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स्टील अथॉरिटी ऑफ इण्डिया लि0
बोकारो स्टील प्लान्ट
इस्पात भवन
बोकारो स्टील सिटी – 827 001
जिला : बोकारो (झारखण्ड)
फैक्स संख्या : 06542 242099
दूरभाष संख्या 06542 246605

सेल SAIL

SPEED POST

STEEL AUTHORITY OF INDIA LTD.
BOKARO STEEL PLANT
ISPAT BHAWAN
BOKARO STEEL CITY – 827001
DISTRICT – BOKARO (JHARKHAND)
Ph. No. 06542 246605 Fax No. 242099
E-mail : bsl.environment@sail.in

REF NO.ECS/2024/195A DATE 30/05/2024

सेवा में,

Dy. Director General Forest (Central)
Regional Office,MoEF&CC
Govt. of India
II nd Floor
Jharkhand State Housing Board Office
Near Harmu Chowk
Ranchi Pin Code- 834002

संदर्भ : EC No. J-11011/99/2007-IA(I)-II(I) दिनांक : 24.01.2022 of SAIL/Bokaro Steel Plant
विषय : EC No. J-11011/99/2007-IA(I)-II(I) दिनांक : 24.01.2022 / प्रगति प्रतिवेदन ।

अवधि : अक्टूबर 2023 से मार्च 2024

महाशय,

सेल, बोकारो स्टील प्लान्ट का छमाही अनुपालन / प्रगति प्रतिवेदन–दिनांक 01.10.2023 से दिनांक– 31.03.2024 तक अवलोकनार्थ संलग्न है।

सधन्यवाद ।

संलग्न यथोपरि ।

आपका विश्वासी
वास्ते सेल / बोकारो स्टील प्लान्ट

नवीन 30.5.24

एन पी श्रीवास्तव
महाप्रबंधक / पर्यावरण संरक्षण एवं सस्टेनेबिलिटी

प्रतिलिपि

सदस्य सचिव
झारखण्ड राज्य प्रदूषण नियंत्रण पर्षद
टी ए डिविजन बिल्डिंग
एच0 ई0 सी0 कम्पलेक्स
धूर्वा
राँची 834 004

SAIL BOKARO STEEL PLANT
ENVIRONMENT CONSERVATION & SUSTAINABILITY

Compliance to the conditions laid down vide EC No.J-11011/99/2007-IA-II(I) dated 24th January 2022 issued to SAIL/ Bokaro Steel Plant for the period from October 2023 to March 2024.

A. COMPLIANCE TO SPECIFIC CONDITIONS

i. CDQ shall be installed in coke ovens. Modified wet quenching tower shall be used as Stand by quenching in coke ovens battery.

Status:-

CDQ shall be installed along with Stamp charge new Coke oven Battery#9. Installation of CDQ in existing Coke oven Batteries (Batteries # 3,4,5 & 6) is not feasible due to non-availability of Space. CDQ will be installed in end batteries (Batteries # 1,2 & 7,8) during rebuilding. Modified wet quenching towers has been installed in existing Coke oven batteries and the same will be installed in new Coke oven battery #9 for which EC under reference is granted.

ii. Particulate matter emissions shall be less than 30 mg/Nm^3 in new units and in all old units it shall be achieved by Dec 2023 except for Coke oven chimneys which shall be less than 50 mg/Nm^3.

Status:-

The new units will have suitable APC system to maintain PM level less than 30mg/ Nm^3. For existing units, the design for 30 mg/Nm3 is being considered during refurbishing/replacement of existing ESPs/APC System viz. in Sinter Plant, for replacement of four numbers of Battery Cyclones with ESPs work has been awarded to achieve the emission level of 30 mg/Nm3.

iii. New Blast Furnace shall be equipped with TRT, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.

Status:-

New BF envisaged in brownfield expansion will be equipped with TRT, dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.

iv. Sinter Cooler WHR shall be installed for power generation vertically in the space available based on the outcome of the feasibility study as committed.

Status:-

The provision of Steam generation has been envisaged from Waste heat recovered from Sinter cooler in New Sinter plant. NABET accredited consultant has been engaged to study the feasibility for installation of power generation facility from waste heat recovered from sinter cooler. Preliminary report submitted.

v. Dust collected by road Sweepers shall be pelletized /briquetted and used in pellet plant.

Status:-

BSL does not have Pellet Plant. The dust collected from peripheral cleaning is recycled in the process through Sinter route.

vi. WHRS in BF stoves shall be installed in various BFs as per following schedule- BF3- FY 22-23; BF5 – FY- 24-25 , BF2- FY- 29-30 & BF4- FY- 31-32 or earlier during major shut down of the furnaces.

Status:-

WHRS installed in BF#1. WHRS installation at BF3 is under execution. Installation of WHRS for other Blast furnaces will be complied as per the above time frame.

vii. Secondary fume extraction system in BOF 2 shall be provided by Dec 2023.

Status:-

Secondary fume extraction system in BOF 2 is under tendering and order will be placed shortly.

viii. Waste to energy system for using oily scum and sludge shall be installed by March'2023

Status:-

Waste to energy system will be installed by using oily scum & sludge along with Municipal Solid waste in township. EOI floated & TS has been prepared for the same.

ix. Project proponent shall undertake rain water harvesting and recharge to the tune of 15244521m^3/year by end of 2025. Level monitoring indicators for on line real time measurement of rain water harvesting shall be provided.

Status:-

Rain Water Harvesting systems have been installed at seven locations inside the plant and township. TS finalized for Level monitoring indicators.

x. Green belt shall be developed in 33.18% of total plant area of 6973.68 ha (including water reservoir) covering entire periphery of the plant. Native plant species shall be chosen and plantation density for green belt shall be 2500 trees per ha.

Status:-

1.2 Lakh saplings have been planted on 48 Ha @ 2500 saplings per Ha during 2022-23. 40700 additional saplings planted during FY 2023-24. Total green belt cover is on 2088.28 Ha. Presently percentage green cover is 29.94. The green belt on 216.32 Ha covering entire periphery of plant will be developed by 2025 with native plant species.

xi. Specific performance indicators after implementation of the proposal shall be as under;

a. Specific Water Consumption - 3.00 Cum/TCS by 2025.
b. Specific Energy Consumption as- 6.00Gcal /TCS by 2025.
c. CO_2 emission-2.1T- CO_2/TCS by 2025.

Status:-

Action Plan has been prepared to achieve the above target of the Specific Water consumption, Specific Energy Consumption and CO_2 Emission by Dec'2025

xii. PP shall prepare and implement an action plan giving annual improvement targets for resource conservation and environment improvement. This plan shall be monitored by the concerned Regional Office of the MoEF&CC.

Status:-

Action Plan has been prepared along with figuring out the annual improvement targets for resource conservation and environment improvement.

xiii. Energy efficient drives, VFD for auxiliary motors and slip power recovery system for motors above 1000 Kw shall be provided.

Status:-

Auxiliary motors with energy efficient, VFD drive and the motors above 1000 Kw with Slip power recovery system are being used in the plant.

xiv. PTFE Membrane bags shall be used in filter bag house and designed for 150% of normal design air flow.

Status:-

PTFE based membrane bags are being used in Lime discharge building of RMP, SMS ladle furnace and CDI of Blast furnace

xv. Coke Oven Gas shall be desulfurized.

Status:-

Coke oven gas desulfurization system has been proposed along with New Stamp charge Coke oven Battery#9, however coke oven gas is being desulfurized for its use in HDGL of existing Cold rolling mills.

xvi. 100 percent solid waste generated shall be recycled, reused and/or sold . No dumping is permitted and storage for more than 90 days is not permitted.

