SHAKAMBHARI GROUP

SHAKAMBHARI ISPAT & POWER LTD.

CIN: U27109WB2001PLC093869 | GSTIN: 19AADCM1189L1Z1 | PAN: AADCM1189L | LEI NO. 3358005MV4ZAHMEP1S72

Ref.: SIPL/ES/2023-24 Date:29.08.2024

The Environmental Engineer
West Bengal Pollution Control Board
Asansol Regional Office,
Klyanpur Satellite Township Project
Dr. B.C. Roy Road, PO-Dakshin Dhadka, Asansol-713302
Dist.-Paschim Bardhhaman (WB)

Sub: Environment Statement (FY: 2023-24) of M/S Shakambhari Ispat & Power Ltd. Vill–Madandih, P.O-Bartoria, P.S-Neturia, Dist-Purulia (WB)-723121.

Dear Sir,
With reference to the subject, we are submitting herewith the Environment Statement (Form-V) for financial year ending 31st March, 2024 of M/S Shakambhari Ispat & Power Limited, Vill–Madandih, P.O-Bartoria, P.S-Neturia, Dist- Purulia (WB) for your kind consideration please.

Kindly acknowledge our submission

Thanking you and with regards,

Yours faithfully,

For **Shakambhari Ispat & Power Limited.**

(Authorized Signatory)

Shakambhari Ispat & Power Ltd. MADANDIH PURULIA

Encl: As above.

Copy to:
The IGF & Incharge, GOI, MoEF&CC, Integrated Regional Office, Kolkata, IB-198, Salt Lake City, Sector-III, Kolkata- 700106

FORM – V
ENVIRONMENTAL STATEMENT
(See rule 14)

Environmental Statement for the financial year 2023-2024 ending with 31st March

PART-A

i. Name and address of the owner/occupier of the industry operation or process-

Mr. Deepak Kumar Agarwal
M/s Shakambhari Ispat & Power Limited
Village – Madandih, P.O: Bartoria, P.S: Neturia,
Dist.: Purulia, Pin -723121

ii. Industry category Primary – **Large** *Secondary* – **Red**

iii. Production category – **Iron & Steel**

iv. Year of establishment – (Our Group has acquired this establishment in October - 2010)

v. Date of the last environmental statement submitted: 20th October 2023

PART – B

Water and Raw Material Consumption:

i. Water consumption in m^3/day

Process: 1156 m^3/d
Cooling: 3106 m^3/d
Domestic: 56 m^3/d

Name of Products	Process water consumption (m^3) per unit of products	
	During the previous financial year (2022-23)	During the current financial year (2023-24)
Sponge Iron	0.54 m^3/T	0.48 m^3/T
M S Billet	0.44 m^3/T	0.39 m^3/T
TMT Bar & wire Rod	0.45 m^3/T	0.58 m^3/T
Ferro Alloys	1.14 m^3/T	2.18 m^3/T
Electricity	0.75 m^3/MW	1.04 m^3/MW

Shakambhari Ispat & Power Ltd. MADANDIH PURULIA

ii. Raw material consumption

Name of raw materials*	Name of Products	Consumption of raw material per unit of output (Kg/T)	
		During the previous financial year **(2022-23)**	During the current financial year **(2023-24)**
DRI Division			
Iron ore	Sponge iron	299	599
Iron ore pellet		1,199	973
Coal		1,043	1057
Dolomite		50	46
SMS Division			
Pig iron	MS Billet	112	162
Sponge Iron		885	875
Scrap		235	126
Ferro Alloys		-	18
Rolling Mill			
MS Billet	TMT & Wire Rod	1,037	1037
FERRO Division			
Manganese Ore	Ferro Alloys (Fe Mn & Si Mn)	1754	1975
Coal		138	153
Coke		440	442
Dolomite		30	48
Quartz		247	206
Manganese slag		312	311
CPP			
Coal	Electricity	15 Kg/MW	152 Kg/MW
Dolochar		871 Kg/MW	613 Kg/MW

