

RASHMI METALIKS LTD. (UNIT-III)

Executive Summary

For
**PROPOSED INSTALLATION OF INDUCTION
FURNACES, ROLLING MILL ALONG WITH
CAPTIVE POWER PLANT**

**At
Mouza Mathurakismat & Amba, Village Gokulpur, P.O. Shyamraipur,
P.S. Kharagpur, Dist. Paschmi Mednipur in West Bengal**



Envirotech East (P) Limited

An ISO 9001:2008, 14001:2004 & OHSAS:18001:2007
Company Laboratory recognised by Ministry of Environment & Forests, Govt. of India

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s Rashmi Metaliks Limited, a part of RASHMI GROUP, presently comprises of two units - Rashmi Metaliks Limited and Rashmi Metaliks Limited, Unit-II. Both the company is operating two steel plants separately at Kharagpur, District Paschim Mednipur in West Bengal

As a strategic decision, the management has decided to expand their business model by setting up another unit in the name of M/s Rashmi Metaliks Limited, Unit-III comprising of 10x20 T Induction Furnaces with Continuous Casting Machine, 0.55 MTPA Rolling Mill and 70 MW capacity CPP at Mouza Mathurakismat & Amba, Village Gokulpur, P.O. Shyamraipur, Kharagpur, Dist. Paschmi Mednipur in West Bengal.

M/s Rashmi Metaliks Ltd., Unit-III, a Limited company, was incorporated on 30th January, 2004, having its registered office at Premlata Building, 6th Floor, 39, Shakespeare Sarani, Kolkata-700 017 in West Bengal.

The proposed units with rated capacity per annum are presented in Table-1.1.

TABLE-1.1
PROPOSED UNITS

Unit	Capacity	Product
Induction Furnaces (10x20 T) (with matching LRF & CCM)	6,00,000 TPA	Billets
Rolling Mill	5,50,000 TPA	TMT Bar & Wire
CFBC based Captive Power Plant	70 MW (45 MW Dolochar-Coal Mix Based & 25 MW Coal Based)	Power

M/s Envirotech East Pvt. Ltd. have conducted an Environmental Impact Assessment (EIA) for the proposed project and formulated an appropriate Environmental Management Plan (EMP) for such project.

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2.0 SITE LOCATION

The proposed project site is located at Mouza Mathurakismat & Amba, village Gokulpur, P.O. Shyamraipur, P.S. Kharagpur, Dist. Paschim Medinipur in West Bengal. Its geo-graphical co-ordinates are Latitude 22°22'36.54"N and Longitude 87°17'05.15"E with mean sea level of 34.75 meter (114 ft). Nearest town Kharagpur is about 4.5 km from the project site. Important Town like Midnapur (District H.Q) is about 6.5 km from project site. National Highway-6 (NH-6), connecting Kolkata to Mumbai is passing around 2.0 km from the project site. Kolkata city is located at a distance of about 114 km from the project site. River Kansabati are passing approx. 3.5 km distance in north direction w.r.t the project site. There is no National Park, Reserve Forest & Wildlife Sanctuary within 10 km radius of the Project Site.

3.0 PROJECT HIGHLIGHTS

The principal features or highlights of the proposed plant of M/s Rashmi Metaliks Limited, Unit-III under study are as follows,

Location	Mouza Mathurakismat (J.L No. 114) & Amba (J.L No. 115), Village Gokulpur, P.O. Shyamraipur, P.S. Kharagpur, Dist. Paschim Medinipur in West Bengal. Its geographical co-ordinates are Latitude 22°22'36.54"N and Longitude 87°17'05.15"E with mean sea level (MSL) of 34.75 meter (114 ft).
Land requirement	The proposed units will be located on a piece of vacant land measuring 12.545 Hectares (31.0 acres) which is already in possession of the Company.
Raw water requirement & source	As per an initial estimate, water to the tune of 5064 cu.m/day will be required for the proposed project. The raw water will be sourced from Bore well / Kansabati River. The company has obtained permission for withdrawal of 1.0 MGD water from Kasai river & 0.6 MGD from bore Well. Besides, company has already made another application to SWID for obtaining permission for additional 1.0 MGD withdrawal from Kasai River.
Power requirement	Requirement of power for the proposed project is around 108 MW. The power required for the proposed plant will be sourced from WBSEDCL initially and after commissioning of propose 45 MW Dolochar Coal Mix based & 25 MW Coal Based Captive Power

