

बोकारो पावर सप्लाई कम्पनी (प्रा.) लिमिटेड

(सेल एवं डी.वी.सी. का एक संयुक्त उपक्रम)

हॉल सं.-एम-01, पुराना प्रशासनिक भवन,

इस्पत भवन, बोकारो स्टील सिटी-827001

दूरभाष : 06542-223747 (का. एवं प्र.) 240380 (क्र. एवं सं.)

फैक्स : 06542-247062, 246101 (पावर प्लान्ट)

बो प स क लि
B P S C L

CIN : U40300DL2001PTC112074

Bokaro Power Supply Company (P) Ltd.

(A Joint Venture of SAIL & DVC)

Hall No. M-01, Old ADM Building,

Ispat Bhawan, Bokaro Steel City - 827001

Tel : 06542-223747 (P&A), 240380 (P&C)

Fax : 06542-247062, 246101 (Power Plant)

No. BPSCL/PP/ENV/06/2009



Date: 08.06.2024

To

The Board Analyst

Jharkhand State Pollution Control Board,

T.A. Division Building (Ground Floor), H.E.C.

Dhurwa, Ranchi - 834004

Sub: CREP- COMPLIANCE REPORT

Ref: Your letter no. L-1895 dt. 23.09.10

Dear Sir,

Enclosed please find herewith the compliance report of CREP for the year 2023-24.

Thanking you.

Yours faithfully

(A.K Das)

CGM (MM,CED&ENV)

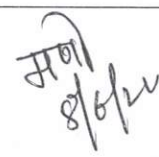
Encl.: As stated.

1. Ministry of Environment Forest and Climate Change, Regional Office, Bungalow No. A-2, Shyamli Colony, Ranchi - 834002
2. The Regional Officer, Jharkhand State Pollution Control Board, Housing Colony, HIG - 1, Bartand, Dhanbad - 826001; Jharkhand
3. O/c

From: Sri. V Agarwal, Chief General Manager I/C (PP) Bokaro Power Supply Co. (P) Ltd. B. S. City	To: The Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C. Dhurwa, Ranchi - 834004
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CORPORATE RESPONSIBILITY FOR ENVIRONMENT PROTECTION (CREP) OF POWER PLANT/BOKARO POWER SUPPLY CO. (P) LTD.

CREP ACTION POINTS	STATUS OF COMPLIANCE
STACK EMISSION	a) All Boilers in Power Plant are provided with Electrostatic Precipitators (ESPs) to restrict Stack Emission. b) Stack Emission parameters related to all Boilers are maintained within the prescribed limit of 100 PPM for old Boilers and 50 PPM for New Boiler (Unit #9 only). c) Round the clock surveillance, Monitoring & maintenance of ESPs are done to maintain the prescribed norms. d) Installation of online Sox, NOx analyzer is already done in all our boilers. Commissioning for real time data transfer to JSPCB & CPCB is under progress. e) Online stack emission monitoring system has been installed and working successfully. Monitoring is being done by Yokogawa System and parameter is being display in CPCB & JSPCB.
SOLID WASTE / HAZARDOUS WASTE	a) Fly ash along with bottom ash is being sent to ash pond and presently used in road construction activities/back filling of low laying areas. b) Silos are in place for boiler 6,7,8 and 9 for collecting dry fly ash. c) 20 KL of used Transformer oil have been auctioned to recycler M/s Shree Balaji Oil industries and another 20 KL of unserviceable Mix of industrial waste oil have been auctioned to recycler M/s Lucky Petroleum in 2023-24 through e-auction by M/s MSTC. Another 20 KL of unserviceable Mix of industrial waste oil is in stock which will be auctioned in due course. d) Metallic Scrap are being sent to BSL for re-use. e) Batteries are being disposed of to recycle through the buyback arrangement while procurement of new batteries. f) Used scrap transformers are e-auctioned through M/s MSTC. g) E-waste is being handed over to BSL for sending the same to recyclers.


 8/6/24

UTILIZATION OF DRY FLY
ASH/POND ASH

a) Utilisation of Pond Ash for Road Construction

- We have already utilized approx. 2,00,000 cum of pond ash in NHAI road Construction under Dhanbad division.
- BPSCL has also signed MOU with NHAI, Ramgarh division for utilization of pond ash in their road projects.

b) Utilisation of Pond Ash for low lying areas/embankment

- A quantity of 1,50,000 cum ash has been filled for construction of hazardous waste pit of BSL.
- Empanelment of vendors has been done for filling up of low lying areas and construction of a road inside BSL plant premises using pond ash.

c) **DRY ASH COLLECTION SYSTEM**

- The dry ash collection system exists and in working condition for CPP Boilers and unit # 9.
- We have been supplying fly ash from silo to M/s. Dalmia Cement as per their requirement.
- In last year 540 cum of ash has been lifted by local brick manufacturers from our silos.
- Necessary arrangements are being done for utilization of bricks in the plant via circulars both in BPSCL and BSL stating, "only ash bricks is to be used for all construction activities.
- Dry fly ash is being used for in house production of fly ash bricks for internal use.
- One semi- automatic (capacity 8000 to 10000 per shift) and one Manual machine (capacity 2500 to 3000 per shift) have been commissioned for in-house brick manufacturing.
- Last year 2,59,706 bricks (405.2 MT) have been manufactured in house for internal consumption and for supply to BSL.
- Two nos of Fly Ash Bagging Machine have been commissioned for bagging of fly ash and transportation to end users by railway wagons.
- 330 mtr. long platform has been erected at railway siding to facilitate easy loading of ash bags into the wagons.
- Lifting permission has been given to M/S Orient Exports Pvt. Ltd. for bagging and transportation of Ash by railway wagons. Bagging work is under progress. 43,162.80 MT i.e 18 rakes of Ash

