RAIGARH ISPAT & POWER (P) LTD.

(CIN - U27102CT2004PTC016965)
WORKS : Village - Delari, Post - Saraipali, Near Gerwani, Distt. - RAIGARH (C.G.) Ph. : 88273-94066
OFFICE : Krishna Complex, Shop No. : 14 & 15, Chaitnya Nagar, Dhimrapur Road, RAIGARH - 496001 (C.G.)
E-mail : raigarhispat@rediffmail.com

Ref No.: RIPPL/ENV/EC/2022-23/01

To,

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

Sub.: Raigarh Ispat and Power Private Limited Village Delari, Post Saraipali, District Raigarh, Chhattisgarh- Half Yearly report on status of implementation of Environment Clearance for the period of **October 2022 to March 2023**

Ref.: Environment Clearance 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 **October 2022 to March 2023**

Hope this is in line with stipulated condition of Environment Clearance.
Thanking you,

For, Raigarh Ispat and Power Private Limited

Raigarh Ispat & Power Pvt. Ltd. Raigarh

Authorized Signatory

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.)
04. Member Secretary CPCB Bhopal.

EC COMPLIANCE REPORT

(October 2022 to March 2023)

Of

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

EXPANSION OF SPONGE IRON PLANT (2X100 TPD), TO INTEGRATED STEEL PLANT [SPONGE IRON PLANT (2X100 TPD), STEEL MELTING SHOP (BILLETS, 300 TPD), ROLLING MILL (TMT BARS, 300 TPD), FERRO ALLOY PLANT (100 TPD), COAL WASHERY (1.0 MTPA) AND CAPTIVE POWER PLANT (46 MW)

Located At:

Village Delari,

Tehsil & District Raigarh, State Chhattisgarh

CONTENT

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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 **October 2022 to March 2023** 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. Stack, Ambient air Monitoring is being done by

	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.	NABL accredited agency reports has been attached as ***Annexure – VI***.
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 provided for power generation. The gas then cleaned in 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 level below 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 VI
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. Fugitive Emission Monitoring Reports are attached as ***Annexure – VI***.
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 has been allowed to entry in plant gate. 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, New Delhi, Copy enclosed as ***Annexure – III***. Closed cooling circuit has been implemented in Sponge Iron and Induction furnaces. industrial effluent generated from process is being treated in N Pit. 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 through septic tanks followed by soak pits and no effluent remains after soak pits for further disposal. 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 consumption is 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 maximum water 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 not exceed 16 m^3/Ton of Steel 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 submitted to the required agencies. Analysis report of wastewater is enclosed as ***Annexure – VI*****.**

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 and accretion slag is being recycled in induction furnace. All the other solid waste including broken refractory etc has properly disposed off in environment-friendly manner. Used oil and lead acid batteries is being provided to authorized recyclers / reprocessors. The Slag Monitoring Reports are attached as ***Annexure – VI***.
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 land filling within the plant premises. Toxic Chemical Leachability Potential (TCLP) test has been carried out regularly. Refer annexure VI
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.	Noted and complied.
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, MPPCB 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.	Noted and Complied.
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),	Noted and Complied.

	Kharjdungri PF (8 km, SE), and Lakho 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.	Noted and 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 implementing the 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 the project shall be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such programe shall be ensured accordingly in a time bound manner.	Complied. We complied the condition, 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.	Ambient air quality monitoring is being carried out on regular basis. Monitoring Reports is enclosed as ***Annexure – VI***.
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 N Pit and after the treatment the treated water is being used for dust suppuration 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 – VI***.

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.
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 is 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.
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 sent to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban Local Body and the, local NGO 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.	The process of creating the company's website is currently underway. PM, RSPM, 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
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. Refer **annexure VII**
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	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 office of 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.	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, the monitoring 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

