CIN - U27102CT2004PTC016965
GSTIN-22AACCR8540F1ZM

Ph. : 88273-94066

RIPPL
RAIGARH ISPAT
AND POWER PVT. LTD.

Ref No.: RIPPL/ENV/EC/2025-26/02 **Date: 18.11.2025**

To,
The Regional Officer,
Integrated Regional Office.
Ministry of Environment, Forest & Climate Change,
Govt. of India, ArnayaBhawan, North Block, Sector-19.
Nava Raipur Atal Nagar, Raipur (C.G.) 492002.

Sub.: Raigarh Ispat and Power Private Limited Village Delari, District- Raigarh (C.G)- Half Yearly report on status of implementation of Environment Clearance for the period of April-2025 to September- 2025-Reg.

Ref.: Environmental clearance vide letter No. F.No. J- 11011/1040/2007-IA II (I) dated 27th January, 2010.

Sir,

Reference to above subject of Environment Clearance, Please find enclosed herewith Half Yearly report on status of implementation of Environment Clearance for the period of **April-2025 to September- 2025**.

Hope this is inline with stipulated condition of Environment Clearance.

Thanking you,

For, **Raigarh Ispat and Power Private Limited**

Authorized Signatory

RAIGARH ISPAT & POWER PVT. LTD. RAIGARH (C.G.)

Encl: As above.

CC:01.Member Secretary, Chhattisgarh Environment Conservation Board, Raipur (C.G.)
02. Member Secretary, State EIA Authority (SEIAA) Chhattisgarh, Raipur (C.G.)
03. Regional Office, Chhattisgarh Environment Conservation Board, Raigarh (C.G.)

EC COMPLIANCE REPORT

(April 2025 to September 2025)

Of

M/s. Raigarh Ispat & Power (P) Limited

Located At:

Village Delari,

Tehsil & District Raigarh, State Chhattisgarh

CONTENT

ANNEXURES

MONITORING REPORTS

COMPLIANCE STATUS

M/s. Raigarh Ispat & Power (P) Limited is manufacturing Sponge Iron Plant, Steel Melting Shop, Rolling Mill and Captive Power Plant (WHRB & FBC) at Village Delari, Tehsil & District–Raigarh, State - Chhattisgarh.

This plant having obtained environmental clearance vide letter No. F.No. J-11011/1040/2007-IA II (I) dated 27th January, 2010.

EC Conditions compliance status and Environmental monitoring reports for the period of **April 2025 to September 2025** is given below:

Compliance Status of conditions stipulated in Environmental of M/s. Raigarh Ispat & Power (P) Limited are given below:

A. SPECIFIC CONDITIONS		
Sr. No.	**Specific Conditions**	**Compliance**
i.	Environment clearance is subject to the final order of the Hon'ble Court of Chhattisgarh in reference to Writ Petition (Civil) 2662/2209 dated 19th May, 2009 in pending, as may be applicable to this project.	Noted.
ii.	Compliance to all the specific and general condition stipulated for the existing plant by the Central/State Government shall be ensured and regular reports submitted to the Ministry's Regional Office at Bhopal.	Industry is complying all conditions stipulated and submitted the six monthly compliance reports regularly.
iii.	Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuos stack monitoring facilities for all the stacks shall be provided and sufficient air pollution of devices viz. Electrostatic precipitator (ESP), gas cleaning plant, bag filters etc. shall be provided to keep the emission	Efforts are being made to reduce the level of RSPM in ambient air by the industry Regular housekeeping, road cleaning is being done and water sprinklers have been provided in raw material yards and roads. Interlocking facilities has been provided. CEMS has been provided in all stacks and connected to CECB & CPCB servers. Calibrations and validation is being done in regular intervals. 01 No. Online CAAQMS has been installed and connected to CECB and CPCB servers. Stack, Ambient air Monitoring is being done by NABL accredited

	levels below 50 mg/Nm^3 by installing energy efficient technology. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Agency reports hasbeen attached as ***Annexure – V***.
v.	Hot gases from DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before leaving out into the atmosphere through ID fan and stack.	Hot gases from DRI kiln have been passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) for burn CO completely and waste heat recovery boiler (WHRB). Has been installed for power generation. The gas then cleanedin ESP before leaving out into the atmosphere through ID fan and stack.
v.	Electrostatic precipitator (ESP) shall be provided to WHRB and FBC boiler power plant to control the particulate emissions below 50 mg/Nm^3 and cleaned gases shall be let out to atmosphere through stack adequate height. Fume extractions system with bag filters shall be provided to control fugitive emissions from SMS and ferro alloys unit. Flue gases from rolling mill shall be let out through a stack of adequate height. The SPM levels from all the sources shall be controlled within 50 mg/Nm^3 as proposed.	Sponge Iron Kilns with WHRB Based Power Plant has been equipped with Electrostatic Precipitators; which is designed to achieve Particulate Matter emission levelbelow 50 mg/ Nm^3. Induction furnaces have been equipped with fume extraction system followed by Bag filter. This bag filter has been designed to achieve Particulate Matter emission level below 50 mg/ Nm^3.
vi.	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.	National Ambient Air Quality Standards is being followed. **Refer Annexure V Monitoring reports.**
vii.	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Dust suppression system with water sprinklers shall be provided at raw material handling, unloading and storage areas. Dust extraction system with bag filters shall be provided at kiln inlet and outlet, material transfer points, coal crushing and screening areas. Water	Dust suppression system with water sprinklers have provided at raw material handling, loading, unloading and storage areas. Bag filters have been installed in transfer points of the conveying systems. Belt conveyors are covered and internal roads has been pucca to avoid the fugitive emissions. Water Sprinklers photos are attached as ***Annexure – I***.

	sprinklers shall be provided for dust discharge and product separation during unloading of raw materials. Water spraying shall also be done to prevent the dust emanation due to vehicular movement. All the roads in the work area shall be asphalted. Monitoring of fugitive emission in the work zone environment shall be carried out regularly as per the CPCB guidelines and reports submitted to CECB/CPCB and Ministry's Regional Office at Bhopal.	Photograph of Pucca Road is enclosed in ***Annexure – II***.
viii.	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored Guidelines/Code of Practice issued by the CPCB shall be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414(E) dated 30th May 2008 should be followed.	Gaseous & Secondary fugitive emissions from all sources are controlled within the latest permissible limits issued by the Ministry and are being monitored regularly.
ix.	Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product. Water sprinkling system shall be installed to control fugitive emissions from vehicular movement Vehicular emissions shall be regularly monitored.	Dust suppression system with water sprinklers have provided at raw material handling, unloading and storage areas. Only valid PUC certificate holder vehicles have been allowed to entry in plant premises. Water Sprinkling system photos are attached as ***Annexure – I***.
x.	Total ground water requirement from bore wells shall not exceeds 415 m^3/day as per the permission accorded by the Central Ground Water Authority vide letter dated 28th October, 2009. Closed circuit cooling system shall be adopted and no effluent shall be generated from the DRI plant, SMS and Rolling Mill. Acidic and alkaline effluent from DM plant along with boiler blow down shall be neutralized in a neutralization tank, mixed with cooling tower blow down in a	Water drawl permission of 415 m^3/ Day has been obtained from CGWA. Closed cooling circuit has been implemented in Sponge Iron and Induction furnaces. Industrial effluent generated from process is being treated in ETP Then treated effluent is being utilized for ash conditioning, irrigation of plantation & dust suppression within premises.

	Central Monitoring Basin (CMB) and shall be recycled into DRI plant and rolling mill as make up water for cooling and remaining will be used for ash conditioning, dust suppression and green belt development and various other project related activities after passing through an oil separator to remove the oil content in the effluent. Domestic effluents shall be treated in septic tank followed by a soak pit and used as manure for green belt development.	Domestic effluent is being treated in STP and reused for irrigation of plantation and dust suppuration purpose. Hence the ZERO discharge condition is being maintained.
xi.	Air cooled condensers and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly.	Air cooled condenser and closed circuit cooling system has been provided to reduce Water consumption. Specific water consumptions are below the limit.
xii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximumwater requirement Only balance water requirement shall be met from other sources.	Rain Water harvesting has been implemented at total 6 locations by Industry, Photographs of the same is been enclosed as ***Annexure – IV*.**
xiii.	'Zero effluent discharge' shall be strictly followed and no wastewater shall be discharged outside the premises.	'Zero effluent discharge' has been maintained.
xiv.	The water consumption shall not exceed 16 m^3/Ton of Steel as per prescribed standard.	The water consumption has been below 16 m^3/Ton of Steel production as per prescribed standard.
xv.	Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional office at Bhopal, MPPCB and CPCB.	Monitoring of Inlet and Outlet of effluent is being carried out regularly and reports have been submitted to the required agencies. Analysisreport of treated wastewater is enclosed as ***Annexure – V*.**

xvi.	All the char from DRI plant and washery rejects shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. AFBC boiler shall be installed simultaneously along with the DRI plant to ensure full utilization of char from the beginning. Mill scales shall be recycled induction furnace. SMS slag after metal recovery and accretion slag shall be recycled induction furnace. SMS slag shall also be properly utilized. Wet scrapper sludge shall be given to brick manufacturers. Ferro-Silicon slag shall be used in cast iron foundries. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Used oil, oily waste, spent lubricants and lead acid batteries shall be provided to authorized recyclers / reprocessors.	All the char from DRI plant is utilized in FBC boiler of captive power plant. Mill scale is being recycled in induction furnace. SMS slag after metal recovery is being used for internal road construction purpose. All the other solid waste including broken refractory etc has properly disposed off in environment- friendly manner. Used oil is being reused as lubrication of machines.
xvii.	All the SMS and ferro alloy slag shall be used for land filling inside the plant or used as building material only after passing through Toxic Chemical Leachability Potential (TCLP) test. Toxic slag shall be disposed in secured landfill as per CPCB guidelines. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.	All the SMS slag is use for bricks manufacturing and road construction within the plant premises. Toxic Chemical Leach ability Potential (TCLP) test has been carried out regularly.
xviii.	Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture Silico Manganese (Si-Mn).	Ferro alloys plant has been not installed.
xix.	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	100% solid waste is being utilized in FY 2024-25 and next FY we will maintain it.
xx.	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's	Noted and being complied.

	Regional Office at Bhopal, CECB and CPCB.	
xxi.	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003. All the fly ash shall be provided to cement and brick manufactures for further utilization and 'Memorandum of Understanding' shall be submitted to the Ministry's Regional Office at Bhopal within 3 months of issue of this letter.	We achieve 100% utilization of the fly ash generated from captive power plant for the bricks manufacturing and filling in low lying area.
xxii.	A Disaster Management Plan shall be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, MPPCB and CPCB within 3 months of issue of environment clearance letter.	Submitted and followed. Copy has been attached as Annexure VI.
xxiii.	As proposed, green belt shall be developed in 33% area within and around the plant premises as per the CPCB guidelines in consultation with DFO.	We are maintaining good greenery within plant premises. Green belt has been developed, which is about 33% of the total acquired area with a native tree species in accordance with CPCB guidelines. The greenbelt covered the entire periphery of the plant. Preference given to local species of broad leaf. Photographs of green belt and Third party verification of green belt along with details are given in ***Annexure - V***.
xxiv.	Prior permission from the State Forest Department shall be taken regarding likely impact of the expansion of the proposed steel plant on the reserve forest. Measures shall be taken to prevent impact of particulate emissions/fugitive emission, if any from the proposed plant on the surrounding reserve forests viz. Taraimal RF (2.0 km, N), Rabo RF (3.7 km, W), Urdana RF (1.3 km, S), Barkacchar RF (7.8 km, SE),	**Complied.** Conservation plan has been prepared and submitted to PCCF and as per their demand note the amount has been paid to the concern account of the PCCF.