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

PART-C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (Kg/Day)	Concentration of Pollutants discharged (mg/Nm3)	Percentage of variation from prescribed standards with reasons
a) Water	0	0	No industrial wastewater discharge outside the factory premises.
b) Air			Monitoring report from NABL accredited laboratory attached
PM – DRI 100 TPD (1 & 2)	74.44	38.96	
PM – DRI 100 TPD (3& 4)	80.90	42.32	
PM – DRI 350 TPD (1 & 2)	135.31	43.46	
PM – DRI 600 TPD (1 & 2)	62.97	30.47	
PM SMS	11.78	20.97	
PM SAF -1	32.43	21.92	

Shakambhari Ispat & Power Ltd. MADANDIH PURULIA

PM SAF -2	32.81	22.23	
PM SAF -3	28.69	19.56	
PM SAF -4	36.92	25.21	
PM-CPP (CFBC Boiler 100 TPH)	84.59	23.58	
Sox-CPP	331.85	92.50	
NOx- CPP	263.69	73.50	
PM - CPP (AFBC Boiler-36TPH)	49.33	22.96	
Sox-CPP	198.75	92.5	
NOx- CPP	133.99	62.36	

Monitoring reports attached

PART – D

(As specified under Hazardous Wastes (Management & Handling Rules, 1989).

Hazardous Wastes	Total Quantity (MT)	
	During the current financial year (2022-23)	During the current financial year (2023-24)
Used oil from operation Maintenance	1.056	1.82
Used cotton waste from operation and maintenance	0.385	0.385

PART – E

Solid Wastes	Total Quantity (MT)	
	During the current financial year (2022-23)	During the current financial year (2023-24)
From Process	291866	289277
From Pollution Control Facilities	218700	217083
Quantity recycled or reutilized within the unit	1,33474	153519
Sold	-	814
Disposal	3,77092	352028

PART – F

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

Solid waste Type	Quantity (TPA)	Disposal System
Dolochar	121021	Used in Captive Power Plant as fuel
Bag Filter Dust from DRI Coal Circuit	1113	Coal Dust Used in CPP as a fuel
Bag Filter Dust from DRI Iron Circuit	814	Iron dust being provided to Pellet Plant unit
If Slag (after metal recovery)	56455	Used in Road making & Landfilling
Metal Recovery from IF slag	6,273	Reused in Induction furnace
CCM Scrap	1485	Reused in Induction furnace
Fly ash from DRI & CPP	213017	Provided to brick manufacturer and used for abandoned mine filling
Bottom ash /Bed ash	55784	Used for landfilling & road making
Ferro bag filter dust	2139	Reused in process
Fe Mn Slag	21488	Used for Si-Mn production
Si-Mn Slag	26771	It is being used for landfilling & road construction

Shakambhari Ispat & Power Ltd. MADANDIH PURULIA

PART – G

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

*A list of **Environmental Management Programmes** (EMPs) is given below-*

Description	Expenditure for Pollution Control measures on Conservation of Natural Resources (Rs. in lakhs)
Total Cost towards Air Pollution Control Measures, Environmental Monitoring, EHS Management & training, Waste Management System, Green Belt Development (Plantation & Plant Maintenance) etc.	126.00

PART – H

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

Already included in Part G.

PART – I

MISCELLANEOUS

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

(1) We are complying with the directions given by the WBPCB, and getting regular Air & Water consents.

(2) Periodic Environmental Monitoring being done by NABL accredited laboratory to ascertain the efficiency of pollution control systems installed.

Enclosure List:

1) Environmental monitoring reports
2) Copy of hazardous waste annual return.