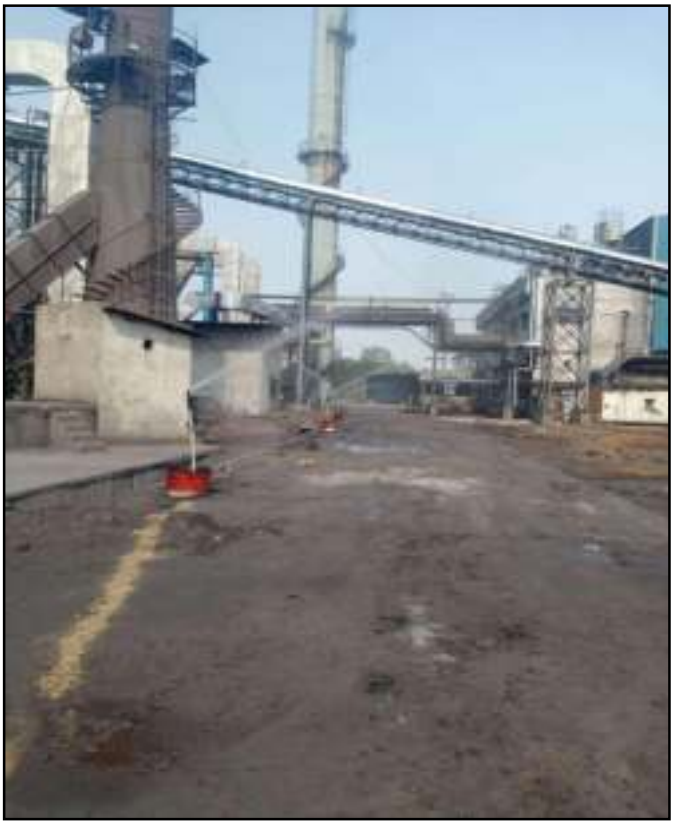
Frequency of Sampling

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: CGWA NOC

Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	M/s Raigarh Ispat And Power Private Limited		
Project Address:	Near Gerwani, Post- Saraipali		
Village:	Delari	Block:	Raigarh
District:	Raigarh	State:	Chhattisgarh
Pin Code:			
Communication Address:	Raigarh Ispat And Power Pvt. Ltd., Krishna Complex, Shop No. 39 And 40, 2nd Floor, Dhimrapur Road, Raigarh, Raigarh, Raigarh, Chhattisgarh - 496001		
Address of CGWB Regional Office :	Central Ground Water Board North Central Chhattisgarh, 2nd Floor, Lk Corporate And Logistic Park, Dhamtari Road, Nh-30, Dumartarai, Raipur, Chhattisgarh - 492015		

1.	**NOC No.:**	CGWA/NOC/IND/REN/1/2022/6665			
2.	Application No.:	21-4/622/CT/IND/2017	3.	Category: (GWRE 2020)	Safe
4.	Project Status:	Existing Ground Water	5.	NOC Type:	Renewal
6.	**Valid from:**	24/01/2021	7.	**Valid up to:**	23/01/2024

8. Ground Water Abstraction Permitted:

Fresh Water		Saline Water		Dewatering		Total	
m^3/day	m^3/year	m^3/day	m^3/year	m^3/day	m^3/year	m^3/day	m^3/year
450.00	158045.00						

9. Details of ground water abstraction /Dewatering structures

	Total Existing No.:5						Total Proposed No.:0					
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu
Abstraction Structure*	0	0	5	0	0	0	0	0	0	0	0	0

*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps

10. Ground Water Abstraction/Restoration Charges paid (Rs.): 203100.00

11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.	No. of Piezometers	Monitoring Mechanism		
		Manual	DWLR**	DWLR With Telemetry
**DWLR - Digital Water Level Recorder	1	0	1	0

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

SAVE WATER - SAVE LIFE

Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.

2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.

3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.

4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available on CGWA/ State the web portal.

5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.

6) In case of mining project the firm shall submit water quality report of mine discharges/ seepage from Govt. approved NABL accredited lab.

7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.

8) Incentive abstracting ground water in excess of 100 m 3 /d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.

9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.

10) This NOC is subject to prevailing Central/State Government rules/amendments or Court orders related to construction of tube-well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

11) No additional ground water abstraction and/or de-watering activities shall be undertaken for this purpose without prior approval of the Central Ground Water Authority (CGWA).

12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC) for specific period.

13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.

14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising therefrom.

15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.

16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.

17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is/are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.

18) Unexpected variations or inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.

19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 15 of Guidelines.

20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.

21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.

22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.

23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/Court orders in cases related to ground water or any other related matters.

24) Proponents who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.

25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCB list) need to undertake necessary rain head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.

26) In case of new infrastructure projects having ground water abstraction of more than 20 m3/day, the firm/entity shall ensure implementation of dual water supply system in the projects.

27) In case of infrastructure projects, panels/decking area must be covered with manufactured/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.

28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering/abstraction structures) to avoid contamination of surface water.

29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 21.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
30) This NOC is issued subject to the directions of Expert Appraisal Committee (I+C) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

ANNEXURE IV: 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 : [illegible]
Email : [illegible]@gmail.com

Ref. NO- RWH /17/ Raigarh

Dated- [illegible]

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

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 V: 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.)

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

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.

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.

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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.

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.

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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.

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.

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.

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**

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

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6	KARANJ	100	150	05	25	20	300
7	ARJUN	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

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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**

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.

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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

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Photo Gallery

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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

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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.

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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.

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

End of the Report

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ANNEXURE VI

Monitoring Report

NOIDA TESTING LABORATORIES

(A Government of India Approved Testing Laboratory)

(An ISO : 9001 : 2015, ISO 45001 : 2018 (OH&S) Certified & NABL Accredited Laboratory)

MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB Recognized Laboratory

Qualifying for an Assured Future

☎ +91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

TEST CERTIFICATE

Sample Number:	**NTL/AA/01**	**Report No.:**	**NTL/A/2209170-891**
Name & Address of the Party	**M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)**	**Format No.:**	**7.8 F 02**
		Party Reference No.:	**NIL**
		Report Date:	**19/09/2022**
Sample Description :	**Ambient Air Quality Monitoring**	**Period of Analysis:**	**14-19/09/2022**
		Receipt Date	**14/09/2022**

