

Ref. RML/ENV\_COMP / June\_2017



Date: 16.05.2017

To,

The Member Secretary  
West Bengal Pollution Control Board, Parivesh Bhawan,  
10A Block - LA, Sector - III, Kolkata - 700 91

**Sub. Six Monthly (June- 2017) Compliance Report** for Period from October 2016 to March 2017 for Ductile Iron Plant for manufacturing 2, 00,000 TPA Di Pipe by M/s Rashmi Metaliks Limited, at Village-Gokulpur, P.O.-Shyamraipur, District-Paschim Midnapore (W.B.)

Ref: -

1. EC No- EN/2567/T-II-1/047/2009; Dated 09.10.2009 &
2. EC No- 962/EN/T-II-1/047/2009; Dated 17.04.2015

Dear Sir,

With reference to the above, we are hereby submitting the six monthly compliance reports for period from October 2016 to March 2017 for EC No- J EN/2567/T-II-1/047/2009; Dated 09.10.2009 & EC No 962/EN/T-II-1/047/2009; Dated 17.04.2015 for Ductile Iron Plant for manufacturing 2, 00,000 TPA Di Pipe at - Village-Gokulpur, P.O.-Shyamraipur, District-Paschim Midnapore, (W.B.), in the name of M/s Rashmi Metaliks Limited in Hard Copy.

As per Environment Clearance, Special as well as General Condition wise status report along with monitoring data for the environmental parameters is enclosed for your kind perusal.

We assured that we will comply all the conditions laid down in the consent letter and also abide to follow all the Rules & Regulations.

Hope you will find the same in order.

Thanking you,

Yours Faithfully,

For M/s Rashmi Metaliks Limited

Authorized Signatory

**Enclosures:-**

1. Compliance Report for EC; Dated 09.10.2009 & 17.04.2015
2. Copy of Latest Monitoring Report as Annexure-I
3. Copy of AAQM Report as Annexure-II.
4. Copy of Fugitive Emission Report as Annexure-III.
5. Effluent & Ground water sampling Report is enclosed as Annexure-IV
6. Copy of Ambient Noise Quality Monitoring Report Annexure-V.
7. Copy of ToR issued for expansion of project as Annexure-VI.

**SIX MONTHLY COMPLIANCE REPORT**  
**FOR**  
**M/s RASHMI METALIKS LIMITED**

**Project Name- Ductile Iron Pipes Plant for**  
**Manufacturing 2, 00,000 TPA**

**EC NO- EN/2567/T-II-1/047/2009 dated: 09.10.2009**

**&**

**EC NO- 962/EN/T-II-1/047/2009 dated: 17.04.2015**



**Location: - Village-Gokulpur, P.O-Shyamraipur, District-**  
**Paschim Midnapore (W.B.)**



**M/S RASHMI METALIKS LIMITED**

**HALF YEARLY ENVIRONMENTAL COMPLIANCE STATUS**

**REPORT- JUNE 2017**

**Period- October 2016 to March 2017**

**Project Name- Ductile Iron Plant for manufacturing 2, 00,000 TPA DI Pipe**

**Location: - Village-Gokulpur; Shyamraipur; District- Paschim Medinipur (W.B.)**

**Reference: -**

1. EN/2567/T-II-1/047/2009; Dated 09.10.2009 &
2. 962/EN/T-II-1/047/2009; Dated 17.04.2015

SL. No.	CONDITIONS	COMMENTS
<b>A. SPECIFIC CONDITIONS</b>		
I.	<p>The gaseous emissions from various process units including Induction Furnaces (2 x 8 MT with 6 crucibles), Magnesium Converter (2 x 18 TPH), Centrifugal Casting Machines (10 x 5 TPH), Core Making Machines (3 nos.), Annealing Furnace (2 x 30 TPH), Zinc Coating Machines (5 x 10 TPH), Mould grinding and Arc welding machines (3nos.), Finishing Unit (8nos.), Hydraulic Pressure Testing Machines (5 nos.), Cement Mortar Lining &amp; Cement Curing System (5 x 15 TPH), Sand Drying and Conveying System(2 Nos.), Core Shooter Machines (4nos.), Bitumen Coating Machine with pre-heating &amp; post-heating furnaces (5 x 15 TPH) and Hot Metal Mixer ( 1 no., 160 MT) should conform to the load/mass based standards prescribed by the Ministry of Environment &amp; Forests and the State Pollution Control Board from time to time. At no time the emission level should go beyond the prescribed standards.</p>	<p>We are regularly monitoring the stack emission for Ball Mill, Coal fired dryers , packing section, raw materials section etc. by WBPCB authorized laboratory in time to time.</p> <p>At Present Induction Furnaces (2 x 8 MT with 4 crucibles), Magnesium Converter (2 x 18 TPH), Centrifugal Casting Machines (8 x 5 TPH), Core Making Machines (3 nos.), Annealing Furnace (2 x 30 TPH), Zinc Coating Machines (4 x 10 TPH), Mould grinding and Arc welding machines (3nos.), Finishing Unit (8nos.), Hydraulic Pressure Testing Machines (2 nos.), Cement Mortar Lining &amp; Cement Curing System (5 x 15 TPH), Sand Drying and Conveying System-02 No, Core Shooter Machines (3nos.), Bitumen Coating Machine with pre-heating &amp; post-heating furnaces (2 x 15 TPH) are in operation by obtaining necessary Consent CFO from W.B.P.CB.</p> <p>Latest Stack emission analysis reports are attached as Annexure No-I.</p>
II.	<p>Induction furnaces should be provided with fume extraction and dedicated pollution control systems consisting of Swivelling Hood, Spark Arrestor, Bag Filter, ID Fan and stack of height 30m from G.L. A secondary fume extraction system with adequate side suction should be provided to prevent fugitive emission during charging. The suction should be adequate to control fugitive emission.</p>	<p>Being Compiled With</p>