Status:-

Total Solid waste generated is either being recycled, reused in the process or sold in secondary market.

B. COMPLIANCE OF GENERAL CONDITIONS.

I. Statutory compliance:

i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/consent/permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

Status:-Being complied.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act. 1986 or NABL accredited laboratories.

Status:-

Continuous Emission Monitoring system has been installed in all process stacks under operation and all of them have been uplinked to CPCB & JSPCB server. Two no. of Continuous Ambient Air Quality Monitoring Station have been installed. The data of these have also been uplinked to CPCB & JSPCB server. This is calibrated time to time according to equipment supplier specification. Besides Ambient Air Quality at Seven different locations surrounding the Plant are being monitored for PM10, PM2.5, SO2, NO2, O3, NH3, B(a)P,CO, Pb , As &Ni. The data of Ambient Air Quality and stack emission are being regularly submitted to CPCB and JSPCB. Monitoring report of stipulated period has been enclosed. The proposal has been initiated to install two more CAAQMS at BSL Township.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act. 1986 or NABL accredited laboratories.

Status:-

Fugitive emissions from all major shops including Coke Oven Batteries are being monitored on regular basis by our own in house laboratory as well as NABL accredited laboratory. The monitoring reports are being regularly sent to CPCB every month.

iii. Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions.

Status:-

The sampling facilities have been provided in all process stacks and quenching towers for manual monitoring.

iv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.

Status:-

Appropriate Air Pollution Control (APC) system has been installed in all shops to comply prescribed stack emission and fugitive emission standards.

v. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

Status:- It is being complied.

vi. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

Status:-

One mechanized road sweeping machine has been hired for cleaning the entire road inside the plant. Stationery vacuum cleaners have been installed for shop floor cleaning. The roof cleaning job of all the shops is done through CED department.

vii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.

Status:-

Iron ore fines, coke breeze from coke ovens, Flue dust from BF, Mill Scale , Lime dust from RMP(ESPs) and processed BOF slag fines are being used in sinter making through agglomeration.

viii. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

Status:-

All the raw materials and Products are transported in railway wagons. Water sprinklers have been installed in the tippler area and Raw material stock yard to control fugitive emission during operation. The granulated BF slag is transported through conveyer belt & trucks after properly covering it with tarpaulin/ plastic sheets.

ix. Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility).

Status:- It has been provided.

x. Land-based APC system shall be installed to control coke pushing emissions.

Status:-

Land-based APC system has been installed in all coke oven batteries to control Coke Pushing emission

xi. Monitor CO, HC and O_2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.

Status:-

Continuous CO and O_2 monitoring system have been installed in all Coke oven batteries in operation. HC monitoring system will be installed within one year.

xii. Vapor absorption system shall be provided in place of vapor compression system for cooling of coke oven gas in case of recovery type coke ovens.

Status:-

Presently, SAIL/BSL has two stage cooling system, i.e. indirect cooling in Primary coolers & direct cooling in secondary coolers. The vapor absorption system has been proposed in new stamp charge battery.

xiii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.

Status:-

Water spraying is done on regular basis to prevent the diffusion of particles in the Atmosphere.

xiv. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels. Motor houses, Oil Cellars.

Status:-

Proper ventilation system has been provided in the tunnels, Motor houses and Oil cellars for adequate air exchange.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act. 1986 or NABL accredited laboratories.

Status:-

Three no. of Continuous Effluent Quality Monitoring Station have been installed at our two outfalls & BOD plant outlet and the data of these have also been uplinked to CPCB & JSPCB server. This is calibrated time to time according to equipment supplier specification.

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.

Status:- Being complied.

iii. The project proponent shall provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30111 May 2008 (Sponge Iron) as amended from time to time e; S.O. 3305 (E) dated 7'December 2015 (Thermal Power Plants) as amended from time to time.

Status:-

A dedicated ETP has been installed for treatment of Coke oven and by-product plant. Continuous effluent quality monitoring system has been installed for measurement of TSS, BOD, COD, Flow, Phenol and Cyanide. The data has also been uplinked to CPCB & JSPCB server. The outlet effluent quality is meeting the standards prescribed in G.S.R 277 (E) dated 31st March 2012.

iv. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to Meet the prescribed standards.

Status:-

BSL Township has Lagoon based STP of total capacity of 31.972 MLD. 3rd party monitoring of the discharge quality is also being regularly done through NABL accredited laboratory. The treatment facility is working effectively and the discharge quality is well within the applicable standards, as stipulated by the MoEF&CC.

v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

Status:-

Garland drains and collection pit have been provided to arrest the run- off in the event of heavy rain and check the water pollution due to surface run –off.

vi. Tire washing facilities shall be provided at the entrance of the plant gates

Status:- It has already been provided..

vii. Water meters shall be provided at the inlet to all unit processes in the steel plants.

Status:- Water meters have been installed in BF, SM, HSM and at make-up water intake point of SAIL/Bokaro Steel Plant. Procurement of additional 27 nos. of water meters have been planned and are under tendering.

IV. Noise monitoring and prevention

i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

Status:-

Noise pollution is being monitored as per the Noise Pollution (Regulation and Control) Rules, 2000. The report in this regard is being submitted to CPCB on monthly basis. This will also be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

V. Energy Conservation measures

i. Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.

Status:- Torpedo ladles are being used for transfer of hot metal.

ii. Restrict Gas flaring to < 1%.

Status:-

Blast furnace gas & Coke oven gas are being used judiciously as fuel inside the plant. Excess of these gases & total BOF gas are used in power plant owned by BPSCL. Gas flaring is less than 1 %.

iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

Status:-

2 MW roof top Solar lighting system has been installed at BGH & Administrative building of Bokaro steel Plant. 65 Nos. of Solar street lighting system has been installed in ED works building premises and BSL gates. These are being maintained on regular basis.

iv. Provide LED lights in their offices and residential areas.

Status:-

LED lights have been installed in Town ship, inside the plant and in the offices too.

v. Ensure installation of regenerative/recuperative type burners on all reheating furnaces.

Status:-

Being complied

VI. Waste management

i. An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 Kg/l shall be installed to use slag as river sand in construction industry.

Status:-Total granulated BF Slag is being sold to Cement industries.

ii. Used refractories shall be recycled as far as possible.

Status:-

The used refractories are recycled in the plant. The damaged refractories are sold in secondary market.

iii Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area.

Status:- This practice is being followed.

iv Kitchen waste shall be composted or converted to biogas for further use.

Status:- The Kitchen waste to Bio gas plant has been installed at ED (w) office premises.

VII. Green Belt

i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees.

Status:-

The GHG emission inventory is prepared by the plant on monthly basis. Additionally M/s MN Dastur has been engaged by SAIL/Bokaro Steel Plant to study the various aspects of

GHG Emission Inventorization and submit a detailed report for reduction of GHG emission inside the plant as well as carbon sequestration by the trees. Preliminary report submitted by the consultant.

VIII. Public hearing and human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

Status:-

HIRA based emergency preparedness has been implemented. The Disaster management plan is implemented in collaboration with district administration.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

Status:-

Heat stress analysis of workmen of hot zone is being carried out by our OHS department. The Personal protective equipment (PPE) is provided to all workmen in the plant including contract workers.

iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

Status:-

Occupational health surveillance of the workers and officers is done by our Occupational Health service center (OHSC) on regular basis and the record is being maintained by them.