General Information:-

Sampling Location	: **Near Main Gate**
Sample collected by	: **NTL Team**
Sampling Equipment used	: **RDS &FPS**
Instrument Code	: **NTL/RDS/FPS/01**
Latitude	: --
Longitude	: --
Meteorological condition during monitoring	: **Clear Sky**
Date of Sampling	: **10/09/2022 to 11/09/2022**
Time of Sampling	: **10:00 to 10.00 Hrs.**
Ambient Temperature (^{0}C)	: **Max 29°C Min 24°C**
Surrounding Activity	: **Human & Plant Acti.**
Sampling & Analysis Protocol	: **IS-5182 & CPCB Guidelines**
Sampling Duration	: **24 hrs.**
Parameter Required	: **As Per Work Order**

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
1.	Particulate Matter ($PM_{2.5}$)	IS 5182 (P-24) -2019	22.32	µg/m3	60
2.	Particulate Matter (PM_{10})	IS: 5182 (P-23), 2006, RA 2017	64.48	µg/m3	100
3.	Oxides of Nitrogen (NO_x)	IS: 5182 (P-6), 2006 Sec2, RA 2018	54.7	µg/m3	80
4.	Sulphur Dioxide (SO_2)	IS: 5182 (P-2), 2001, Sec.2, RA 2018	17.12	µg/m3	80

Note:-

1. The Result Listed refer only to the tested sample and applicable parameters
2. Total Liability of our concern is limited to the invoiced amount
3. The report is not to be reproduced wholly or part and cannot be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writing

----------End of the Report----------

(Checked By)

NOIDA TESTING LABORATORY NTL

(Authorized Signatory)

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201316

Branch Office : IP-2, Haridwar, Uttarakhand | Gayatri Nagar, Kathgodam, Haldwani, Uttarakhand

E.: noida.laboratory@gmail.com, info@noidalabs.com **W.**: www.noidalabs.com

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Analysing for an Assured Future

+91-9313611642, 8510081921, 7503031145, 8527870572, 7503031146, 9999794369

TEST CERTIFICATE

Sample Number:	NTL/AA/02	**Report No.:**	VTL/A/2209170-892
Name & Address of the Party	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	**Format No.:**	7.8 F 02
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description :	Ambient Air Quality Monitoring	**Period of Analysis:**	14-19/09/2022
		Receipt Date	14/09/2022

General Information:-

Sampling Location	: Near DRI Control Room
Sample collected by	: NTL Team
Sampling Equipment used	: RDS &FPS
Instrument Code	: NTL/RDS/FPS/02
Latitude	: --
Longitude	: --
Meteorological condition during monitoring	: Clear Sky
Date of Sampling	: 10/09/2022 to 11/09/2022
Time of Sampling	: 10:30 to 10.30 Hrs.
Ambient Temperature (°C)	: Max 29°C Min 24°C
Surrounding Activity	: Human & Plant Acti.
Sampling & Analysis Protocol	: IS-5182 & CPCB Guidelines
Sampling Duration	: 24 hrs.
Parameter Required	: As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
5.	Particulate Matter ($PM_{2.5}$)	IS 5182 (P-24) -2019	30.80	µg/m3	60
6.	Particulate Matter (PM_{10})	IS: 5182 (P-23), 2006, RA 2017	83.71	µg/m3	100
7.	Oxides of Nitrogen (NO_x)	IS: 5182 (P-6), 2006 Sec2, RA 2018	40.73	µg/m3	80
8.	Sulphur Dioxide (SO_2)	IS: 5182 (P-2), 2001, Sec.2, RA 2018	6.8	µg/m3	80

Note:-

4. The Result Listed refer only to the tested sample and applicable parameters
5. Total Liability of our concern is limited to the invoiced amount
6. The report is not to be reproduced wholly or part and cannot be used as an evidence in the court of law and should not be used in any advertising media without our special permission in writing

----------End of the Report----------

NOIDA TESTING LABORATORIES NTL

(Checked By)

(Authorized Signatory)

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201316
Branch Office : IP-2, Haridwar, Uttarakhand | Gayatri Nagar, Kathgodam, Haldwani, Uttarakhand
E.: noida.laboratory@gmail.com, info@noidalabs.com **W.:** www.noidalabs.com

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TEST CERTIFICATE

Sample Number:	**NTL/AA/03**	**Report No.:**	**NTL/A/2209170-893**
Name & Address of the Party	**M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)**	**Format No.:**	**7.8 F 02**
		Party Reference No.:	**NIL**
		Report Date:	**19/09/2022**
Sample Description :	**Ambient Air Quality Monitoring**	**Period of Analysis:**	**14-19/09/2022**
		Receipt Date	**14/09/2022**

General Information:-

Sampling Location	: **Back Side of The Power Plant**
Sample collected by	: **NTL Team**
Sampling Equipment used	: **RDS &FPS**
Instrument Code	: **NTL/RDS/FPS/01**
Latitude	: --
Longitude	: --
Meteorological condition during monitoring	: **Clear Sky**
Date of Sampling	: **11/09/2022 to 12/09/2022**
Time of Sampling	: **10:30 to 10.30 Hrs.**
Ambient Temperature (°C)	: **Max 32°C Min 25°C**
Surrounding Activity	: **Human & Plant Acti.**
Sampling & Analysis Protocol	: **IS-5182 & CPCB Guidelines**
Sampling Duration	: **24 hrs.**
Parameter Required	: **As Per Work Order**