<p>III.</p>	<p>Other emission sources should be provided with Bag Filter, ID Fan and stack of height 50 m from GL. Stack emission should comply with environmental standards. Stack emissions should be monitored at regular intervals and records should be maintained.</p>	<p>We have installed adequate numbers of Bag Filters.</p> <p>Monitoring of the stack emission by WBPCB authorized laboratories in time to time is done and we are maintaining the WBPCB prescribed emission limits for all stacks.</p> <table border="1" data-bbox="807 342 1477 651"> <thead> <tr> <th>Sr. No.</th> <th>Source of Emission</th> <th>Capacity of each unit</th> <th>A.P.C Device</th> <th>Installation Capacity</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Induction Furnace</td> <td>2 x 8 MT with crucibles</td> <td>Bag-Filter, Swivelling-Hood, Spark Arrestor</td> <td>30,000 m<sup>3</sup>/Hr.</td> </tr> <tr> <td>2</td> <td>Zinc Coat Machine</td> <td>4 x 10 TPH</td> <td>Bag Filter</td> <td>30,000 m<sup>3</sup>/Hr</td> </tr> <tr> <td></td> <td>Magnesium Converter</td> <td>2 x 18 TPH</td> <td>Bag Filter</td> <td>30,000 m<sup>3</sup>/Hr</td> </tr> </tbody> </table>	Sr. No.	Source of Emission	Capacity of each unit	A.P.C Device	Installation Capacity	1	Induction Furnace	2 x 8 MT with crucibles	Bag-Filter, Swivelling-Hood, Spark Arrestor	30,000 m <sup>3</sup> /Hr.	2	Zinc Coat Machine	4 x 10 TPH	Bag Filter	30,000 m <sup>3</sup> /Hr		Magnesium Converter	2 x 18 TPH	Bag Filter	30,000 m <sup>3</sup> /Hr
Sr. No.	Source of Emission	Capacity of each unit	A.P.C Device	Installation Capacity																		
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<p>IV.</p>	<p>Dust collection from Bag filter should be done through pneumatic control system. Collected dust is to be sold for land filling subject to the condition that it does not fall under the Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008.</p>	<p style="text-align: center;"><b>Agreed</b></p>																				
<p>V.</p>	<p>Regular monitoring of the air quality shall be carried out in and around the plant and records shall be maintained.</p>	<p>As this project is an expansion project at existing plant premises.</p> <p>Ambient Air Quality Monitoring (AAQM) is being done on regular basis by WBPCB authorized laboratories for our existing units. Copy of the same is Enclosed as <b>Annexure-II</b>.</p>																				
<p>VI.</p>	<p>Adequate measures to be adopted for control of fugitive emission. Regular water sprinkling should be done to control the fugitive emission.</p>	<p>Adequate steps have been taken for dust suppression and meet The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R No. 826(E) dated 16<sup>th</sup> November 2009.</p> <ol style="list-style-type: none"> <li>1. Fixed water sprinklers are provided in the potential internal roads and raw materials handling areas.</li> <li>2. Three numbers of Mobile water sprinklers tankers have been engaged for regular water sprinkling in the haul roads of construction areas for control of fugitive dust emission.</li> </ol> <p>Fugitive emission/ work zone monitoring reports are attached in Analysis Report <b>Annexure – III</b>.</p>																				
<p>VII.</p>	<p>Additional groundwater shall not be abstracted without prior permission of competent authority as per The West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005.</p>	<p>We have already obtained Ground water withdrawal permission from State Water Investigation Department (SWID);</p> <ul style="list-style-type: none"> <li>• Our plant has being designed as 'Zero 'effluent discharged concept and it will ensured by top management</li> <li>• Entire waste water which is generated from surface runoff and storm water is treated and recycled</li> </ul>																				



		<p>within plant premises for developing Green Belt, fire fighting , process makeup water for Iron ore Beneficiation</p> <ul style="list-style-type: none"> <li>• Our management has taken up eco-friendly ( i.e. 3 R's , Reduce , Recycle &amp; Reuse) philosophy for day to day plant operations , in this connection our management team trying to reduce the unit wise water consumptions and reuse the water after physical treatment in the same unit.</li> </ul>
VIII.	As proposed either Hot Metal from MBF or Sponge iron should be used as major raw material (at least 70% of the total input) in Induction Furnaces. Use of galvanised iron scrap as raw material is not permitted.	Being Compiled With
IX.	Covered storage yard for raw materials to be provided. Loading and unloading operations should not be carried out in open areas.	Agreed
X.	The unit must develop water body with adequate storage capacity to harvest rain water so as to use the stored water for plantation, fire fighting, washing & cleaning etc. Recharging of ground water is not permitted.	Agreed Will Be Complied with
XI.	Process effluent discharge is not permitted. Cooling water should be recycled. Process effluent will be reused after treatment in ETP, domestic effluent will be discharged through septic tank to soak pit.	Being Complied with Our plant has been designed as 'Zero' discharged concept and it is covered by top management on regular basis Effluent & Ground Water sampling Report is enclosed as Annexure-IV.
XII.	Solid wastes are generated from Induction Furnace in the form of scrap and slag. Scrap should be recycled as proposed. Slag may be used for road construction and land filling. However, indiscriminate dumping is not permitted under any circumstances.	Maximum Generated Solid wastes- relected DI pipe re used in SMS of DIP section, Mg Dust in Sinter Plant.
XIII.	As proposed, Mg dust will be reused in Sinter Plant. Zinc dust and Cement slurry will be sold out. Slag from Induction Furnace, Magnesium Converter and Core sand will be disposed off by land filling.	Being Compiled. The company already acquired the abandoned Murum Khadan for disposal of the tailings and slurry.
XIV.	The proponent should abide by the Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008.	Agreed
	Ambient noise level should riot exceed the permissible limit. The overall noise	





XV.	<p>levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) Leq (daytime) and 70 dB(A) Leq (nighttimes) and its subsequent amendments.</p>	<p style="text-align: center;"><b>Agreed</b></p> <p style="text-align: center;">All types of regulatory norms are complied.</p> <ul style="list-style-type: none"> <li>Ambient Noise Quality Monitoring reports are attached as Annexure No. – V</li> </ul>																				
XVI.	<p>Green belt shall be developed within and around the plant premises in consultation with DFO / West Bengal Wasteland Development Corporation Ltd/ West Bengal Biodiversity Board. At least 35% of the land area should be covered by plantation.</p>	<p style="text-align: center;"><b>Agreed</b></p> <p style="text-align: center;"><b>Will Be Complied with</b></p> <p>The achievement towards greenbelt development is right now 25-28%.</p> <ul style="list-style-type: none"> <li>In 2016 to 2017, planted 19,000 pieces plant / seedlings</li> <li>In this year (2017-2018), Management has proposed to plant around 20,000 seedlings for Green Belt development around plant periphery.</li> <li>We are very much hopeful that a very good green belt shall be developed in and around the factory for preventive the Air pollution, Soil conservation etc.</li> </ul> <table border="1" data-bbox="810 1167 1471 1391"> <thead> <tr> <th>Sr. No.</th> <th>Year</th> <th>No of Seeding /Plantation done</th> <th>Area</th> <th>Survival Rate (Avg.)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>2015-16</td> <td>20,000</td> <td>Plant Boundary;</td> <td>50 %</td> </tr> <tr> <td>2</td> <td>2016-17</td> <td>13,000</td> <td>Road Side;</td> <td>60%</td> </tr> <tr> <td>3</td> <td>2017-18</td> <td>20,000</td> <td>Railway Sitting area ; Administrative &amp; Canteen Area and Stock Yard</td> <td>---</td> </tr> </tbody> </table>	Sr. No.	Year	No of Seeding /Plantation done	Area	Survival Rate (Avg.)	1.	2015-16	20,000	Plant Boundary;	50 %	2	2016-17	13,000	Road Side;	60%	3	2017-18	20,000	Railway Sitting area ; Administrative & Canteen Area and Stock Yard	---
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1.	2015-16	20,000	Plant Boundary;	50 %																		
2	2016-17	13,000	Road Side;	60%																		
3	2017-18	20,000	Railway Sitting area ; Administrative & Canteen Area and Stock Yard	---																		
XVII.	<p>All internal roads should be concreted / pitched. Proper lighting and proper pathway inside the factory premises should be constructed to ensure safe vehicular movement. Provision of separate pathway for entry and exit of vehicles should be considered. Vehicles should conform to pollution under control (PUC) norms. Proper housekeeping shall be maintained within the premises. Solar lighting should be used as far as practicable.</p>	<p>75% internal roads are concrete and remains will be done in shortly.</p> <ul style="list-style-type: none"> <li>Adequate lighting facilities are provided in factory premises.</li> <li>We have mechanical street swiping machine to maintain the proper housekeeping practice.</li> </ul>																				
	<p>Health and safety of workers should be ensured. Workers should be provided</p>	<p>We are providing adequate numbers of Personnel Protective Equipment (PPE's) to all levels of workers as well</p>																				



