Ref. No.: FAMD/FAPBL/007/FY24 Date: 27.05.2023

To,
The Additional Director,
Ministry of Environment and Forest & Climate Change,
Eastern Region Office,
A/3, Chandrasekharpur,
Bhubaneswar-751023

Subject: Submission of half-yearly compliance report on the stipulated environmental clearance terms and conditions in respect of Ferro Alloys Plant, Balasore of M/s TATA Steel Ltd., for the period from October'2022 to March'2023.

Reference:

1) J-11011/55/2008-IA II (I), DATED 17th July 2008
2) J-11011/519/2010-IA-II (I), DATED 26th February 2013
3) J-11011/519/2010-IA-II (I), DATED 20th May 2014

Respected Sir,

We are herewith submitting the six-monthly compliance report on the status of the implementation of the conditions stipulated in environmental clearance awarded to us vide MoEF File No: J-11011/519/2010-IA-II (I) DATED 20th May 2014 in respect of Ferro Alloys Plant, Balasore of M/s TATA Steel Ltd. for the period from October'2022 to March'2023 for your kind perusal.

This is in reference to the MoEF&CC's notification vide S.O-5845, dt. 28th Nov 2018, the six-monthly compliance report is being submitted only in soft copy mode, shared with your good office at e-mail @ roez.bsr-mef@nic.in.

We believe the above submission is in order.

Thanking you,

Yours faithfully,
F: TATA STEEL LTD.

Sarbeshwar Nayak
HEAD
FERRO ALLOYS PLANT
TATA STEEL
JODA

Head
Ferro Alloys Plant, Balasore

Encl: As above.

Copy To:

1) The Member Secretary, State Pollution Control Board, A/118, Nilakantha Nagar, Bhubaneswar, Odisha-751012.
2) The Regional Officer, Balasore, Ganeswarpur, P.O – Januganj, Balasore

Half -Yearly Compliance Report

On

Environmental Clearance Conditions

MoEF File No: - J-11011/55/2008-IA II (I), DATED 17th July 2008

J-11011/519/2010-IA-II (I), DATED 26th February 2013

J-11011/519/2010-IA-II (I), DATED 20th May 2014 (Amendment to the Environmental Clearance)

Period: 01 Oct'2022 to 31st March 2023

(The ministry has accepted our request to transfer the Environment Clearance accorded by MoEF&CC vide letter no. No. J-11011/519/2010-IA-II (I) dated 26/02/2013 and amendment in EC dated 20/05/2014 from M/s Stork Ferro and Mineral Industries Pvt. Limited to M/s Tata Steel Limited on dated 30th November 2022)

Submitted By:

M/s. Tata Steel Limited
Ferro Alloys Plant, Balasore

Plot No. Z-1, IDCO IID Centre,
Village Somnathpur, District Balasore

Compliance to Environmental Clearance vide File No. J-11011/519/2010-IA-II (I) on 26th February 2013 for Expansion of Ferro Alloy Plant by installation of Submerged Arc Furnace [SAF] (16.5 MVA) for production of Si-Mn - 26,645 TPA/ Fe-Mn - 29,500 TPA/ Fe-Si -11,400 TPA/ Fe-Cr - 25,000 TPA at Plot No. Z-1, IDCO IID Centre, Village-Somnathpur, District- Balasore in Odisha.

Table. A. Specific Condition:

Sl. No	Specific Conditions	Compliance Status
(i)	No charcoal shall be used as fuel. Pet coke shall be used as fuel instead of charcoal from unknown sources.	**Complied** No charcoal used as fuel.
(ii)	Continuous monitoring facilities for the process stacks and sufficient air pollution control equipment's viz. fume extraction system with bag filters. ID fan and stack of adequate height to submerged arc furnace shall be provided to control emissions below 50 mg/NM^3	**Agree to Comply** Presently, the process stacks have been provided with Gas Cleaning Plant (GCP) of adequate capacity with fume extraction system and bag filters. ID fan and stack of adequate height (45m) is maintained. Agreed to install Continuous Emission Monitoring System. The order has already been put up and the material delivery is awaited. Installation will be done as soon as after delivery of equipment. Stack monitoring report of manual sampling is attached in Page-6 of Annexure.
(iii)	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R No. 826(E) dated 16th November 2009 shall be followed.	**Complied** Presently, ambient Air Quality Standard notified vide G.S.R. No. 826(E) dated 16th November 2009 is followed. For this purpose, four (04) nos. of ambient air monitoring stations have been developed for the monitoring of Ambient Air Quality Parameters as per NAAQS-2009 with a frequency of twice per week. Page 1-5 of Annexure attached.
(iv)	Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of practice issued by the CPCB shall be followed. The raw material storage shall be covered.	Presently, Requisite provisions have been provided for taking care of fugitive dust emissions such as suction hood near the tap hole for collection of fugitive dust during tapping and the same is connected to the Fume Extraction System for subsequent venting through the Gas Cleaning Plant. The results confirm that fugitive dust emission is well within the permissible limit of 2000 µg/m3.
(v)	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the state pollution Control Board or described under the Environment (Protection) Act, 1986 whichever are more stringent. Leachate study for the effluent generated and analysis should also be regularly carried out and analysis should also be regularly carried out and report submitted to the	**Agreed to Comply.** Since no process-based effluents/trade effluents is getting generated thus requirement of leachate study is not applicable. However, we will carry out a detailed assessment in this regard.