	Kharjdungri PF (8 km, SE), andLakho PF (7.2 km, SE) located within 10 km radius of the project. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented.	
xxv.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.	Being Complied.
xxvi.	All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 21st June, 2009 shall be satisfactorily implemented and a separate budget for implementingthe same shall be allocated and information submitted to the Ministry's Regional Office at Bhopal.	Noted and Complied.
xxvii.	At least 2% of the total cost of theproject shall be earmarked towardsthe corporate social responsibilityand item-wise details along with timebound action plan shall be preparedand submitted to the Ministry's Regional Office at Bhopal. Implementation of such program shall be ensured accordingly in a time bound manner.	Being Complied. We complied the condition; CSR activity is being regularly done at nearby villages. Recommendation made in EIA report has been followed.
xviii.	The company shall provide housing for construction labor within the site with all necessary infrastructure and facilities such as fuel for cooling, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	Construction labors are locally available. However, drinking water facilities, proper sanitations facilities are provided. Construction works has been completed and plant is in operation.
B. GENERAL CONDITIONS		
I.	The project authorities must strictly adhere to the stipulations made by the Chhattisgarh Environment Conservation Board (CECB) and the State Government.	Noted and being complied
II.	No further expansion or modification in the plant should be carried out without prior approval of the MoEF & CC	Noted.

III.	The gaseous emissions from various process units shall conform to the load/mass based standard notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Efforts are being made to reduce the level of gaseous emission by the industry. Regular housekeeping, road cleaning is being done and water sprinklers have been provided in raw material yards and roads. Interlocking facilities has been provided. CEMS has been provided in all stacks and connected to CECB & CPCB servers. Calibrations and validation is being done in regular intervals. Stack, Ambient air Monitoring is being done by NABL agency.
IV.	At least four ambient air quality- monitoring stations should be established in the downwind direction as well as where maximum ground level concentration of SPM, SO2, and NOx are anticipated in consultation with the CECB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal and the CECB/CPCB once in six months.	One no. Online continuous ambient air quality monitoring station has been installed and connected to CPCB and CECB servers. Ambient air quality monitoring is being carried out on regular basis. Monitoring Reports is enclosed as ***Annexure – V***.
V.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	Industrial wastewater has been collected in ETP and after the treatment the treated water is being used for dust suppuration and irrigation of plantation purpose. Sewage water generated from domestic use has been collected in STP and after treatment the treated water is being used for kiln outer space cooling and irrigation of plantation purpose.
VI.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conformation the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Noise level monitoring is being carried out regularly & report is enclosed as ***Annexure – V***.

VII.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained all per the Factories Act.	Regular health surveillance of workers is been done and records has been maintained and online submitted to state portals..
III.	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Rain Water harvesting has been implemented at plant premises. The photographs are enclosed as ***Annexure - IV***.
IX.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Recommendation made in EIA report has been followed. Socio- economic development activities in the surrounding villages are being continuously carried out.
X.	As proposed, Rs. 11.50 Crores and Rs. 0.75 Crores shall be earmarked towards the capital cost and recurring cost/ annum for environmental protection measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implanting all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhopal. The funds so provided should not be diverted for any other purpose.	Separate funds towards environment protection measures have been allocated and industry insures that, this fund will not be diverted for any other purpose in any case.
XI.	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban Local Body and the, local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company 'by the proponent.	A copy of clearance letter has been submitted to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban Local Body and the, localNGO for suggestions / representations.

II.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM, RSPM, SO_2, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in, the public domain.	Website has been developed and all the reports has been uploaded in websites. PM10, PM2.5, Co, SO_2, NO_x are being monitoring and same are being displayed near the main gate of the company.
III.	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF at Bhopal, the respective Zonal Office of CPCB and the CECB. The Regional Office of this Ministry at Bhopal / CPCB CECB shall monitor the stipulated conditions.	Six monthly EC compliance with monitoring reports have been submitted regularly to the concern government offices with monitoring reports.
IV.	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	The environmental statement for each financial year ending 31st March in Form-V has been submitted regularly to the CECB as prescribed under the Environment (protection) Rules, 1986.
V.	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the CECB and may also be seen at	**Complied.** The project has been accorded environmental clearance by the Ministry has been published in 02 local news papers with in the seven days of issue of clearance and copy has been forwarded to regional officeof MoEF & CC.

	Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall 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 one shall be in the vernacular language of the locality concerned, and a copy of the same shall a forwarded to the Regional office.	
VI.	Project authorities shall inform the Regional Office as well as the industry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Noted and Complied.
VII.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
III.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted and agreed.
IX.	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted and agreed.
X.	The above conditions shall be enforced, inter-alia under the provision of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance Liability Act, 1991, along with their amendments and rules.	Noted and agreed.

ENVIRONMENTAL STATUS REPORT

Air Quality Monitoring

Regular monitoring of environmental parameters is of immense importance to assess the status of environment. With the knowledge of baseline conditions, themonitoring program will serve as an indicator for any deterioration in environmental conditions due to plant operation. Suitable mitigation steps will be taken in time to safeguard the environment, based on monitoring reports. Monitoring is important in the control of pollution since the efficiency of control measures can only be determined by monitoring.

In order to find out the impact of plant activity on sensitive receptors, it is necessary to monitor Environmental Quality to know the level of concentrations of pollutants within and around the plant area

Ambient Air Quality Monitoring

Ambient Air Quality was monitored at 4 locations within plant premises. Fugitive emissions were monitored at 4 locations in the plant premises.

The sampling stations are selected at the above-mentioned locations, in downwind and upwind directions of the Industry. Noida Testing Laboratories is carrying out regular monitoring for, SPM, RPM, SO_2 and NO_2 at above Ambient Air Quality Monitoring (AAQM) locations. Monitoring of fugitive emissions include parameter SPM.

National Ambient Air Quality Standard:

PM_{10}: 100 μg/m^3,

$PM_{2.5}$: 60 μg/m^3

SO_2: 80 μg/m^3 and

NO_2: 80 μg/m^3

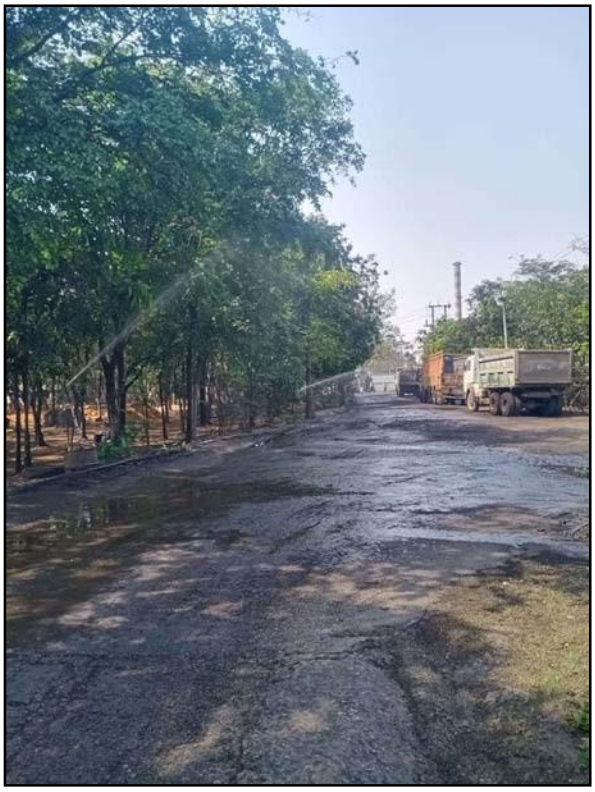
Frequency of Sampling

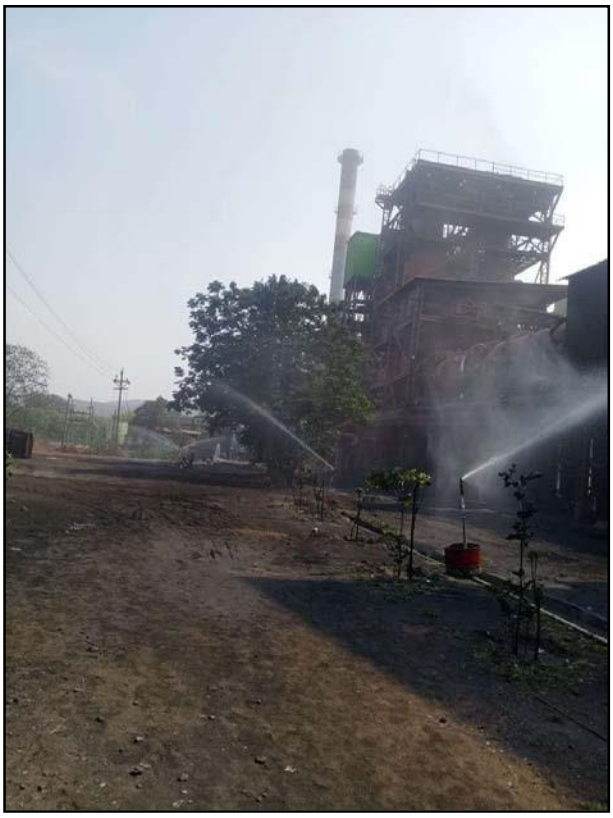
Ambient air quality monitoring was carried out on 24 hourly on quarterly basis (once in a quarter) for the monitoring period.