XVIII.	with adequate personnel protective equipment and sanitation facilities. Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	as managerial staffs.  Occupational Health check up facilities are available for workers in regular basis
XIX.	Adequate measures to be adopted to ensure industrial safety. Proper fire detection & protection systems to be provided to control fire and explosion hazards.	We have installed adequate numbers, fire fighting equipments to prevent of any types of fire hazards.  •Rashmi Group have own Fire Fighting car for those purpose.
XX.	The implementation and monitoring of Environmental Management Plan should be carried out, as proposed.	Agreed
XXI.	Corporate Social Responsibility programmes should be carried out, as proposed.	Agreed
<b>B. GENERAL CONDITIONS</b>		
i.	The project proponent shall comply with all the environmental protection measures and safeguards recommended. Further, the unit must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Adequate measure has been taken for pollution control and compiling with all condition issues by Central Pollution Control Board and State Pollution Control Board. Reports of Monitoring and compliance are submitted to Ministry, at regional office, Bhubaneswar in regular basis.
ii.	All the conditions, liabilities and legal provisions contained in the EC shall be equally applicable to the successor management of the project in the event of the project proponent transferring the ownership, maintenance of management of the project to any other entity.	Assured to comply
iii.	Provision should be made for the supply of kerosene or cooking gas to the labourers during construction phase. All the labourers to be engaged for construction works should be screened for health and adequately treated before issue of work permits.	At current the plant is in operation phase, if there will be any construction work same will be complied with.
iv.	The project proponent should make financial provision in the total budget of the project for implementation of the environmental safeguards. The project authorities will provide requisite funds both recurring and non-recurring to implement the conditions stipulated by the SEIAA along with the implementation schedule for all the conditions stipulated	Complied as per EIA – Environment Management Plan.





	herein. The funds so provided should not be diverted for any other purpose.	
v.	No further expansion or modifications in the plant should be carried out without prior approval of the State Level Environment Impact Assessment Authority.	In order to comply to this point we have made the application to MoEF, New Delhi for expansion of DI Pipe Unit from 2,00,000 TPA to 5,50,000 TPA in phase wise, and for this ToR is being issued by MoEF vide File No: J-11011/237/2016-I A.II(I); dated 31.01.2017. Copy is enclosed as Annexure-VI.
vi.	The West Bengal Pollution Control Board, who would be monitoring the implementation of environmental safeguards, should be given full cooperation, facilities and documents / data by the project proponents during their inspection. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to the WBPCB regularly. A complete set of all the documents should also be forwarded to the State Level Environment Impact Assessment Authority.	Being complied with.
vii.	In case of any violation of the conditions laid down in this Environmental Clearance, Section 16 of The Environment (Protection) Act, 1986, will be applicable.	Being complied with.
viii.	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA.	Agreed
ix.	The State Level Environment Impact Assessment Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.	Noted
x.	The Project Proponent should inform the public that the project has been accorded environmental clearance by the SEIAA and copies of the clearance letter are available with the State Pollution Control Board/Committee and may also be seen at website of the SEIAA ( <a href="http://enviswb.gov.in">http://enviswb.gov.in</a> ). This should be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which	Already being complied with





	one shall be in the vernacular language of the locality concerned.	
x.	The Project Authorities should inform the State Pollution Control Board as well as the SEIAA, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work/project implementation.	Noted
xii.	Prior Consent-to-Establish (NOC) for the proposed expansion project must be obtained from WBPCB before commencement of construction. All other statutory clearances should be obtained by project proponent from the competent authorities.	Agreed In order to comply with this point we have obtained N.O.C. from WBPCB for amendment of list of machineries. Copy of the same is already submitted to your good office
xiii.	The environmental clearance accorded shall be valid for a period of 5 years for the proposed project.	Noted
xiv.	The above stipulations would be enforced along with those under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Wastes (Management, Handling and Tran boundary Movement) Rules, 2008, the Public Liability Insurance Act, 1991, the Environment Impact Assessment Notification 2006 and their amendments.	Noted



**F. No. J-11011/237/2016-IA.II (I)**  
 Government of India  
 Ministry of Environment, Forest and Climate Change  
 (I.A. Division)

Indira Paryavaran Bhawan  
 Jor Bagh Road, Aliganj,  
 New Delhi - 110003  
 E-mail: ad.raju@nic.in  
 Tel: 011-24695236

Dated: 31<sup>st</sup> January, 2017

To ✓  
**M/s Rashmi Metaliks Limited**  
 Village Gokulpur, Post Office Shyamraipur,  
 District Paschmi Mednipur, West Bengal.

**Subject: Expansion of Ductile Iron Pipe Plant (2,00,000 TPA To 5,50,000 TPA) by M/s Rashmi Metaliks Limited, located at Village Gokulpur, Post Office Shyamraipur, District Paschmi Mednipur, West Bengal - prescribing of ToRs regarding.**

Sir,

This has reference to your online application No. IA/WB/IND/60075/2016 dated 31<sup>st</sup> October, 2016 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed TORs for undertaking detailed EIA and EMP study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S.No. 3(a), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

2.0 M/s Rashmi Metaliks Limited proposes to expand the production capacity of existing Ductile Iron Pipe Plant from 2, 00,000 TPA to 5, 50,000 TPA. It is proposed to set up the plant for Ductile Iron Pipe based on Centrifugal Casting technology. The total land area required for the proposed expansion project is 4.0468 Ha, out of which 1.34 Ha land will be used for green belt development. Total project cost is approximately 165 Crore rupees. Proposed employment generation from proposed project will be 600 direct employments and 200 indirect employments.

The proposed capacity for different products for new site area as below:

Sr. No	Plant	Existing (TPA)	Proposed (TPA)		Total (TPA)
			Phase-I	Phase-II	
1	Ductile Iron Pipe	2,00,000	1,50,000 Size of Pipe (SDP I) DN (80-300 mm) x 5.5 m	2,00,000 Size of Pipe (SDP II) DN (200-600 mm) x 5.5 m	5,50,000

3.0 The electricity load of 9.73 MW for the proposed expansion project will be procured from West Bengal State Electricity Distribution Company Limited has also proposed to install a 725 KVA DG Set. Water Consumption for the proposed project will be 830 KLD and waste water generation will be 500 KLD. The plant will be designed at 'Zero' effluent





discharged concept and it will be ensured by top management. Domestic waste water will be treated at septic tank followed by soak pit and industrial waste water generated will be treated at E.T.P. Plant and reused in process, green belt development, water spraying/ sprinklers for dust suppression.