8/4/24

	<p>has been sent through rail mode to Bangladesh.</p> <p>Detailed Utilization report for Fy 2023-24 attached.</p>
<p>WATER CONSERVATION/WATER POLLUTION</p>	<p>a) Industrial water consumption is 6700 cum/day, which is recycled and sent back to BSL network.</p> <p>b) Water sent along with ash slurry to ash pond which after after settlement of suspended solids is reused. <i>A water flow diagram is attached.</i></p> <p>c) On-line Effluent Monitoring System has been installed and working successfully. Real time data transmission is being done through NEVCO server to JSPCB & CPCB. The parameters being monitored are PH, COD, BOD and TSS.</p> <p>d) Zero liquid discharge system in outfall of BSL commonly used by BPSCL also is installed and no industrial effluent is discharged to outside water body.</p>
<p>RAIN WATER CONSERVATION/ HARVESTING MANAGEMENT</p>	<p>a) The existing power plant has a well-designed storm drainage system.</p> <p>b) Storm Water/ Rain water drains are connected to BSL network and discharges the same to cooling pond of Bokaro Steel Plant through Zero liquid discharge.</p> <p>c) The cooling pond also acts as the raw water reservoir</p> <p>d) The water collected in the cooling pond also recharges the ground water table.</p> <p>e) Rain Water Harvesting system for individual buildings has been installed and are functioning. (Photo attached)</p>
<p>CONSERVATION OF ENVIRONMENT</p>	<p>a) Trees were planted in and around the plant area during last year.</p> <p>b) 50 kg of grass seed (Estilo Hamata) planted in ash pond area for environment protection. Additionally, samplings of Kadam and bamboo trees are planted to develop the greenery. Regular plantation in and around peripheral areas will be carried out.</p> <p>c) Bio-stabilization of ash dumps with use of Jute geo textile, coconut coir logs, and vetiver grass are being carried out in phased manner to develop green belt. In trial phase an area of 5460 sqm and in 2nd phase 7750 sqm of area has been bio-stabilized along with green belt development.</p> <p>d) Power Plant is committed to maintain an eco friendly environment. We have developed the eco-friendly garden in plant. It is a continuous process and plant is adhering to this principle.</p>
<p>GREEN PROJECT MISSION</p>	<p>a) BPSCL has installed 100 KW of solar Power on the roof-top of its office buildings for clean energy production.</p>

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8/6/24

	b) BPSCL has also installed 02 MW of solar Power project on rooftops of different BSL buildings like Administrative building, Bokaro general hospital etc.
DRY FLY ASH MISSION	<p>a) A conference for Fly Ash Utilization and disposal has been organized by BPSCL at Bokaro Steel City.</p> <p>b) In consultation with BSL Environment Deptt., we are carrying out different programs for awareness of utilization of dry fly ash. Advertisement by Poster News paper and local TV channels are done.</p> <p>c) One semi- automatic (capacity 8000 to 10000 per shift) and one Manual machine (capacity 2500 to 3000 per shift) have been commissioned for in-house brick manufacturing</p> <p>d) Two nos of Fly Ash Bagging Machine have been commissioned for bagging of fly ash and transportation to end users by railway wagons.</p> <p>e) Dry fly ashes packed in bags are being sent to Darshana, Bangladesh on monthly basis.</p>
SO _x & NO _x NORMS	<p>a) AAQ monitoring, stack emission monitoring, Noise level monitoring and Effluent water analysis at specified frequency with reporting of data" has been outsourced to and done by M/s R V Briggs, Kolkata. Since BPSCL is well within the premises of the Bokaro Steel Plant, the ambient quality is presumed to be similar to that of Bokaro Steel Plant.</p> <p>b) Bokaro Steel Plant has already installed an online AAQ monitoring and data is being shared for BPSCL also as and when required.</p> <p>c) Monitoring of dust emission, is being done on-line with real time data transfer to JSPCB and CPCB.</p>
MONITORING STATUS & REPORT	Attached as Annexures.

Handwritten signature and date: 8/6/24



R. V. BRIGGS & CO. PRIVATE LTD.

ANALYTICAL CONSULTING & TECHNICAL CHEMISTS
(AN ISO 9001:2015 & ISO 45001 : 2018 CERTIFIED COMPANY)

TAHER MANSION, 1ST FLOOR
9, BENTINCK STREET, KOLKATA - 700 001

Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447

E-mail : rvbriggs.kolkata@gmail.com, Website : www.rvbriggs.com

CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-FG/23-24/1452

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:	
Sample Description	: Stack Gas / Flue Gas	ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)	
Date & time of sampling	: 16.01.2024 (10:00 A.M. to 10:48 A.M.)	Parameters Tested	
Sampling Plan & Method	: RVB/FM/45 & IS: 11255 (Part-1,2 & 3)	Physical : Temp., Velocity, Gas flow, O ₂	
Analysis Completed on	: 19.01.2024	Chemical : SO ₂ , NO ₂ , CO, CO ₂ & PM	