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
9.	Particulate Matter ($PM_{2.5}$)	IS 5182 (P-24) -2019	21.51	µg/m3	60
10.	Particulate Matter (PM_{10})	IS: 5182 (P-23), 2006, RA 2017	79.65	µg/m3	100
11.	Oxides of Nitrogen (NO_x)	IS: 5182 (P-6), 2006 Sec2, RA 2018	39.45	µg/m3	80
12.	Sulphur Dioxide (SO_2)	IS: 5182 (P-2), 2001, Sec.2, RA 2018	7.9	µg/m3	80

Note:-

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TEST CERTIFICATE

Sample Number:	NTL/AA/04	Report No.:	NTL/A/2209170-894
Name & Address of the Party	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 02
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description :	Ambient Air Quality Monitoring	Period of Analysis:	14-19/09/2022
		Receipt Date	14/09/2022

General Information:-

Sampling Location	: Near Raw material yard
Sample collected by	: NTL Team
Sampling Equipment used	: RDS &FPS
Instrument Code	: NTL/RDS/FPS/02
Latitude	: --
Longitude	: --
Meteorological condition during monitoring	: Clear Sky
Date of Sampling	: 11/09/2022 to 12/09/2022
Time of Sampling	: 11:00 to 11.00 Hrs.
Ambient Temperature (°C)	: Max 32°C Min 25°C
Surrounding Activity	: Human & Plant Acti.
Sampling & Analysis Protocol	: IS-5182 & CPCB Guidelines
Sampling Duration	: 24 hrs.
Parameter Required	: As Per Work Order

S. No.	Parameter	Protocol	Result	Unit	NAAQS 2009
13.	Particulate Matter ($PM_{2.5}$)	IS 5182 (P-24) -2019	24.72	µg/m3	60
14.	Particulate Matter (PM_{10})	IS: 5182 (P-23), 2006, RA 2017	58.95	µg/m3	100
15.	Oxides of Nitrogen (NO_x)	IS: 5182 (P-6), 2006 Sec2, RA 2018	56.12	µg/m3	80
16.	Sulphur Dioxide (SO_2)	IS: 5182 (P-2), 2001, Sec.2, RA 2018	8.96	µg/m3	80

Note:-

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TEST CERTIFICATE

Sample Number:	NTL/N/01	Report No.:	VTL/N/2209170-911
Name & Address of the Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 04
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description:	Ambient Noise Level Monitoring	Receipt Date:	14/09/2022
Scope of Monitoring	Regulatory Requirement	Sampling Duration	24 Hrs.
Protocol Used:	IS 9989:1981	Sample Collected by	NTL Team
Instrument Used	SLM	Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Near Main Gate
Instrument Code	: NTL/SLM/01
Meteorological condition during monitoring	: Clear Sky
Date of Monitoring	: 10/09/2022 to 11/09/2022
Time of Monitoring	: 06:00 to 06:00 Hrs.
Ambient Temperature (°C)	: Max 29°C Min 24°C
Surrounding Activity	: Human & Plant Acti.
Parameter Required	: As Per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
1.	Leq	IS:9989-1981, RA 2020	58	49

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

1. Day Time is from 6.00 AM to 10.00 PM.
2. Night Time is reckoned between 10.00 PM to 6.00 AM.
3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle hor Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

Note:-

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TEST CERTIFICATE

Sample Number:	NTL/N/04	Report No.:	NTL/N/2209170-914
Name & Address of the Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 04
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description:	Ambient Noise Level Monitoring	Receipt Date:	14/09/2022
Scope of Monitoring	Regulatory Requirement	Sampling Duration	24 Hrs.
Protocol Used:	IS 9989:1981	Sample Collected by	NTL Team
Instrument Used	SLM	Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Near DRI Control Room
Instrument Code	: NTL/SLM/02
Meteorological condition during monitoring	: Clear Sky
Date of Monitoring	: 10/09/2022 to 11/09/2022
Time of Monitoring	: 06:00 to 06:00 Hrs.
Ambient Temperature (°C)	: Max 32°C Min 25°C
Surrounding Activity	: Human & Plant Acti.
Parameter Required	: As Per Work Order

Sr. No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
4.	Leq	IS:9989-1981, RA 2020	72	65

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

10. Day Time is from 6.00 AM to 10.00 PM.
11. Night Time is reckoned between 10.00 PM to 6.00 AM.
12. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle hor Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

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TEST CERTIFICATE

Sample Number:	NTL/N/02	Report No.:	NTL/N/2209170-912
Name & Address of the Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 04
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description:	Ambient Noise Level Monitoring	Receipt Date:	14/09/2022
Scope of Monitoring	Regulatory Requirement	Sampling Duration	24 Hrs.
Protocol Used:	IS 9989:1981	Sample Collected by	NTL Team
Instrument Used	SLM	Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Near ADM Building
Instrument Code	: VTL/SLM/02
Meteorological condition during monitoring	: Clear Sky
Date of Monitoring	: 10/09/2022 to 11/09/2022
Time of Monitoring	: 06:00 to 06:00 Hrs.
Ambient Temperature (°C)	: Max 29°C Min 24°C
Surrounding Activity	: Human & Plant Acti.
Parameter Required	: As Per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
2.	Leq	IS:9989-1981, RA 2020	63	55

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

4. Day Time is from 6.00 AM to 10.00 PM.
5. Night Time is reckoned between 10.00 PM to 6.00 AM.
6. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle hor Loudspeaker and bursting of crackers is banned in these zones.

Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

Note:-

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TEST CERTIFICATE

Sample Number:	NTL/N/03	Report No.:	NTL/N/2209170-913
Name & Address of the Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 04
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description:	Ambient Noise Level Monitoring	Receipt Date:	14/09/2022
Scope of Monitoring	Regulatory Requirement	Sampling Duration	24 Hrs.
Protocol Used:	IS 9989:1981	Sample Collected by	NTL Team
Instrument Used	SLM	Instrument Calibration Status	Calibrated

General Information:-

Sampling Location	: Back Side of the Power Plant
Instrument Code	: NTL/SLM/01
Meteorological condition during monitoring	: Clear Sky
Date of Monitoring	: 10/09/2022 to 11/09/2022
Time of Monitoring	: 07:00 to 07:00 Hrs.
Ambient Temperature (°C)	: Max 32°C Min 25°C
Surrounding Activity	: Human & Plant Acti.
Parameter Required	: As Per Work Order

Sr.No.	Test Parameter	Protocol	Test Result dB(A)	
			Day Time	Night Time
3.	Leq	IS:9989-1981, RA 2020	71	66

Category of Zones	Leq in dB (A)	
	Day	Night
Industrial	75	70
Commercial	65	55
Residential	55	45
Silence Zone	50	40

7. Day Time is from 6.00 AM to 10.00 PM.
8. Night Time is reckoned between 10.00 PM to 6.00 AM.
9. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle hor Loudspeaker and bursting of crackers is banned in these zones.

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TEST CERTIFICATE

Sample Number:	**NTL/N/01**	**Report No.:**	**NTL/N/2209170-811**
Name & Address of the Party:	**M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)**	**Format No.:**	**7.8 F 04**
		Party Reference No.:	**NIL**
		Report Date:	**19/09/2022**
Sample Description:	**Fugitive Emission Monitoring**	**Receipt Date:**	**14/09/2022**
Scope of Monitoring	**Regulatory Requirement**	**Sampling Date & Duration**	**10 & 11/09/2022 (24 Hrs.)**
Protocol Used:	**IS 5182 part 4**	**Sample Collected by**	**NTL Team**

Fugitive Emission Monitoring Report				
S. No.	**Sampling Location**	**Unit**	**Test Method**	**Suspended Particulate Matter (SPM)**
1	Near CPP	$\mu g/m^3$	IS : 5182 (Part 4)	382
2	Near Iron Ore Yard			502
3	Near Coal Yard			489
4	Near Kiln 1			394
CPCB Standards				**2000**

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TEST CERTIFICATE

Sample Number	:	NTL/SW/01	Report No.	:	NTL/SW/2209170111
Name & Address of the Party	:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.	:	7.8 F 01
			Party Reference No.	:	NIL
			Report Date	:	19/09/2022
			Period of Analysis	:	14-19/09/2022
Sample Description	:	SOLID WASTE	Receipt Date	:	14/09/2022
Sampling Location	:	Near SMS	Sampling Date	:	11/09/2022
Sample Collected By	:	NTL Team	Sample Quantity	:	2 kg.
Parameter Required	:	As per work order	Sampling Type	:	Composite
Sampling and Analysis Protocol	:	IS 2720, USEPA & USDA	Packing Status	:	Temp. Sealed

S. No.	Parameters	TestMethod	Results	Units
1.	Zinc (as Zn)	USEPA3050 B:: 1996	0.1	ppm
2.	Total Cadmium	USEPA 3050 B:: 1996	BDL	ppm
3.	Manganese (as Mn)	USEPA 3050 B:: 1996	BDL	ppm
4.	Total Lead (as Pb)	USEPA3050 B:: 1996	BDL	ppm
5.	Copper (as Cu)	USEPA3050 B:: 1996	BDL	ppm
6.	Iron (as Fe)	USEPA3050 B:: 1996	0.2	ppm
7.	Total Chromium (as Cr)	USEPA3050 B:: 1996	BDL	ppm
8.	Nickel (as Ni)	USEPA3050 B:: 1996	BDL	ppm

Note: *BDL- Below Detection Limit, **DL- Detection Limit.

