Product Details**

Sr. No.	Name of Product	Quantity		
		Existing	Proposed	Total After Expansion
1	veneer	9.9 lacs Sq. Meter /M	---	9.9 lacs Sq. Meter /M
2	Sawn Timber	90 CBM /M	----	90 CBM /M
3	Phenol Formaldehyde Resin	---	135 MT /M	135 MT /M
4	Melamine Urea Formaldehyde Resin	----	34 MT/M	34 MT/M

## **3. WATER CONSUMPTION & WASTEWATER GENERATION/ DISPOSAL**

M/s. Russaka Ply India Ltd. is an existing unit and the source of water for existing activity is GWIL (Gujarat Water Infrastructure Limited) / Narmada Pipeline Project. For proposed expansion, unit will use same source of water. For that they have obtained permission from GWIL.



**Table: 02**

**SUMMARY OF WATER CONSUMPTION & WASTEWATER GENERATION**

<b>Water Consumption (Lit/Day)</b>				<b>Wastewater generation (Lit/Day)</b>			
	Existing	Proposed	Total After expansion		Existing	Proposed	Total after expansion
Domestic	800	1000	1800	Domestic	600	800	1400
Industrial				Industrial			
Process	--	--	--	Process	---	1450	1450
Cooling	--	500	500	Cooling	--	50	50
					-		
Gardening	--	3000	3000	Gardening	--	--	--
					-		
Total	800	4500	5300	Total	600	2300	2900

After Expansion total water consumption will be 5.3 KL/Day. This water is met from Gujarat water Infrastructure Limited. Domestic wastewater will be discharge to soak pit via septic tank system. During manufacturing of Phenol formaldehyde and melamine Urea Formaldehyde, at Vaccum distillation stage water will be distilled out @ 1.45 KL /Day. From Cooling tower ~ 0.05 KL /Day Cooling blow down will be generated. Both the process effluent and cooling blow down will be mixed and transfer it to ETP for primary treatment. After giving primary (H<sub>2</sub>O<sub>2</sub> Treatment) & Tertiary treatment in proposed Effluent Treatment Plant the treated condensed water will be stored in collection tank. The treated effluent @ 1500 Liter will be evaporated in Thermic Fluid Evaporator.

**Table: 03**  
**Mode of Disposal and Treatment**

<b>Sr. No.</b>	<b>Source</b>	<b>Quantity and mode of disposal</b>
1.	Domestic sewage	1.4 KL/day of sewage will be discharged to a septic tank and soak-pit system.
2.	Industrial wastewater	1.5 KL/day of industrial effluent will be treated in the ETP.  The treated effluent will be evaporated in Thermic Fluid evaporator to achieve zero discharge.



**7. DETAILS OF AIR EMISSION**

**Table: 04**  
**Flue Gas Stack Details**

Sr. No.	Stack attach to	Dia. In m	Height in m	Cap.	Air Pollution Control Measures Pollutants
1	Thermic Fluid Heater I	0.75	30	20 Lac kcal	Multi Cyclone Dust Collector followed by Bag filter
2	Thermic Fluid Heater II			10 Lac kcal	
3	DG Set (82 KVA & 160 KVA)	0.45	9	82 KVA & 160 KVA	-----

There is no process emission from unit's existing manufacturing activity as well as proposed manufacturing activity.

The company is operating all its air pollution control equipment efficiently and also taking all the steps to avoid leakage and fugitive emissions.

**FUEL REQUIREMENT**

The details of fuels used for the project are given in **Table No. 5**

**TABLE: 5**

**DETAILS OF THE PROPOSED FUELS**

Sr. No.	Type of Fuel	Existing	Proposed	Total
1	Wood Waste	0.5 MT /Day	---	0.5 MT /Day
2	Veneer Waste	---	30 MT /M	30 MT /M
3	HSD	---	10 Lit /Hr	10 Lit /Hr



**8. DETAILS OF HAZARDOUS WASTE GENERATION & ITS MANAGEMENT**

**TABLE: 6**

**DETAILS OF HAZARDOUS WASTES**

Sr.	Type of Waste With Category No.	Total Quantity of Waste MT/Month		
		Existing	Proposed	Total After Expansion
01	Discarded Bags/ Containers (Cat. No.33.3)	---	1000 Nos/Month ---	1000 Nos/Month ---
02	Used Oil (Cat. No. 5.1)	20 Lit/Year	30 Lit/Year	50 Lit/Year
03	ETP waste & evaporation residue (Cat. No. 34.3)	---	0.1 MT/Month	0.1 MT/Month