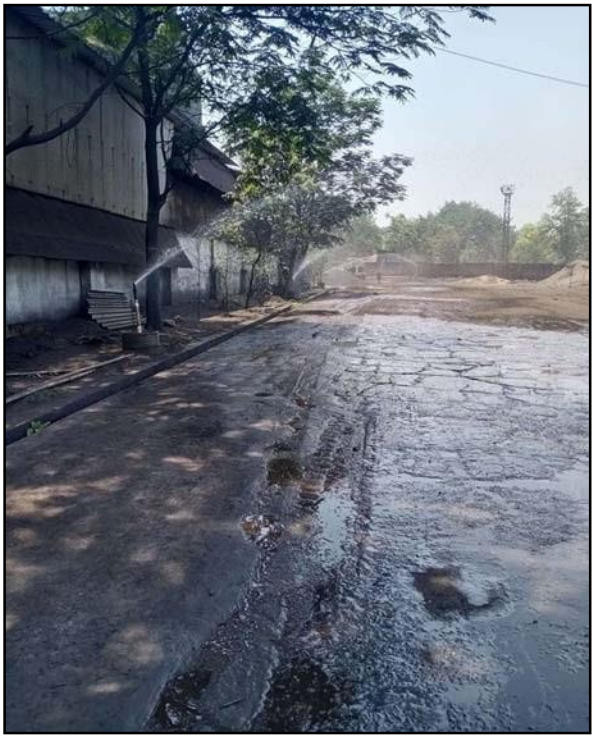
Duration of Sampling

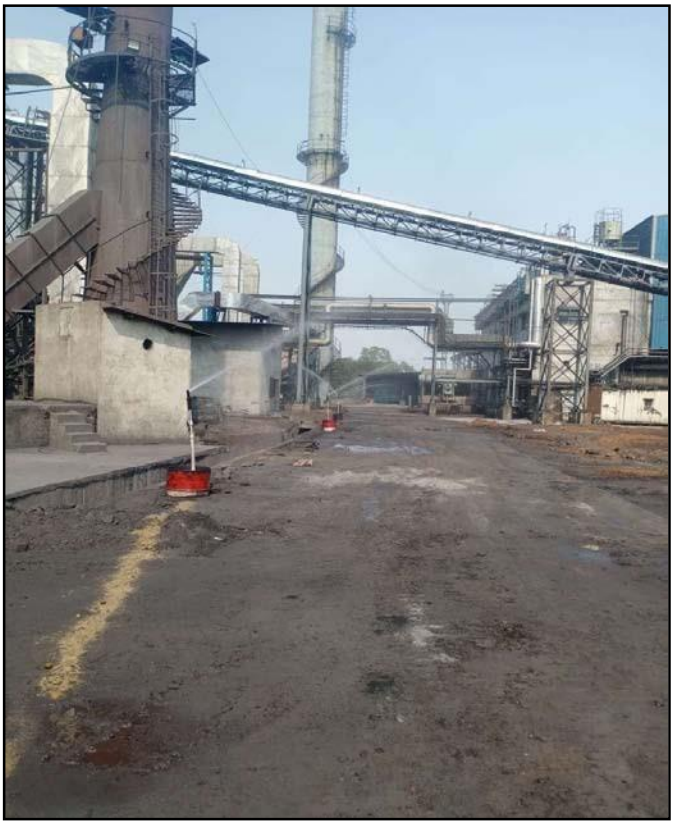
The duration of sampling for PM_{10}, $PM_{2.5}$, SO_2 and NO_2 is twenty- four hourly. Data is compared with the standards mentioned in the Gazette Notification of the Central Pollution Control Board (CPCB) Notification 16th Nov. 2009.

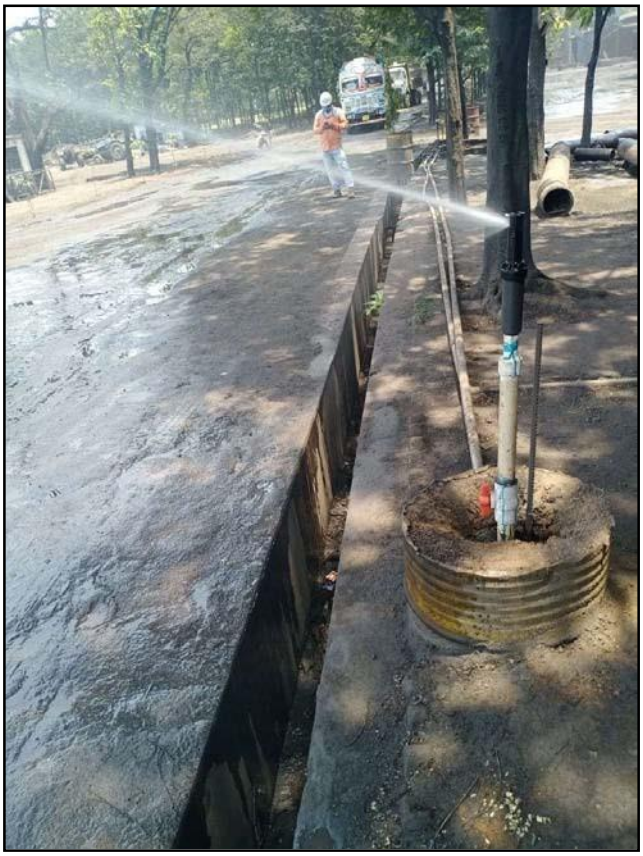
ANNEXURE I: WATER SPRINKLERS

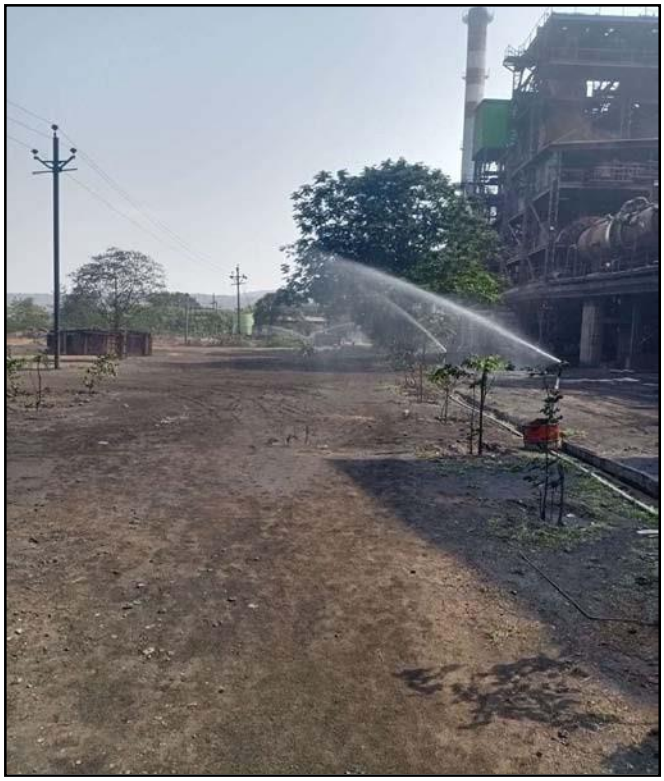




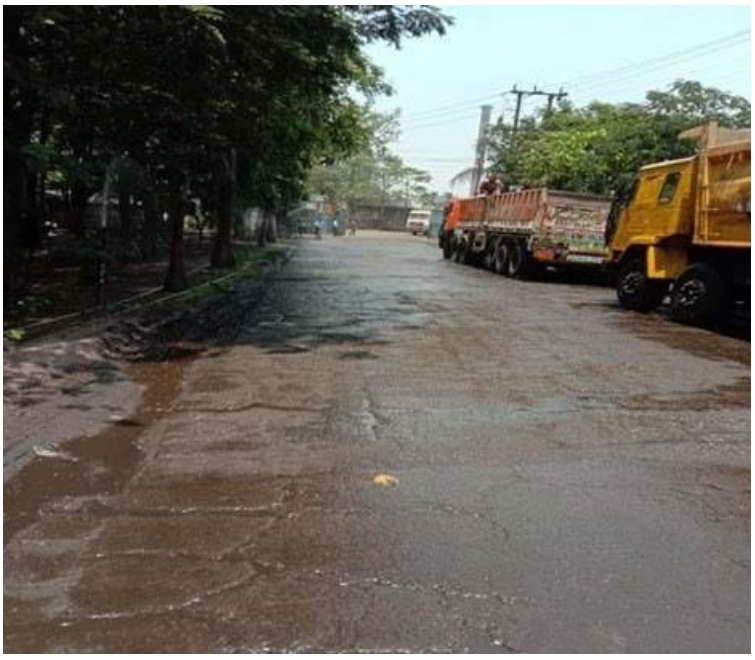


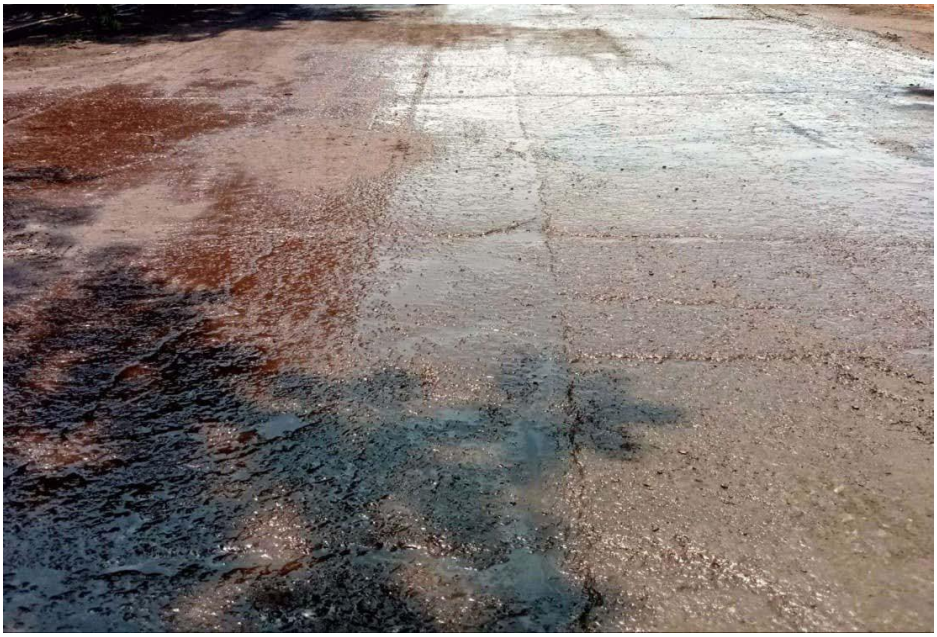






ANNEXURE II: PUCCA ROAD





ANNEXURE III: RAIN WATER HARVESTING

RADHA RAMAN NAYAK
M.Tech.(Applied Geology)
Regd. Hydrogeologist From Raipur Municipal Corporation
Regd No. 992/2017-18

Address : Gole Chowk, Sector-2
DDU Nagar, Raipur (C.G.)
Mobile : 8962258928
Email : radhageo8@gmail.com

Ref NO- RWH /17/ Raigarh

Dated- 26/07/2019

RAIN WATER HARVESTING COMPLETITION CERTIFICATE

This is Certify that we have installed Rain Water harvesting system at the premises **of M/s RAIGARH ISPAT AND POWER PVT. LTD. The Plant is located at Village: Delari, Near Gerwani, Post- Saraipali, Dist. - Raigarh (C.G.)** through 06 no's Recharge well System. Size of the recharge Structure is 05 feet Diameter and 10 feet Depth.

Necessary Precaution

1. Every year changed the Filter Media from RWH Structure.
2. Weekly clean the Roof Top and Open Area.
3. First Two Rain- water not use for recharging purpose it must be flushed out.
4. This system working in Rainy Season (July-Nov) Every Year.
5. The system designed for Purely Roof Top Rain Water Harvesting, Ensure that Recharge Water Is purely Rain water/fresh water only & Contaminated free.
6. Water is precious please Save Water.