4.0 The proposal was considered by the Expert Appraisal Committee (Industry-I) during its 13<sup>th</sup> meeting held on 23<sup>rd</sup> to 24<sup>th</sup> November, 2016 for prescribing TORs for undertaking detailed EIA/EMP study and recommended the project for prescribing following specific TORs for undertaking detailed EIA and EMP study in addition to the generic TOR enclosed at **Annexure I read with additional TORs at Annexure-2.**

- i. Public Hearing to be conducted by the West Bengal Pollution Control Board.
- ii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iii. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.1 dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.
- iv. Compliance report issued by the Regional Office of the Ministry for the existing steel plant should be submitted along with the EIA report and the compliance status should be presented before the Committee.
- v. Comfort letter from the concerned departments should be obtained for supply of water and power. Land related documents should be submitted as per OM of the Ministry.
- vi. One complete season(3 months) monitoring should be conducted for preparation of EIA and EMP report and the data so collected should be compared with the old data collected for earlier project and presented in the EIA report.

5.0 The undersigned is directed to inform that the Ministry of Environment, Forest and Climate Change (MoEFCC) after accepting the recommendation of the EAC (Industry-I), hereby decided to accord ToRs for the above project.

6.0 It is requested that the draft EIA and EMP Report may be prepared in accordance with the above mentioned specific TORs and enclosed generic TORs and additional TORs and thereafter further necessary action including conduct of public consultation may be taken for obtaining Environment Clearance in accordance with the procedure prescribed under the EIA Notification, 2006 as amended.

7.0 The TORs are valid for a period of three years from today i.e 31.01.2017 and will expire on 30.01.2020 However, this period could be further extended by a maximum period of one year provided an application is made by the project proponent at least three months before the expiry of the validity period, together with updated Form-I, based on proper justification.

  
(Amardeep Raju)  
Scientist 'D'

Copy to:-

1. The Secretary, Department of Environment, Government of West Bengal.
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3 Chandrasekharpur, Bhubaneswar - 751023.

(Amardeep Raju)  
Scientist 'D'





GENERIC TERMS OF REFERENCE (TOR) IN RESPECT OF INDUSTRY SECTOR

1. Executive Summary
2. Introduction
  - i. Details of the EIA Consultant including NABET accreditation
  - ii. Information about the project proponent
  - iii. Importance and benefits of the project
3. Project Description
  - i. Cost of project and time of completion.
  - ii. Products with capacities for the proposed project.
  - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
  - iv. List of raw materials required and their source along with mode of transportation.
  - v. Other chemicals and materials required with quantities and storage capacities
  - vi. Details of Emission, effluents, hazardous waste generation and their management.
  - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
  - viii. The project proponent shall furnish the requisite documents from the competent authority in support of drawl of ground water and surface water and supply of electricity.
  - ix. Process description along with major equipments and machineries, process flow sheet (Quantative) from raw material to products to be provided
  - x. Hazard identification and details of proposed safety systems.
  - xi. Expansion/modernization proposals:
    - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report.
    - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. Site Details
  - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
- iii. Co-ordinates (lat-long) of all four corners of the site.
- iv. Google map-Earth downloaded of the project site.
- v. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vi. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- vii. Landuse break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- viii. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- ix. Geological features and Geo-hydrological status of the study area shall be included.
- x. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xi. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xii. R&R details in respect of land in line with state Government policy

5. **Forest and wildlife related issues (if applicable):**

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
- ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (in case of projects involving forest land more than 40 ha).
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon.
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife

6. **Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring





stations shall be based CPCB guidelines and take into account the predominant wind direction, population zone and sensitive receptors including reserved forests.

- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQPM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

## 7. Impact Assessment and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – In case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste-minimization,

- recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
  - ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
  - x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
  - xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
  - xii. Action plan for post-project environmental monitoring shall be submitted.
  - xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

#### 8. Occupational health

- i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved.
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
- iii. Annual report of health status of workers with special reference to Occupational Health and Safety.
- iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

#### 9. Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.





- iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. Enterprise Social Commitment (ESC)
  - i. Adequate funds (Atleast 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.
12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
13. 'A tabular chart with index for point wise compliance of above TORs.
14. The TORs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages shall be provided.
- iv. The letter/application for environmental clearance shall quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
- vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report
- vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF vide O.M. No. J-11013/41/2006-LA.II (I) dated 4<sup>th</sup> August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.
- ix. TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant

information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarised in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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ADDITIONAL TORS FOR INTEGRATED STEEL PLANT

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. PM(PM<sub>10</sub> and P<sub>2.5</sub>) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM<sub>10</sub> to be carried over.
6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
8. Plan for slag utilization
9. Plan for utilization of energy in off gases (coke oven, blast furnace)
10. System of coke quenching adopted with justification.
11. Post process control system for control of SO<sub>x</sub>
12. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
13. Trace metals in waste material especially slag.
14. Trace metals in water



## Executive Summary

Executive summary of the report in about 8-10 pages incorporating the following:

- i. Project name and location (Village, Dist, State, Industrial Estate (if applicable))
- ii. Products and capacities. If expansion proposal then existing products with capacities and reference to earlier EC.
- iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
- iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
- v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
- vi. Capital cost of the project, estimated time of completion
- vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of its acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest, eco-sensitive zones, accessibility, (note – in case of industrial estate this information may not be necessary)
- viii. Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
- ix. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
- x. Likely impact of the project on air, water, land, flora-fauna and nearby population
- xi. Emergency preparedness plan in case of natural or in plant emergencies
- xii. Issues raised during public hearing (if applicable) and response given
- xiii. CSR plan with proposed expenditure.
- xiv. Occupational Health Measures
- xv. Post project monitoring plan

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WEST BENGAL POLLUTION CONTROL BOARD  
HALDIA REGIONAL LABORATORY

Block 5, 40 flats complex, Priyambada Housing Estate, P.O.-Kinnanchak,  
Durgachak, Haldia, Dist-Midnapore (E), Pin-721 602. Phone: (03224)- 276847

Analysis Report of Gaseous Emission

Analysis Done at Haldia Regional Laboratory :

1. Name of Industry		M/s Rashmi Metalliks Ltd.	
2. Address		Vill- Gokulpur, P.O.- Shyamraipur, Kharsipur, Paschim Medinipur	
3. Category & Type		Red/D.I. Pipes Mfg. Unit	
4. Sampling Date		09/03/2017	
5. Duration of Sampling		39 min.	
6. Name of Laboratory		M/s. Indicative Consultant India	
7. Height of Stack from ground (m)		35.0	
8. Cross section of Stack at sampling point(m <sup>2</sup> )		1.1314	
9. Stack connected to		Annealing Furnace-30 TPH(Pass A)	
10. Emission due to Furnace (Boiler)		Combustion of B.F. Gas	
11. Average operational hours of boiler/furnace (per month)		20 (less than)	
12. APC System(if any)		Nil	
13. Working load of source (MT/hr)		14.0 TPH	
14. Fuel used		B.F. Gas	
15. Rated Fuel consumption (Kg or liter)		-	
16. Working Fuel consumption (Kg or liter)		10008 Nm <sup>3</sup> /hr	
17. Nature of Furnace (Boiler)		-	
18. Flue gas Temp. (°C)		198.0	
19. Flue gas velocity	9.11 m/sec.	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.014
21. Corrected flue gas volume(Nm <sup>3</sup> )	0.9693	22. Percentage CO <sub>2</sub>	7.2%
23. To be compensated at (% if required)		-	
24. Initial wt of thimble (gm)	1.4914	25. Final wt of thimble (gm)	1.4962
26. Wt. of PM (mg)	4.8	27. Particulate matter (mg/Nm <sup>3</sup> )	4.95
28. Barometric Pressure Head	756 mm of Hg.	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	GF-159
32. Sampled by:		Sri R. Chakraborty, AEE, H.R.O.	