**TABLE NO. 7**

**MANAGEMENT OF HAZARDOUS WASTES**

No.	Type of Waste	Source of Generation	Collection	Treatment	Storage	Disposal
01	Discarded Containers /Bags	Raw material section	---	---	Solid waste storage area	Used for packing of ETP waste / Return back to raw material supplier
02	Used Oil	Lubrication of plant machineries	H.D.P.E. Carboys	---	Solid waste storage area	Sell to registered recycler
03	ETP waste / Evaporation Residue	Effluent Treatment Plant	Sludge Drying Bed	Solar Drying	Solid waste storage Area with proper bag packing.	TSDf Site



## **9. ENVIRONMENTAL PARAMETER MONITORING STUDY AREA/ STUDY PERIOD**

The study area for detailed studies is an area within a radius of 10 Kms and ambient air quality monitoring at 06 locations within the study area of 5 km aerial coverage from project site as the Center. The ground water monitoring, noise level monitoring, Soil analysis were carried out at 06 locations for once in the study period. The monitoring activities were carried out at 6 sampling sites for the Month of October – November and December of year 2010.

## **10. AIR ENVIRONMENT**

Baseline study indicates that AAQ in the surrounding study area with respect to PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, HC and VOC are well within the stipulated permissible limits as prescribed by the latest National Ambient Air Quality (NAAQ) Standards dated 16-11-2009 for the respective industrial residential rural areas.

Maximum evaluated 24 hourly GLC from the ISCST-3, when added to the 98-percentile concentration of each parameter monitored during October – December 2010 season of the ambient air it indicates that after the operation of new Thermic fluid heater, ambient air quality of the surrounding study area will be well within the NAAQ standards for the respective Industrial, residential rural areas. However, company has installed cyclone separator and for proposed Thermic fluid heater they will installed bag filter followed by cyclone separator.

The company assures to operate all its air pollution control equipment efficiently and also taking all the steps to avoid leakage and fugitive emissions.

It is concluded that there will be minor long term impacts on the surrounding ambient air environment.

## **11. WATER ENVIRONMENT**

Major source of water in the study area is ground water and GWIL (Gujarat Water Infrastructure Limited). Being in dry region, there is no major surface water bodies are available in the study area. In the study area important source of potable water is GWIL.

Base line data reveal that the ground water quality in the area meets Drinking Water standards. Concentrations of soluble are on slightly higher sides.

The company proposes to use water for domestic purpose as well as for industrial purpose from GWIL.

Total estimated industrial water requirement will be 3.5 KL/Day and domestic water requirement will be 1.3 KL /Day.

- After Expansion total water consumption will be 5.3 KL/Day. This water is met from Gujarat water Infrastructure Limited. Domestic wastewater will be discharge to soak pit via septic tank system.
- During manufacturing of Phenol formaldehyde and melamine Urea Formaldehyde, at Vaccum distillation stage water will be distilled out @ 1.45 KL /Day. From Cooling tower ~ 0.05 KL /Day Cooling blow down will be generated. Both the process effluent and



cooling blow down will be mixed and transfer it to ETP for primary treatment. After giving primary (H<sub>2</sub>O<sub>2</sub> Treatment) & Tertiary treatment in proposed Effluent Treatment Plant the treated condensed water will be stored in holding tank.

- The treated effluent @ 1500 Liter will be evaporated in Thermic Fluid Evaporator.

It is concluded that there will be no significant impacts on the surrounding water environment.

## **12. NOISE ENVIRONMENT**

Base line data indicates that noise levels in the ambient air environment are within the prescribed norms. The industry will provide adequate noise control measures such as mufflers, silencers at the air inlet/outlet, anti vibration pad for equipment with high vibration etc. In the areas where noise levels will be higher, earplugs and earmuffs will be provided to all the workers.

Thus, there will be minor short term, reversible impact on the noise environment due to the proposed project.

## **13. LAND ENVIRONMENT**

The impact of air, water and solid waste pollutes soil and causes direct/indirect effect on soil. As all necessary air pollution control steps have been provided and based on the results of the dispersion model for the ground level concentrations of various pollutants after the commissioning of the proposed expansion, there will not be any adverse impact of air pollution on soil.

Industrial effluent will be treated in the proposed adequate ETP and treated effluent will be evaporated to achieve zero discharge. Therefore no impact on soil environment is anticipated.

All necessary control steps will be provided for handling, storage and safe disposal of solid/hazardous waste, which will be generated from the proposed project. Thus, there will not be any significant impact of solid waste on the soil environment.