Enclosure: Site Working Photograph

R.R. Nayak

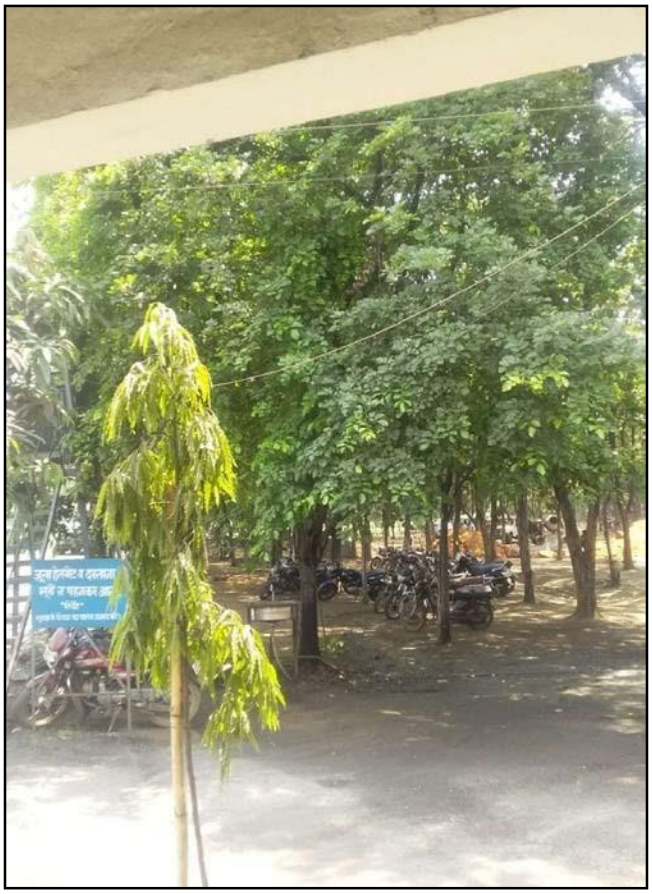
Radha Raman Nayak
Regd. Hydrogeologist

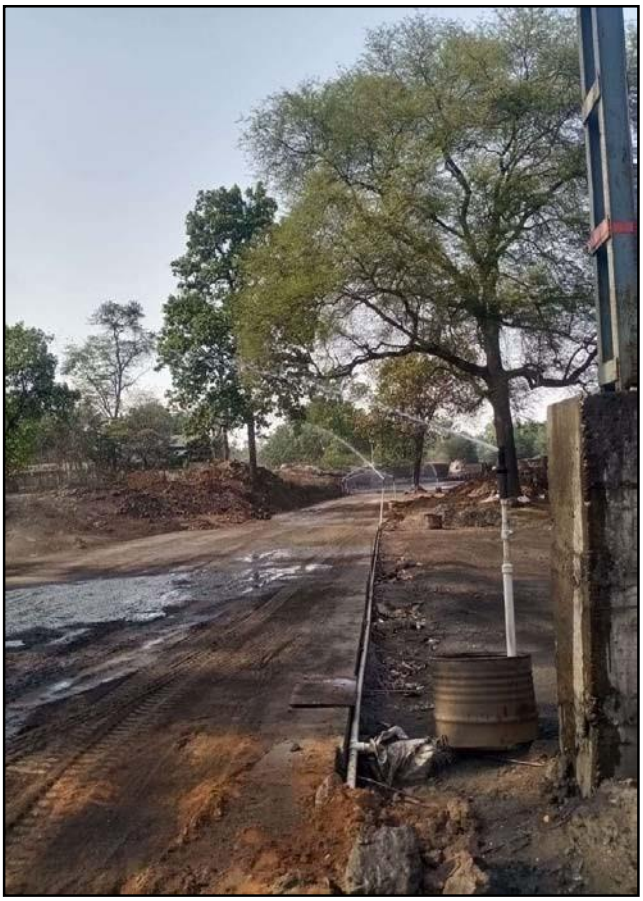
RADHA RAMAN NAYAK
Regd. Hydro-Geologist
Nagar Nigam Raipur 992/2017-18

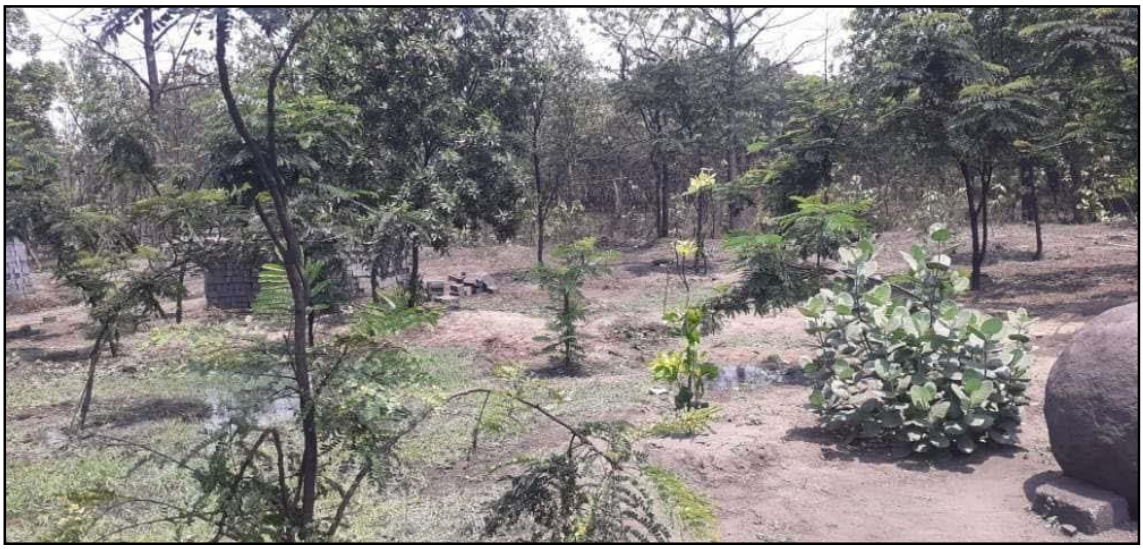
Ground Water Survey by Electronic Resistivity Meter
Rain Water Harvesting(Roof Top & Surface)
Preparation of Hydrogeological Study Report

- Water,Soil,Mineral,Coal Quality Analysis
- Soil Testing (For Industrial Farming)
- ERT Test

ANNEXURE IV: GREEN BELT







Verification of Green Belt

Developed By :

RAIGARH ISPAT & POWER PRIVATE LIMITED

Vill – Delari , po.- Saraipali,Distt.- Raigarh (C.G.)

Sponge Iron Manufacturing Plant

Verification By:

SINDRA

Raipur (C.G.)

0

Verification Report of the Green Belt

Developed by

RAIGARH ISPAT & POWER PRIVATE LIMITED

Year: 2017

Verification By:

Society for Integrated Development & Research Assistance
237, Panchwati Nagar, Kapa, P.O. Pandri, Raipur. 492001

1

INDEX

INTRODUCTION

Green vegetation cover is beneficial in many ways leading to conservation of biodiversity, retention of soil moisture, recharge of ground water and maintaining pleasant micro climate of the region. In addition, vegetation cover can also absorb pollutants from the environment and helps in effective pollution control.

Green belts are planned open spaces safeguarded from developmental activities such as construction of buildings, factories, dams, etc. Safeguarded in the sense that no infrastructural development will be allowed on such designated areas and these areas will only be used for growing vegetation cover on it. Green belts in and around urban and industrial areas are important to the ecological health of any given region.

In history, there are very few records of green belts. One of the important examples is of Queen Elizabeth I of England. She had banned new buildings in a three mile wide belt around the City of London in 1580.In very recent time, the green belt policy was pioneered in the United Kingdom in the 1930s. Campaign to Protect Rural England (CPRE) and various other organizations have helped to spread awareness about Green belts in United Kingdom .

The objective of Green belt varies from country to country and region to region. The common objectives are to protect natural environments such as biodiversity etc, to improve air quality of the region, pollution control, to maintain micro climate of the region, etc. Green Belt Development is an important tool that aims at overall improvement in the environmental conditions of the region.

3

Regulations / environmental law for Green Belts Development in India

Environmental protection has been considered as an important domain for industrial and other developmental activities in India. Ministry of Environment & Forests (MoEF) has taken several policy initiatives and promoted integration of environmental concerns in developmental projects. One such initiative is the notification on Environmental Impact Assessment (EIA) of developmental projects issued in 1994 and further revised notification in year 2006 under the provisions of Environment (Protection) Act, 1986. EIA is now mandatory for 40 categories for developmental projects. EIA Guidance Manual for building, construction, townships and area development projects proactively talks about the importance of green belts in such projects.

Environmental Guidelines for Industries developed by MoEF, suggest that the industries must care about the surrounding environment and minimize the adverse impacts of industrial operations in the immediate neighborhood as well as distant places. Therefore, these guidelines mandate project owners to maintain the certain distances by the industries from the areas like ecologically sensitive areas, Coastal areas, Flood Plain of the Riverine Systems, Transport/Communication System and Major settlements.

In addition, these guidelines also mandate that economic and social factors have to be recognized and assessed while citing industry. Following are the key points that all industries need to follow while moving ahead with the establishment of manufacturing/processing unit in certain areas. These are;

1. No forest land shall be converted into non-forest activity for the sustenance of the industry.

2. No prime agricultural land shall be converted into industrial site.

4

3. Within the acquired site the industry must locate itself at the lowest location to remain obscured from general sight.

4. Land acquired shall be sufficiently large to provide space for appropriate treatment of waste water still left for treatment after maximum possible reuse and recycle. Reclaimed (treated) wastewater shall be used to raise green belt and to create water body for aesthetics, recreation and if possible for aquaculture. The green belt shall be 1/2 km wide around the battery limit of the industry. For industry having odour problem it shall be a kilometer wide.

5. The green belt between two adjoining large scale industries shall be one kilometer.

6. Enough space should be provided for storage of solid wastes so that these could be available for possible reuse.

7. Lay out and form of the industry that may come up in the area must conform to the landscape of the area without affecting the scenic features of that place.

8. Associated township of the industry must be created at a space having physiographic barrier between the industry and the township.

9. Each industry is required to maintain three ambient air quality measuring stations within 120 degree angle between stations.

As per the National Forest Policy, 1988 (NFP), It is necessary to encourage the planting of trees alongside of roads, railway lines, rivers and streams and canals, and on other unutilized lands under State/corporate, institutional or private ownership. NFP give emphasis on the green belt development. It says – Green belts should be raised in urban/industrial areas as well as in arid tracts. Such a programme will help to check erosion and desertification as well as improve the microclimate.

5

As per the stipulations of MoEF, green belt is to be provided all around the power station boundary by planting trees and the total green area including landscaping area will be 1/3rd (About 33%) of the plant area. This will include Lay down area which will be later on converted into Green area.

In India, there is no exclusive green belt regulation/policy. However, under the purview of other regulations such as Environmental Guidelines for Industries, Environment Management Plan, National Forest Policy, Forest Conservation Act, etc; certain percentage of land designated for green belts is recommended for different categories of industrial projects. Expansion of agricultural, urban and industrial activities are causing additional burden on natural resources. Industrial development is causing severe health hazards due the exceeded level of pollution. Green belt not only restrict environmental pollution but it helps to maintain the ecological balance of the region.