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.				Type of Industry	:	Steel & Power Unit		
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121				Sampling Date	:	21.02.2024		
						Period of Analysis	:	02.03.2024 – 02.03.2024		
						Date of Issue	:	04.03.2024		
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	:	Stack Emission		
Sample Condition	:	Sealed	Sample ID No.	:	ENV/04/March/A/I	Report No.	:	ENV/04/March/TR(A)/I/23-24		

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	Rotary Kiln No. 1 & 2 100 TPD each attached to common Stack			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	35.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	2.0
Capacity	:	100 TPD (each)	Height of sampling port (mtr.) (from G.L.)	:	15.0
Emission Due to	:	Combustion of Coal & Reduction of Fe-Ore			
Fuel Used	:	Coal	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	5.12 MT/hr./Kiln			
Pollution Control Device	:	W.H.R.B with E.S.P			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{o}C	IS : 11255 (Part 1)	:	160.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	10.52
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	79615.01
5.	Concentration of SO_2	mg/Nm^3	IS 11255 (Part 2) : 2019	:	130.32
6.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	11.0
7.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
8.	a) Concentration of Particulate Matter (at 11% CO_2)	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	38.96
	b) Concentration of Particulate Matter (at 12% CO_2)	mg/Nm^3		:	42.50

Remarks : Result relates only to the sample tested.
: During monitoring both kilns were in operation.

Reviewed By :

Indrani Bhattacharya
INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.			Type of Industry	:	Steel & Power Unit	
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121			Sampling Date	:	21.02.2024	
					Period of Analysis	:	02.03.2024 – 02.03.2024	
					Date of Issue	:	04.03.2024	
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	:	Stack Emission
Sample Condition	:	Sealed	Sample ID No.	:	ENV/04/March/A/II	Report No.	:	ENV/04/March/TR(A)/II/23-24

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	Rotary Kiln No. 3 & 4 attached to common Stack			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	35.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	2.0
Capacity	:	100 TPD (each)	Height of sampling port (mtr.) (from G.L.)	:	15.0
Emission Due to	:	Combustion of Coal & Reduction of Fe-Ore			
Fuel Used	:	Coal	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	5.12 MT/hr./Kiln			
Pollution Control Device	:	E.S.P with W.H.R.B			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^0C	IS : 11255 (Part 1)	:	158.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	10.49
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	79650.90
5.	Concentration of SO_2	mg/Nm^3	IS 11255 (Part 2) : 2019	:	145.45
6.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	11.4
7.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
8.	a) Concentration of Particulate Matter (at 11.4% CO_2)	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	42.32
	b) Concentration of Particulate Matter (at 12% CO_2)	mg/Nm^3		:	44.54

Remarks : Result relates only to the sample tested.
: During monitoring both kilns were in operation.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.		Type of Industry	:	Steel & Power Unit	
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121		Sampling Date	:	21.02.2024	
				Period of Analysis	:	02.03.2024 – 02.03.2024	
				Date of Issue	:	04.03.2024	
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan : No	Type of Sample	:	Stack Emission	
Sample Condition	:	Sealed	Sample ID No. : ENV/04/March/A/III	Report No.	:	ENV/04/March/TR(A)/III/23-24	

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	AFBC Boiler			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	60.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	2.1
Capacity	:	36 TPH	Height of sampling port (mtr.) (from G.L.)	:	20.0
Emission Due to	:	Combustion of Coal & Dolochar			
Fuel Used	:	Coal & Dolochar	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Coal – 150 TPD & Dolochar – 132TPD			
Pollution Control Device	:	E.S.P			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^0C	IS : 11255 (Part 1)	:	146.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	10.36
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	89528.28
5.	Concentration of SO_2 (at 6% O_2)	mg/Nm^3	IS 11255 (Part 2) : 2019	:	92.50
6.	Concentration of NO_x (at 6% O_2)	mg/Nm^3	IS 11255 (Part 7) : 2017 / ASTM D 1608-98, Sec. 11 (Vol. 11.07) : 2017	:	62.36
7.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	10.4
8.	Concentration of O_2	% (v/v)	EPA Method 3 : 2017	:	8.0
9.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
10.	a) Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11	:	22.96
	b) Concentration of Particulate Matter (at 6% O_2)	mg/Nm^3	(Vol.11.07) : 2017	:	26.50