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	Plant, power requirement will be sourced from 70 MW capacity CPP and remaining from WBSEDCL.
Effluent generation & disposal	The plant will be designed as a zero discharge plant. The water will be recirculated through cooling and treatment. The entire wastewater will be recycled for various purposes inside the plant. Domestic wastewater will be treated in Septic tank - Soak pit system.
Air pollution control	Adequate control measures like installation of Electrostatic Precipitator (ESP), bag filters, dust suppression system, Dust extraction system and stacks of adequate height at relevant points.
Solid Waste Management	➤ Induction Furnace slag will be used as land filling / road construction purpose. ➤ End cuts, scales and scraps from CCM will be used in the Induction Furnaces. ➤ End cuts and missed rolls will be used in the Induction Furnaces. ➤ Solid waste (dust as collected in the De-dusting systems) from SMS & CFBC base captive Power Plant will be used in other unit of the company at Gokulpur, Kharagpur in the Pellet Plant as a palletizing mix. ➤ The fly ash generated from Captive Power Plant will be used by Rashmi Cement Ltd. at Jhargram, as a raw material for cement production (PPC Type) and will also be used for brick manufacturing. ➤ Bottom ash will be used in Road making / land filling purpose.
Manpower	100 persons
Project cost	Rs. 290 Crores

4.0 BASELINE ENVIRONMENTAL SCENARIO

The area falling within the radius of 10 km around the proposed Steel Plant at Mouza Mathurakismat & Amba, Village Gokulpur, Dist. Paschim Medinipur in West Bengal has been considered as study area. On-site environmental quality monitoring was carried out from 15th October, 2015-14th January, 2016.

4.1 Meteorology

The monthly maximum and minimum temperatures during the monitoring period varied between (29.0-35.5)°C and (10.5-18.5)°C respectively with overall maximum and minimum temperatures being 35.5°C and 10.5°C respectively.

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The monthly maximum and minimum relative humidity during the monitoring period varied between (68-71)% and (50-61)% respectively, the overall maximum and minimum being 71% and 50% respectively.

The maximum wind speed 2.6 km/hr was in the month of October while the overall mean wind speed during the whole monitoring period was 2.4 Km/hr. The predominant wind direction was observed at North direction.

4.2 Ambient Air Quality

Ambient air quality was monitored at eight (8) locations in and around the project site.

The overall mean values of PM₁₀, PM_{2.5}, SO₂, NO₂ and CO in the area (mean of all the 8 locations) were 75.1 µg/m³, 30.1 µg/m³, 11.0 µg/m³, 24.5 µg/m³ and 0.699 mg/m³ respectively.

4.3 Water Quality

Water samples were collected and analyzed at ten (10) locations to assess the surface water quality in the study area. Water samples were collected from nine (9) locations to assess the baseline status of the ground water quality of the study area.

The pH values of the collected two water samples from River Kangsabati were found 7.5 and 7.6. Dissolved Oxygen were observed (6.6 & 6.7) mg/lit. Total Dissolved Solids were found (125 & 129) mg/lit while total Hardness were found (80 & 83) mg/lit. Calcium & Magnesium were found (27 & 25) mg/lit and (3 & 5) mg/lit respectively. Sulphate, Nitrate and Chloride were observed 5 mg/lit, (1.2 & 1.3) mg/lit and (20 & 25) mg/lit respectively. Iron contents were found (0.14 & 0.15) mg/lit and zinc contents were found 0.10 mg/lit in both the samples.

The pH values of the collected pond water samples were found in the range of (6.9-7.5). Dissolved Oxygen was observed in the ranges of (5.8-6.2) mg/lit. Total Dissolved Solids were found in the ranges of (232-293) mg/lit while Total Hardness was found in the ranges of (158-210) mg/lit. Calcium & Magnesium were found varying in the ranges of (39-61) mg/lit and (9-19) mg/lit respectively. Sulphate, Nitrate and Chloride were observed varying in the ranges of (6-14) mg/lit, (3.2-5.4) mg/lit and (53-77) mg/lit respectively. Iron and zinc contents were found in the ranges of (0.21-0.56) and (0.12-0.38) mg/lit respectively.

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Conclusion can be drawn in the light of the overall analysis made so far that the surface water in the study area is free of any kind of industrial and urban pollution and has been found to be generally fit for human consumption.