The **Society for Integrated Development and Research Assistance (SINDRA), Raipur** has been given the responsibility of verification of the green belt developed in the **Raigarh Ispat & Power Private Limited**.

PLANT LOCATION

Raigarh Ispat & Power Private Limited, is a Sponge iron manufacturing Plant with well equipped state-of-the-art plant with advanced technology for production of Sponge Iron.

.

LOCATION AND ACCESSIBILITY

The plant area is located in Delari village, Tahsil & District Raigarh, Chhattisgarh state. The Plant site is well connected by Bitumen road as well as Rail networks. The Raigarh Railway station, on Mumbai - Howrah Broad Gauge main line of the South-Eastern-Central Railway is situated about 20 km away from the plant. Kondatarai is nearest Airport about 30 km away and Vivekanand Intenational Airport Raipur is about 260 km away from the study area which is also approachable by road and rail.

ABOUT THE COMPANY

Raigarh Ispat & Power Private Limited's manufacturing details is as given below :-

1. Sponge Iron Manufacturing plant 2x 100 TPD

SALIENT FEATURES OF THE COMPANY

Name of the Company	**Raigarh Ispat & Power Private Limited**
Location	**Vill – Delari , po.- Saraipali, Thana – Punjipathra, Distt.- Raigarh (C.G.).**
Area	65 ACRE (approx)
Water source	Ground water
Manpower	65
Associated Surrounding Industries	1. N.R. Ispat & Power Pvt. Ltd. Gaurmudi 2. Maa Kali Alloyes Udyog ltd. Pali 3. Navdurga Fules Private Ltd. Saraipali

Environment Management Practice: -

Raigarh Ispat & Power Private Limited has setup a strong Environment Management Department (EMD) having multi-disciplinary team or professional and technical staff with vast experience, Functions of this department are environment management, landscaping and housekeeping followed by departmental goal. **Raigarh Ispat & Power Private Limited** has established full-fledged environmental laboratory having sophisticated instruments including Online Ambient Air Quality Monitoring System (AAQMS), Stack Emission Monitoring System (CEMS) with real time monitoring data connectivity to CPCB, CECB to monitor environmental quality and updates. In case the monitoring results of environmental pollution are found to exceed the limits, department should suggest remedial action and get these suggestions implemented through the concerned departmental HODs.

7

CSR Activities:-

The **Raigarh Ispat & Power Private Limited** has been working based on a wide range of CSR programmes in areas of health, education, Plantation Development Sustainable livelihood , Overall change of life standard and many more.

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Details of physical verification Team

(Survival report up to September, 2017)

Consultant name	Society for Integrated Development and Research Assistance. **(SINDRA)**
Registration detail	Registration under Society Registration Act 1973, Date: 16/02/2004.
Registration No.	C.G. state / 502
Address	237, Panchwati Nagar, Kapa-Mowa, Post- Pandri, Dist. - Raipur. Pin - 492004
Contact	email : sindra.ngo@gmail.com mobile: 98263-31620 089766 36693
Representative	Mr. S.D. Mishra Mr. P.N Dubey
Site visit date from to	04.09.2017

VARIFICATION OF GREEN BELT :-

In India green belt development is mandatory as per rules and regulation by ministry of environment and forest (MoEF) and central pollution control board (CPCB)and state pollution control board. To fulfill this requirement **Raigarh Ispat & Power Private Limited** has established an environment management department (EMD).Which is responsible for the pollution control, horticulture activities, housekeeping and greenbelt development in the plant area.

8

Budget Plan for Horticulture Division (FY 2017-18):-

	Descriptions	Approx Cost in Rs.
Recurring Costs		
	Manpower Cost for one year (7 nos)	90000.00
	Water Tanker 01. No.	120000.00
	Purchases of trees sapling	200000.00
	Purchases of fertilizer, soil, manure and others materials	100000.00
	Purchases of lawn movers, cutter & other machinery	20000.00
	Nursery Development	50000.00
	Miscellaneous	50000.00
New Costs		
	Water pipeline for gardening all over plant premises	200000.00
	TOTAL	**630000.00**

9

PART-A

Quantitative Analysis

For the verification of the green belt developed by **Raigarh Ispat & Power Private Limited**, team *SINDRA* visited the plant and meet the official of the Environment Management Department, and discussed with them about their environment management practices. After that representative of the **SINDRA** visited the all plantation sites for the physical verification and remuneration was carried out with the EMD staff of the plant. The detail of plantation activates and horticulture development is given in table below.

Green belt development in various Department

S.N.	PLANTS NAME	Pump House Area	New Stock House Area	Weighbridge Area	Store Back side Area	RMH Back Side Area	Total
1	GULMOHAR	200	1000	1000	500	300	3000
2	PELTAFORM	50	500	500	350	100	1500
3	NEEM	10	160	05	05	20	200
4	CASSIA SEMIA	100	10	80	05	05	200
5	KHAMAR	25	15	10	850	100	1000

10

6	KARANJ	100	150	05	25	20	300
7	ARUJUN	150	40	10	0	0	200
8	TEAK	1000	100	00	0	100	1200
9	JAMUN	0	0	0	10	0	10
10	ACASSIA	500	0	0	0	0	500
11	AMLA	0	0	2	0	0	50
12	SISAM	0	0	0	0	27	27

Miscellaneous plantations around the boundary wall and open site

S No.	Species	No. of Plants
1.	Mango	1500
2.	Mahuaa	1300
3.	Saal	300
4.	Sarai	700
5.	Palas	1100
6.	Arjun	2700

11

7.	Senha	1400
8.	Jamun	50
9.	Harra	190
10.	Acassia	3000
11.	Gulmohar	2200
12.	Pheltaphorum	1800
13.	Cassia Semia	1000
14.	Neem	500
15.	Amla	800
16.	Teak	1100
17.	Khamhar	600
18.	Malaysia Khamhar	1200
19.	Cashew	50
20.	Banyan	700
21.	Sheesam	500
22.	Amrud	50
23.	Jaamum	150
24.	Katahal	50
25.	Munga	30
Total		**23570**

12

PART-B

Conclusion and Suggestions

1. Raigarh Ispat & Power Pvt. Limited, Delari has established a separate Environment Management Department (EMD) which continuously monitors the pollution control and environmental status of the plant.

2. A Horticulture Division has been established under the supervision of EMD which maintains the plantation on regular basis.

3. Plantation and greenery can be seen all around the plant premise. In the total plant area of 67 acres about 1/3 area is covered with natural plantation. There is about more than 23000 plants of various species like Saal, Teak, Mango, Acasia,Gulmohar, Khmhar,peltaphorum etc.

4. The survival rate is 70 % and the growth of the plantation is very good.

5. The horticulture division has developed their own nursery where they prepare new plants.

6. In the plant there are miscellaneous plantation has been carried out according to the availability of land and demand of the site.

7. The overall impression of the green belt developed by the horticulture division of RIP PL seems as they has paid more attention on planting trees of miscellaneous species as well as evergreen plants. Top canopy and high raise plants can be seen around the boundary wall and in open area.

8. The greenery of the plant premise shows the zeal and dedication of the Environment Management Department and they appreciated for such a good job.

14

5.Greenbelt should be developed as per the norms of the CPCB

6.The company should involve and encourage the local villagers/ inhabitant for some useful plantation in their own land. The company may provide some plants and other help for this propose

6.The company may add plantation work in their CSR activities.

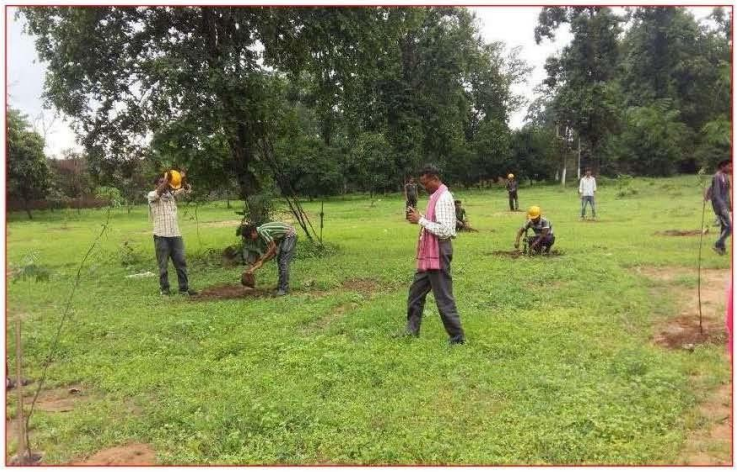
A Word of Appreciation:

Although the Raigarh Ispat & Power Pvt. Limited Delari, Raigarh is a respectively a new plant the EMD and their staff have an extremely done well in developing greenery and green belt in their premise. Especially the green belt developed around the boundary walls and surrounding is very good. We appreciate the RIPPL administration and their Environment management department for their commitment & commend their efforts.

SINDRA
237-Panchwati Nagar, Kapa
P.O. – Pandri (Raipur)
District - Raipur (C.G.) Pin - 492004

15

Photo Gallery



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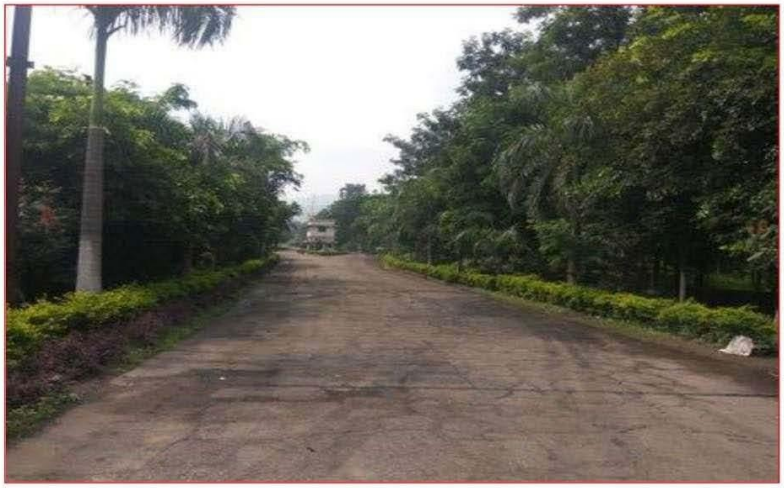

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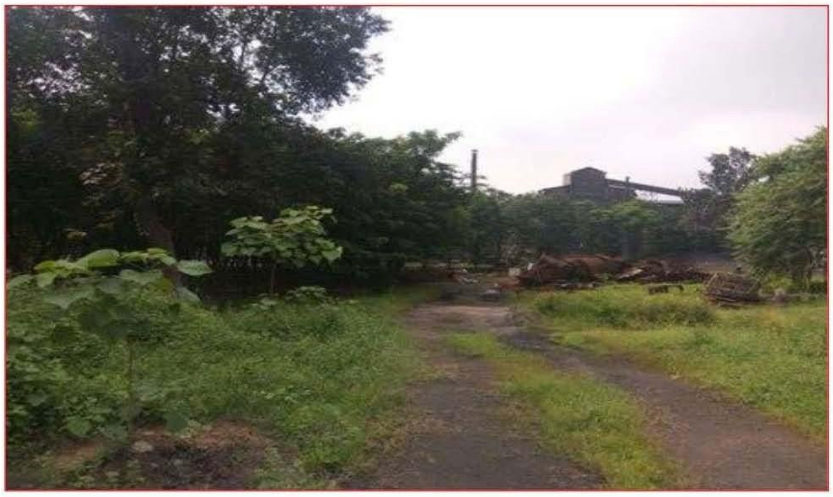