A. General information about stack :

- Stack connected to : Boiler Unit # 2
- Emission due to : Combustion of Coal, CO Gas & BF Gas
- Material of construction of stack : M.S.
- Shape of stack : Rectangular
- Whether stack is provided with permanent platform & ladder : Yes
- Boiler capacity : ---

B. Physical characteristics of stack :

- Height of the stack from ground level : 180 M
- Diameter of the stack at sampling point : 1.5 M x 1.3 M
- No. of Traverse point : 24 Nos.
- Height of the sampling point from GL : ---

C. Analysis / Characteristic of stack Gas / Flue Gas :

- Fuel used : Coal, CO Gas & BF Gas
- Fuel consumption : ---

D. Environmental conditions :

- Barometric pressure : 762 mmHg
- Temperature : 22 °C

E. Results of Physical Parameters of Flue Gas :

Sl No	Test Parameters	Test Method	Unit	Results
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	158
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	20.34
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	95610
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	9.6

F. Results of gaseous emission :

Sl No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	237	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	312	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	215	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	284	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	10.4	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	45	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	52	100 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	60	

G. Pollution control device

Details of pollution control devices attached with the stack : E.S.P.

Report Verified by *S. Mander*

:- END OF TEST REPORT :-

(Dr. R. KARIM)
Technical Manager

Authorised Signatory

For R.V.BRIGGS & CO. (P) LTD.



R. V. BRIGGS & CO. PRIVATE LTD.

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CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-FG/23-24/1453

Date: January 19, 2024

Page 1 of 1

Issued to : M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.					
Address : Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001					
Your Ref. No. : BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used: ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)				
Sample Description : Stack Gas / Flue Gas	Parameters Tested <i>Physical</i> : Temp., Velocity, Gas flow, O ₂ <i>Chemical</i> : SO ₂ , NO ₂ , CO, CO ₂ & PM				
Date & time of sampling : 16.01.2024 (11:00 A.M. to 11:48 A.M.)					
Sampling Plan & Method : RVB/FM/45 & IS: 11255 (Part-1,2 & 3)					
Analysis Completed on : 19.01.2024					
A. General information about stack :					
1. Stack connected to : Boiler Unit # 3					
2. Emission due to : Combustion of Coal, CO Gas & BF Gas					
3. Material of construction of stack : M.S.					
4. Shape of stack : Rectangular					
5. Whether stack is provided with permanent platform & ladder : Yes					
6. Boiler capacity : ---					
B. Physical characteristics of stack :					
1. Height of the stack from ground level : 180 M					
2. Diameter of the stack at sampling point : 1.5 M x 1.3 M					
3. No. of Traverse point : 24 Nos.					
4. Height of the sampling point from GL : ---					
C. Analysis / Characteristic of stack Gas / Flue Gas :					
1. Fuel used : Coal, CO Gas & BF Gas					
2. Fuel consumption : ---					
D. Environmental conditions :					
1. Barometric pressure : 762 mmHg					
2. Temperature : 22 °C					
E. Results of Physical Parameters of Flue Gas :					
Sl No	Test Parameters	Test Method	Unit	Results	
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	155	
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	20.42	
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	96639	
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	9.2	
F. Results of gaseous emission :					
Sl No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	258	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	329	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	235	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	299	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	10.8	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	38	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	42	100 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	48	
G. Pollution control device					
Details of pollution control devices attached with the stack : E.S.P.					

S. Mandel
Report Verified by

:- END OF TEST REPORT :-

(Dr. R. KARIM)

Technical Manager

Authorised Signatory

For R.V.BRIGGS & CO. (P) LTD.



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TC-12347

TEST REPORT

No. AP-FG/23-24/1454

Date: January 19, 2024

Page 1 of 1

Issued to : M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.					
Address : Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001					
Your Ref. No. : BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used: ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)				
Sample Description : Stack Gas / Flue Gas	Parameters Tested Physical : Temp., Velocity, Gas flow, O ₂ Chemical : SO ₂ , NO ₂ , CO, CO ₂ & PM				
Date & time of sampling : 16.01.2024 (12:10 P.M. to 12:58 P.M.)					
Sampling Plan & Method : RVB/FM/45 & IS: 11255 (Part-1,2 & 3)					
Analysis Completed on : 19.01.2024					
A. General information about stack :					
1. Stack connected to : Boiler Unit # 4					
2. Emission due to : Combustion of Coal, CO Gas & BF Gas					
3. Material of construction of stack : M.S.					
4. Shape of stack : Rectangular					
5. Whether stack is provided with permanent platform & ladder : Yes					
6. Boiler capacity : ---					
B. Physical characteristics of stack :					
1. Height of the stack from ground level : 180 M					
2. Diameter of the stack at sampling point : 1.5 M x 1.3 M					
3. No. of Traverse point : 24 Nos.					
4. Height of the sampling point from GL : ---					
C. Analysis / Characteristic of stack Gas / Flue Gas :					
1. Fuel used : Coal, CO Gas & BF Gas	2. Fuel consumption : ---				
D. Environmental conditions :					
1. Barometric pressure : 762 mmHg	2. Temperature : 23 °C				
E. Results of Physical Parameters of Flue Gas :					
SI No	Test Parameters	Test Method	Unit	Results	
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	162	
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	20.77	
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	103169	
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	10.6	
F. Results of gaseous emission :					
SI No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	224	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	323	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	177	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	256	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	8.8	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	31	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	42	100 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	44	
G. Pollution control device		Details of pollution control devices attached with the stack : E.S.P.			