Junior Scientist

Subhojit Bhattacharya 20/03/17  
Scientist & In-Charge

Copy to: 1. Chief Engineer, O & E, WBPCB. SCIENTIST & IN-CHARGE  
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3. Environmental Engineer, H.R.O., WBPCB (two copies) West Bengal Pollution Control Board  
Dept. of Environment, Govt. of WB.





**WEST-BENGAL POLLUTION CONTROL BOARD**  
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Durgachek, Haldia, Dist-Midnapore (E), Pin-721 602. Phone: (03324)- 276847

Analysis Report of Gaseous Emission

Analysis Done at Haldia Regional Laboratory :

1. Name of Industry		M - Rashmi Metalliks Ltd.	
2. Address		Vill- Gokulpar, P.O.- Shyamtipur, Kharajpur, Paschim Medinipur	
3. Category & Type		Reel-D.I. Pipes Mfg. Unit	
4. Sampling Date		09/03/2017	
5. Duration of Sampling		40 min.	
6. Name of Laboratory		M/s. Indicative Consultant India	
7. Height of Stack from ground (m)		35.0	
8. Cross section of Stack at sampling point(m <sup>2</sup> )		1.1314	
9. Stack connected to		Annealing Furnace-30 TPH(Pass B)	
10. Emission due to(Furnace/Boiler)		Combustion of B.F. Gas	
11. Average operational hours of boiler/ furnace (per month)		720 Hrs/month	
12. APC System(if any)		Nil	
13. Working load of source (MT/hr)		14.0 TPH	
14. Fuel used		B.F. Gas	
15. Rated Fuel consumption (Kg or l/hr)		-	
16. Working Fuel consumption (Kg or l/hr)		10000 Nm <sup>3</sup> /hr	
17. Nature of Furnace/Boiler		-	
18. Flue gas Temp. (°C)		195.0	
19. Flue gas velocity	8.69 m/sec.	20. Volume of Flue gas drawn in lit (or m <sup>3</sup> )	1.0
21. Corrected flue gas volume(Nm <sup>3</sup> )	0.9559	22. Percentage CO <sub>2</sub>	7.2%
23. To be compensated at (%. if required)		-	
24. Initial wt of thimble (gm)	1.5144	25. Final wt of thimble (gm)	1.5150
26. Wt. of PM (mg)	0.6	27. Particulate matter (mg/Nm <sup>3</sup> )	0.628
28. Barometric Pressure Head	756 mm of Hg.	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	GF-160
32. Sampled by:		Sh R. Chakraborty, AEU, H.R.O.	

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WEST BENGAL POLLUTION CONTROL BOARD  
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Durgachuk, Haldia, Dist-Midnapore (E), Pin-721 602. Phone: (03224)- 276847

Analysis Report of Gaseous Emission

Analysis Done at Haldia Regional Laboratory :

1. Name of Industry	M/s Rashmi Metals Ltd.		
2. Address	Vill- Gokulpur, P.O.- Shyamraipur, Kheragpur, Paschim Medinipur		
3. Category & Type	Red/D.I. Pipes Mfg. Unit		
4. Sampling Date	09/03/2017		
5. Duration of Sampling	27 min.		
6. Name of Laboratory	M/s. Infrantive Consultant India		
7. Height of Stack from ground (m)	25.0		
8. Cross section of Stack at sampling point (m <sup>2</sup> )	1.076		
9. Stack connected to	Induction Furnace (8MT/Batch) - 03 nos.		
10. Emission due to (Furnace / Boiler)	Process Activity		
11. Average operational hours of boiler/ furnace (per month)	720 Hrs/month		
12. APC System (if any)	Cyclone Separator & Bag Filter		
13. Working load of source (MT/hr)	8 MT/Batch		
14. Fuel used	Electricity		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of Furnace / Boiler	-		
18. Flue gas Temp. (°C)	37.0		
19. Flue gas velocity	8.46 m/sec.	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.026
21. Corrected flue gas volume (Nm <sup>3</sup> )	0.8810	22. Percentage CO <sub>2</sub>	1.2%
23. To be compensated at (% if required)	-		
24. Initial wt of thimble (gm)	1.7900	25. Final wt of thimble (gm)	1.7969
26. Wt. of PM (mg)	6.9	27. Particulate matter (mg/Nm <sup>3</sup> )	7.01
28. Barometric Pressure Head	756 mm of Hg.	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	GF-162
32. Sampled by:-	Sri R. Chakraborty, AEE, H.R.O.		

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**WEST BENGAL POLLUTION CONTROL BOARD  
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Durgachak, Haldia, Dist-Midnapore (E), Pin-721 602, Phone: (03224)- 276847

Analysis Report of Gaseous Emission

Analysis Done at Haldia Regional Laboratory :

1. Name of Industry	M/s Rashmi Metaliks Ltd.		
2. Address	Vill- Gokulpur, P.O.- Shyamsraipur, Khuragpur, Paschim Medinipur		
3. Category & Type	Red D.I. Pipes Mfg. Unit		
4. Sampling Date	09.03/2017		
5. Duration of Sampling	30 min.		
6. Name of Laboratory	M/s. Indicative Consultam India		
7. Height of Stack from ground (m)	35.0		
8. Cross section of Stack at sampling point(m <sup>2</sup> )	0.6364		
9. Stack connected to	Magnesium Converter of Ductile Iron Liquid Metal		
10. Emission due to(Furnace/Boiler)	Conversion of Magnesium, Reaction with Hard Metal		
11. Average operational hours of boiler/furnace (per month)	720 Hrs/month		
12. APC System(if any)	Cyclone Separator with Bag Filter		
13. Working load of source (MT/hr)	20 MT/hr		
14. Fuel used	-		
15. Rated Fuel consumption (Kg or l/hr)	-		
16. Working Fuel consumption (Kg or l/hr)	-		
17. Nature of Furnace/Boiler	-		
18. Flue gas Temp. (°C)	52.0		
19. Flue gas velocity	7.95 m/sec.	20. Volume of Flue gas drawn in lit (m <sup>3</sup> )	1.02
21. Corrected flue gas volume(Nm <sup>3</sup> )	0.9750	22. Percentage CO <sub>2</sub>	<0.2%
23. To be compensated in (% if required)	-		
24. Initial wt of thimble (gm)	1.5024	25. Final wt of thimble (gm)	1.5072
26. Wt. of PM (mg)	4.8	27. Particulate matter (mg/Nm <sup>3</sup> )	4.92
28. Barometric Pressure Head	756 mm of Hg.	29. Diameter of the nozzle	9.525 mm.
30. Others:-		31. Thimble No.	GF-161
32. Sampled by:	Sri R. Chakraborty, AEE, H.R.O.		