IX. Corporate Environmen t Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/20 17-I A.III dated 30/09/2020

Status:-

All provisions contained in this Ministry's OM vide F.No.22-65/20 17-I A.III dated 30/09/2020 will be complied

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

Status:-

The Company (Steel Authority of India) has well laid down policy approved by the Board of Directors containing all desired requirements of the condition. The copy of the board resolution has already submitted to your good office.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

Status:-

A separate Environmental Cell, "Environmental Conservation & Sustainability Department" headed by General Manager has been set up. The HOD directly reports to the head of the works division. The Department consists of qualified officials and other personnel.

IX. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspaper s of the District or State, of whi ch one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent 's website permanently.

Status:-

The information that Environment clearance has been granted, was published in Local daily Newspapers, Hindustan and The Telegraph on 21.03.2021. The copy of EC has also been Uploaded on company's website.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

Status:- It has been complied.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis

Status:- It is being complied.

iv. The project proponent shall monitor the criteria pollutants level namely; PM10, S02, NOx (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

Status:-It is being complied.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal

Status:- Being complied.

vi. The project proponent shall submit the environmental statement for each financial year in Form -V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

Status:- It is being complied.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

Status:-

Regional office of Jharkhand State Pollution Control Board is being updated as and when required about the financial closure and final approval. The date of financial closure and

Final approval of the projects under amended EC has been given below.

The Status of Financial closure & Final Approval of the Projects

S.N.	Name of the Projects	Date of Financial closure	Date of final approval of the Projects
1.	CRM-3 (New CRM)	07.12.2006	29.01.2008
2.	Revamping of Sinter M/C-1	07.12.2006	07.11.2011
3.	Sinter Plant-2	29.03.2011	11.04.2015
4.	Modernization of SMS-1	07.06.2013	30.05.2015
5.	Modernization of BF-2	03.08.2006	12.11.2007

viii. The project proponent shall abide by all the commitment s and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

Status:- Being complied.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

Status:-

No expansion or modification will be carried out without ministry's prior approval.

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

Status:- Factual data are being submitted.

xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

Status:- All the conditions are being complied.

xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

Status:- Being complied.

xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data *I* inform action /monitoring reports.

Status:- The full cooperation and support will be extended to Regional officer.

xiv. Any appeal against this EC shall lie with the National Green Tribunal. if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 20I 0.

Status:- Agreed

ENCLOSURES:

Name of the Steel Plant: BOKARO STEEL PLANT
Production Capacity: 5.77 MT Hot Metal

STACK EMISSION

OCT'2023

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	07.10.23	3106 T	270751	69.52	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	12.010.23	2924 T	272623	70.41				
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	16.10.23	5866 T	271674	71.25				
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	04.10.23	2701 T	102621	22.96	21.16	13.50	-	0.51
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	25.10.23	4205 T	103240	28.70	22.82	14.44	-	0.42
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	31.10.23	2791 T	103077	25.89	24.85	13.05	-	0.49
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	02.10.23	3062 T	101932	30.02	20.98	14.25	-	0.52
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	19.10.23	11.25 T/hr	148972	49.68	106.75	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	28.10.23	11.25 T/hr	144324	40.46	116.75	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	14.10.23	10.70 T/hr	145308	45.12	82.12	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	25.10.23	11.25 T/hr	144092	43.64	126.62	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	30.10.23	7.71 T/hr	150425	42.50	89.30	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	Under Shutdown					-	-	-

Standards: PM - 150 , SO_2 , NO_x , CO - (Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	CO
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Shutdown						-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	13.10.23	-	248615	41.20	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	13.10.23	-	101475	8.75	-	-	-	-
SMS-2/CCS	LF- 1	60m	3.11m	Bag filter	23.10.23	-	104201	28.77	-	-	-	-

Standard: PM - 300, SO2 - , NOx - , CO - * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM #50mg/Nm3
(Units: mg/Nm^3)

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	03.10.23	-	147365	31.42	212.82	93.25	-	1.44
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	06.10.23	-	147106	45.68	275.39	67.39	-	1.31
Batt # 3	Stack - 3	100 m	3.5mtrs	-	05.10.23	-	150310	24.98	234.10	81.46	-	1.46
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	11.10.23	-	149116	35.45	266.73	58.73	-	1.43
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack - 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	20.10.23	-	143975	39.75	268.70	74.66	-	1.26
Batt. # 8	Stack – 8	100 m.	3.5mtrs		17.10.23	-	147489	21.90	224.85	71.40	-	1.32

Standard: PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	02.10.23	-	482449	94.82	85.55	47.53	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	02.10.23	-	436253	46.49	83.17	43.14	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	18.10.23	-	482804	98.18	78.14	51.70	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. cyclone	18.10.23	-	466016	96.94	90.82	49.35	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. cyclone	24.10.23	-	470582	96.16	89.28	49.60	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	24.10.23	-	432834	39.21	78.72	45.01	-	-

Standard: PM - 150 , SO2 - , NOx - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
CRM 1&2	CAL		3.0mtrs	-	17.10.23	-	-	22.14	40.35	26.05	-	-

Standard: PM-150mg/Nm^3

NOV'2023

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	13.11.23	3177 T	272061	71.82	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	04.11.23	3613 T	274365	74.21				
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	16.11.23	5301 T	271821	71.76				
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	02.11.23	2797 T	102843	23.98	23.14	14.99	-	0.49
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	08.11.23	3551 T	105061	21.19	19.38	14.78	-	0.61
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	20.11.23	2925 T	103124	25.82	18.36	13.20	-	0.57
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	26.11.23	3360 T	101682	27.27	21.65	14.66	-	0.48
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	28.11.23	11.25 T/hr	152521	47.68	79.38	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	07.11.23	11.25 T/hr	145627	96.26	81.85	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	17.11.23	11.25 T/hr	150301	48.30	72.05	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	22.11.23	9.79 T/hr	144882	47.91	80.85	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	10.11.23	10.0 T/hr	145735	45.85	64.20	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	12.11.23	11.25 T/hr	144077	47.22	70.23	-	-	-

Standards: PM - 150 , SO_2 , NO_x , CO - (Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	CO
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	30.11.23	-	100574	12.40	-	-	-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber	30.11.23	-	253410	254.32	75.8	34.40	-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	29.11.23	-	249692	48.07	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	29.11.23	-	101764	8.75	-	-	-	-
SMS-2/CCS	LF- 2	60m	3.11m	Bag filter	17.11.23	-	103778	30.86	-	-	-	-

Standard: PM - 300, SO2 - , NOx - , CO - * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM #50mg/Nm3
(Units: mg/Nm^3)

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	02.11.23	-	158921	42.42	284.69	77.15	-	1.42
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	16.11.23	-	152820	37.36	278.67	94.22	-	1.34
Batt # 3	Stack - 3	100 m	3.5mtrs	-	07.11.23	-	147134	36.40	212.14	83.21	-	2.36
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	11.11.23	-	149542	34.72	244.58	76.33	-	2.19
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack - 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	20.11.23	-	160897	49.41	289.07	94.24	-	2.26
Batt. # 8	Stack – 8	100 m.	3.5mtrs		29.11.23	-	147482	23.86	295.52	91.51	-	1.38

Standard: PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	06.11.23	-	470252	94.32	88.12	48.22	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	06.11.23	-	442132	47.20	79.42	41.15	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	02.11.23	-	469591	88.51	91.25	52.02	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. cyclone	02.11.23	-	446810	87.30	92.50	50.13	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. cyclone	20.11.23	-	472426	96.31	83.56	44.81	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	20.11.23	-	432160	38.96	85.26	42.91	-	-

Standard: PM - 150 , SO2 - , NOx - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
CRM 1&2	HDGL		3.0mtrs	-	15.11.23	-	-	38.46	60.11	28.16	-	-