Sl. No	Specific Conditions	Compliance Status
	Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.	
(vi)	The total water requirement for proposed expansion shall not exceed 139 m^3/day. 'Zero' effluent discharge shall be strictly followed and no wastewater, should be discharged outside the plant premises.	**Complied** The company (M/s Stork Ferro & Mineral Industries Private Limited), Transferer in this case has been awarded with Two sets of Environmental Clearances vide it's File No. J-11011/55/2008-IA II (I), dated 17th July 2008 for Furnace 1 & File No. J-11011/519/2010-IA-II (I) on 26th February 2013 for Furnace 2. Wherein, It is permitted for drawl of total 287m3/day (148m3/day for furnace 1 and 139m3/day for furnace2). The Transferer has also obtained an NOC from CGWA for drawl of 287m3/day vide NOC No. CGWA/NOC/IND/REN/2/2020/5687 M/s Tata Steel Limited (Transferee) agrees to maintain the same level of water consumption even after the transfer of the above referenced Environmental clearances.
(vii)	Efforts shall be made to make use of rainwater harvested. If needed capacity of the maximum water should requirement only balance water requirement should be met from other sources.	**Agreed to Comply.**
(viii)	Slag produced in Ferro Manganese (Fe-Mn) production shall be used in manufacture of silico Manganese (Si-Mn) . The Fe-Si and Si-Mn slag shall be used in the preparation of building materials.	**Agreed to Comply.**
(ix)	All the Ferro Chrome slag shall be used for land filling inside the plant after metal recovery or used as building material only after passing through Toxic Chemical Leachability Potential (TCLP) test. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.	**Complied** No Ferro Chrome or Ferro Silicon produced during this period thus requirement of TCLP not applicable. Whenever ferro chrome slag is generated, necessary TCLP test will be carried out prior to use of FeCr slag.
(x)	Risk and Disaster Management Plan along with the mitigation measures should be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar. SPCB and CPCB within 3 months of issue of environment clearance letter.	**Agreed to Comply.** M/s Tata Steel Limited (Transferee) is in the final stage of approval of Onsite Emergency Plan. The same shall be submitted to the Ministry's Regional Office at Bhubaneswar, SPCB and CPCB.
(xi)	As proposed, green belt shall be developed in at least 33% of the project area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	**Agreed to Comply.** At present, around 5000 saplings covering an area of around 5Acres are in self-sustaining conditions (covered under avenue plantation scheme of M/s Stork Ferro & Mineral Industries private Limited

Sl. No	Specific Conditions	Compliance Status
		(transferer). Gradually we will cover 33% area for the development of greenbelt.
(xii)	At least 5% of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on locals need and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner	**Complied** M/s Tata Steel Limited (Transferee) agrees to comply to the applicable provision for earmarking 5% of the project cost towards Enterprise Social Commitment. Tata Steel spent 25.2 Crore for 5T school in the district of Balasore.
(xiii)	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after completion of the project.	**Agreed to Comply.**

Table. A. General Condition:

Sl. No	General Conditions	Compliance Status
(i)	The project authorities must strictly adhere to the stipulations made by the Odisha State Pollution Control Board and the State Government.	**Agreed to Comply.**
(ii)	No further expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	**Agreed to Comply.**
(iii)	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM10, SO2 and NOx are anticipated in consultation with the SPCB. Data on Ambient air quality and stack emissions should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the SPCB/ CPCB once in six months.	**Complied** Presently four nos. ambient air monitoring stations have been developed for the monitoring of Ambient Air Quality Parameters as per National Ambient Air Quality Standard 2009. Monitoring and analysis is carried out by engaging an MoEF&CC as well as NABL Accredited laboratory. Reports are submitted to State Pollution Control Board Odisha on monthly basis. Plan was not in operation during Oct'22 and Nov'22. Post that the monitoring is carried out as prescribed. Page 1-5 of Annexure attached. Stack monitoring report of manual sampling is attached in Page-6 of Annexure. The reports are submitted monthly to Regional Office and SPCB.
(iv)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The	**Agreed to Comply.**

	treated wastewater shall be utilised for plantation purpose.	
(v)	The overall noise levels in and around the plant area shall be kept well within the standards (85dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75dBA (daytime) and 70dBA (night-time)	**Complied** Noise monitoring report attached in Page 7 and 8 of Annexure attached.
(vi)	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the factories act.	**Agreed to Comply.** Initial Medical Examination of all employees employed has been ensured. With-in one year all the employees will be covered under periodical medical check-up.
(vii)	The company shall develop rainwater harvesting structure to harvest the rainwater for utilisation in the lean season besides recharging the ground water table.	**Agreed to Comply.**
(viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	**Agreed to Comply.**
(ix)	Requisite amount shall be earmarked towards capital cost and recurring cost/ annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	**Complied** 93 lakhs capital budget and 9.54 lakhs recurring cost for the Environmental Protection Measures.
(x)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	**Agreed to Comply.**
(xi)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Bhubaneswar, the respective Zonal office of CPCB and the SPCB. The Criteria pollutant levels namely; PM10, SO2, NOx (ambient levels as well	**Agreed to Comply.**

	as stack emissions) or critical sectoral parameter, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	
(xii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional office of MoEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of the Ministry at Bhubaneswar/ CPCB/ SPCB shall monitor the stipulated conditions.	**Agreed to Comply.**
(xiii)	The environmental statement for each financial year ending 31st March in Form-V as mandated to be submitted by the project proponent to the Concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of the company along with the status of compliance of Environmental Conditions and shall also be sent to the respective Regional Office of the MoEF at Bhubaneswar by e-Mail.	**Agreed to Comply.** The environmental statement for each financial year ending 31st March in Form-V for FY22-23 will be submitted by 30th June 2023.
(xiv)	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office at Bhubaneswar.	M/s Stork Ferro & Mineral Industries private Limited (transferer) informed public through local Newspaper in Odia and English language. Subsequent to the transfer and amendment of environmental clearance in favour of M/s Tata Steel Limited, we will inform the public that the project has been transferred in our favour.
(xv)	Project authorities 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 and the date of commencing the land development work.	**Agreed to Comply.**

****

ANNEXURE

Ref : Envlab/23-24/TR-02431 **Date : 26.05.2023**

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR OCTOBER 2022 TO MARCH 2023
(CORE ZONE)

1. Name of Industry : **M/s Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Sampling Location : **Monitoring Station ID: AAQMS-1 (Near 11KVA Substation).**
3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by : VCSPL representative in presence of TATA representative.

Month	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
OCT-2022	Plant not Operation											
NOV-2022												
DEC-2022	60.3	32.9	9.7	19.5	8.5	0.4	22.8	BDL	BDL	BDL	BDL	BDL
JAN-2023	61.2	33.1	10.9	22.9	10.5	0.5	23.6	BDL	BDL	BDL	BDL	BDL
FEB-2023	60.8	32.3	10.6	23.2	10.7	0.4	22.4	BDL	BDL	BDL	BDL	BDL
MAR-2023	61.3	33.1	11.5	23.5	11.2	0.5	22.4	BDL	BDL	BDL	BDL	BDL
Average	60.9	32.9	10.7	22.3	10.2	0.5	22.8	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improved West and Gaeke method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

BDL Values: PM_{10} <20 µg/m³, $PM_{2.5}$ <10 µg/m³ SO_2< 4 µg/m³, NO_X< 6 µg/m³, O_3<4 µg/m³, NH_3<20 µg/m³, Ni<2.5 ng/m³, As < 1 ng/m³, C_6H_6<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, CO-<0.1 mg/m³,

Prepared By

Reviewed By

Ref : Envlab/23-24/TR-02432 **Date : 26.05.2023**

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR OCTOBER 2022 TO MARCH 2023
(CORE ZONE)

1. Name of Industry : **M/s Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Sampling Location : **Monitoring Station ID:AAQMS-2 (Near GCP)**
3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by : VCSPL representative in presence of TATA representative.