Junior Scientist

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Analysis Report of Gaseous Emission

Analysis Done at Haldia Regional Laboratory :

1. Name of Industry		M/s Rashmi Metaliks Ltd.	
2. Address		VIII-Gokulpur, P.O.- Shyamraipur, Kharagpur, Paschim Medinipur	
3. Category & Type		Red/D.I. Pipes Mfg. Unit	
4. Sampling Date		09/03/2017	
5. Duration of Sampling		25 min	
6. Name of Laboratory		M/s. Indefatco Consultant India	
7. Height of Stack from ground (m)		35.0	
8. Cross section of Stack at sampling point(m <sup>2</sup> )		0.5029	
9. Stack connected to		Zinc Coating Machines	
10. Emission due to(Furnace/Boiler)		Process Activity	
11. Average operational hours of boiler/ furnace (per month)		720 Hrs/month	
12. APC System(if any)		Cyclonic Separator & Bag Filter	
13. Working load of source (MT/hr)		4 Ton/hr	
14. Fuel used		-	
15. Rated Fuel consumption (Kg or L/hr)		-	
16. Working Fuel consumption (Kg or L/hr)		-	
17. Name of Furnace/Boiler		-	
18. Flue gas Temp. (°C)		35.0	
19. Flue gas velocity	9.12 m/sec.	20. Volume of flue gas drawn in lit (m <sup>3</sup> )	1.025
21. Corrected flue gas volume(Nm <sup>3</sup> )	0.9863	22. Percentage CO <sub>2</sub>	~0.2%
23. To be compensated at (% if required)		-	
24. Initial wt of thimble (gm)	1.4773	25. Final wt of thimble (gm)	1.4836
26. Wt. of PM (mg)	6.3	27. Particulate matter (mg/Nm <sup>3</sup> )	6.39
28. Barometric Pressure Head	756 mm of Hg.	29. Diameter of the nozzle	9.525 mm
30. Others:-		31. Thimble No.	GT-158
32. Sampled by:		Sri R. Chakraborty, A.S.E., H.R.O.	

Junior Scientist

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3. Environmental Engineer, H.R.O., WBPCB (two copies), W.B. Pollution Control Board  
Govt. of W.B.





**AMBIENT AIR ANALYSIS REPORT**

1. Name of the Industry	: Rashmi Metaliks Ltd.
2. Address	: Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kharagpur (Local), Paschim Midnapore
3. Date of sampling	: 08.03.2017 - 09.03.2017
4. Report No.	: 19A/EC/March/TR(A)/II/16-17
5. Analysis completed on	: 11.03.2017
6. Reporting Date	: 15.03.2017
7. Particular of Plant	: Integrated Steel Plant

**A) GENERAL INFORMATION**

1. Location of Sampling	: Near Plant Main Gate (Kharagpur)
2. Duration of Sampling	: 24 hrs. (09:00 a.m. - 09:00 a.m.)

**B) METEOROLOGICAL INFORMATION**

1. Average Temperature (°C)	: 29.0
2. Average Relative Humidity (%)	: 62.0
3. Barometric Pressure (mm of Hg)	: 755.0
4. Smell or Odour	: No Remarkable Smell
5. Weather Condition	: Clear sky

**C) RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 51.80
2.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 23)	: 87.10
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) & ASTM D 2914-01	: 12.52
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) & ASTM D 1607-91	: 35.01
5.	Concentration of CO (mg/m <sup>3</sup> )	IS 5182 (Part 10) & ASTM D 3162-94	: 1.26
6.	Concentration of Pb (µg/m <sup>3</sup> )	IS 5182 (Part 22) & ASTM D 4185-06	: <0.01
7.	Benzo (a) Pyrene (BaP) (ng/m <sup>3</sup> )	IS 5182 (Part 12) 2004 & ASTM D 6209-98	: <0.36
8.	Benzene (C <sub>6</sub> H <sub>6</sub> ) (µg/m <sup>3</sup> )	IS 5182 (Part 11) 2006 & ASTM D 5466-01	: <0.74
9.	Ozone (O <sub>3</sub> ) (µg/m <sup>3</sup> )	IS 5182 (Part-IX)	: <10.0
10.	Ammonia (NH <sub>3</sub> ) (µg/m <sup>3</sup> )	NIOSH Manual of Analytical Method, 4 <sup>th</sup> Edition 1994, Method 6015	: <150.0
11.	Nickel (Ni) (ng/m <sup>3</sup> )	IS 5182 (Part 22) 2004 & ASTM D 4185-06	: <0.02
12.	Arsenic (As) (ng/m <sup>3</sup> )	IS 5182 (Part 22) 2004 & ASTM D 4185-06	: <0.01

Date : 15.03.2017

Authorised Signatory :



 Dr. Ajoy Paul  
 (Scientist)


**AMBIENT AIR ANALYSIS REPORT**

1. Name of the Industry	: Rashmi Metaliks Ltd.
2. Address	: Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kahragpur (Local), Paschim Midnapore
3. Date of sampling	: 08.03.2017 - 09.03.2017
4. Report No.	: 19A/EC/March/TR(A)/III/16-17
5. Analysis completed on	: 11.03.2017
6. Reporting Date	: 15.03.2017
7. Particular of Plant	: Integrated Steel Plant

**A) GENERAL INFORMATION**

1. Location of Sampling	: At Malancha Town (4 km. from plant)
2. Duration of Sampling	: 24 hrs. (09:30 a.m. - 09:30 a.m.)

**B) METEOROLOGICAL INFORMATION**

1. Average Temperature (°C)	: 29.0
2. Average Relative Humidity (%)	: 62.0
3. Barometric Pressure (mm of Hg)	: 755.0
4. Smell or Odour	: No Remarkable Smell
5. Weather Condition	: Clear sky

**C) RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 51.48
2.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 23)	: 82.50
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) & ASTM D 2914	: 9.50
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) & ASTM D 1607	: 29.95

Date : 15.03.2017

Authorised Signatory :



**Dr. Ajoy Paul**  
(Scientist)



**AMBIENT AIR ANALYSIS REPORT**

1. Name of the Industry	: Rashmi Metaliks Ltd.
2. Address	: Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kahragpur (Local), Paschim Midnapore
3. Date of sampling	: 08.03.2017 - 09.03.2017
4. Report No.	: 19A/EC/March/TR(A)/IV/16-17
5. Analysis completed on	: 11.03.2017
6. Reporting Date	: 15.03.2017
7. Particular of Plant	: Integrated Steel Plant

**A] GENERAL INFORMATION**

1. Location of Sampling	: Gokulpur (Village) (1.5 m. from plant)
2. Duration of Sampling	: 24 hrs. (10:00 a.m. - 10:00 a.m.)