Standard: PM-150mg/Nm^3

DEC'2023

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	09.12.23	3331 T	272214	78.92	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	13.12.23	4407 T	273211	68.40				
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	16.12.23	6478 T	270442	70.44				
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	25.12.23	2353 T	103414	24.02	21.62	13.15	-	0.45
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	21.12.23	4491 T	101453	22.78	19.12	14.10	-	0.48
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	30.12.23	3019 T	102580	23.30	20.78	16.02	-	0.52
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	10.12.23	3507 T	100365	24.72	21.38	14.50	-	0.56
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	01.12.23	11.25 T/hr	147395	46.50	60.21	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	28.12.23	11.25 T/hr	150668	75.22	80.88	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	17.12.23	10.83 T/hr	157872	48.68	96.70	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	15.12.23	11.19 T/hr	146146	50.36	78.30	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	21.12.23	09.58 T/hr	158695	48.56	85.12	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	13.12.23	10.00 T/hr	148253	38.92	78.10	-	-	-

Standards: PM - 150 , SO_2 , NO_x , CO - (Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	CO
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	28.12.23	-	100325	12.10	-	-	-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber	28.12.23	-	254401	250.22	78.66	31.26	-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	27.12.23	-	248359	48.50	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	27.12.23	-	100728	10.10	-	-	-	-
SMS-2/CCS	LF- 1	60m	3.11m	Bag filter	19.12.23	-	102612	26.82	-	-	-	-

Standard: PM - 300, SO2 - , NOx - , CO - * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM #50mg/Nm3
(Units: mg/Nm^3)

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	20.12.23	-	141982	38.75	277.52	80.55	-	1.34
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	02.12.23	-	154122	24.72	284.60	95.42	-	1.36
Batt # 3	Stack - 3	100 m	3.5mtrs	-	12.12.23	-	148881	28.99	250.25	78.28	-	2.22
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	29.12.23	-	151210	32.50	262.32	68.12	-	2.10
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack - 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	16.12.23	-	146421	25.90	243.18	78.10	-	1.38
Batt. # 8	Stack – 8	100 m.	3.5mtrs		01.12.23	-	145565	22.84	212.20	65.82	-	1.27

Standard: PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	13.12.23	-	442715	93.10	91.65	52.10	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	13.12.23	-	430772	42.75	82.77	38.22	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	18.12.23	-	442810	78.99	92.16	46.10	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. cyclone	18.12.23	-	438218	88.65	94.35	40.95	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. cyclone	28.12.23	-	456242	93.75	93.48	44.25	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	28.12.23	-	412887	47.68	84.89	40.38	-	-

Standard: PM - 150 , SO2 - , NOx - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
CRM 1&2	CAL		3.0mtrs	-	14.12.23	-	-	32.28	44.25	29.80	-	-

Standard: PM-150mg/Nm^3

JAN'2024

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	02.01.24	3600 T	274698	76.25	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	06.01.24	1477 T	271432	73.45				
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	10.01.24	6799 T	264311	72.84				
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	18.01.24	3231 T	104291	24.72	16.29	11.95	-	0.51
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	23.01.24	3772 T	108111	28.41	18.72	12.06	-	0.47
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	22.01.24	3337 T	100249	25.83	19.46	13.52	-	0.53
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	16.01.24	3927 T	103743	30.29	17.24	11.34	-	0.49
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	04.01.24	11.25T/hr	147349	48.63	77.56	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	03.01.24	11.25 T/hr	148728	41.03	89.24	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	10.01.24	11.22 T/hr	147723	41.25	87.69	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	17.01.24	11.25 T/hr	151420	40.62	84.82	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	Under Shutdown				-	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	20.01.24	11.25 T/hr	150436	38.14	84.23	-	-	-

Standards: PM - 150 , SO_2 , NO_x , CO - (Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	CO
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	29.01.24	-	107234	18.88	-	-	-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber	29.01.24	-	252279	250.67			-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	30.01.24	-	241045	40.61	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	30.01.24	-	103595	8.43	-	-	-	-
SMS-2/CCS	LF- 1	60m	3.11m	Bag filter	18.01.24	-	107882	27.91	-	-	-	-

Standard: PM - 300, SO2 - , NOx - , CO - * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack -PM #50mg/Nm3
(Units: mg/Nm^3)

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	09.01.24	-	143842	28.06	215.72	86.25	-	1.54
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	05.01.24	-	152435	30.50	216.15	96.16	-	1.57
Batt # 3	Stack - 3	100 m	3.5mtrs	-	15.01.24	-	158246	26.72	218.36	98.47	-	1.30
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	25.01.24	-	144526	40.22	265.12	95.23	-	1.23
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack - 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	27.01.24	-	150725	32.46	206.24	81.43	-	1.29
Batt. # 8	Stack – 8	100 m.	3.5mtrs		30.01.24	-	142496	31.84	225.56	90.44	-	1.22

Standard: PM - 50, SO2 - 800, NOx - 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	16.01.24	-	439330	89.10	97.15	48.24	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	16.01.24	-	405621	42.60	84.72	40.22	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. cyclone	08.01.24	-	451006	97.24	92.23	51.29	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. cyclone	08.01.24	-	492834	92.66	96.62	53.67	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. cyclone	24.01.24	-	488711	91.24	89.15	52.77	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	24.01.24	-	410742	46.14	92.25	45.35	-	-

Standard: PM - 150 , SO2 - , NOx - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
HSM	RHF-1		8.0mtrs	-	22.01.24	-	-	36.12	48.21	20.14	-	-

Standard: PM-150mg/Nm^3

FEB'2024

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	24.02.24	3265 T	272612	72.16	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	05.02.24	4115 T	273104	71.06	94.38	31.22		
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	10.02.24	6075 T	270629	69.84				
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	27.02.24	3546 T	102162	24.52	12.87	14.84	-	0.52
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	16.02.24	4383 T	103752	30.81	13.81	12.24	-	0.47
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	21.02.24	3495 T	104236	26.90	14.96	13.95	-	0.48
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	29.02.24	3508 T	105167	29.56	13.89	22.96	-	0.50
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	01.02.24	11.08T/hr	146306	46.52	66.20	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	07.02.24	11.67 T/hr	151625	47.81	79.06	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	Under Shutdown					-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	19.02.24	11.11 T/hr	147880	42.72	66.36	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	23.02.24	10.24 T/hr	149772	40.69	80.52	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	14.02.24	11.07 T/hr	149372	48.59	81.36	-	-	-

Standards: PM – 150 , SO_2 , NO_x , CO - (Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack.