S. Mander
Report Verified by

:- END OF TEST REPORT :-

(Dr. R. KARIM)

Technical Manager

Authorised Signatory

For R.V.BRIGGS & CO. (P) LTD.

BB

- ★ The test report shall not be reproduced, except in full, without written approval of the Company.
- ★ Results relate only to the parameters tested.



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CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-FG/23-24/1455

Date: January 19, 2024

Page 1 of 1

Issued to : M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.					
Address : Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001					
Your Ref. No. : BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used: ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)				
Sample Description : Stack Gas / Flue Gas	Parameters Tested Physical : Temp., Velocity, Gas flow, O ₂ Chemical : SO ₂ , NO ₂ , CO, CO ₂ & PM				
Date & time of sampling : 15.01.2024 (11:00 A.M. to 11:36 A.M.)					
Sampling Plan & Method : RVB/FM/45 & IS: 11255 (Part-1,2 & 3)					
Analysis Completed on : 19.01.2024					
A. General information about stack :					
1. Stack connected to : Boiler Unit # 6					
2. Emission due to : Combustion of Coal					
3. Material of construction of stack : M.S.					
4. Shape of stack : Rectangular					
5. Whether stack is provided with permanent platform & ladder : Yes					
6. Boiler capacity : ---					
B. Physical characteristics of stack :					
1. Height of the stack from ground level : 180 M					
2. Diameter of the stack at sampling point : 1.8 M x 2.6 M					
3. No. of Traverse point : 24 Nos.					
4. Height of the sampling point from GL : ---					
C. Analysis / Characteristic of stack Gas / Flue Gas :					
1. Fuel used : Coal	2. Fuel consumption : 39 TPH				
D. Environmental conditions :					
1. Barometric pressure : 762 mmHg	2. Temperature : 21 °C				
E. Results of Physical Parameters of Flue Gas :					
Sl No	Test Parameters	Test Method	Unit	Results	
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	92	
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	16.32	
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	217545	
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	8.4	
F. Results of gaseous emission :					
Sl No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	513	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	612	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	417	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	497	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	11.6	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	28	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	29	100 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	33	
G. Pollution control device					
Details of pollution control devices attached with the stack : E.S.P.					

S. Mander
Report Verified by

:- END OF TEST REPORT :-

(Dr. R. KARIM)

Technical Manager

Authorised Signatory

For R.V.BRIGGS & CO. (P) LTD.

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TC-12347

TEST REPORT

No. AP-FG/23-24/1456

Date: January 19, 2024

Page 1 of 1

Issued to : M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.

Address : Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001

Your Ref. No. : BPSCL/MM/22-23/C-003/LTE-010/50133/2398

Sample Description : Stack Gas / Flue Gas

Date & time of sampling : 16.01.2024 (03:15 P.M. to 04:03 P.M.)

Sampling Plan & Method : RVB/FM/45 & IS: 11255 (Part-1,2 & 3)

Analysis Completed on : 19.01.2024

Equipment used:

ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)

Parameters Tested

Physical : Temp., Velocity, Gas flow, O₂

Chemical : SO₂, NO₂, CO, CO₂ & PM

A. General information about stack :

- Stack connected to : Boiler Unit # 7
- Emission due to : Combustion of Coal
- Material of construction of stack : M.S.
- Shape of stack : Rectangular
- Whether stack is provided with permanent platform & ladder : Yes
- Boiler capacity : ---

B. Physical characteristics of stack :

- Height of the stack from ground level : 180 M
- Diameter of the stack at sampling point : 2.6 M x 1.8 M
- No. of Traverse point : 24 Nos.
- Height of the sampling point from GL : ---

C. Analysis / Characteristic of stack Gas / Flue Gas :

- Fuel used : Coal
- Fuel consumption : 55 TPH

D. Environmental conditions :

- Barometric pressure : 762 mmHg
- Temperature : 20 °C

E. Results of Physical Parameters of Flue Gas :

SI No	Test Parameters	Test Method	Unit	Results
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	105
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	15.71
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	202142
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	10.4

F. Results of gaseous emission :

SI No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	545	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	773	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	437	450 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	620	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	8.8	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	31	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	43	50 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	45	

G. Pollution control device

Details of pollution control devices attached with the stack : E.S.P.

S. Mondal
Report Verified by

:- END OF TEST REPORT :-

(Dr. R. KARIM)

Technical Manager

Authorised Signatory

For R.V.BRIGGS & CO. (P) LTD.

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TAHER MANSION, 1ST FLOOR
9, BENTINCK STREET, KOLKATA - 700 001
Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447
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CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-FG/23-24/1457

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.	
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001	
Your Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:
Sample Description	: Stack Gas / Flue Gas	ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)
Date & time of sampling	: 17.01.2024 (02:00 P.M. to 02:48 P.M.)	<u>Parameters Tested</u>
Sampling Plan & Method	: RVB/FM/45 & IS: 11255 (Part-1,2 & 3)	<i>Physical</i> : Temp., Velocity, Gas flow, O ₂
Analysis Completed on	: 19.01.2024	<i>Chemical</i> : SO ₂ , NO ₂ , CO, CO ₂ , Hg & PM

A. General information about stack :

- Stack connected to : Boiler Unit # 9, A- Pass
- Emission due to : Combustion of Coal, LD Gas & BF Gas
- Material of construction of stack : M.S.
- Shape of stack : Rectangular
- Whether stack is provided with permanent platform & ladder : Yes
- Boiler capacity : ---