**B] METEOROLOGICAL INFORMATION**

1. Average Temperature (°C)	: 29.0
2. Average Relative Humidity (%)	: 62.0
3. Barometric Pressure (mm of Hg)	: 755.0
4. Smell or Odour	: No Remarkable Smell
5. Weather Condition	: Clear sky

**C] RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 51.44
2.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 23)	: 90.88
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) & ASTM D 2914-01	: 6.49
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) & ASTM D 1607-91	: 25.03

Date : 15.03.2017

Authorised Signatory :



Dr. Ajoy Paul  
(Scientist)





**AMBIENT AIR ANALYSIS REPORT**

1. Name of the Industry	: Rashmi Metaliks Ltd.
2. Address	: Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kahruggur (Local), Paschim Midnapore
3. Date of sampling	: 08.03.2017 - 09.03.2017
4. Report No.	: 19A/EC/March/TR(A)/V/16-17
5. Analysis completed on	: 11.03.2017
6. Reporting Date	: 15.03.2017
7. Particular of Plant	: Integrated Steel Plant

**A] GENERAL INFORMATION**

1. Location of Sampling	: Kalaikunda Village
2. Duration of Sampling	: 24 hrs. (10:30 a.m. - 10:30 a.m.)

**B] METEOROLOGICAL INFORMATION**

1. Average Temperature (°C)	: 29.0
2. Average Relative Humidity (%)	: 62.0
3. Barometric Pressure (mm of Hg)	: 755.0
4. Smell or Odour	: No Remarkable Smell
5. Weather Condition	: Clear sky

**C] RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of PM <sub>2.5</sub> (µg/m <sup>3</sup> )	USEPA 1997a, 40 CFR Part 50, Appendix L	: 49.79
2.	Concentration of PM <sub>10</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 23)	: 87.50
3.	Concentration of SO <sub>2</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 2) & ASTM D 2914-01	: 5.80
4.	Concentration of NO <sub>x</sub> (µg/m <sup>3</sup> )	IS 5182 (Part 6) & ASTM D 1607-91	: 28.49

Date : 15.03.2017

Authorised Signatory :



**Dr. Ajoy Paul**  
(Scientist)



**FUGITIVE AIR ANALYSIS REPORT**

1.	Name of the Industry	: Rashmi Metaliks Ltd.
2.	Address	: Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kahrugpur (Local), Paschim Midnapore
3.	Date of sampling	: 08.03.2017
4.	Report No.	: 19A/EC/March/TR(A)/VIII/16-17
5.	Analysis completed on	: 11.03.2017
6.	Reporting Date	: 15.03.2017
7.	Particular of Plant	: Integrated Steel Plant

**A) GENERAL INFORMATION**

1.	Location of Sampling	: DIP - Unit
2.	Duration of Sampling	: 08 hrs. (09:50 a.m. - 05:50 p.m.)

**B) METEOROLOGICAL INFORMATION**

1.	Average Temperature (°C)	: 33.0
2.	Average Relative Humidity (%)	: 76.0
3.	Barometric Pressure (mm of Hg)	: 755.0
4.	Smell or Odour	: No Remarkable Smell

**C) RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 4) & ASTM D 4096	: 288.50

Date : 15.03.2017

Authorised Signatory :



 Dr. Ajoy Paul  
 (Scientist)


**FUGITIVE AIR ANALYSIS REPORT**

1. Name of the Industry	:	Rashmi Metaliks Ltd.
2. Address	:	Vill. - Gokulpur, P.O. - Shyamraipur, P.S. - Kahruggur (Local), Paschim Midnapore
3. Date of sampling	:	08.03.2017
4. Report No.	:	19A/EC/March/TR(A)/VII/16-17
5. Analysis completed on	:	11.03.2017
6. Reporting Date	:	15.03.2017
7. Particular of Plant	:	Integrated Steel Plant

**A) GENERAL INFORMATION**

1. Location of Sampling	:	Raw Materials Handling Plant (3)
2. Duration of Sampling	:	08 hrs. (09:30 a.m. - 05:30 p.m.)

**B) METEOROLOGICAL INFORMATION**

1. Average Temperature (°C)	:	31.2
2. Average Relative Humidity (%)	:	72.0
3. Barometric Pressure (mm of Hg)	:	755.0
4. Smell or Odour	:	No Remarkable Smell

**C) RESULTS**

SL. NO.	PARAMETERS	METHOD NO.	RESULTS
1.	Concentration of SPM ( $\mu\text{g}/\text{m}^3$ )	IS 5182 (Part 4) & ASTM D 4096	506.54

Date : 15.03.2017

Authorised Signatory :



**Dr. Ajoy Paul**  
(Scientist)





**EFFLUENT WATER ANALYSIS REPORT**

1.	Name of the Industry	: Rashmi Metaliks Ltd.
2.	Address	: Gokulpur, P.O. - Shyamraipur, P.S. - Kharagpur, Paschim Midnapore
3.	Report No.	: Env/645/W/M(i)/16-17
4.	Date of sampling	: 08.03.2017
5.	Reporting date	: 17.03.2017
6.	Type of sample	: Industrial Effluent Water (grab)
7.	Collection & preservation of sample	: APHA 22 <sup>nd</sup> Edition, 1060
8.	Location of sample	: Near DIP Unit
9.	Sample collected in presence of	: Company Representative

PARAMETERS	TEST METHODS	RESULTS
1. pH	APHA 22 <sup>nd</sup> Edition, 4500-H*B	: 6.92
2. Total Suspended Solids (mg./l)	APHA 22 <sup>nd</sup> Edition, 2540 D	: 35.0
3. Oil and Grease (mg./l)	APHA 22 <sup>nd</sup> Edition, 5520 B/D	: 4.50
4. COD (mg./l)	APHA 22 <sup>nd</sup> Edition, 5220 B/C/D	: 80.0
5. BOD [3 days, 27°C] (mg./l)	APHA 22 <sup>nd</sup> Edition, 5210-B	: <2.0

Authorised Signatory :



 Dr. Ajoy Paul  
 (Scientist)


**DRINKING WATER ANALYSIS REPORT**

- |                         |   |  |
|-------------------------|---|--|
| 1. Name of the Industry | : | Rashmi Metaliks Ltd.   |
| 2. Address              | : | Gokulpur, P.O. - Shyamraipur, P.S. -<br>Kharagpur, Paschim Midnapore |
| 3. Report No.           | : | Env/647/W/M(i)/16-17   |
| 4. Sampling Date        | : | 08.03.2017   |
| 5. Reporting date       | : | 17.03.2017   |
| 6. Type of sample       | : | Drinking Water   |
| 7. Sampling location    | : | DIP Plant  |

PARAMETERS		RESULTS	LIMIT as per IS-10500, 2012	
			Requirement (Acceptable Limit)	Permissible Limit in the Absence of Alternate Source
1.	Colour	: 1.0	5.0	15.0
2.	Odour	: Odourless	Agreeable	Agreeable
3.	Taste	: Acceptable	Agreeable	Agreeable
4.	pH	: 7.81	6.5-8.5	No Relaxation
5.	Total Hardness (as CaCO <sub>3</sub> ) (mg./l)	: 80.0	200.0	600.0
6.	Calcium (as Ca) (mg./l)	: 19.24	75.0	200.0
7.	Magnesium (as Mg) (mg./l)	: 7.68	30.0	100.0
8.	Chloride (as Cl) (mg./l)	: 9.64	250.0	1000.0
9.	Iron (as Fe) (mg./l)	: 0.27	0.3	No Relaxation
10.	Total Arsenic (as As) (mg./l)	: <0.01	0.01	0.05
11.	Cadmium (as Cd) (mg./l)	: <0.01	0.003	No Relaxation
12.	Total Chromium (as Cr) (mg./l)	: <0.05	0.05	No Relaxation
13.	Copper (as Cu) (mg./l)	: <0.04	0.05	1.5
14.	Cyanide (as CN) (mg./l)	: <0.05	0.05	No Relaxation
15.	Lead (as Pb) (mg./l)	: <0.088	0.01	No Relaxation
16.	Mercury (as Hg) (mg./l)	: <0.001	0.001	No Relaxation
17.	Nitrate (as NO <sub>3</sub> ) (mg./l)	: 1.85	45.0	No Relaxation
18.	Total Dissolved Solids (mg./l)	: 194.35	500.0	2000.0