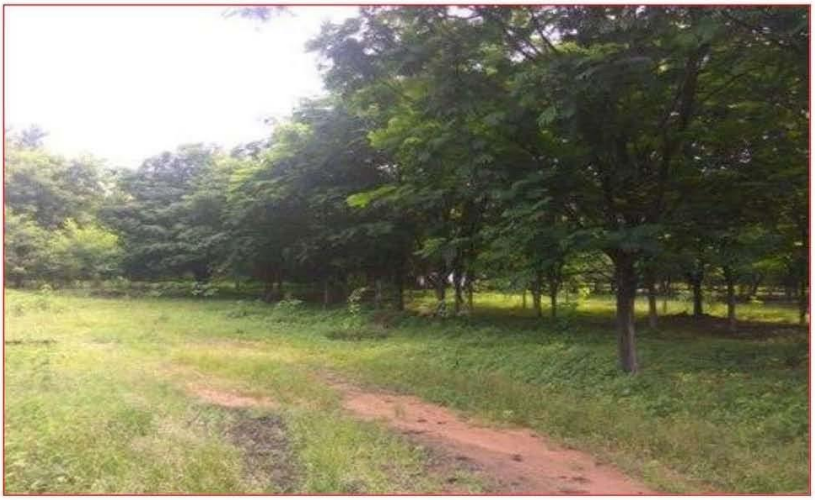

19

Annexure – 1

Provision of Green Belt for Industries

Adequate greenery in industrial establishment helps in creating better environment in many ways.

1. It provides a sylvan surrounding to improve the aesthetical conditions which, in turn, improves the working condition of the workers.

2.Tall trees attract birds to roost and also provide shelter to small creatures like squirrel, snacks etc. thus biodiversity is restored.

3. A properly designed green belt of adequate width alts as a filter of our pollutants for outside. Fugitive emissions are mainly controlled by the green belt.

4. Plantation of pollution indicating species at strategic locations can indicate the air pollution status of the area. These are plants species which are sensitive to sensitive air pollutants. Such species serves as “bio indicators” .

5. Green belt acts as a noise barrier for outside.

6. Treated waste water of an industry is always recommended for maximum utilization with in the premises. If the waste water is used for irrigation of green belt and other plantation within, the objective is partially achieved.

Planning of green belt :-

Planting of green belt requires the following considerations:-

1. Choice of the species

20

2. Design of the belt
3. Width of belt

Choice of the plants species depends upon the nature of fugitive gaseous pollutants coming from the industries. Obviously those plants should be resistant to the pollutants. Besides, trees with large crown are preferred because they served as a good barriers for particulate and gaseous emissions. In between the resistant, species and within the industrial premises, some strategic locations as these species indicate the status of pollution.
The design of the greenbelt should be such that it should form an effective shield against pollutants to outside. A three tier plantation of small medium and large size plants can achieve the same. Typical 50 m width green belt may have 3 layers may consist of bushes (small tree). The inner layer may have large tree with good crown and under growth. The middle layer in between can have bushes and shrubs (small and medium size tree)

The width of the green belt should be carefully & judiciously decided; because of the cost of the land there is always a demand from the industry to a narrow belt. Ideally the width should be such to have maximum attenuation. The attenuation factor can be expressed as :

AF = pollution level at a point a just outside without the greenbelt / pollution level at a with the green belt

The attenuation factor for a well designed green belt attains a limiting value after a certain width and becomes more effective with the increasing hight at trees.
For the green belt, with Indian trees species (tropical forest species) longer width may not be necessary for maximum attenuation.

Generally for a large industry a belt width of 150 – 200 mtrs may be adequate but these can be increased where pollution level is high. For a less polluting industry, a belt less then 150 mtr can also do.

21

The design and nature of green belts will vary according to the place and the type of industry. Some of the factors which influence the design of green belts are-

- Climatic factors such as wind velocity, temperature, rainfall, sunlight, humidity etc.
- Assimilation capacity of the ecosystem.
- Height and canopy of trees.
- Topography.
- Size of land available.
- Distance from source.
- Soil and Water quality.
- Nature and extend of pollutants.

Advantages of green belts :

- Noise control- A green belt reduces the intensity of sound. Function as a barrier. Trees can either deflect, refract or may absorb sound to reduce its intensity. The intensity reduction depends on the distance sound has to travel from source. Trees can also modify suitably the humidity and climate which affects sound intensity.
- Help in soil erosion control. Plant species help in improving soil quality and bind soil particles thereby preventing erosion.
- Green belts also help in containing water run offs.
- Climate Control
- Air Pollution control- Trees help in removing carbon dioxide and other pollutants from air and by release of oxygen into the air thereby improving air quality. A green belt development can also help in removing particulate matter from the air by trapping such particulate matter.

22

• Water Pollution control- Some species can remove some pollutants from water. Example- copper absorbed by *Chlorella vulgaris* and Scandium buy *Astragalas*, zinc by *Typha latifolia*, chromium by *Salvinia nudans*.

End of the Report

26

ANNEXURE V

Monitoring Report

AADITYA ENVIRONET LLP

(ISO / IEC 17025, 2017 (NABL Certified Laboratory), ISO 9001:2015, 14001:2015, 45001:2018 Certified Laboratory)

Lab House No.- A00803 Prism Medical Store 2nd Floor, Near Raipura Chowk, Mahadev Ghat Road Raipura, Raipur (C.G.),

Corporate Office: 685/69, Vikas Vihar, Raipura, Raipur (CG), Pin - 492013

Ph. No. 0771 3179128, 9302459146, Email: info@aadityaenvironet.com, Website: www.aadityaenvironet.com

TEST REPORT

Test Report Number: AE/TR/2025-26/AAQ/040

Discipline : Chemical Testing	**Group : Atmospheric Pollution**	
Customer Name & Address	**Details of Sample**	
Issued to, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	Job Order Number	AE/2025-26/AAQ/040
	Sample Description	Four Sample of Ambient Air
	Sampling done by	AE Lab Representative
	Sampling Protocol	IS:5182 (Pt-4 & Pt 14)
	Sampling Location	1.Near Main gate, 2. Near Kiln 2 3.Near Coal Storage Shed 4.Near SMS
	Sample Receiving	28.04.2025
	Analysis Duration	28.04.2025 – 02.05.2025
	Issued Date	12.05.2025
	Environmental Conditions of Lab	**25 °C & 60% RH**

Ambient Air Quality Analysis

Date & Time of Sampling	: 20.04.2025 (09:01 AM) to 24.04.2025 (09:00 AM)
Weather Condition	: Sunny
Sampling Duration	: 24 Hr.
Height of Sampler from ground level	: 3.3 Meter
Ambient Temperature ^{0}C	: Min-30, Max 42
Avg. Flow Rate of RSPM (m^3/min)	: 1.27
Zone/Area Categorization	: Industrial Zone
Sample Packing & Marking	: Plastic Bottle & Filter papers in Zip-pouch, AE/AAQ-019

Test Results

S. No.	Parameters	Unit	L1	L2	L3	L4	NAAQ Standards	Test Method
1.	Particulate Matter (size less than 10 µm) or PM_{10}	µg/m^3	64.90	68.32	72.92	74.44	100	IS: 5182 (Part-23) 2006
2.	Particulate Matter (size less than 2.5 µm) or $PM_{2.5}$	µg/m^3	46.80	48.68	56.54	54.28	60	IS: 5182 (Part-24) 2019
3.	Sulphur Dioxide (SO_2)	µg/m^3	30 .94	34.89	39.68	36.88	80	IS: 5182 (Part-02) 2023
4.	Nitrogen Dioxide (NO_2)	µg/m^3	42.54	44.40	46.44	42.98	80	IS: 5182 (Part-06) 2006

NAAQS: National Ambient Air Quality Standards, Central Pollution Control Board, Notification dated 18th November, 2009

End of Report

Tested By
(Suveer Bhoi)

Authorized Signatory
(Dr.Yogendra Kumar Verma)

* Format No. AE/Form/94-01 Issue No. 01 Issue Date 09.07.2024 Rev. No. 00 Rev Date:- 00

Note:-

1. The results given above are related to the tested sample as received and mentioned parameters. The customer asked for the above tests only.
2. Sample description is not verified as it is stated by customer unless our lab representative collects the sample.
3. The Test Report will not be used for any publicity/legal purpose.
4. This Test Report will not be generated again, either wholly or in part.
5. Total liability of our work is limited to the invoiced amount.
6. The test sample will be disposed after 15 days from the date of issue of Test Report, unless specified by the customer.

AADITYA ENVIRONET LLP

(ISO / IEC 17025, 2017 (NABL Certified Laboratory), ISO 9001:2015, 14001:2015, 45001:2018 Certified Laboratory)

Lab House No.- A00803 Prism Medical Store 2nd Floor, Near Raipura Chowk, Mahadev Ghat Road Raipura, Raipur (C.G.),

Corporate Office: 685/69, Vikas Vihar, Raipura, Raipur (CG), Pin - 492013

Ph. No. 0771 3179128, 9302459146, Email: info@aadityaenvironet.com, Website: www.aadityaenvironet.com

TEST REPORT

Test Report Number: AE/TR/2025-26/AN/041

Discipline : Chemical Testing	**Group : Atmospheric Pollution**	
Customer Name & Address	**Details of Sample**	
Issued to, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	Job Order Number	AE/2025-26/AN/041
	Sample Description	Four Sample of Ambient Noise
	Sampling done by	AE Lab Representative
	Sampling Method	IS:9989:1981
	Sampling Location	1. Near Main gate, 2. Near Iron ore Shed 3. Near Coal shed 4. Near DM Plant
	Sample Receiving	28.04.2025
	Analysis Duration	28.04.2025 – 02.05.2025
	Issued Date	12.05.2025
	Environmental Conditions of Lab	**25 °C & 60 % RH**

Ambient Noise Analysis

Date & Time of Sampling : 20.04.2025(08:01 AM) to 24.04.2025 (08:00 AM)
Weather Condition : Sunny
Sampling Duration : 24 Hr.
Purpose of Monitoring : To Check Pollution Load for Self-Assessment
Instrument Used : Sound Level Meter
Zone/Category : Industrial Area

Test Results

S. No	Parameter	Unit	L1	L2	L3	L4	#Limit as per E(P)A 1986 for Industrial Area	Test Method
1.	Equivalent Noise Level, Leq (day*)	dB(A)	64.2	65.6	66.8	64.4	75	IS:9989:1981
2.	Equivalent Noise Level, Leq (Night)**	dB(A)	54.6	56.1	58.3	56.5	70	

Note:*Day Time mean 6 AM to 10 PM
**Night Time mean 10 PM to 6 AM
#The Noise Pollution (Regulation & Control) Rule, 2000

AREA CODE	CATEGORY OF AREA	LIMITS dB(A) Leq	
		DAY TIME (6 AM-10PM)	NIGHT TIME (10PM-06AM)
A	INDUSTRIAL AREA	75	70
B	COMMERCIAL AREA	65	55
C	RESIDENTIAL AREA	55	45
D	SILENT ZONE	50	40

End of Report

Tested By
(Suveer Bhoi)

Authorized Signatory
(Dr.Yogendra Kumar Verma)

Aaditya Environet LLP

* Format No. AE/Form/94-02 Issue No. 01 Issue Date 09.07.2024 Rev. No. 00 Rev Date:- 00

Note:-

1. The results given above are related to the tested sample as received and mentioned parameters. The customer asked for the above tests only.
2. Sample description is not verified as it is stated by customer unless our lab representative collects the sample.
3. The Test Report will no be used for any publicity/legal purpose.
4. This Test Report will not be generated again, either wholly or in part.
5. Total liability of our work is limited to the invoiced amount.
6. The test sample will be disposed after 15 days from the date of issue of Test Report, unless specified by the customer.