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TEST CERTIFICATE

Sample Number:	NTL /WW/01	Report No.:	NTL/WW/2209170-012
Name & Address of Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F-01
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Sample Description:	Waste Water	Receipt Date:	14/09/2022
Sampling Location :	N Pit WATER	Sampling Date:	11/09/2022
Sample Collected by:	NTL Team	Sample Quantity:	2 Ltr
		Parameter Required:	As per Work Order

S.No.	TestParameters	TestMethod	Result	Unit	Prescribed Limit
1	pH	IS 3025 (P-11): 1983 RA: 2022	8.1	--	--
4	COD	IS 3025(P-58):2006, RA2017	51	mg/l	250.0
5	Total Suspended Solids	IS: 3025 (P-17): 1984, RA: 2021	46	mg/l	100.0
6	Oil & Grease	IS: 3025 (P-39): 1991,RA: 2021	BDL	mg/l	10.0
7	BOD (3 Days @27°C)	IS:3025 (P-44): 1993,RA:2019	8	mg/l	30.0

*BDL(Below Detection Limit) **DL(Detection Limit)

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TEST CERTIFICATE

Sample Number:	NTL/S/01	**Report No.:**	NTL/S/2209170-801
Name & Address of Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	**Format No.:**	7.8 F-03
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Receipt Date:	14/09/2022	**Period of Analysis:**	14-19/09/2022

Sample Description : STACK EMISSION MONITORING

Sample Collected	:	NTL Team
Date & Time of Sampling	:	11.09.2022 & 10:00 To 10:35 Hrs.
Location	:	DRI KILN
Sampling duration (Minutes)	:	35
Meteorological Condition	:	Clear Sky
Instrument calibration status	:	Calibrated
Ambient Temperature – Ta (°C)	:	33
Temperature of Stack Gases - Ts (°C)	:	137
Velocity of Stack Gases (m/sec.)	:	9.30
Flow rate of PM (LPM)	:	29
Sampling condition	:	Isokinetic
Protocol used	:	IS-11255 &EPA

RESULTS

S. No.	Parameter	Protocol	Units	Results
1.	Particulate Matter (PM)	IS 11255 (P-1) 1985 RA:2019	mg/Nm3	40.2
2.	Oxide of Nitrogen (as NO2)	IS: 11255 (P-7): 2005,RA- 2017	mg/Nm3	38.5
3.	Sulphur Dioxide (as SO2)	IS 11255 (P-2) 1985 RA 2019	mg/Nm3	60.8

Note:-

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TEST CERTIFICATE

Sample Number:	NTL/S/02	**Report No.:**	VTL/S/2209170-802
Name & Address of Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	**Format No.:**	7.8 F-03
		Party Reference No.:	NIL
		Report Date:	19/09/2022
Receipt Date:	14/09/2022	**Period of Analysis:**	14-19/09/2022

Sample Description : STACK EMISSION MONITORING

Sample Collected	:	NTL Team
Date & Time of Sampling	:	11.09.2022 &12:00 To 12:35 Hrs.
Location	:	Power plant
Sampling duration (Minutes)	:	35
Meteorological Condition	:	Clear Sky
Make Of Stack	:	Concrete
Stack Diameter	:	3.0 m
Stack Height	:	74.0 m
Instrument calibration status	:	Calibrated
Ambient Temperature – Ta (°C)	:	34
Temperature of Stack Gases - Ts (°C)	:	149
Velocity of Stack Gases (m/sec.)	:	10.85
Sampling condition	:	Isokinetic
Protocol used	:	IS-11255 & EPA

RESULTS

S. No.	Parameter	Protocol	Units	Results
1.	Particulate Matter (PM)	IS 11255 (P-1) 1985 RA:2019	mg/Nm3	44.32
2.	Oxide of Nitrogen (as NO2)	IS: 11255 (P-7): 2005,RA- 2017	mg/Nm3	160.8
3.	Sulphur Dioxide (as SO2)	IS 11255 (P-2) 1985 RA 2019	mg/Nm3	324.4

Note:-

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2. Total Liability of our concern is limited to the invoiced amount
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----------End of the Report----------

(Checked By)

(Authorized Signatory)

Laboratory : GT-20, Sector-117, NOIDA, Gautam Budh Nagar - 201316

Branch Office : IP-2, Haridwar, Uttarakhand | Gayatri Nagar, Kathgodam, Haldwani, Uttarakhand

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NOIDA TESTING LABORATORIES

(A Government of India Approved Testing Laboratory)

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MoEF & CC (Ministry of Environment, Forest & Climate Change), UPPCB Recognized Laboratory

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TEST CERTIFICATE

Sample Number:	NTL /W/01	Report No.:	NTL/W/2209170-011
Name & Address of Party:	M/s RAIGARH ISPAT & POWER PRIVATE LIMITED Village – Delari, District-Raigarh, (Chhattisgarh)	Format No.:	7.8 F 01
		Party Reference No.:	NIL
		Report Date:	19/09/2022
		Period of Analysis:	14-19/09/2022
Sample Description:	Water	Receipt Date:	14/09/2022
Sampling Location:	Borewell Water	Sampling Date:	11/09/2022
Sample Collected by	NTL Team	Sampling Type:	Grab
Preservation:	Refrigerated	Sample Quantity:	2.0 Ltr.
Sampling & Analysis Protocol:	IS-10500-2012		