19.	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH) (mg./l)	:	<0.1	0.001	0.002
20.	Zinc (as Zn) (mg./l)	:	0.11	5.0	15.0
21.	Sulphate (as SO <sub>4</sub> ) (mg./l)	:	4.12	200.0	400.0
22.	Turbidity (NTU)	:	<1.0	1.0	5.0
23.	Fluoride (as F) (mg./l)	:	<0.1	0.2	1.0
24.	Residual Free Chlorine (mg./l)	:	<0.04	0.2	1.0
25.	Manganese (as Mn) (mg./l)	:	<0.1	0.1	0.3
26.	Total Alkalinity as calcium carbonate (mg./l)	:	108.0	200.0	600.0
27.	Aluminium (mg./l)	:	<0.2	0.03	0.2
28.	Boron (mg./l)	:	<0.1	0.5	1.0
29.	Total Coliform (CFU/100 ml.)	:	Absent	Shall not be detectable in any 100 ml. sample	--
30.	E. Coli (CFU/100 ml.)	:	Absent	Shall not be detectable in any 100 ml. sample	--
31.	Feacal Coliform (CFU/100 ml.)	:	Absent	Shall not be detectable in any 100 ml. sample	--

\*CFU indicates Colony forming unit.

Authorised Signatory :



**Dr. Ajoy Paul**  
 (Scientist)





**LECHATE STUDY REPORT**

1.	Name of the Industry	:	Rashmi Metaliks Ltd.
2.	Address	:	Gokulpur, P.O. - Shyamraipur, P.S. - Kharagpur, Paschim Midnapore
3.	Date of sampling	:	08.03.2017
4.	Report No.	:	Env/646/L/M/16-17
5.	Reporting date	:	17.03.2017
6.	Type of Sample	:	Liquid Sample

Sl. No.	LOCATION	PARAMETERS (mg/kg.)						
		Fe	Zn	Cr	Cu	Ni	Pb	Cd
1.	Near Pellet Plant-I Area	680.0	52.0	2.80	16.50	7.20	5.0	<0.5
2.	Near DIP Plant	580.0	32.50	1.65	8.0	5.0	2.80	<0.5
3.	Near SMS Plant	168.50	36.50	1.80	7.0	3.82	3.50	<0.5

Authorised Signatory :



Dr. Ajoy Paul  
 (Scientist)





# ENVIROCHECK

House of Environmental Pollution Monitoring and Analysis

WBPCB & GSPCB Recognized, ISO 9001:2000, ISO 14001:2004 & OHSAS 18001:2007 Certified Laboratory



Annexure-V

## NOISE LEVEL SYUDY (SOURCE)

1. Name of Industry : Rashmi Metaliks Ltd
2. Address : Vill. - Gokulpur, P.O - Shyamraipur,  
Kharagpur (Local), Paschim Mednipur
3. Date of Study : 08/03/17 - 09/03/17 (24hrs)
4. Height from Ground Level : 4ft
5. Location : Near DIP Unit

Time	Value db (A)		
	Max	Min	Leq
06.00AM - 07.00AM	65.7	70.2	68.12
07.00AM - 08.00AM	65.1	72.9	71.38
08.00AM - 09.00AM	66.8	70.1	69.16
09.00AM - 10.00AM	65.2	73.5	72.10
10.00AM - 11.00AM	67.2	71.5	68.12
11.00AM - 12.00PM	68.2	72.6	70.28
12.00PM - 01.00PM	66.2	73.5	71.20
01.00PM - 02.00PM	65.2	71.5	70.18
02.00PM - 03.00PM	68.2	72.5	70.10
03.00PM - 04.00PM	67.2	69.8	67.38
04.00PM - 05.00PM	65.2	69.7	68.18
05.00PM - 06.00PM	66.2	68.5	67.12
06.00PM - 07.00PM	67.5	72.6	71.58
07.00PM - 08.00PM	68.6	73.8	72.50
08.00PM - 09.00PM	67.2	71.8	70.28
09.00PM - 10.00PM	66.2	72.5	71.62
10.00PM - 11.00PM	65.2	68.2	66.18
11.00PM - 12.00AM	66.8	67.2	65.12
12.00AM - 01.00AM	67.2	70.5	67.12
01.00AM - 02.00AM	63.5	67.8	66.23
02.00AM - 03.00AM	66.2	71.5	70.12
03.00AM - 04.00AM	65.2	69.2	67.16
04.00AM - 05.00AM	66.5	67.2	66.18
05.00AM - 06.00AM	63.2	67.2	65.12
<b>Average Leq :</b>			<b>68.85</b>

*Handwritten signature*



**Authorized Signatory & Stamp**

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 Phone No. 033-2579 2891, 2549 7490, Fax No. 033-2529 9141  
 Laboratory : 189 & 190, Rastraguru Avenue, Kolkata - 700028 Phone No. - 033-2579 2889  
 E-mail : envcheck@cal2.vsnl.net.in / Website - www.envirocheck.org  
 Branch Office : Durgapur (+91 9674155172), Siliguri (+91 9830067046), Haldia (+91 9830067045), Dhanbad (+91 9830067045)





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House of Environmental Pollution Monitoring and Analysis

WBPCB & OSPCB Recognized, ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007 Certified Laboratory



## NOISE LEVEL SYUDY (AMBIENT)

1. Name of Industry : Rashmi Metaliks Ltd
2. Address : Vill. - Gokulpur, P.O - Shyamraipur,  
Kharagpur (Local), Paschim Mednipur
3. Date of Study : 08/03/17
4. Height from Ground Level : 4 ft
5. Location : Near Plant Main Gate (Kharagpur)

Time	Value db (A)		
	Max	Min	Leq
03.00PM - 03.20AM	64.1	58.2	63.26



### Authorized Signatory & Stamp

H.O. : 63/B, Rastraguru Avenue, Kolkata - 700028 Phone No. 033-2579 2891, 2549 7490, Fax No. 033-2529 9141  
Laboratory : 189 & 190, Rastraguru Avenue, Kolkata - 700028 Phone No. - 033-2579 2889  
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## NOISE LEVEL SYUDY (AMBIENT)

1. Name of Industry : Rashmi Metaliks Ltd
2. Address : Vill. - Gokulpur, P.O - Shyamraipur,  
Kharagpur (Local), Paschim Mednipur
3. Date of Study : 08/03/17
4. Height from Ground Level : 4 ft
5. Location : Railway Sitting

Time	Value db (A)		
	Max	Min	Leq
03.30PM - 03.50PM	64.5	62.1	63.80



**Authorized Signatory & Stamp**

H.O. : 03/B, Rastraguru Avenue, Kolkata - 700028 Phone No. 033-2579 2891, 2549 7490, Fax No. 033-2529 9141  
Laboratory : 189 & 190, Rastraguru Avenue, Kolkata - 700028 Phone No. - 033-2579 2889  
E-mail : envcheck@cal2.vsnl.net.in / Website - www.envirocheck.org  
Branch Office : Durgapur (+91 9674155172), Siliguri (+91 9830067046), Haldia (+91 9830067045), Dhanbad (+91 9830067045)