AADITYA ENVIRONET LLP

(ISO / IEC 17025, 2017 (NABL Certified Laboratory), ISO 9001:2015, 14001:2015, 45001:2018 Certified Laboratory)

Lab House No.- A00803 Prism Medical Store 2nd Floor, Near Raipura Chowk, Mahadev Ghat Road Raipura, Raipur (C.G.),

Corporate Office: 685/69, Vikas Vihar, Raipura, Raipur (CG), Pin - 492013

Ph. No. 0771 3179128, 9302459146, Email: info@aadityaenvironet.com, Website: www.aadityaenvironet.com

TEST REPORT

Name & Address of the Customer **To,** **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	REPORT NO.	AE/TR/2025-26/Fugitive/042
	SAMPLE I'D	AE/25-26/Fugitive/042
	DATE OF SAMPLING	25.04.2025
	DURATION	24 Hours
	SAMPLE DESCRIPTION	Fugitive Emission Monitoring
	SAMPLE COLLECTED BY	AE Representative
	PROTOCOL USED	IS : 5182 (Part 4)
	SCOPE OF MONITORING	Regulatory Requirement
	DATE OF RECEIPT	28.04.2025
	DATE OF ANALYSIS	28.04.2025 to 02.05.2025
	REPORT ISSUE DATE	**12.05.2025**

Fugitive Emission Monitoring Report

S. No.	Sampling Location	Unit	Test Method	Suspended Particulate Matter (SPM)
1	Near Store	µg/m³	IS : 5182 (Part 4)	1040
2	Near Iron Ore Yard			1124
3	Near Coal Yard			1168
4	Near Sponge Iron Storage Yard			1142
CPCB Standards				**2000**

End of Report

Tested By
(Suveer Bhoi)

Aaditya Environet LLP

Authorized Signatory
(Dr.Yogendra Kumar Verma)

*Format No. AE/FORM/94-03 Issue No. Date 09.07.2024 Rev.No. 00 Rve. Date:-00

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AADITYA ENVIRONET LLP

(ISO / IEC 17025, 2017 (NABL Certified Laboratory), ISO 9001:2015, 14001:2015, 45001:2018 Certified Laboratory)

Lab House No.- A00803 Prism Medical Store 2nd Floor, Near Raipura Chowk, Mahadev Ghat Road Raipura, Raipur (C.G.),

Corporate Office: 685/69, Vikas Vihar, Raipura, Raipur (CG), Pin - 492013

Ph. No. 0771 3179128, 9302459146, Email: info@aadityaenvironet.com, Website: www.aadityaenvironet.com

TEST REPORT

Test Report Number: AE/TR/2025-26/SN/043

Discipline : Chemical Testing	**Group : Atmospheric Pollution**	
Customer Name & Address	**Details of Sample**	
Issued to, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	Job Order Number	AE/2025-26/SN/043
	Sample Description	One Sample of Source Noise
	Sampling done by	AE Lab Representative
	Sampling Method	IS:4758:1986
	Sampling Location	DG Set 500 KVA
	Sample Receiving	28.04.2025
	Analysis Duration	28.04.2025 to 02.05.2025
	Issued Date:	12.05.2025
	Environmental Conditions of Lab	**25 °C & 60 % RH**

Source Noise Analysis

Date & Time of Sampling : 25.04.2025, 11 AM to 11.30 AM
Weather Condition : Sunny
Sampling Duration : 30 Min
Purpose of Monitoring : To Check Pollution Load for Self-Assessment
Instrument Used : Sound Level Meter
Zone/Category : Industrial Area

Test Results

S. No.	Parameter	Unit	Result	#Limit as per E(P)A 1986 for Industrial Area	Test Method
1.	DG Noise Level (While Canopy Door Open)	dB(A)	95.7	NA	IS:4758:1986
2.	DG Noise Level at 1.0m from the enclosure surface, (While Canopy Door Closed)	dB(A)	68.4	75 Maximum	
3.	Insertion Loss	dB(A)	27.3	25 Minimum	

End of Report

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* Format No. AE/Form/94-02 Issue No. 01 Issue Date 09.07.2024 Rev. No. 00 Rev Date:- 00

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TEST REPORT

	Test Report Number: AE/TR/2025-26/Stack/045	
Discipline : Chemical Testing	**Group : Atmospheric Pollution**	
Customer Name & Address	**Details of Sample**	
Issued to, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	Job Order Number	AE/2025-26/Stack/045
	Sample Description	One Sample of Stack Emission
	Sampling done by	AE Lab Representative
	Sampling Protocol	IS-11255 & EPA
	Sampling Location	DRI Kiln Stack
	Sample Receiving	28.04.2025
	Analysis Duration	28.04.2025 – 02.05.2025
	Issued Date	12.05.2025
	Environmental Conditions of Lab	**25 ºC & 60 % RH**

Stack Emission Analysis

Date & Time of Sampling	: 26.04.2025 (12:00 PM to 12:35 AM)
Weather Condition	: Sunny
Sampling Duration	: 35.5 Minute
Instrument Calibration Status	: Calibrated
Ambient Temperature - Ta ^{0}C	: 39.1
Temperature of Stack Gases - Ts (^{0}C)	: 162.4
Velocity of Stack Gases (m/sec.)	: 18.20
Sampling condition	: Iso-kinetic
Make of Stack	: Mild Steel

Test Results

S. No.	Parameters	Unit	Results	Test Method
1.	Particulate Matter (PM)	mg/Nm^3	48.86	IS 11255 (P-1) 1985 RA:2019

End of Report

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* Format No. AE/Form/94-01 Issue No. 01 Issue Date 09.07.2024 Rev. No. 00 Rev Date:- 00

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TEST REPORT

Test Report Number: AE/TR/2025-26/Stack/044		
Discipline : Chemical Testing	**Group : Atmospheric Pollution**	
Customer Name & Address	**Details of Sample**	
Issued to, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	Job Order Number	AE/2025-26/Stack/044
	Sample Description	One Sample of Stack Emission
	Sampling done by	AE Lab Representative
	Sampling Protocol	IS-11255 & EPA
	Sampling Location	Captive Power Plant Stack
	Sample Receiving	28.04.2025
	Analysis Duration	28.04.2025 – 02.05.2025
	Issued Date	12.05.2025
	Environmental Conditions of Lab	**25 °C & 60 % RH**

Stack Emission Analysis

Date & Time of Sampling	: 26.04.2025 (11:00 AM to 11:35 AM)
Weather Condition	: Sunny
Sampling Duration	: 35.5 Minute
Instrument Calibration Status	: Calibrated
Ambient Temperature - Ta ^{0}C	: 38.8
Temperature of Stack Gases - Ts (^{0}C)	: 156.2
Velocity of Stack Gases (m/sec.)	: 15.84
Sampling condition	: Iso-kinetic
Make of Stack	: Concrete

Test Results

S. No.	Parameters	Unit	Results	Test Method
1.	Particulate Matter (PM)	mg/Nm^3	48.20	IS 11255 (P-1) 1985 RA:2019
2.	Sulphur Dioxide (SO_2)	mg/Nm^3	382.44	IS 11255 (P-2) 1985 RA 2019
3.	Nitrogen Dioxide (NO_2)	mg/Nm^3	343.92	IS: 11255 (P-7): 2005,RA- 2017

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TEST REPORT

Name & Address of the Customer **To,** **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	REPORT NO.	AE/TR/2025-26/W/046
	SAMPLE I'D	AE/25-26/W/046
	DATE OF SAMPLING	26.04.2025
	DATE OF RECEIPT	28.04.2025
	DATE OF ANALYSIS	28.04.2025 to 01.05.2025
	REPORT ISSUE DATE	**12.05.2025**

SAMPLE DETAILS

Sample Type	Drinking Water	**Sample condition at Receipt**	OK
Source of sample	Bore Well water	**Sample Collected By**	Customer
Packing of sample	Plastic bottle	**Sample Quantity/Packing**	3 Ltr/ Sealed
Sampling Location	Plant Premises	**Customer Ref. No. & Date**	Telephonic Conversation

ANALYSIS REPORT OF WATER

S.NO	TEST PARAMETER	METHOD REFERENCE	UNIT	Limits as per IS 10500 : 2012		RESULTS
				Acceptable	Permissible	
1	pH	IS-3025 (P-11)	---	6.5 – 8.5	No Relaxation	6.84
2	Turbidity	IS:3025 (PART-10)	NTU	1	5	0.70
3	Conductivity	IS:3025 (PART-14)	µS/CM	>1000	3200	712
4	Total Dissolved Solids	IS:3025 (PART-16)	mg/l	500	2000	354
5	Total Hardness	IS:3025 (PART-21)	mg/l	200	600	234
6	Calcium	IS:3025 (PART-40)	mg/l	75	200	54.62
7	Magnesium	IS:3025 (PART-46)	mg/l	30	100	26.54
8	Chloride	IS:3025 (PART-32)	mg/l	250	1000	38.28
9	Total Alkalinity	IS:3025 (PART-23)	mg/l	200	600	224
10	Sulphate	IS:3025 (PART24/SEC-1)	mg/l	200	400	22.42

Note: mg/lit.: milligram per liter, N.D.: Not Detection

Aaditya Environet AE LLP

Tested By
(Seema Chaturesh)

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(Dr.Yogendra Kumar Verma)

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Ph. No. 0771 3179128, 9302459146, Email: info@aadityaenvironet.com, Website: www.aadityaenvironet.com

TEST REPORT

Name & Address of the Customer		
To, **M/s Raigarh Ispat & Power Pvt. Ltd.** Village Delari, Tehsil & District Raigarh, Chhattisgarh, Pin - 496107	REPORT NO.	AE/TR/2025-26/WW/047
	SAMPLE I'D	AE/2025-26/WW/047
	DATE OF SAMPLING	26.04.2025
	DATE OF RECEIPT	28.04.2025
	DATE OF ANALYSIS	28.04.2025 to 02.05.2025
	REPORT ISSUE DATE	**12.05.2025**

SAMPLE DETAILS

Contact number (Customer)	9179094930	**E-mail ID (Customer)**	raigarhispat@rediffmail.com
Sample Type	Waste Water	**Sample condition at Receipt**	OK
Source of sample	ETP Outlet	**Sample Collected By**	Customer
Packing of sample	Plastic bottle	**Sample Quantity/Packing**	3 Ltr/ Sealed
Sampling Location	ETP	**Customer Ref. No. & Date**	Telephonic Conversation, 20.02.2025

ANALYSIS REPORT WASTE WATER

S.NO	TEST PARAMETER	UNIT	METHOD REFERENCE	RESULTS
1	pH	--	IS-3025 (P-11)	6.74
2	Chemical Oxygen Demand(COD)	mg/l	IS-3025 (P-58)	142
3	Bio-Chemical Oxygen Demand (BOD)	mg/l	IS-3025 (P-44)	26.82
4	Total Suspended Solids	mg/l	IS-3025 (P-17)	24.84

Note: mg/lit.: milligram per liter, N.D.: Not Detection

***** End of test report*****

Tested By
(Seema Chaturesh)

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Comprehensive Disaster Management Plan

Raigarh Ispat and Power Private Limited

(RIPPL)

Operations: Manufacturing of Sponge Iron, MS Billets, and Power Generation.