TEST RESULTS

S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
1.	pH (at 25 °C)	IS 3025 (P-11): 1983 RA: 2022	6.90	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025(P-4):1987 RA 2021	BDL	Hazen	1	5
3.	Odour	IS 3025 (P-5)1983	Agreeable	Agreeable	Agreeable	Agreeable
4.	Taste	IS 3025(P-8) 1984	Agreeable	Agreeable	Agreeable	Agreeable
5.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	61	mg/l	500	2000
6.	Alkalinity as $CaCO_3$	IS: 3025 (P-23): 1986,RA: 2019	50	mg/l	200	600
7.	Total Hardness as $CaCO_3$	IS: 3025 (P-21): 2009,RA: 2019	55	mg/l	200	600
8.	Nitrate as NO_3	IS: 3025 (P-34): 1988,(Chromotropic Method) Sec. 4 RA: 2022	0.9	mg/l	45	No Relaxation
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	BDL (DL 5.0)	mg/l	250	1000
10.	Sulphate as SO_4	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	BDL (DL 5.0)	mg/l	200	400
11.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	BDL (DL 2.0)	mg/l	75	200
12.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	BDL (DL 2.0)	mg/l	30	100
13.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	BDL (DL 0.20)	mg/l	1.0	1.5
14.	Iron as Fe	APHA (23rd Edition),3113B: 2017	BDL (DL 0.10)	mg/l	0.3	No relaxation
15.	Arsenic as As	APHA (23rd Edition),3114C,2017	BDL (DL 0.005)	mg/l	0.01	0.05
16.	Mercury as Hg	APHA (23rd Edition)3114C,2017	BDL (DL 0.0005)	mg/l	0.001	No relaxation
17.	Lead as Pb	APHA (23rd Edition)3030D,3113B: 2017	BDL (DL 0.005)	mg/l	0.01	No relaxation
18.	Cadmium (as Cd)	APHA (23rd Edition)3030D,3113B: 2017	BDL (DL 0.002)	mg/l	0.003	No relaxation

(Checked By)

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TEST CERTIFICATE

VTL /W/01			NTL/A/2209170-011			
S. No.	Parameter	Test-Method	Result	Unit	Limits of IS:10500 -2012	
					Desirable limit (Max.)	Permissible limit in the Absence of Alternate Source (Max.)
19.	Chromium (as Cr)	APHA (23rd Edition),3113B: 2017	BDL (DL 0.02)	mg/l	0.05	1.5
20.	Copper as Cu	APHA (23rd Edition),3113B: 2017	BDL (DL 0.02)	mg/l	0.05	1.5
21.	Zinc as Zn	APHA (23rd Edition), 3030D,3113B: 2017	BDL (DL 0.2)	mg/l	5	15
22.	Selenium as Se	APHA (23rd Edition)3114C,2017	BDL (DL 0.005)	mg/l	0.02	No relaxation
23.	Mineral Oil	APHA 23rd Edition,2017, 5530 C	BDL (DL 0.02)	mg/l	--	--
24.	Turbidity	IS 3025 (P-10): 1984,RA: 2017	BDL (DL 1.0)	NTU	1	5
25.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	BDL (DL 0.05)	mg/l	0.03	0.2
26.	Manganese as Mn	APHA (23rd Edition)3030D,3113B: 2017	BDL (DL 0.05)	mg/l	0.1	0.3
27.	Anionic Detergents (MBAS)	APHA 23rd Edition,2017, 5530 C	BDL (DL 0.02)	mg/l	0.02	No relaxation
28.	Residual free Chlorine	IS 3025 (P-26):1986, RA:2021	BDL (DL 0.2)	mg/l	0.2	1
29.	Cyanide (as CN)	IS: 3025 (P-27)1986	BDL (DL 0.02)	mg/l	0.2	1
30.	Total Coliform	IS:15185: 2016	Absent	per 100ml	Shall Not Be detectable in 100 ml Sample	--
31.	Faecal Coliform	IS:1622:2009	Absent	MPN/100ml	Shall Not Be detectable in 100 ml Sample	--
32.	E-coli	IS:15185: 2016	Absent	per 100ml	Shall Not Be detectable in 100 ml Sample	--
33.	Phenolic compounds (C6H2OH)	APHA 23rd Edition,2017, 5530 C	BDL (DL 0.001)	mg/l	0.001	0.002

Note:- *BDL-Below Detection Limit, *DL- Detection Limit

Note:-

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----------End of the Report----------

NOIDA TESTING LABORATORIES NTL

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ENVIRONMENTAL STATEMENT

FORM-V

(See rule 14)

Environmental Statement for the financial year ending with 31st March 2022

PART-A

i.	Name and address of the owner/ occupier of the industry	:	**M/Raigarh Ispat & Power Private Limited, through Mr. Kamal Kishore Agrawal, Director** **Address:** **(Factory)** Village: Delari, District:Raigarh,(C.G.) **Address:** **(City Office)** Krishna Complex, Chaitanya Nagar, Dhimrapur Road, Raigarh [C.G.]
	Operation or Process	:	Operation
ii.	Industry category Primary - (STC Code) Secondary- (STC Code)		Medium Scale Industry : :
iii.	Production Category	:	Sponge Iron Manufacturing : 1,20,000 TPA M S Billet Manufacturing : 90,000 TPA Power Generation WHRB : 8 MW Power Generation AFBC : 4MW
iv.	Year of establishment	:	2005
v.	Date of the last environmental statement submitted	:	15.09.2019