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	CO
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	05.02.24	-	103625	14.56	-	-	-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber	05.02.24	-	249626	248.75			-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	12.02.24	-	238062	41.62	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	12.02.24	-	101722	8.12	-	-	-	-
SMS-2/CCS	LF- 1	60m	3.11m	Bag filter	20.02.24	-	104704	33.09	-	-	-	-

Standard: PM – 300, SO2 - , Nox - , CO - * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack –PM #50mg/Nm3
(Units: mg/Nm^3)

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	06.02.24	-	144324	29.86	216.2	81.2	-	1.54
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	28.02.24	-	149302	30.14	249.5	79.2	-	1.59
Batt # 3	Stack - 3	100 m	3.5mtrs	-	12.02.24	-	147662	24.57	206.1	102.3	-	1.45
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	17.02.24	-	148770	32.60	260.7	72.6	-	1.14
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack – 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	08.02.24	-	144362	18.72	234.10	95.6	-	1.23
Batt. # 8	Stack – 8	100 m.	3.5mtrs		26.02.27	-	143560	19.85	226.2	82.7	-	1.23

Standard: PM – 50, SO2 – 800, Nox – 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. Cyclone	02.02.24	-	486260	89.17	102.16	50.2	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	02.02.24	-	431782	42.61	80.2	40.6	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. Cyclone	15.02.24	-	490770	95.25	79.5	48.2	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. Cyclone	15.02.24	-	493515	93.70	98.6	49.9	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. Cyclone	09.02.24	-	490206	99.10	99.2	51.2	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	09.02.24	-	440562	39.86	78.6	44.5	-	-

Standard: PM – 150 , SO2 - , Nox - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
HSM	RHF-1		8.0mtrs	-	22.02.24	-	-	36.24	42.10	24.5	-	-

Standard: PM-150mg/Nm^3

MAR'2024

Name of the Plant	Stack connected to (Name of the unit)	Height of the stack (m)	Diameter of the stack (m)	Pollution Control unit provided (Name)	Date & Time of the monitoring (duration)	Production fig. of the unit, during the period of monitoring	Flow rate of the flue gas (NM^3/Hr)	Parameters (whichever are applicable)				
1	2	3	4	5	6	7	8	9				
Blast Furnace (Space dedusting) & Stoves								**Particulate matter (PM)** (mg/Nm^3)	**SO_2** (mg/Nm^3)	**NO_x** (mg/Nm^3)	**HC**	**CO** Kg/TDCP %Vol./vol.
BF-1	Chimney-1	50 mtr.	8.2mtrs.	Wet scrubber	12.03.24	3314 T	273628	68.10	-	-	-	-
BF-2	Chimney-2	50 mtr.	8.2mtrs.	Wet scrubber	16.03.24	3941 T	271569	21.99	19.93	30.09		
BF-3		50 mtr.	8.2 mtr.	Wet scrubber	Under Shutdown for capital repair				-	-	-	-
BF-4	Chimney-3	50 mtr.	8.2mtrs.	Wet scrubber	17.03.24	7113 T	274244	36.03	11.88	31.37		
BF-5									-	-	-	-
BF Stoves-1	Chimney-1	70 mtr.	3.5mtrs.	-	22.03.24	2278 T	102621	13.26	23.96	26.45	-	0.46
BF Stoves-2	Chimney-2	70 mtr.	3.5mtrs.	-	10.03.24	4633 T	105360	26.10	22.82	13.96	-	0.50
BF Stoves-4	Chimney-4	70 mtr.	3.5mtrs.	-	14.03.24	2821 T	101272	24.06	24.96	20.04	-	0.39
BF Stoves-5	Chimney-5	70 mtr.	3.5mtrs.	-	04.03.24	3332 T	102641	28.95	21.16	13.72	-	0.47
• **101623**												
Refractory Material plant ESP												
Kiln-1	Stack – 1	80 mtr.	3.3mtrs	ESP	24.03.24	11.25 T/hr	149525	65.49	70.82	-	-	-
Kiln-2	Stack - 1	80 mtr	3.3mtrs	ESP	20.03.24	10.83 T/hr	148301	65.59	68.10	-	-	-
Kiln-3	Stack - 2	80 mtr	3.3mtrs	ESP	25.03.24	11.25 T/hr	146455	42.99	76.04	-	-	-
Kiln-4	Stack – 2	80 mtr.	3.3mtrs	ESP	16.03.24	11.25 T/hr	147304	14.39	74.31	-	-	-
Kiln-5	Stack – 3	80 mtr.	3.3 mtrs	ESP	19.03.24	11.25 T/hr	143856	41.89	83.36	-	-	-
Kiln-6	Stack – 3	80 mtr.	3.3 mtrs	ESP	13.03.24	11.25 T/hr	145670	53.31	80.22	-	-	-

Standards: PM – 150, SO_2, NO_x, CO -(Units: mg/Nm^3) Monitoring values for corresponding Kiln duct. Two Kilns through individual Ducts are connected to a common stack

SMS – 1 (Process unit)					**Date**		**Flow rate (NM^3/Hr)**	**PM (mg/Nm^3)**	**SO_2 (mg/Nm^3)**	**NO_x (mg/Nm^3)**	HC	C O
Conv. – 1 (NB)	Stack – 1	100 m	4.3mtrs	Wet scrubber	27.03.24	-	101322	17.58	-	-	-	-
Conv. – 1 (BL)	Stack – 1	100 m	4.3mtrs	Wet scrubber	27.03.24	-	252601	250.10	80.32	29.55	-	-
Conv. – 2	Stack – 1	100 m	4.3mtrs	Wet scrubber	Under Capital Repair							
Conv. – 3	Stack – 1	100 m	4.3mtrs	Wet scrubber							-	-
Conv. – 4	Stack – 1	100 m	4.3mtrs	Wet scrubber								-
Conv. – 5 (BL)	Stack – 1	100 m	4.3mtrs	ESP	28.03.24	-	251359	49.10	-	-	-	-
Conv. – 5 (NB)	Stack – 1	100m	4.3mtrs	ESP	28.03.24	-	101306	8.75	-	-	-	-
SMS-2/CCS	LF- 1	60m	3.11m	Bag filter	18.03.24	-	103822	28.07	-	-	-	-

Standard: PM – 300, SO2 - , Nox - , CO - (Units: mg/Nm^3) * Monitored in individual ducts (of dia. 2.5 m each) from corresponding converters. SMS-2/CCS Stack –PM #50mg/Nm3

Coke Oven												
Batt. # 1	Stack – 1	100 m.	3.5mtrs	-	22.03.24	-	148329	47.42	200.19	85.58	-	1.31
Batt. # 2	Stack – 2	100 m.	3.5mtrs	-	27.03.24	-	149498	20.88	202.19	101.93	-	1.36
Batt # 3	Stack - 3	100 m	3.5mtrs	-	21.03.24	-	148748	19.18	84.53	108.66	-	1.38
Batt. # 4	Stack – 4	100 m.	3.5mtrs	-	17.03.24	-	148774	36.01	240.05	48.48	-	1.14
Batt. # 5	Stack – 5	100 m.	3.5mtrs	-	Shutdown for Cold repairing							
Batt # 6	Stack – 6	100 m.	3.5mtrs	Shutdown for Rebuilding								
Batt. # 7	Stack – 7	100 m.	3.5mtrs	-	14.03.24	-	145302	16.61	104.18	102.71	-	1.18
Batt. # 8	Stack – 8	100 m.	3.5mtrs		20.03.24	-	144708	23.95	224.46	70.25	-	1.21

Standard: PM – 50, SO2 – 800, Nox – 500, CO – 3.00 Kg/TDCP, HC - (Units: mg/Nm^3)

Sinter Plant												
SM-1	Duct-A	100 m.*	3.5mtrs	Batt. Cyclone	23.03.24	-	415312	96.48	89.77	52.37	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	23.03.24	-	426734	46.74	82.95	50.20	-	-
SM-2	Duct-A	100 m.*	3.5mtrs	Batt. Cyclone	28.03.24	-	465340	94.28	75.72	48.62	-	-
	Duct-B	100 m.*	3.5mtrs	Batt. Cyclone	28.03.24	-	469459	95.22	93.36	49.36	-	-
SM-3	Duct-A	100 m	3.5mtrs	Batt. Cyclone	27.03.24	-	493076	80.63	99.58	50.18	-	-
	Duct-B	100 m.*	3.5mtrs	ESP	27.03.24	-	486322	46.20	87.39	49.44	-	-

Standard: PM – 150 , SO2 - , Nox - (Units: mg/Nm^3) * All three Sinter M/c Exhaust are connected to a common single stack of 100m height