B. Physical characteristics of stack :

- Height of the stack from ground level : 180 M
- Diameter of the stack at sampling point : 4.5 M x 2.25 M
- No. of Traverse point : 24 Nos.
- Height of the sampling point from GL : ---

C. Analysis / Characteristic of stack Gas / Flue Gas :

- Fuel used : Coal, LD Gas & BF Gas
- Fuel consumption : ---

D. Environmental conditions :

- Barometric pressure : 762 mmHg
- Temperature : 21 °C

E. Results of Physical Parameters of Flue Gas :

SI No	Test Parameters	Test Method	Unit	Results
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	124
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	15.74
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	417484
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	10.6

F. Results of gaseous emission :

SI No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	552	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	798	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	748	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	1081	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Specified
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	9.0	Not Specified
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	29	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	39	50 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	42	

Cont. page - 2

[Signature]



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Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447

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CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-FG/23-24/1457

Date: January 19, 2024

Page 2 of 2

G. Results of gaseous emission :

Sl No	Test Parameters	Test Method	Unit	Results	Norms as per CPCB
6.	Mercury as Hg	EPA Method 29: 2017	mg/Nm ³	0.0071	0.03

H. Pollution control device

Details of pollution control devices attached with the stack : E.S.P.

∴ END OF TEST REPORT ∴


Report Verified by


(Dr. R. KARIM)
Technical Manager
Authorised Signatory
For R.V.BRIGGS & CO. (P) LTD.

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TC-12347

TEST REPORT

No. AP-FG/23-24/1458

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:	
Sample Description	: Stack Gas / Flue Gas	ID No.: RVB/SMK/02 (Cal. Validity: 17.06.2024)	
Date & time of sampling	: 17.01.2024 (03:20 P.M. to 04:08 P.M.)	Parameters Tested	
Sampling Plan & Method	: RVB/FM/45 & IS: 11255 (Part-1,2 & 3)	Physical : Temp., Velocity, Gas flow, O ₂	
Analysis Completed on	: 19.01.2024	Chemical : SO ₂ , NO ₂ , CO, CO ₂ , Hg & PM	

A. General information about stack :

- Stack connected to : Boiler Unit # 9, B- Pass
- Emission due to : Combustion of Coal, LD Gas & BF Gas
- Material of construction of stack : M.S.
- Shape of stack : Rectangular
- Whether stack is provided with permanent platform & ladder : Yes
- Boiler capacity : ---

B. Physical characteristics of stack :

- Height of the stack from ground level : 180 M
- Diameter of the stack at sampling point : 4.5 M x 2.25 M
- No. of Traverse point : 24 Nos.
- Height of the sampling point from GL : ---

C. Analysis / Characteristic of stack Gas / Flue Gas :

- Fuel used : Coal, LD Gas & BF Gas
- Fuel consumption : ---

D. Environmental conditions :

- Barometric pressure : 762 mmHg
- Temperature : 20 °C

E. Results of Physical Parameters of Flue Gas :

Sl No	Test Parameters	Test Method	Unit	Results
1.	Temperature of emission	IS 11255 : Part 3 : 2008	°C	127
2.	Velocity of gas in duct	IS 11255 : Part 3 : 2008	m/sec	15.63
3.	Quantity of gas flow	IS 11255 : Part 3 : 2008	NM ³ /hr	411412
4.	Oxygen	IS 13270 (By Orsat) : 1992	%	10.6

F. Results of gaseous emission :

Sl No	Test Parameters	Test Method	Unit	Results	Norms as per Environment (Protection) Amendment Rules 2015, for TPP
1. (a)	Sulphur dioxide	IS 11255 : Part 2 : 1985	mg/Nm ³	577	600 max.
(b)	Sulphur dioxide at 6% O ₂ correction		mg/Nm ³	834	
2. (a)	Nitrogen dioxide	IS 11255 : Part 7 : 2005	mg/Nm ³	448	600 max.
(b)	Nitrogen dioxide at 6% O ₂ correction		mg/Nm ³	647	
3.	Carbon monoxide	IS 13270 (By Orsat) : 1992	% v/v	<0.2	Not Available
4.	Carbon dioxide	IS 13270 (By Orsat) : 1992	% v/v	9.2	Not Available
5. (a)	Particulate Matters	IS 11255 : Part 1 : 1985	mg/Nm ³	33	
(b)	Particulate Matters at 12% CO ₂ correction		mg/Nm ³	43	50 max.
(c)	Particulate Matters at 6% O ₂ correction		mg/Nm ³	48	

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TC-12347

TEST REPORT

No. AP-FG/23-24/1458

Date: January 19, 2024

Page 2 of 2

G. Results of gaseous emission :

SI No	Test Parameters	Test Method	Unit	Results	Norms as per CPCB
6.	Mercury as Hg	EPA Method 29: 2017	mg/Nm ³	0.0097	0.03

H. Pollution control device

Details of pollution control devices attached with the stack : E.S.P.