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.		Type of Industry	:	Steel & Power Unit	
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121		Sampling Date	:	21.02.2024	
				Period of Analysis	:	02.03.2024 – 02.03.2024	
				Date of Issue	:	04.03.2024	
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	: Stack Emission
Sample Condition	:	Sealed	Sample ID No. : ENV/04/March/A/IV	Report No.	:	ENV/04/March/TR(A)/IV/23-24	

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	Rotary Kiln No. 5 & 6 2 x 350 TPD attached to common Stack			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	72.0
Materials of Construction	:	R.C.C	Stack I.D. at sampling point (mtr.)	:	2.60
Capacity	:	350 TPD (each)	Height of sampling port (mtr.) (from G.L.)	:	51.2
Emission Due to	:	Oxidation of Coal & Reduction of Fe-Ore			
Fuel Used	:	Coal	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	13.5 TPH/Kiln			
Pollution Control Device	:	W.H.R.B with E.S.P			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^0C	IS : 11255 (Part 1)	:	190.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	10.86
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	129552.96
5.	Concentration of SO_2	mg/Nm^3	IS 11255 (Part 2) : 2019	:	195.25
6.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	11.8
7.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
8.	a) Concentration of Particulate Matter (at 11.8% CO_2)	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	43.46
	b) Concentration of Particulate Matter (at 12% CO_2)			:	44.20

Remarks : Result relates only to the sample tested.
: During monitoring both kilns were in operation

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.		Type of Industry	:	Steel & Power Unit	
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121		Sampling Date	:	21.02.2024	
				Period of Analysis	:	02.03.2024 – 02.03.2024	
				Date of Issue	:	04.03.2024	
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan : No	Type of Sample	:	Stack Emission	
Sample Condition	:	Sealed	Sample ID No. : ENV/04/March/A/V	Report No.	:	ENV/04/March/TR(A)/V/23-24	

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	CFBC Boiler			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	92.0
Materials of Construction	:	RCC	Stack I.D. at sampling point (mtr.)	:	2.60
Capacity	:	100 TPH	Height of sampling port (mtr.) (from G.L.)	:	51.2
Emission Due to	:	Combustion of Coal & Dolochar			
Fuel Used	:	Coal & Dolochar	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Coal – 12.5MT/hr. & Dolochar – 8.33 MT/hr.			
Pollution Control Device	:	E.S.P			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^0C	IS : 11255 (Part 1)	:	194.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	12.60
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	149481.48
5.	Concentration of SO_2 (at 6% O_2)	mg/Nm^3	IS 11255 (Part 2) : 2019	:	92.50
6.	Concentration of NO_x (at 6% O_2)	mg/Nm^3	IS 11255 (Part 7) : 2017 / ASTM D 1608-98, Sec. 11 (Vol. 11.07) : 2017	:	73.50
7.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	11.4
8.	Concentration of O_2	% (v/v)	EPA Method 3 : 2017	:	7.8
9.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
10.	a) Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	23.58
	b) Concentration of Particulate Matter (at 6% O_2)	mg/Nm^3		:	26.80

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.			Type of Industry	:	Steel & Power Unit
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121			Sampling Date	:	21.02.2024
					Period of Analysis	:	02.03.2024 – 02.03.2024
					Date of Issue	:	04.03.2024
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	: No	Type of Sample	:	Stack Emission
Sample Condition	:	Sealed	Sample ID No.	: ENV/04/March/A/VI	Report No.	:	ENV/04/March/TR(A)/VI/23-24

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	SEAF (No.1)			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	32.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	1.80
Capacity	:	9.0 MVA	Height of sampling port (mtr.) (from G.L.)	:	22.0
Emission Due to	:	Reduction of Si-Mn Ore			
Fuel Used	:	N.A. (Electrically Operated)	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Nil			
Pollution Control Device	:	F. D. Cooler and Pulse Jet Bag Filter			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{o}C	IS 11255 (Part 1)	:	68.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS 11255 (Part 3)	:	7.75
4.	Quantity of Gas flow	$Nm^3/hr.$	IS 11255 (Part III)	:	61638.18
5.	Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	21.92