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
OCT-2022	Plant not Operation											
NOV-2022												
DEC-2022	66.4	36.1	13.7	22.6	11.1	0.5	27.6	BDL	BDL	BDL	BDL	BDL
JAN-2023	68.9	37.8	14.8	23.9	11.9	0.5	28.6	BDL	BDL	BDL	BDL	BDL
FEB-2023	67.4	36.1	14.4	21.6	12.2	0.5	25.6	BDL	BDL	BDL	BDL	BDL
MAR-2023	62.9	34.6	14.4	22.4	11.8	0.5	27.0	BDL	BDL	BDL	BDL	BDL
Average	66.4	36.2	14.3	22.6	11.8	0.5	27.2	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

BDL Values: PM_{10} <20 µg/m³, $PM_{2.5}$ <10 µg/m³ SO_2< 4 µg/m³, NO_X< 6 µg/m³, O_3<4 µg/m³, NH_3<20 µg/m³, Ni<2.5 ng/m³, As < 1 ng/m³, C_6H_6<4 µg/m³, BaP<0.5 ng/m³, Pb<0.02 µg/m³, CO-<0.1 mg/m³,

.

P. Pati
Prepared By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Jagmohan Nag
Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Ref : Envlab/23-24/TR-02433 **Date : 26.05.2023**

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR OCTOBER 2022 TO MARCH 2023
(CORE ZONE)

1. Name of Industry : **M/s Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Sampling Location : **Monitoring Station ID:AAQMS-3 (Near Main gate)**
3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by : VCSPL representative in presence of TATA representative.

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
OCT-2022	Plant not Operation											
NOV-2022												
DEC-2022	61.6	33.6	13.0	23.3	10.1	0.5	23.7	BDL	BDL	BDL	BDL	BDL
JAN-2023	63.6	35.5	14.2	24.0	11.3	0.6	24.4	BDL	BDL	BDL	BDL	BDL
FEB-2023	62.7	33.5	12.8	23.7	10.9	0.6	22.4	BDL	BDL	BDL	BDL	BDL
MAR-2023	63.7	34.5	13.8	24.6	12.4	0.6	23.1	BDL	BDL	BDL	BDL	BDL
Average	62.9	34.3	13.5	23.9	11.2	0.6	23.4	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Monthly Average	62.3	33.0	12.9	23.4	13.0	0.6	24.2	BDL	BDL	BDL	BDL	BDL
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

BDL Values: PM_{10} <20 $\mu g/m^3$, $PM_{2.5}$ <10 $\mu g/m^3$ SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, O_3<4 $\mu g/m^3$, NH_3<20 $\mu g/m^3$, Ni<2.5 ng/m^3, As < 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, CO-<0.1 mg/m^3,

Prepared By

Reviewed By

Plot No.- M-22 & 23, Chandaka Industrial Estate, Patia, Bhubaneswar, Khurda, Odisha-751024, India Tel.: 0674-3511721
E-mail: visiontek@vcspl.org, visiontekin@gmail.com
Visit us at: www.vcspl.org

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR OCTOBER 2022 TO MARCH 2023
(CORE ZONE)

1. Name of Industry : **M/s Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Sampling Location : **Monitoring Station ID:AAQMS-4 (Near Admin Building)**
3. Monitoring Instruments : RDS(APM 460 BL), FPS(APM 550) Envirotech, CO Monitor, VOC Sampler
4. Sample collected by : VCSPL representative in presence of TATA representative.

Date	PARAMETERS											
	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$ ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NO_x ($\mu g/m^3$)	O_3 ($\mu g/m^3$)	CO (mg/m^3)	NH_3 ($\mu g/m^3$)	C_6H_6 ($\mu g/m^3$)	BaP (ng/m^3)	Ni (ng/m^3)	Pb ($\mu g/m^3$)	As (ng/m^3)
OCT-2022	Plant not Operation											
NOV-2022												
DEC-2022	71.2	38.6	14.8	24.1	11.5	0.6	30.2	BDL	BDL	BDL	BDL	BDL
JAN-2023	73.8	40.8	15.8	25.3	13.2	0.6	32.6	BDL	BDL	BDL	BDL	BDL
FEB-2023	59.7	29.6	10.5	20.6	9.9	0.49	29.6	BDL	BDL	BDL	BDL	BDL
MAR-2023	61.1	34.2	11.4	22.1	10.8	0.5	32.7	BDL	BDL	BDL	BDL	BDL
Average	66.5	35.8	13.1	23.0	11.4	0.5	31.3	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	180	4	400	5	1	20	1	6
Testing method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob & Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