∴ END OF TEST REPORT ∴

S. Mandal
Report Verified by

R. Karim
(Dr. R. KARIM)
Technical Manager
Authorised Signatory
For R.V.BRIGGS & CO. (P) LTD.

BB



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TC-12347

TEST REPORT

No. AP-AAQ/23-24/672

Date: January 20, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your WO Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:	
Sample Description	: Ambient Air	ID No.:	RVB/AFDS/PM2.5/04, Cal. Valid upto: 17.06.24
Sampling Location	: Boiler Area (Unit- 9)	ID No.:	RVB/RDS/APM460/01, Cal. Valid upto: 03.11.24
	(Latitude- 23.66324°, Longitude- 86.092374°)	Environmental conditions	
Date & Time of sampling	: 17.01.2024 (10:30 A.M.)-18.01.2024 (10:30 A.M.)	Temperature : Max: 24.0°C & Min: 10.0°C	
Sampling Plan :	: RVB/FM/45	Barometric Pressure : 762 mmHg	
Duration of Sampling	: 24Hrs.	Parameters Tested:	
Analysis Completed on	: 20.01.2024	PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , CO	

TEST FINDINGS:-

Sl. No.	Parameters	Test Method	Unit	Results (Time Weighted Avg.)	Norms as NAAQ,2009
1.	PM _{2.5} (Size ≤ 2.5µm)	USEPA 1997a,40 CFR Part 50, Appendix L.	µg/m ³	54.2	60 (24 Hourly.)
2.	PM ₁₀ (Size ≤ 10µm)	IS 5182 (Part - 23): 2006	µg/m ³	84.5	100 (24 Hourly.)
3.	Sulphur Dioxide as SO ₂	IS 5182 (Part - 2): 2001	µg/m ³	5.61	80 (24 Hourly.)
4.	Nitrogen Dioxide as NO ₂	IS 5182 (Part - 6): 2006	µg/m ³	29.27	80 (24 Hourly.)
5.	Carbon Monoxide as CO	IS : 5182 (Part - 10), 1999 Non Dispersive Infra-Red (NDIR) spectroscopy	mg/m ³	1.23	04 (1 Hourly.)

:- END OF TEST REPORT :-

S. Mondal
Report Verified by

R. Karim
(Dr. R. KARIM)

Technical Manager

Authorised Signatory

For R.V. BRIGGS & CO. (P) LTD.

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Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447

E-mail : rvbriggs.kolkata@gmail.com, Website : www.rvbriggs.com

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TC-12347

TEST REPORT

No. AP-AAQ/23-24/673

Date: January 20, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your WO Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:	
Sample Description	: Ambient Air	ID No.: RVB/AFDS/PM2.5/04, Cal. Valid upto: 17.06.24	
Sampling Location	: Near CHP Area (Latitude- 23.685539°, Longitude- 86.095424°)	ID No.: RVB/RDS/APM460/BL/10, Cal. Valid upto: 03.11.24	
Date & Time of sampling	: 15.01.2024 (09:30 A.M.)-16.01.2024 (09:30 A.M.)	Environmental conditions	
Sampling Plan	: RVB/FM/45	Temperature : Max: 22.0°C & Min: 10.0°C	
Duration of Sampling	: 24Hrs.	Barometric Pressure : 762 mmHg	
Analysis Completed on	: 20.01.2024	Parameters Tested:	
		PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , CO	

TEST FINDINGS:-

Sl. No.	Parameters	Test Method	Unit	Results (Time Weighted Avg.)	Norms as NAAQ,2009
1.	PM _{2.5} (Size ≤ 2.5µm)	USEPA 1997a,40 CFR Part 50, Appendix L.	µg/m ³	57.9	60 (24 Hourly.)
2.	PM ₁₀ (Size ≤ 10µm)	IS 5182 (Part - 23): 2006	µg/m ³	95.8	100 (24 Hourly.)
3.	Sulphur Dioxide as SO ₂	IS 5182 (Part - 2): 2001	µg/m ³	4.59	80 (24 Hourly.)
4.	Nitrogen Dioxide as NO ₂	IS 5182 (Part - 6): 2006	µg/m ³	24.44	80 (24 Hourly.)
5.	Carbon Monoxide as CO	IS : 5182 (Part - 10), 1999 Non Dispersive Infra-Red (NDIR) spectroscopy	mg/m ³	1.25	04 (1 Hourly.)

:- END OF TEST REPORT :-

S. Mondal
Report Verified by

R. Karim
(Dr. R. KARIM)
Technical Manager
Authorised Signatory
For R.V. BRIGGS & CO. (P) LTD.

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TC-12347

TEST REPORT

No. AP-AAQ/23-24/674

Date: January 20, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your WO Ref. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398	Equipment used:	
Sample Description	: Ambient Air	ID No.: RVB/AFDS/PM2.5/04, Cal. Valid upto: 04.06.24	
Sampling Location	: Near Welfare Building (Latitude- 23.6843°, Longitude- 86.0931°)	ID No.: RVB/RDS/APM460/BL/10, Cal. Valid upto: 03.11.24	
Date & Time of sampling	: 16.01.2024 (10:00 A.M.)-17.01.2024 (10:00 A.M.)	Environmental conditions	
Sampling Plan :	: RVB/FM/45	Temperature : Max: 24.0°C & Min: 12.0°C	
Duration of Sampling	: 24Hrs.	Barometric Pressure : 762 mmHg	
Analysis Completed on	: 20.01.2024	Parameters Tested:	
		PM _{2.5} , PM ₁₀ , SO ₂ , NO ₂ , CO	

TEST FINDINGS:-

Sl. No.	Parameters	Test Method	Unit	Results (Time Weighted Avg.)	Norms as NAAQ,2009
1.	PM _{2.5} (Size ≤ 2.5µm)	USEPA 1997a,40 CFR Part 50, Appendix L.	µg/m ³	51.7	60 (24 Hourly.)
2.	PM ₁₀ (Size ≤ 10µm)	IS 5182 (Part - 23): 2006	µg/m ³	74.4	100 (24 Hourly.)
3.	Sulphur Dioxide as SO ₂	IS 5182 (Part - 2): 2001	µg/m ³	4.90	80 (24 Hourly.)
4.	Nitrogen Dioxide as NO ₂	IS 5182 (Part - 6): 2006	µg/m ³	27.49	80 (24 Hourly.)
5.	Carbon Monoxide as CO	IS : 5182 (Part - 10), 1999 Non Dispersive Infra-Red (NDIR) spectroscopy	mg/m ³	0.92	04 (1 Hourly.)