Location: Village Delari,

Post Saraipali,

Near Gerwani,

Raigarh (C.G.)-496001

Year- 2024

1. Introduction

The objective of any plant should be safe and trouble free operation and smooth production. This is ensured by taking precautions right from design stage i.e. design of plant, equipment/ pipeline as per standard codes, ensuring selection of proper material of construction, well designed codes/ rules and instruments for safe operation of the plant. Safety should be ensured afterwards by operating the plant with the help of trained manpower. In spite of all precautionary measures taken, accidents may happen due to human error or system malfunction. Any accidents involving release of hazardous material may cause loss of human lives & property and damage to environment. Industrial installations are vulnerable to various natural as well as manmade disasters. Examples of natural disasters are flood, cyclone, earthquake, lightening etc. and manmade disasters are like major fire, explosion, sudden heavy leakage of toxic and poisonous gases and liquids, civil war, nuclear attacks, terrorist activities etc. The damage caused by any disaster is determined by the potential for loss surrounding the event. It is impossible to predict the time and nature of disaster, which might strike on undertaking. However, an effective disaster management plan i.e. pre-planned procedure involving proper utilization of in-house as well as outside resources helps to minimize the loss to a minimum and resume the working condition as soon as possible.

Disaster may occur due to following hazards at a Plant

- Fire
- Explosion
- Oil spillage

- Acid spillage
- Electrocution
- Hazardous waste

This Disaster Management Plan (DMP) for Raigarh Ispat and Power Private Limited provides a framework for preventing, mitigating, and responding to various emergencies. It covers potential risks arising from the production of sponge iron, MS billets, as well as hazards from power generation. The plan aims to ensure the safety of employees, minimize property damage, and protect the environment.

2. Key Objectives of the Plan

Disaster Management Plan is basically a containment, Control & mitigation Plan. The plan includes activities before disaster, during disaster and post disaster: The objective of disaster management plan is to formulate and provide organizational set up and arrange proper facilities capable of taking part and effective action in any emergency situation in order to:

a) Brief the incident under control making full use of inside and outside resources
b) Protect the personnel inside the depot as well as public outside.
c) Safeguard the depot as well as outside property and environment.
d) Carry out rescue operation and treatment of casualties.
e) Preserve relevant records and evidences for subsequent enquiry
f) Ensure rapid return to normal operating conditions.

The above objectives can be achieved by –

i) Proper identification of possible hazards and evaluation of

their hazard potential and identification of maximum credible hazard scenario.

ii) Arrange/ augment facilities for fire fighting, safety, medical (both equipment and manpower)

iii) Evolving proper action plan with proper organizational set-up and communication facilities as well as warning procedure.

3. Risk Identification

The main risks are categorized based on the nature of operations:

Fire and Explosion Hazards:

- **Fuel Handling:** Oil, coal, and other fuels used in sponge iron and power generation plants.
- **Molten Metal:** Handling of molten iron during production.
- **Electrical Systems:** Short circuits or overloads in power generation units.

Chemical and Gas Hazards:

- **Toxic Gas Leaks:** Carbon monoxide (CO) and sulfur dioxide (SO_2) released during sponge iron production.
- **Chemical Exposure:** Risk of spills during the handling of chemicals in alloy production.
- **Dust and Particulate Matter:** Emissions from the kiln operations.

Mechanical and Structural Failures:

- **Equipment Breakdown:** Failure of conveyor systems, cranes, or power generators.
- **Crane or Heavy Equipment Failures:** Potential for severe injury from crane operations or collapsed infrastructure.

Environmental Hazards:

- **Air Pollution:** Release of particulate matter, fumes, and gases.
- **Water Contamination:** Discharge of untreated waste water into local water bodies.
- **Waste Disposal:** Improper disposal of slag and other industrial waste.

4. Preparedness Measures

A. Emergency Response Team (ERT):

ERT members, led by Occupier, Safety Head and HR Head, are divided into specialized teams:

- **Fire Control Team:** Trained to operate fire suppression systems and handle fires in hazardous areas.
- **Gas Leak and Chemical Spill Team:** Skilled in controlling gas leaks and chemical spills using containment kits.
- **Medical Team:** Provides first aid and immediate medical care; liaises with local hospitals for critical cases.
- **Evacuation Team:** Responsible for safe evacuation of personnel from high-risk zones.

B. Communication Systems:

A public address system, loudspeakers, and alarms are installed at strategic locations. Key personnel are equipped with mobile phones, walkie-talkies, and radios to ensure effective communication during emergencies.

C. Infrastructure Readiness:

- **Fire Suppression:** Fire extinguishers (CO_2, dry powder), sprinklers, and hoses are installed across the plant.
- **Gas Detection:** Continuous monitoring systems is in place to detect CO, SO_2, and other gases in production areas.

- **Spill Control Kits:** Chemical containment kits, absorbent materials, and neutralizers are available in production and storage areas.

D. Evacuation Plans:
   - Clear signage for evacuation routes and assembly points is provided in all sections of the plant.
   - Regular evacuation drills, led by the HR department, familiarize workers with the routes.
   - Special safety measures are in place for high-risk areas like sponge iron kilns, power units, and chemical storage zones.

E. First Aid and Medical Care:
   - A medical room with trained staff and essential first aid supplies is available onsite.
   - Emergency vehicles are on standby to transport critical cases to nearby hospitals.

5. Mitigation Measures

A. Fire and Explosion Prevention:
   - **Fireproofing:** Fire-resistant materials and coatings are applied to high-risk areas.
   - **Electrical Safety:** Electrical systems are regularly inspected for faulty wiring, short circuits, or overloads.
   - **Fuel Handling Protocols:**Fuel storage and transportation follow strict safety guidelines to prevent leaks or explosions.

B. Gas and Chemical Leak Prevention:
   - **Gas Detection and Alarms:** Continuous gas monitoring systems raise alarms if thresholds are breached.
   - **Ventilation:** Proper ventilation ensures hazardous gases do not accumulate in confined spaces.

- **Spill Containment:**Bund walls around chemical storage areas prevent the spread of leaks, and all storage tanks have emergency shutoff valves.

C. Equipment Maintenance:
    - A preventive maintenance schedule ensures that all critical equipment is regularly serviced, minimizing the risk of breakdowns.
    - Inspections are carried out by certified engineers to detect early signs of wear and tear.

D. Environmental Safeguards:
    - **Air Quality Control:** The unit has dust suppression systems, scrubbers, Bag Filters and electrostatic precipitators to reduce particulate emissions.
    - **Wastewater Treatment:** The unit has installed waste water treatment plant to treat the waste water. The treated water is used for dust suppression and for plantation purposes. The unit maintains zero discharge condition all the time. .
    - **Waste Management:** Proper slag disposal systems is in place, and recycling methods for by-products is explored. The hazardous waste generated in the process is disposed through authorized recyclers.

6. Response Plan

A. Emergency Shutdown Protocol:

In case of fire, explosion, or hazardous material leakage, the emergency response team initiates the following:

- Shut down all affected machinery.
- Isolate the area by sealing off access.
- Deploy fire suppression or gas containment systems.

B. Evacuation Procedures:

- On hearing the emergency alarm, non-essential personnel must evacuate immediately.
- ERT members assist in guiding employees to the nearest exit and assembly points.

C. Fire Fighting Response:

The firefighting team uses onsite extinguishers, hoses, and sprinklers to control fires while waiting for the local fire department to arrive.

D. Gas Leak Management:

- The gas leak containment team uses emergency shutoff valves to stop leaks and ventilate the area.
- Affected areas are evacuated and ventilated to dissipate toxic gases.

E. Chemical Spill Response:

The spill containment team deploys absorbents and neutralizers to contain and clean chemical spills.

F. Medical Response:

Injured personnel receive first aid, and critical cases are transported to the nearest hospital.

7. Recovery Plan

A. Damage and Loss Assessment:

Once the incident is under control, the damage is assessed by a team comprising senior management, safety officers, and external experts.

B. Medical and Psychological Support:

Injured employees receive medical treatment, and counseling is provided if necessary to deal with psychological trauma.

C. Root Cause Analysis:

- A detailed investigation is conducted to determine the root cause of the incident.
- Findings are used to improve safety measures and update the disaster management plan.

D. Infrastructure Repair:

- All damaged equipment and infrastructure are repaired or replaced.
- Operations only resume after clearance from the safety officers and relevant authorities.

8. Coordination with External Agencies

A. Fire Department:

Regular drills with the local fire department ensure they are familiar with the plant layout and hazards.

B. Environmental Authorities:

Coordination with local environmental department has been established in the event of pollution due to spills or emissions.

C. Medical Services:

Nearby hospitals are alerted to respond to injuries or exposure during large-scale accidents. There is primary health center at Gerwarni and District Hospital in Raigarh city to treat the injuries.

D. Police and Local Authorities:

Local government and police assist with crowd control, evacuation, and securing the affected area during major incidents.

9. Key Personnel

- **Occupier:** Overall responsibility for disaster response coordination.
- **HR Head:** Oversees employee safety, communication, and emergency drills.
- **Fire Safety Officer:** Supervises fire prevention measures and firefighting operations.
- **Safety Officer:** Oversees general safety protocols, shutdown procedures, and employee evacuation.
- **Maintenance Head:** Ensures regular maintenance of critical machinery and safety equipment.

10. Review and Update

The Disaster Management Plan is reviewed annually or after any major incident. The review process involves audits, employee feedback, and updates based on new risks or regulatory changes.

By following this detailed plan, Raigarh Ispat and Power Private Limited ensures preparedness for any disaster, protecting its workers, assets, and the environment.