Mill zone												
CRM	HDGL		8.0mtrs	-	10.03.24	-	-	39.99	48.16	29.30	-	-

Standard: PM-150mg/Nm^3

Status of compliances to the Fugitive emission standards of coke oven batteries in (Bokaro Steel plant)

OCT'2023

Plant/Bat. No.	Date of commissioning		Cur-rentage in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.26-1.80	0.48-0.72	0.96-1.44	36-48					2.16	23.15	
Battery No. 2				2.17-3.44	0.36-0.84	1.80-2.53	34-46					2.36	24.00	
Battery No. 3				2.53-4.88	0.68-1.00	1.28-1.81	36-46					2.14	26.52	
Battery No. 4				2.85-5.75	0.60-0.72	2.17-2.89	32-45					2.34	22.82	
Battery No. 5				**Under Shutdown for Coldrepairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.18-0.36	0.0-0.12	0.00-0.36	32-42					2.06	21.16	
Battery No. 8				0.00	0.00	0.00-0.18	30-44					2.20	20.86	

Coke oven & mixed gas used for heating: * Data provided under Stack emission status at section: A of this format

SC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge

NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

NOV'2023

Plant/Bat. No.	Date of commissioning		Current age in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.44-2.71	0.38-0.64	1.26-1.44	37-47					2.25	22.34	
Battery No. 2				2.17-2.89	0.72-0.84	1.62-1.80	34-48					2.16	24.81	
Battery No. 3				3.69-4.69	0.68-0.97	1.28-2.11	35-46					2.15	25.84	
Battery No. 4				2.84-4.88	0.36-0.70	1.76-2.51	36-48					2.32	23.20	
Battery No. 5				**Under Shutdown for Coldrepairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.18-0.36	0.0-0.12	0.00-0.12	32-44					2.60	25.14	
Battery No. 8				0.00	0.00	0.00-0.18	30-46					2.07	20.96	

Coke oven & mixed gas used for heating: * Data provided under Stack emission status at section: A of this format

SC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge

NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

DEC'2023

Plant/Bat. No.	Date of commissioning		Current age in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.44-2.71	0.48-0.84	0.96-1.99	38-48					2.15	23.12	
Battery No. 2				2.17-3.44	0.36-0.84	1.62-1.99	36-50					2.41	22.91	
Battery No. 3				3.88-4.69	0.36-1.08	1.28-2.11	38-50					2.58	23.82	
Battery No. 4				3.85-4.71	0.65-0.84	1.44-2.89	34-45					2.41	24.90	
Battery No. 5				**Under Shutdown for Coldrepairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.00-0.36	0.00-0.12	0.00-0.12	32-46					1.94	21.02	
Battery No. 8				0.00	0.00	0.00	30-48					2.04	24.0	

Coke oven & mixed gas used for heating: * Data provided under Stack emission status at section: A of this format

SC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge

NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

JAN'2024

Plant/Bat. No.	Date of commissioning		Current age in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.26-2.71	0.48-0.60	1.26-1.44	35-45					2.17	22.19	
Battery No. 2				2.17-2.71	0.60-0.84	1.44-1.80	38-48					2.52	23.11	
Battery No. 3				3.88-4.69	0.36-0.72	1.28-2.11	34-45					2.54	23.72	
Battery No. 4				3.85-5.66	0.60-0.70	1.76-2.17	36-48					2.48	24.84	
Battery No. 5				**Under Shutdown for Coldrepairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.18-0.36	0.00-0.12	0.00-0.12	32-40					2.08	21.88	
Battery No. 8				0.00-0.36	0.00	0.00	30-44					1.98	23.06	

Coke oven & mixed gas used for heating: * Data provided under Stack emission status at section: A of this format

SC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge

NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

FEB'2024

Plant/Bat. No.	Date of commissioning		Current age in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.44-2.56	0.36-0.72	0.96-1.44	36-46					2.21	21.72	
Battery No. 2				2.17-2.89	0.72-0.84	1.44-1.80	38-48					2.46	23.66	
Battery No. 3				3.69-5.77	0.60-2.89	1.44-3.69	32-46					2.36	27.95	
Battery No. 4				3.85-6.78	0.48-0.84	1.76-3.69	35-48					2.40	30.10	
Battery No. 5				**Under Shutdown for Coldrepairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.00-0.36	0.00-0.36	0.00	30-42					2.10	24.20	
Battery No. 8				0.00	0.00	0.00	32-40					2.03	21.62	

Coke oven & mixed gas used for heating: * Data provided under Stack emission status at section: A of this format

SC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge

NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

MAR'2024

Plant/Bat. No.	Date of commissioning		Current age in year	PLD (%)	PLL (%)	PLO (%)	Charge-ing emission (sec/ charge.) (TC)	Stack emission (mg/Nm^3)			SPM emission charging ($mg/-Nm^3$)	SPM emission push-ing (g/ TDCP)	PM for quenching g/ TDCP	Status of compliance
	Initial	After rebuilding						PM	SO_2	NOx				
EP (Act) Norm (at green field site)				*5*	*1*	*4*	*16*	*50*	*800*	*500*	*25*	*5*	*50*	
(Rebuild battery)				*10*	*1*	*4*	*50*	*50*	*800*	*500*	*25*	*5*	*50*	
(Existing battery)				***10***	***1***	***4***	***75***	***50***	***800***	***500***	*25*	-	-	
Battery No. 1				1.07-1.82	0.49-0.62	1.05-1.63	34-48					2.32	26.10	
Battery No. 2				2.34-2.86	0.60-0.98	1.60-2.18	37.44					2.40	24.45	
Battery No. 3				3.25-4.38	0.72-0.94	1.98-2.94	35-48					2.20	25.10	
Battery No. 4				3.26-4.59	0.60-0.97	1.79-2.16	36.49					2.58	26.50	
Battery No. 5				**Under Shutdown for Cold repairing**										
Battery No. 6				**Under Shutdown for Rebuilding**										
Battery No. 7				0.00-0.33	0.00-0.34	0.00	32-44					2.14	23.51	
Battery No. 8				0.00	0.00	0.00	31-42					2.18	24.22	

Coke oven & mixed gas used for heating:

* Data provided under Stack emission status at section: A of this formatSC – Stamp Charge
NC –Non Compliance
C - Compliance
TC- Top charge
NB: Batt # 6 & Batt # 8 have been shut down for rebuilding

Ambient Air Quality

Ambient Air Quality (AAQ) (All Ambient Air Quality Monitoring Station)

Standards : PM_{10} - 100, $PM_{2.5}$ -60, SO_2 - 80, NO_2 – 80, NH_3 – 400 , O_3-100, Pb -1.0 , C_6H_6 – 5.0 , (Units: micro gram/meter^3), As - 6.0, B(a)P - 1.0, Ni – 20.0 (units – Nano gram/meter^3), CO – 2.0 mg/m^3

Ambient air quality is monitored on bi-weekly basis. Average value of the month is reported