## **14. ECOLOGY**

Impacts on terrestrial ecosystem due to the operation of plant occur mainly from air emissions. Air pollutants can interfere with the biotic and abiotic components of the ecosystem and may include injurious effects when concentrations exceed permissible standards.

Since the proposed expansion activities will be carried out on barren land, there will be no adverse impact on the ecological environment of the study area.

The total plot area of our unit is 12,295.75 Sq. Meter. From that the constructed area is ~ 7000 Sq. Meter and the Open Land is 5295.75 Sq. Meter.

From that open area they have done gardening and plantation for ~ 1500 Sq. Meter. After expansion, they will do additional greenbelt development for 2800 Sq. meter. So, total greenbelt area will be 4300 Sq. meter and i.e. more than 33 %. In our greenbelt area we will do gardening as well as plantation.



## 15. SOCIO-ECONOMIC ENVIRONMENT

The proposed project will generate direct employment for 26 persons. The indirect employment will also be generated by way of transportation, shopkeepers and other casual employment for many people. Thus, the proposed project will have long term- irreversible positive impact on the employment pattern of the study area.

## 16. ENVIRONMENTAL PARAMETER MONITORING

Environmental parameter monitoring facility of the proposed project is as given below:

S. No.	Aspect	Source of Impact	Monitoring Methods and Parameters	Frequency	Executing Agency	Monitoring Agency
<b>1.0</b>	<b>Construction Phase (As the construction will be required only for plant machinery Installation, the impact will be very less)</b>					
1.1	Local Manpower Absorption	Construction Works	Contractor's report No. of people working in the project	Daily	Contractor	RPIL
1.2	Air Quality	transportation of construction materials	Survey & observations; Levels of SPM, RSPM, SO <sub>2</sub> and NO <sub>x</sub>	Weekly	RPIL	GPCB/ Recognized Env. Agency
1.3	Public Health	Dust, Noise, Influx of labours	Regular medical checkups	Monthly	Contractors	RPIL
<b>2.0</b>	<b>Operation Phase</b>					
2.1	Water Quality & Quantity	Surface & Ground water quality within the Project Area	Surveys, sample collection & field measurement;	Quarterly	RPIL	GPCB/ Recognized Env. Agency
2.2	Effluent Quality	Quality of effluent Inlet to ETP	ETP sample collection & quality analysis	Daily (Internal); Monthly (Third Party)	RPIL	GPCB/ Recognized Env. Agency
2.3	Record of Effluent Evaporated	Thrmic Fluid Evapoartor	Check the flow meter reading and maintain the log sheets	Daily (Internal);	RPIL	RPIL





2.4	Ambient Air Quality	Emission from utility and process from Premises.	Air quality monitoring at 2-3 locations within (SO <sub>2</sub> , NO <sub>x</sub> , SPM, RSPM, CO, HC)	Ambient - Monthly (24 hourly);	RPIL	GPCB/ Recognized Env. Agency
2.5	Stack Monitoring	Emission from utility and process from Premises.	Monitoring at stack attached to Thermic Fluid heater	Stack – Monthly (third party)	RPIL	GPCB/ Recognized Env. Agency
2.6	Noise Levels	Noise levels compliance with respect to industrial standards	Ambient Equivalent Sound Pressure Levels (Leq) at day and Night time at 4 to 6 locations	Monthly (Third Party) and fortnightly (internal)	RPIL	GPCB/ Recognized Env. Agency
2.7	Solid Waste Management	Records of generation, handling, storage, transportation and disposal of other hazardous wastes as required by hazardous waste authorization	Tracking of waste collection, segregation and disposal.	Fortnightly	RPIL	GPCB/ Recognized Env. Agency
2.8	Solid Waste Management	Records of generation of used drums, bags and records of their dispatch to approved vendors.	Tracking of waste collection, segregation and disposal.	Fortnightly	RPIL	GPCB/ Recognized Env. Agency
2.9	Solid Waste Management	Records of generation of waste oils and their treatment	Tracking of waste collection, segregation and disposal.	Fortnightly	RPIL	GPCB/ Recognized Env. Agency

**Note:** In above table RPIL= Russaka Ply India Limited



**17. ADDITIONAL STUDIES**

We have carried out socio-economic study of the study area to evaluate impact of proposed project on them. Since the proposed project is a small scale unit it is beneficial to locals.