BDL Values: PM_{10} <20 $\mu g/m^3$, $PM_{2.5}$ <10 $\mu g/m^3$ SO_2< 4 $\mu g/m^3$, NO_X< 6 $\mu g/m^3$, O_3<4 $\mu g/m^3$, NH_3<20 $\mu g/m^3$, Ni<2.5 ng/m^3, As < 1 ng/m^3, C_6H_6<4 $\mu g/m^3$, BaP<0.5 ng/m^3, Pb<0.02 $\mu g/m^3$, CO-<0.1 mg/m^3,

Prepared By

Reviewed By

\

Ref : Envlab/23-24/TR-02435 **Date : 26.05.2023**

SIX MONTH COMPLIANCE REPORT
AAQ MONITORING REPORT FOR OCTOBER 2022 TO MARCH-2023
(BUFFER ZONE)

1. Name of Industry : **M/s Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Monitoring Instruments : RDS (APM 460 BL), FPS (APM 550) Envirotech, CO Analyzer & VOC Sampler
3. Sample collected by : VCSPL Representative in presence of TATA Representative

Monitoring Date	PM_{10} (µg/m³)	$PM_{2.5}$ (µg/m³)	SO_2 (µg/m³)	NO_x (µg/m³)	O_3 (µg/m³)	CO (mg/m³)	NH_3 (µg/m³)	C_6H_6 (µg/m³)	BaP (ng/m³)	Ni (ng/m³)	Pb (µg/m³)	As (ng/m³)
	BZ-1: Narharipur Village											
OCT-2022	**Plant not Operation**											
NOV-2022												
DEC-2022												
JAN-2023	67.3	37.4	11.5	18.3	BDL	0.47	BDL	BDL	BDL	BDL	BDL	BDL
FEB-2023	65.9	34.6	11.2	19.7	BDL	0.48	BDL	BDL	BDL	BDL	BDL	BDL
MAR-2023	66.7	35.4	12.4	20.4	BDL	0.49	BDL	BDL	BDL	BDL	BDL	BDL
Average	66.6	35.8	11.7	19.5	BDL	0.5	BDL	BDL	BDL	BDL	BDL	BDL
	BZ-2:Somnathpur Village											
OCT-2022	**Plant not Operation**											
NOV-2022												
DEC-2022												
JAN-2023	60.7	33.7	9.3	15.9	BDL	0.39	BDL	BDL	BDL	BDL	BDL	BDL
FEB-2023	58.3	32.1	10.1	17.3	BDL	0.41	BDL	BDL	BDL	BDL	BDL	BDL
MAR-2023	59.3	33.6	11.7	18.6	BDL	0.42	BDL	BDL	BDL	BDL	BDL	BDL
Average	59.4	33.1	10.4	17.3	BDL	0.4	BDL	BDL	BDL	BDL	BDL	BDL
	BZ-3:Badagaa Village											
OCT-2022	**Plant not Operation**											
NOV-2022												
DEC-2022												
JAN-2023	58.3	31.8	7.3	12.7	BDL	0.37	BDL	BDL	BDL	BDL	BDL	BDL
FEB-2023	59.3	32.8	8.4	14.3	BDL	0.32	BDL	BDL	BDL	BDL	BDL	BDL
MAR-2023	61.2	33.4	9.6	15.5	BDL	0.33	BDL	BDL	BDL	BDL	BDL	BDL
Average	59.6	32.7	8.4	14.2	BDL	0.3	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	--	100	60	80	80	4	--
Testing Method	Gravimetric	Gravimetric	Improved West and Geake method	Modified Jacob &Hochheiser (Na-Arsenite)	Chemical Method	NDIR Spectroscopy	Indo phenol blue method	Absorption & Desorption followed by GC analysis	Solvent extraction followed by Gas Chromatography analysis	AAS method after sampling	AAS method after sampling	AAS method after sampling

BDL Values :SO_2< 4 µg/m³, NO_X< 9 µg/m³,O_3<4 µg/m³, CO-<0.1 mg/m³, NH_3 <20 µg/m³, C_6H_6<0.001 µg/m³, BaP<0.002 ng/m³, Ni<0.01 ng/m³ , Pb<0.001 µg/m³, As < 0.001 ng/m³.