OCT'2023

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		88.67	44.32	25.0	33.6	19.41	18.92	0.32	<0.6	<0.01	<0.08	1.48	770
2	Garga Dam		78.22	47.01	27.12	18.9	18.32	19.40	0.34	<0.6	<0.01	<0.08	1.32	840
3	Sector-12		76.12	42.00	26.45	22.1	10.41	18.30	0.41	<0.6	<0.01	<0.08	1.28	790
4	Sector-9		78.06	42.81	26.98	24.7	10.70	13.84	0.36	<0.6	<0.01	<0.08	1.0	640
5	Bokaro Nivas		65.45	39.15	27.44	24.8	10.15	11.28	0.20	<0.6	<0.01	<0.08	0.98	677
6	CISF (SGP)		80.82	42.30	31.50	24.3	14.18	15.12	0.42	<0.6	<0.01	<0.08	1.0	965
7	BGH		68.01	36.89	25.90	26.5	9.62	13.44	0.20	<0.6	<0.01	<0.08	0.96	806
8	CAAQMS at Main gate	19.10.23	77.41	45.0	15.3	6.90	16.8	18.20	-	0.45	-	-	-	1093
9	CAAQMS at TA building	19.10.23	83.35	17.54	2.67	6.75	9.89	10.21	-	0.48	-	-	-	960

NOV'2023

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		54.42	31.79	24.5	42.3	19.7	10.6	0.49	<0.6	<0.01	<0.08	1.28	698
2	Garga Dam		49.85	30.46	20.1	31.0	18.3	10.3	0.41	<0.6	<0.01	<0.08	1.15	488
3	Sector-12		51.13	30.63	21.4	27.5	11.9	10.8	0.42	<0.6	<0.01	<0.08	1.12	630
4	Sector-9		54.63	32.72	24.8	32.3	12.2	11.1	0.33	<0.6	<0.01	<0.08	1.00	768
5	Bokaro Nivas		46.24	26.24	20.0	28.6	10.6	12.0	0.31	<0.6	<0.01	<0.08	1.22	554
6	CISF (SGP)		58.51	36.26	21.4	31.5	12.8	12.4	0.39	<0.6	<0.01	<0.08	1.48	565
7	BGH		48.68	30.41	22.3	29.1	11.4	11.5	0.32	<0.6	<0.01	<0.08	0.99	734
8	CAAQMS at Main gate	19.11.23	68.26	35.5	15.4	7.1	17.0	20.7	-	0.44	-	-	-	1870
9	CAAQMS at TA building	18.11.23	62.6	31.2	5.27	7.56	8.16	5.58	-	0.42	-	-	-	1040

DEC'2023

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		88.13	48.10	34.24	36.14	23.40	13.32	0.45	<0.6	<0.01	<0.08	1.46	928
2	Garga Dam		79.28	42.28	32.12	34.10	24.28	10.35	0.43	<0.6	<0.01	<0.08	1.55	819
3	Sector-12		85.14	43.61	28.90	40.36	20.50	9.98	0.40	<0.6	<0.01	<0.08	1.48	770
4	Sector-9		90.12	44.67	30.50	41.38	21.46	8.89	0.38	<0.6	<0.01	<0.08	1.45	688
5	Bokaro Nivas		82.96	40.41	31.28	38.29	20.02	11.32	0.40	<0.6	<0.01	<0.08	1.38	700
6	CISF (SGP)		90.34	48.88	32.16	42.32	21.90	12.45	0.54	<0.6	<0.01	<0.08	1.56	989
7	BGH		84.25	45.69	30.55	39.72	20.68	10.72	0.51	<0.6	<0.01	<0.08	1.44	510
8	CAAQMS at Main gate	09.12.23	86.42	57.1	29.7	7.0	16.9	19.2	-		-	-	-	1010
9	CAAQMS at TA building	10.12.23	92.08	41.92	4.07	8.2	9.06	1.55	-		-	-	-	300

JAN'2024

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		92	48	20	36	36	<20	0.11	<1	<2	<0.5	<7	1820
2	Garga Dam		78	36	15	37	32	<20	0.15	<1	<2	<0.5	<7	1500
3	Sector-12		85	40	14	37	35	<20	<0.06	<1	<2	<0.5	<7	1400
4	Bokaro Nivas		86	40	18	24	34	<20	<0.06	<1	<2	<0.5	8	1600
5	CISF (SGP)		81	42	16	31	41	<20	<0.06	<1	<2	<0.5	<7	1900
6	BGH		87	38	17	30	31	<20	<0.06	<1	<2	<0.5	<7	1500
7	CAAQMS at Main gate	26.01.24	97.6	49.0	18.8	7	17	22.5	-	0.6	-	-	-	950
8	CAAQMS at TA building	22.01.24	97.05	55.19	5.54	7.13	7.07	1.37	-	0.5	-	-	-	1300

FEB'2024

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		95	51	28	34	38	13.01	0.41	<0.6	<0.01	<0.08	19.1	658
2	Garga Dam		82	46	16	35	34	12.03	0.32	<0.6	<0.01	<0.08	17.4	480
3	Sector-12		84	43	18	32	36	11.15	0.36	<0.6	<0.01	<0.08	10.2	568
4	Bokaro Nivas		80	45	19	30	33	10.26	0.30	<0.6	<0.01	<0.08	11.3	592
5	CISF (SGP)		88	50	21	36	40	11.22	0.27	<0.6	<0.01	<0.08	10.6	572
6	BGH		80	46	24	33	35	12.54	0.45	<0.6	<0.01	<0.08	11.0	559
7	CAAQMS at Main gate	14.02.24	96.2	48.1	17.6	7.08	16	21.8	-	0.7	-	-	-	930
8	CAAQMS at TA building	10.02.24	98.0	46.33	3.35	6.6	5.96	3.62	-	0.5	-	-	-	980

MAR'2024

S. No	Location of the Station	Date	Parameters (as applicable)											
			PM_{10}	$PM_{2.5}$	SO_2	NO_2	NH_3	O_3	Pb	C_6H_6	As	B(a)P	Ni	CO
1	B.S. City Rly. Station		88.14	47.88	34.82	38.25	27.32	12.84	0.49	<0.6	<0.01	<0.08	1.49	1720
2	Garga Dam		87.32	50.22	32.34	39.14	26.36	14.33	0.42	<0.6	<0.01	<0.08	1.41	940
3	Sector-12		85.66	48.46	28.66	40.18	25.18	12.70	0.39	<0.6	<0.01	<0.08	1.39	1270
4	Bokaro Nivas		84.28	46.93	31.83	39.26	24.50	13.65	0.38	<0.6	<0.01	<0.08	1.30	1012
5	CISF (SGP)		82.20	46.38	30.28	38.84	23.74	12.22	0.40	<0.6	<0.01	<0.08	1.28	848
6	BGH		89.47	48.55	32.36	42.12	26.85	13.88	0.42	<0.6	<0.01	<0.08	1.41	1250
7	CAAQMS at Main gate	22.03.24	80.41	47.1	11.5	6.90	16.9	21.6	-	0.32	-	-	-	1010
8	CAAQMS at TA building	15.03.24	73.97	42.3	1.27	19.79	3.31	18.65	-	0.24	-	-	-	970

Water Pollution Status

Water Consumption 3.86 m^3 /Tonne of Crude Steel produced

Effluent discharged to: (Name of the river / drain / land etc.): Damodar River
Quality of various effluent streams at the Boundary line of the plant
Standards : Temp.- Upto 40^{0}C, pH -6.0-8.50, TSS- 100, Phenol- 1.0, Cyanide- 0.20, BOD- 30, COD- 250, Amm. Nitrogen- 50, O&G- 10.0

Note:- Outfall-1 (COBPP, Sinter Plant, TPP, BF, RMP), Outfall-2:(SMS-1, SMS-2 &CCS, Rolling Mills)Outfall-3; Due to huge excavation work in new CRM-3 area, this outfall cease to exist.