**18. ENVIRONMENTAL MANAGEMENT PLAN**

The environmental management plan is the management’s plan for effective environmental management of the project proponents. Environmental Management Plan of the company is given in the following table:

**CONSTRUCTION PHASE :**

Activity	Environmental Impacts	Mitigation	Remarks
<b>Construction Phase:</b>			
<b>Erection of Plant Machineries</b>	<ul style="list-style-type: none"> <li>• Air</li> <li>• Noise</li> <li>• Socio Economic</li> </ul>	<ul style="list-style-type: none"> <li>• Well maintained vehicles will be used.</li> <li>• Metalled Road for Vehicle Movement</li> <li>• Well maintained equipment will be utilized to prevent noise generation.</li> <li>• Local labour will be hired for the work so that housing arrangement will be avoided.</li> </ul>	Implementation responsibility: <u>RPIL</u>



**OPERATIONAL PHASE:**

M/s. RPIL have planned all the necessary steps to control Water Pollution, Air Pollution, as well as Hazardous Waste Pollution and Noise Pollution. The detailed mitigation measures planned during operation phase of the project are as follows:

Activity	Environmental Impacts	Mitigation	Remarks
Manufacturing of Organic Chemical & Inorganic Chemical	Air • Land • Water • Noise	<ul style="list-style-type: none"> <li>• Ensure proper handling of all chemical by introducing spill control procedures.</li> <li>• Ensure usages of PPE's by workers.</li> <li>• Strictly following the appropriate spill control procedures.</li> <li>• The charging of the hazardous chemical will be done with safety precaution.</li> <li>• MSDS of Raw material &amp; products will be displayed at storage &amp; handling area.</li> <li>• Water usage will be strictly by putting water meter plant wise.</li> <li>• Monitored data will be analyzed and reviewed time to time.</li> <li>• Contaminated solid waste to be sent to approved TSDF Facilities.</li> <li>• Storage area will be designed in line with the factories department requirement.</li> </ul>	Implementation responsibility: RPIL



**Environmental Management Plan: Operation Phase:**

Activity	Environmental Impacts	Mitigation	Remarks
Operation of Thermic Fluid Heater	<ul style="list-style-type: none"> <li>• Air</li> <li>• Noise</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure proper preventive maintenance of fuel firing system and optimization of air fuel ratio.</li> <li>• Ensure proper maintenance of machinery to reduce noise level</li> <li>• Ensure proper disposal of contamination due to spillage clean up.</li> <li>• Provision of Adequate Stack Height. (12 .0 m)</li> <li>• Ensure usage of Personal Protective Equipments.</li> </ul>	Implementation responsibility: RPIL
Operation of Cooling Tower	<ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Noise</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure proper maintenance of machinery to reduce noise level</li> <li>• Blow down is being sent in ETP provided within premises</li> </ul>	



Storage, Handling & Transportation of Raw materials and Products	<ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Land</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical &amp; Solvents to be stored in accordance with the rules and regulations of the Safety Department.</li> <li>• Separate storage area for solid/liquid raw materials.</li> <li>• Install proper facilities to prevent rain/storm water contamination during the storage of solid raw materials.</li> <li>• Ensure disposal of used drums, bags as per the rules/regulations.</li> </ul>	
Transportation of all the raw materials, finished products & hazardous wastes.	<ul style="list-style-type: none"> <li>Air</li> <li>• Water</li> <li>• Land</li> </ul>	<ul style="list-style-type: none"> <li>• Trained/Approved Transports will be given work for the transportation of the raw materials/products.</li> <li>• TERM CARD will be followed.</li> <li>• Ensure availability of MSDS of all the raw materials and finished products to the Off-site Emergency team.</li> </ul>	
Development and maintenance of green belt	<ul style="list-style-type: none"> <li>• Air.</li> <li>• Land</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure development and maintenance of proper green belt as proposed.</li> </ul>	
Direct / Indirect Employment	<ul style="list-style-type: none"> <li>• Socioeconomic issue</li> </ul>	<ul style="list-style-type: none"> <li>• Continue policy of local employment according to the skill and availability of the manpower</li> </ul>	



## CONCLUSION

The study brings out the followings:

- This is an existing unit so, proposed project have easy access to basic infrastructure facilities, availability of land, fuel, transportation network, power availability, environmental compatibility and well developed pollution control systems.
- Environmental Impact Assessment shows that proposed expansion project activities will not have any significant impact on existing ambient air quality, ground water quality and noise levels.
- Risk to flora, fauna and soil is negligible due to location of project activity and proposed effective environmental management plan for management and handling of air pollution, hazardous wastes and wastewater.
- Additional greenbelt on available open land area will be further more developed within the plant premises; there will be positive impact on the ecological environment of the study area.
- There will be Socio-economic benefits due to creation of direct/indirect employment.

Thus, it is concluded that proposed project of M/s.Russaka Ply India Limited will have negligible impact on environment and will benefit the local people after implementation of the mitigation measures and environmental management.