:- END OF TEST REPORT :-

S. Mondal
Report Verified by

R. Karim
(Dr. R. KARIM)
Technical Manager
Authorised Signatory
For R.V. BRIGGS & CO. (P) LTD.

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TC-12347

TEST REPORT

No. E(D)/23-24/1552

Date: 22 January 2024

Page 1 of 1

Issued to : M/s. BOKARO POWER SUPPLY COMPANY (P) LTD.
Bokaro Steel City, Bokaro, Jharkhand
Your Ref. No. : BPSCL/MM/22-23/C-003/LTE-010/50183/2398 dtd. 16.09.2022
Description of Sample : Effluent
Collection Source : WCTP Outlet
Sample Drawn by us on : 17.01.2024.2023 at 4.00 P.M.
Sample Carried out by : Mr. S. Mondal and Mr. B. Manna
Sampling Plan : RVB/FM/44
Analysis completed on : 22.01.2024

Sample collection Procedure : IS : 3025 (Part -1) - 1987
Mode of Sampling : Grab
Environmental condition during sampling : Temperature : 14°C, Transported in Ice box, Cold chain maintained

Parameter Tested:
pH, TSS, O & G, BOD, COD


TEST FINDINGS:


Sl. No.	Test Parameters	Test Method	Unit	Results	Limit as per Environmental Protection Act, MOE & F for Effluent discharged into Inland surface water
1	pH Value	APHA 23rd edition-4500H+B	...	7.5	5.5 – 9.0
2	Total Suspended Solids (TSS)	APHA 23rd edition 2540D	mg/l	14	100 (Max.)
3	Oil & Grease (O & G)	APHA 23rd edition 5520B	mg/l	<2	10 (Max.)
4	Biochemical Oxygen Demand for 3 days at 27°C (BOD)	I.S. 3025 (Part – 44) – 1993	mg/l	5.4	30 (Max.)
5	Chemical Oxygen Demand (COD)	APHA 23rd edition 5220B	mg/l	26	250 (Max.)

Remarks : The sample of Effluent complies with Environmental Protection Act, MOE & F for effluent discharged into Inland Surface water in respect of above mentioned parameters.

Note : Minimum Detection Limit of TSS .. 10 mg/l., Oil & Grease .. 2 mg/l.

-: END OF TEST REPORT:-


Report Verified by
(J. Das)


(Dr. R. KARIM)
Technical Manager
Authorised Signatory



R. V. BRIGGS & CO. PRIVATE LTD.

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Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447
E-mail : rvbriggs.kolkata@gmail.com, Website : www.rvbriggs.com
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TC-12347

TEST REPORT

No. AP-SL/23-24/1099

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your W.O. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398, dtd. 06.09.2022		
Description of Sample	: Sound Level Monitoring	Parameters Tested : L_{Min} , L_{Max} & L_{eq} Test Method : IS 4758 : 1968	
Location	: Turbine Floor		
Date of Monitoring	: 16.01.2024		

Day Time (06:00 A.M. to 10:00 P.M.)

Sl. No.	Date	Time	Noise Level in dB(A)			Permissible Noise Exposure for Industrial Workers as per The Noise Pollution (Regulation And Control) Rules, 2000
			L_{Min}	L_{Max}	L_{eq}	
1.	16.01.2024	10:30 A.M. - 10:35 A.M.	85.8	87.8	86.9	90 dB(A)
2.		11:30 A.M. - 11:35 A.M.	86.1	89.5	87.6	
3.		12:30 P.M. - 12:35 P.M.	85.4	87.5	86.8	
4.		01:30 P.M. - 01:35 P.M.	84.8	87.2	86.0	
5.		02:30 P.M. - 02:35 P.M.	85.1	87.5	86.6	
6.		03:30 P.M. - 03:35 P.M.	86.3	89.2	87.9	
7.		04:30 P.M. - 04:35 P.M.	85.1	87.5	86.3	
8.		05:30 P.M. - 05:35 P.M.	86.1	88.3	87.1	
L(Day) Min: 84.8			L(Day) Max: 89.5		L(Day) Leq : 87.1	

Note :- L_{eq} - Equivalent sound energy.

:- END OF TEST REPORT :-


Report Verified by
S. Mondal


(Dr. R. KARIM)
Technical Manager
Authorised Signatory
For R.V.BRIGGS & CO. (P) LTD.

- ★ The test report shall not be reproduced, except in full, without written approval of the Company.
- ★ Results relate only to the parameters tested.