OCT'2023

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
16.10.23	OF - 1	23.8	7.89	39	0.300	0.041	6.1	72	4.69	0.61	45
	OF – 2	24.5	7.6	4 2	0.026	0.021	5.2	70	3.07	1.49	50

NOV'2023

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
15.11.23	OF - 1	24.1	7.63	28	0.240	0.059	5.64	68	4.58	0.48	45
	OF – 2	23.6	7.21	6 7	0.032	0.026	4.68	55	3.72	1.26	50

DEC'2023

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
16.12.23	OF - 1	22.1	7.31	23	0.027	0.023	8.4	75	2.94	1.22	45
	OF – 2	21.7	7.89	3 8	0.021	0.014	7.5	84	1.16	1.46	50

JAN'2024

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
16.01.24	OF - 1	22.4	7.22	19	0.065	0.028	6.8	77	8.12	0.77	45
	OF – 2	23.6	7.34	4 2	0.036	0.015	7.7	80	3.05	1.42	50

FEB'2024

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
13.02.24	OF - 1	22.6	7.3	20	0.042	0.024	6.2	84	7.86	0.92	45
	OF – 2	21.8	6.5	3 8	0.018	0.013	5.6	65	3.14	1.26	50

MAR'2024

Date of Monitoring	Name of the stream	Parameters (mg/l, except pH and temp.)									Flow rate m3/hr
		Temp. ^{0}C	pH	TSS	Phenol	Cyanide	BOD	COD	Amm. Nitrogen	O&G	
17.03.24	OF - 1	24.5	7.41	14	0.037	0.021	5.66	69.0	8.70	0.97	45
	OF – 2	24.1	7.53	37	0.025	0.023	4.75	66.0	2.18	1.26	50

Status of Sewage Treatment Plant (STP)

Standards : Temp.- Upto 40^{0}C, pH -6.0-8.5, TSS- 100, Phenol- 1.0, Cyanide- 0.20, BOD- 30, COD- 250.

OCT'2023

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
30.10.23	12.20 pm	BGH	-	24.2	7.19	43	8.2	84	410	
	11.30 am	Dhandabra	-	24.0	7.03	38	7.8	69	380	
	11.00 am	Sector -6	-	23.5	6.84	36	8.5	58	420	
	10.35 am	Camp-2	-	24.2	7.41	48	10.2	70	350	
	10.15 am	Sector-12	-	23.6	7.34	42	9.8	74	440	

NOV'2023

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
27.11.23	12.20 pm	BGH	-	23.8	7.32	46	7.9	78	408	
	11.30 am	Dhandabra	-	24.2	7.21	41	8.1	72	400	
	11.00 am	Sector -6	-	24.1	7.05	38	8.4	65	410	
	10.35 am	Camp-2	-	23.4	7.22	45	9.3	68	390	
	10.15 am	Sector-12	-	24.3	7.31	43	10.1	75	430	

DEC'2023

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
12.12.23	12.20 pm	BGH	-	22.2	7.32	32	9.2	64	408	
	11.30 am	Dhandabra	-	22.8	7.42	26	12.0	91	400	
	11.00 am	Sector -6	-	22.6	7.34	28	8.2	66	410	
	10.35 am	Camp-2	-	22.1	6.96	32	17.2	124	390	
	10.15 am	Sector-12	-	21.8	7.10	27	11.4	107	430	

JAN'2024

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
12.01.24	12.20 pm	BGH	-	22.6	7.35	32	9.8	65	400	
	11.30 am	Dhandabra	-	23.0	7.24	36	12.5	93	410	
	11.00 am	Sector -6	-	22.8	7.33	45	7.9	81	390	
	10.35 am	Camp-2	-	23.1	6.98	35	18	97	430	
	10.15 am	Sector-12	-	22.6	7.24	28	12.5	91	390	

FEB'2024

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
27.02.24	12.20 pm	BGH	-	25.9	7.92	71	7.9	73	420	
	11.30 am	Dhandabra	-	26.8	8.34	58	10.6	61	400	
	11.00 am	Sector -6	-	26.2	8.04	62	9.2	84	420	
	10.35 am	Camp-2	-	25.6	7.42	69	8.7	69	440	
	10.15 am	Sector-12	-	26.4	7.69	64	11.4	72	360	

MAR'2024

Date	Time of Monitoring	Name of the STP	Quantity of the Effluent	Temp. ^{0}C	pH	TSS	BOD	COD	Fecal Coliform (FC), MPN/100ml	Remarks
06.03.24	12.20 pm	BGH	-	23.7	7.10	24	7.8	79	420	
	11.30 am	Dhandabra	-	24.1	7.14	21	8.1	91	400	
	11.00 am	Sector -6	-	24.0	7.28	20	7.4	98	420	
	10.35 am	Camp-2	-	23.7	7.47	30	10.1	130	440	
	10.15 am	Sector-12	-	23.8	7.66	28	9.4	87	360	

Ambient Noise Level

OCT'2023

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
12.10.23	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	65.0	54.2
	Laxmi market	60.8	54.0
	Bokaro Mall, Sec-3	58.2	53.2
	Ram mandir	50.1	51.8
	Naya more	63.6	52.8
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	51.9	43.5
	Sector – 1C	49.2	42.2
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	47.2	38.2
	Biological Park sector-4	42.8	37.8
	DPS, Sector-4	47.8	36.5

NOV'2023

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
15.11.23	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	65.1	52.5
	Laxmi market	62.2	53.2
	Bokaro Mall, Sec-3	55.3	48.7
	Ram mandir	49.5	42.0
	Naya more	62.1	50.3
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	52.1	44.1
	Sector – 3B	50.2	42.9
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	57.2	38.4
	Biological Park sector-4	41.3	37.3
	DPS, Sector-4	48.1	38.1

DEC'2023

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
16.12.23	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	62.3	52.8
	Laxmi market	63.4	51.4
	Bokaro Mall, Sec-3	60.2	52.0
	Ram mandir	61.5	52.9
	Naya more	63.8	53.1
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	53.6	43.0
	Sector – 3B	54.4	42.3
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	48.1	37.7
	Biological Park sector-4	47.2	38.8
	DPS, Sector-4	48.5	38.2

JAN'2024

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
19.01.24	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	65.0	51.5
	Laxmi market	57.6	52.3
	Bokaro Mall, Sec-3	54.3	52.4
	Ram mandir	51.2	52.4
	Airport Gate	62.5	51.2
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	53.5	41.0
	Sector – 3B	52.6	39.2
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	49.6	39.2
	Biological Park sector-4	48.0	38.4
	DPS, Sector-4	48.8	39.4

FEB'2024

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
07.02.24	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	63.7	52.2
	Laxmi market	64.8	53.4
	Bokaro Mall, Sec-3	59.7	51.2
	Ram mandir	52.7	54.0
	Airport Gate	54.3	48.2
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	47.8	43.2
	Sector – 3B	46.4	44.1
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	49.3	38.2
	Biological Park sector-4	40.1	37.2
	DPS, Sector-4	47.4	39.6

MAR'2024

Date of Monitoring	Location	Noise Level dB(A) (Day time)	Noise Level dB(A) (Night time)
18.03.24	**Commercial Area**	**Norm (65 dB)**	**Norm (55 dB)**
	City centre, sector-4	58.8	53.6
	Laxmi market	60.6	53.2
	Bokaro Mall, Sec-3	62.1	52.4
	Ram mandir	60.7	50.6
	Airport Gate	60.4	49.4
	Residential Area	**Norm (55 dB)**	**Norm (45 dB)**
	Sector – 4E	53.6	44.0
	Sector – 3B	54.3	42.1
	Silence Zone	**Norm (50 dB)**	**Norm (40 dB)**
	BGH	48.0	38.4
	Biological Park sector-4	48.8	39.0
	DPS, Sector-4	48.3	39.9