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharyya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.				Type of Industry	:	Steel & Power Unit		
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121				Sampling Date	:	22.02.2024		
						Period of Analysis	:	02.03.2024 – 02.03.2024		
						Date of Issue	:	04.03.2024		
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	:	Stack Emission		
Sample Condition	:	Sealed	Sample ID No.	:	ENV/04/March/A/VII	Report No.	:	ENV/04/March/TR(A)/VII/23-24		

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	SEAF (No.2)			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	32.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	1.80
Capacity	:	9.0 MVA	Height of sampling port (mtr.) (from G.L.)	:	22.0
Emission Due to	:	Reduction of Si-Mn Ore			
Fuel Used	:	N.A. (Electrically Operated)	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Nil			
Pollution Control Device	:	F. D. Cooler and Pulse Jet Bag Filter			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{0}C	IS 11255 (Part 1)	:	70.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS 11255 (Part 3)	:	7.78
4.	Quantity of Gas flow	$Nm^3/hr.$	IS 11255 (Part III)	:	61503.77
5.	Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	22.23

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.		Type of Industry	:	Steel & Power Unit	
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121		Sampling Date	:	22.02.2024	
				Period of Analysis	:	02.03.2024 – 02.03.2024	
				Date of Issue	:	04.03.2024	
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	: Stack Emission
Sample Condition	:	Sealed	Sample ID No. : ENV/04/March/A/VIII	Report No.	:	ENV/04/March/TR(A)/VIII/23-24	

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	SEAF (No.3)			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	32.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	1.80
Capacity	:	9.0 MVA	Height of sampling port (mtr.) (from G.L.)	:	22.0
Emission Due to	:	Reduction of Si-Mn Ore			
Fuel Used	:	N.A. (Electrically Operated)	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Nil			
Pollution Control Device	:	F. D. Cooler and Pulse Jet Bag Filter			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{o}C	IS 11255 (Part 1)	:	74.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS 11255 (Part 3)	:	7.82
4.	Quantity of Gas flow	$Nm^3/hr.$	IS 11255 (Part III)	:	61119.50
5.	Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	19.56

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.			Type of Industry	:	Steel & Power Unit		
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121			Sampling Date	:	22.02.2024		
					Period of Analysis	:	02.03.2024 – 02.03.2024		
					Date of Issue	:	04.03.2024		
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	:	Stack Emission	
Sample Condition	:	Sealed	Sample ID No.	:	ENV/04/March/A/IX	Report No.	:	ENV/04/March/TR(A)/IX/23-24	

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	SEAF (No.4)			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	32.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	1.80
Capacity	:	9.0 MVA	Height of sampling port (mtr.) (from G.L.)	:	22.0
Emission Due to	:	Reduction of Si-Mn Ore			
Fuel Used	:	N.A. (Electrically Operated)	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Nil			
Pollution Control Device	:	F. D. Cooler and Pulse Jet Bag Filter			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{o}C	IS 11255 (Part 1)	:	75.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS 11255 (Part 3)	:	7.83
4.	Quantity of Gas flow	$Nm^3/hr.$	IS 11255 (Part III)	:	61021.80
5.	Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	25.21

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.				Type of Industry	:	Steel & Power Unit		
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121				Sampling Date	:	22.02.2024		
						Period of Analysis	:	02.03.2024 – 02.03.2024		
						Date of Issue	:	04.03.2024		
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	:	No	Type of Sample	:	Stack Emission		
Sample Condition	:	Sealed	Sample ID No.	:	ENV/04/March/A/X	Report No.	:	ENV/04/March/TR(A)/X/23-24		