R. V. BRIGGS & CO. PRIVATE LTD.

ANALYTICAL CONSULTING & TECHNICAL CHEMISTS
(AN ISO 9001:2015 & ISO 45001 : 2018 CERTIFIED COMPANY)

TAHER MANSION, 1ST FLOOR
9, BENTINCK STREET, KOLKATA - 700 001
Phone : (033) 4044-3380 / 3381 / 3382 / 3383, Fax : 33 2248-0447
E-mail : rvbriggs.kolkata@gmail.com, Website : www.rvbriggs.com
CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-SL/23-24/1100

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.		
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001		
Your W.O. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398, dtd. 06.09.2022		
Description of Sample	: Sound Level Monitoring	Parameters Tested : L_{Min} , L_{Max} & L_{eq} Test Method : IS 4758 : 1968	
Location	: Ball Mill Area		
Date of Monitoring	: 16.01.2024		

Day Time (06:00 A.M. to 10:00 P.M.)

Sl. No.	Date	Time	Noise Level in dB(A)			Permissible Noise Exposure for Industrial Workers as per The Noise Pollution (Regulation And Control) Rules, 2000
			L_{Min}	L_{Max}	L_{eq}	
1.	16.01.2024	10:00 A.M. - 10:05 A.M.	86.8	89.6	88.0	90 dB(A)
2.		11:00 A.M. - 11:05 A.M.	87.5	90.1	88.7	
3.		12:00 P.M. - 12:05 P.M.	85.8	88.1	87.3	
4.		01:00 P.M. - 01:05 P.M.	86.1	89.0	87.9	
5.		02:00 P.M. - 02:05 P.M.	85.5	88.2	87.0	
6.		03:00 P.M. - 03:05 P.M.	83.5	87.2	85.8	
7.		04:00 P.M. - 04:05 P.M.	85.1	87.4	86.4	
8.		05:00 P.M. - 05:05 P.M.	86.8	89.8	88.8	
L(Day) Min: 83.5			L(Day) Max: 90.1		L(Day) Leq : 87.6	

Note : - L_{eq} - Equivalent sound energy.

-: END OF TEST REPORT :-


Report Verified by
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TC-12347

TEST REPORT

No. AP-SL/23-24/1101

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.					
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001					
Your W.O. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398, dtd. 06.09.2022					
Description of Sample	: Sound Level Monitoring			Parameters Tested : L _{Min} , L _{Max} & L _{eq}		
Location	: Near GM Building			Test Method : IS 4758 : 1968		
Date of Monitoring	: 15.01.2024					
Day Time (06:00 A.M. to 10:00 P.M.)						
Sl. No.	Date	Time	Noise Level in dB(A)			Norms as per 'The Noise Pollution (Regulation and Control) Rules, 2000 (Vide S.O. 50 (E) dtd. 11.01.2010 under the Environment (Protection) Act, 1986' for Industrial area
			L _{Min}	L _{Max}	L _{eq}	
1.	15.01.2024	10:00 A.M. - 10:05 A.M.	67.5	73.1	70.2	75 dB(A)
2.		11:00 A.M. - 11:05 A.M.	66.6	70.2	68.7	
3.		12:00 P.M. - 12:05 P.M.	65.6	68.9	67.2	
4.		01:00 P.M. - 01:05 P.M.	67.2	71.2	69.7	
5.		02:00 P.M. - 02:05 P.M.	68.3	72.3	70.4	
6.		03:00 P.M. - 03:05 P.M.	67.2	70.6	69.0	
7.		04:00 P.M. - 04:05 P.M.	66.5	69.2	67.8	
8.		05:00 P.M. - 05:05 P.M.	65.6	68.2	67.0	
L(Day) Min: 65.6		L(Day) Max: 73.1		L(Day) Leq : 68.9		

Note : - Leq - Equivalent sound energy.

:- END OF TEST REPORT :-


Report Verified by
S. Mondal


(Dr. R. KARIM)
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CIN : U51109WB1931PTC007007



TC-12347

TEST REPORT

No. AP-SL/23-24/1102

Date: January 19, 2024

Page 1 of 1

Issued to	: M/S. BOKARO POWER SUPPLY COMPANY (P) LTD.					
Address	: Bokaro Steel City, Bokaro, Jharkhand, Pin: 827001					
Your W.O. No.	: BPSCL/MM/22-23/C-003/LTE-010/50133/2398, dtd. 06.09.2022					
Description of Sample	: Sound Level Monitoring			Parameters Tested : L_{Min} , L_{Max} & L_{eq}		
Location	: Water Chemical Treatment Plant			Test Method : IS 4758 : 1968		
Date of Monitoring	: 15.01.2024					
Day Time (06:00 A.M. to 10:00 P.M.)						
Sl. No.	Date	Time	Noise Level in dB(A)			Permissible Noise Exposure for Industrial Workers as per The Noise Pollution (Regulation And Control) Rules, 2000
			L_{Min}	L_{Max}	L_{eq}	
1.	15.01.2024	10:30 A.M. - 10:35 A.M.	76.7	82.3	80.3	90 dB(A)
2.		11:30 A.M. - 11:35 A.M.	77.1	84.6	82.3	
3.		12:30 P.M. - 12:35 P.M.	77.5	81.6	79.9	
4.		01:30 P.M. - 01:35 P.M.	75.1	82.6	79.6	
5.		02:30 P.M. - 02:35 P.M.	77.0	83.2	80.5	
6.		03:30 P.M. - 03:35 P.M.	78.5	82.6	80.7	
7.		04:30 P.M. - 04:35 P.M.	77.5	84.6	81.4	
8.		05:30 P.M. - 05:35 P.M.	78.8	83.2	81.5	
L(Day) Min: 75.1		L(Day) Max: 84.6		L(Day) Leq : 80.6		

Note : - Leq - Equivalent sound energy.

-: END OF TEST REPORT :-


Report Verified by
S. Mondal


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