PART – B

Water and Raw Material Consumption:

i. Water consumption in M^3/ day

Total	:	450M^3/Day
Cooling	:	340M^3/Day
Domestic	:	30 M^3/Day
Dust Suppression	:	50 M^3/Day
Plantation	:	30 M^3/Day

Sr. No.	Name of the Products	Process water consumption per unit of products	
		During 2020 – 21	During 2021 – 22
1.	Sponge Iron	0.334 M^3/Ton	0.334 M^3/Ton
2.	MS Billet	0.325 M^3/Ton	0.325 M^3/Ton
3.	Power	1.5 M^3/MW	1.5 M^3/MW

ii. **Raw material consumption**

Sr. No	Name of Products	Name of Raw Materials *	Consumption of raw material per unit of output	
			During 2020 – 21	During 2021 – 22
1.	*Sponge Iron*	Coal	1.650 Tons/ Ton	1.250 Tons/ Ton
		Iron Ore	2.167 Tons/ Ton	2.237 Tons/ Ton
		Dolomite	0.125 Tons/ Ton	0.080 Tons/ Ton
2.	MS Billet	Sponge Iron	1.215 Tons/ Ton	1.130 Tons/ Ton
		Pig Iron	0.233 Tons/ Ton	0.192 Tons/ Ton
		MS Scrap	0.167 Tons/ Ton	0.161 Tons/ Ton
3.	Power	Coal/Char/Dolochar	2.870 Tons/ Ton	1.720 Tons/ Ton

* *Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.*

PART-C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Sr. No	Pollutants	Quantity of Pollutants Discharged (Mass/ Day)		Concentration of pollutants discharged (Mass/ Volume)	Percentage of variation from Prescribed Standards with Reasons
a.	Water	BOD	< 30 mg/ NM^3	We are maintaining ZERO discharge condition	---
		COD	< 100 mg/ NM^3		---
		TS	< 100 mg/ NM^3		---
		O&G	< 10 mg/ NM^3		---
b.	Air	SPM	< 250 µg/ NM^3	---	---
		SO_2	< 30 µg/ NM^3	---	---
		NO_x	< 50 µg/ NM^3	---	---
		CO	BDL	---	---

PART - D

HAZARDOUS WASTES

Till date there is no generation hazardous wastes generation from the Plant. However we have obtained Authorization as per provisions of Hazardous and Other Wastes [management and Trans boundary movement] Rules 2016.

PART - E

SOLID WASTES:

Sr. No	*Solid* Wastes	Name of the solid wastes	Total Quantity (Tons)	
			During 2020 – 21	During 2021 – 22
a.	From Process	Char/ Dolochar	26661.300	32804.400
b.	From Pollution Control Facilities	ESP and Bag Filter Dust	1250.00	1572.300
c.	Quantity recycled or reutilized within the unit	Char/ Dolochar	26661.300	32804.400

PART – F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Sr. No.	Solid Wastes	Name of the Solid Wastes	During the Current financial year	Disposal methods
a.	From Process	Char/ Dolochar Bag filters Dust	32804.400	Used in Captive Power generating unit.
b.	From pollution control facilities	ESP Dust & Fly-ash	1250.00	Brick Manufacturing plants.

PART – G

Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.

Negligible impact on cost of production

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution.

Nil.

PART – I

MISCELLANEOUS:

Any other particulars in respect of environmental protection and abatement of pollution.

Nil

For Jaiprakash Power Ltd.

RAIGARH ISPAT & POWER PVT LTD. DELARI FLY ASH REPORT
Finacial year 2021-22

S.NO	Month /Years	Fly Ash Generation on the month (T)	Brick Making (T)	Land Filling(T)	Total fly Ash Utilization
1	Apr-21	4020	3000	1020	4020
2	May-21	4120	3120	1000	4120
3	Jun-21	4500	2400	2100	4500
4	Jul-21	4200	2200	2000	4200
5	Aug-21	4400	2600	1800	4400
6	Sep-21	4380	3000	1380	4380
7	Oct-21	4420	3020	1400	4420
8	Nov-21	4380	3020	1360	4380
9	Dec-21	4480	3000	1480	4480
10	Jan-22	4280	3000	1280	4280
11	Feb-22	4350	3050	1300	4350
12	Mar-22	4430	3000	1430	4430
	Total	51960	34410	17550	51960

Fly ash Utilization report for the Financial year 2022-2023

RAIGARH ISPAT & POWER PVT. LTD.	CPP	Brick Making (MT)	Land Filling(MT)	Total Utilization (MT)	% Utilization (MT)
1	2	4	5	10	11
April-22	4480	3440	1040	4480	100
May-22	4420	3420	1000	4420	100
June-22	4320	3620	700	4320	100
July-22	4520	4020	500	4520	100
Aug-22	4680	3800	880	4680	100
Sept-22	4640	4640	0	4640	100
Oct-22	4580	4580	0	4580	100
Nov-22	4490	4490	0	4490	100
Dec-22	4460	4460	0	4460	100
Jan-23	4380	4380	0	4380	100
FEB-23	4560	4560	0	4560	100
MAR-23	4420	4420	0	4420	100
Total	**53950**	**49830**	**4120**	**53950**	