4.4 Noise

A total of 10 locations around the proposed project were selected for the measurement of ambient noise levels.

During the day time, the equivalent noise levels were found to vary in the ranges of (57.6-69.2) dB (A) while in the night time, the equivalent noise levels were observed to be varying in the ranges of (48.1-61.1) dB (A).

4.5 Ecology

The study area is found to have a good vegetation cover due to helpful climatic conditions and good soil quality in the area. There are good number of plantation patches in the study area and dense vegetation cover around settlement areas.

There is extensive grazing land, which come under cultivation. The overall floral composition in the whole study area is quite rich.

4.6 Demography and Socio-economy

The study area comprises of 200 villages and Kharagpur & Midnapur Municipal area. The study area is densely populated with the total population of 6,38,918 (as per 2011 Census). The sex ratio is about 966 females per 1000 males. The overall literacy rate in the study area is about 74.64%. Scheduled Caste (SC) and Scheduled Tribe (ST) population in the study area is about 12.36% and 8.13% w.r.t. the total population respectively. The principal staple food is rice.

5.0 ENVIRONMENTAL IMPACTS OF PROPOSED PROJECTS

5.1 Impacts on Air Quality

The Stack emissions from the plant are mostly Sulphur dioxide (SO₂), Nitrogen Oxides (NO_x) and Particulate matters (PM). There will be continuous emissions from eight (8) stacks, five (5) stacks attached to Induction Furnaces, one (1) stack to Rolling Mill, two (2) attached to CFBC Boilers.

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As recommended by CPCB, GLCs at various receptor locations within 10 km radius have been computed for the three months' period (15th October, 2015-14th January, 2016) representing the monitoring period, based on the hourly meteorological data of this period. The computation has been made applying Industrial Source Complex (ISC3) model, developed by United States Environmental Protection Agency (USEPA), which is most widely used and also recommended by CPCB (PROBES/70/1997-98).

The maximum incremental value of SO₂, NO_x & PM would be about 8.778 µg/m³, 1.248 µg/m³ & 2.254 µg/m³ respectively, which will occur at a distance of 0.8-1.0 km. in 'S' & 'SSW' direction respectively from the ARP.

The predicted maximum GLCs of SO₂, NO_x & PM due to the operation of the proposed plant is well within the prescribed limits. Therefore, there will be insignificant impact on the Air Quality of the area due to the operation of the project.

5.2 Impacts on Water Quality

Company will follow the "zero wastewater discharge concept" and the entire wastewater will be recycled to the plant for various uses. As no wastewater will be discharged into any outside water body, there will be no impact on the water quality of any surface water bodies of the area.

5.3 Impacts on Soil

There will be solid waste generation, but will be managed in the proper manner. This will ensure that there will not be any impact on soil quality due to the disposal or deposition of solid waste.

5.4 Impacts on Land Use

The proposed development will be confined within the boundary of the allocated land only, earmarked for the industrial purpose, so there will not be any significant impact on the land use pattern of the area.

5.5 Impacts on Biological Environment

The surrounding area has substantial vegetation in the form of village orchards, roadside trees and agriculture. If the gaseous emission is controlled properly, there will not be significant impact. There will be sufficient plantation of trees at the plant site. All these measures, if implemented properly will ensure insignificant impact on the local

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vegetation from the proposed project and may improve the vegetation scenario of the area.

No wastewater will be discharged outside the plant premises. There is, therefore, no impact on the aquatic ecology of the water bodies.

5.6 Impacts on Socio-Economic Environment

The project will offer substantial employment potential during construction phase and operation phase, which will have beneficial impact.

6.0 ENVIRONMENTAL MANAGEMENT PLAN

M/s Rashmi Metaliks Limited, Unit-III will develop various management activities for the Environmental Management Programme which will meet all statutory requirements and help to improve environmental quality.

In order to improve the aesthetic look of the area and enhance the land use as well as to compensate for any loss in ecology during construction, adequate plantation programmes around the project site have been planned and will be adopted. Development of green belt will include plantation of trees along boundary of the factory, roads, raw material yard and other available spaces. 33% of total area of factory will be covered under green cover.

A detailed monitoring for different environmental parameters will be carried out as per direction of State Pollution Control Board. An environmental management group will be established to implement the management plan.