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	Rotary Kiln No. 7 (1 x 600 TPD)			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	72.0
Materials of Construction	:	RCC	Stack I.D. at sampling point (mtr.)	:	2.17
Capacity	:	600 TPD	Height of sampling port (mtr.) (from G.L.)	:	35.0
Emission Due to	:	Combustion of Coal & Reduction of Fe-Ore			
Fuel Used	:	Coal	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	13.5 TPH/hr.			
Pollution Control Device	:	E.S.P			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{o}C	IS : 11255 (Part 1)	:	210.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS : 11255 (Part 3)	:	10.82
4.	Quantity of Gas flow	$Nm^3/hr.$	IS : 11255 (Part III)	:	86105.72
5.	Concentration of SO_2	mg/Nm^3	IS 11255 (Part 2) : 2019	:	141.42
6.	Concentration of CO_2	% (v/v)	IS 13270 : 2019	:	11.8
7.	Concentration of CO	%(v/v)	IS 13270 : 2019	:	<1.0
8.	a) Concentration of Particulate Matter (at 11.8% CO_2)	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	30.47
	b) Concentration of Particulate Matter (at 12% CO_2)	mg/Nm^3		:	30.98

Remarks : Result relates only to the sample tested.

Reviewed By :

Indrani Bhattacharya

INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

TEST REPORT

FORMAT NO : ENV/FM/38

Name of the Industry	:	Shakambhari Ispat & Power Ltd.			Type of Industry	:	Steel & Power Unit
Address	:	Vill. – Madandih, P.O. – Bartoria, P.S. – Neturia, Dist – Purulia, (WB)– 723121			Sampling Date	:	22.02.2024
					Period of Analysis	:	02.03.2024 – 02.03.2024
					Date of Issue	:	04.03.2024
Sampling Plan & Procedure	:	ENV/SOP/01	Deviation from the Sampling Method and Plan	: No	Type of Sample	:	Stack Emission
Sample Condition	:	Sealed	Sample ID No.	: ENV/04/March/A/XI	Report No.	:	ENV/04/March/TR(A)/XI/23-24

A. GENERAL INFORMATION ABOUT STACK PROVIDED BY THE INDUSTRY

Stack Attached to	:	Hoods Over Induction Furnace (6 nos.) attached to common stack			
Shape of Stack	:	Circular	Height of Stack (mtr.) (from G. L.)	:	30.0
Materials of Construction	:	M.S.	Stack I.D. at sampling point (mtr.)	:	1.0
Capacity	:	25 MT/Heat (each furnace)	Height of sampling port (mtr.) (from G.L.)	:	19.0
Emission Due to	:	Melting of Pig Iron, Sponge Iron and Scrap			
Fuel Used	:	Electrically Operated	Permanent Platform & Ladder	:	Yes
Working Fuel Consumption	:	Yes			
Pollution Control Device	:	Bag Filter			

B. RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.		RESULTS
1.	Flue Gas Temperature	^{0}C	IS 11255 (Part 1)	:	65.0
2.	Barometric Pressure	mm of Hg.	--	:	756.0
3.	Velocity of Gas flow	m/s	IS 11255 (Part 3)	:	9.45
4.	Quantity of Gas flow	$Nm^3/hr.$	IS 11255 (Part III)	:	23398.41
5.	Concentration of Particulate Matter	mg/Nm^3	IS 11255 (Part – 1) : 2019 & ASTM D 3685/D 3685M-98 (reapproved 2005) : Sec. 11 (Vol.11.07) : 2017	:	20.97

Remarks : Result relates only to the sample tested.
: During monitoring all furnaces were in operation.

Reviewed By :

Indrani Bhattacharya
INDRANI BHATTACHARYA
Dy. Technical Manager, Chemical

Authorised Signatory :

Dr. AJOY PAUL
Quality Manager

FORM 4

[See rules 6(5), 13(8), 16(6) and 20 (2)]

Annual Return

under

Hazardous & Other Wastes(Management & Transboundary Movement) Rules, 2016

Transboundary Movement) Rules, 2016

To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March

Return No : *5064911* **Period :** *2023-2024*

1. Name of facility/Industry **Industry Address of facility/Industry**	*SHAKAMBHARI ISPAT & POWER LTD.* *Vill-Madandih, PO-Bartoria, PS-Neturia, Dist-Purulia, Pin-723121*
2. UID	*WB0016102592*
3.Authorisation No **Date of issue:** **Date of Expiry**	*47/2S(HW)-3632/2019* *24/03/2021* *31/10/2024*
4. (i) Name of the authorised person & Designation	*Deepak Kumar Agrawal* *Director*
(ii) Correspondence Address	*Vill-Madandih, PO-Bartoria, PS-Neturia, Dist-Purulia, Pin-723121*
(iii) Mobile No	*9233331111*
(iv) Land Line No (with area code)	
(iv) Fax number (with area code)	
(vi) e-mail	*emd.sipl@shakambharigroup.co.in*
(vii) Type of HW Handler	*Generator*
(viii) If involved in Interstate Movement of HW	*No*

5. Production during the year (product wise), wherever applicable

Sr.no	Product Name	Quantity	Unit
1	*SPONGE IRON*	*543113*	*Metric Ton*
2	*M.S. BILLET*	*406552*	*Metric Ton*
3	*TMT Bar &Wire Rod*	*299756*	*Metric Ton*
4	*FERRO MANGANESE*	*23876*	*Metric Ton*
5	*SILICO MANGANESE*	*31496*	*Metric Ton*

Part A. To be filled by hazardous waste generators

Sr. no	Name of Process	Category	Waste Stream	Unit	Quantity in stock at the beginning of the year	Total quantity of waste generated	Quantity dispatched to disposal facility	Quantity dispatched to recycler or co-processors or pre-processor	Quantity dispatched to others	Quantity utilised in house	Quantity in storage at the end of the year
1	*Schedule I - 13.Production of iron and steel including other ferrous alloys (electric furnaces; steel rolling and finishing mills; Coke oven and by product plant)*	*Used Oil*	*5.1*	*Metric Ton*	*0 Metric Tonnes/Year*	*1.82 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*1.78 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*0.050000000000000044 Metric Tonnes/Year*
2	*Schedule I - 13.Production of iron and steel including other ferrous alloys (electric furnaces; steel rolling and finishing mills; Coke oven and by product plant)*	*Used Cotton*	*5.2*	*Metric Ton*	*0 Metric Tonnes/Year*	*0.385 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*0 Metric Tonnes/Year*	*0.385 Metric Tonnes/Year*	*0 Metric Tonnes/Year*

Part B. To be filled by Treatment, storage and disposal facility operators

Sr. no	Name of Process	Category	Waste Stream	Unit	Quantity in stock at the beginning of the year	Total quantity received	Quantity treated	Quantity disposed in landfills as such and after treatment	Quantity incinerated (If applicable)	Quantity processed other than specified above	Quantity in storage at the end of the year

Part C. To be filled by recyclers or co-processors or other users

Sr. no	Name of Process	Category	Waste Stream	Unit	Quantity in stock at the beginning of the year	Quantity of waste received during the year from Domestic sources	Quantity of waste received during the year Imported	Quantity recycled or co-processed or used	Quantity re-exported (wherever applicable)	Quantity in storage at the end of the year
Whether Importing Other Wastes					*Not-Selected*					

Part D. Details of Interstate Movement

Sr.no	Name of Industry (Within State)	District	Receiving/Sending	Name of Industry (Other State)	State	Type of Waste	Qty.(MTA)	Purpose (Recycling/ Disposal/Incineration)

Part D. Details of Import of Other Waste Import & Recycling					
Sr.no	**Name of the Importer)**	**Imported from (country name)**	**Type of Other waste**	**Quantity Imported (MTA)**	**Quantity Recycled (MTA)**

Date : *08/06/2024*
Place : *Purulia*

DEEPAK KUMAR AGARWAL
Name of the Occupier or Operator of the disposal facility