P. Pati

Prepared By

Reviewed By

Ref : Envlab/23-24/TR-02436 **Date : 03.05.2023**

SIX MONTH COMPLIANCE REPORT
STATIONARY EMISSION MONITORING REPORT FOR OCTOBER 2022 TO MARCH-2023

1. Name of Industry : **Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Sampling Location : **ST-I Stack attached to Arc Furnace**
3. Name of sampling Instrument : Vayubodhan Stack Sampler VSS 2
4. Sample Collected by : VCSPL Representative

Parameters	Unit of Measurement	OCT-2022	NOV-2022	DEC-2022	JAN-2023	FEB-2023	MAR-2023	AVG	Standard MoEF & CPCB
Stack Temperature	^{0}C	Plant Not Operation	Plant Not Operation	55	Plant Not Operation	106	102	87.7	--
Velocity of Flue Gas	m/sec			4.8		8.78	10.45	8.0	--
Concentration of Particulate Matter as PM	mg/Nm^3			16.8		42.6	39.8	33.1	50
Sulphur dioxide as SO_2	mg/Nm^3			35.4		56.8	53.4	48.5	600
Oxides of Nitrogen as NO_x	mg/Nm^3			28.3		38.2	28.7	31.7	300
Carbon Monoxide as CO	mg/Nm^3			41.3		45.6	42.3	43.1	--

Prepared By

Reviewed By

Ref : Envlab/23-24/R-02437 **Date : 26.05.2022**

SIX MONTH COMPLIANCE NOISE LEVEL MONITORING REPORT JAN-2023

1. Name of Industry : **Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Monitoring Instruments : Noise Meter & 31.01.2023
3. Sample collected by : VCSPL Representative in presence of TATA Representative

Location ID	Location	Noise Level in SPL
11 KVA Substation		
N-01	Shift Office	71.3
N-02	Work Shop	71.2
N-03	LT Room	72.8
N-04	HR Room	71.6
Furnished Production Yard		
N-05	Infront of rest Shed	85.4
N-06	Breaking Yard (Cast House corner)	78.3
N-07	Hot Metal Dumping Yard	73.2
N-08	Metal Loading Area	89.3
Cast House		
N-09	Infront Of FCE-1 & T.H-2	92.3
N-10	Middle Person	89.3
N-11	Infront of FCE-2	90.2
N-12	Buffer Man Standing Area	90.1
N-13	FCE-2 Slag Dump Area	89.3
Road		
N-14	Infron of cast House	87.3
N-15	Infront of GCP	93.2
N-16	Infront of daybin	94.2
N-17	RM Yard	90.3
FCE Building		
N-18	Near Hoist	89.3
N-19	In Between 2 FCE	91.2
N-20	Near Staircase	92.7
1st Floor FCE		
N-21	Near FCE-2	94.3
N-22	In between 2FCE	92.1
N-23	Stair Case	93.3
N-24	Near FCE-1	93.1
N-25	FCE Control Room	92.1
2nd Floor FCE		
N-26	Stair case	92.3
N-27	Transformer Room	91.1
N-28	Near Water Mainfood	90.8
N-29	Between 2 FCE	91.3
N-30	FCE-2	92.4
3rd floor FCE		
N-31	Stair case	91.8
N-32	FCE-2 MCC Room	89.3
N-33	FCE-1 MCC Room	88.3
N-34	Infront of MCC Room	93.4
4th floor FCE		

N-36	Casing Manufacture-2	90.3
N-37	Casing manufacture-1	92.1
5th floor FCE		
N-38	Rotary Conveyor-2	91.2
N-39	Rotary Conveyor-1	95.8
Pump House		
N-40	Panel Room	94.7
N-41	Pump Room	95.3
GCP		
N-42	Dust Loading Area	95.4
N-43	GCP Control Room	94.8
N-44	Silo Dust Release area	95.3
N-45	Bag House-1	90.2
N-46	Bag house-2	93.6
N-47	Compressor Room	92.8
DayBin 1st Floor		
N-48	BC-8 FCE-1 & 2	90.2
DayBin 2nd Floor		
N-49	Bin-3	83.7
N-50	Bin-9	86.7
N-51	Bin-6	91.7
N-52	Bin-10	95.8
DayBin 3rd Floor		
N-53	Entrance	72.3
N-54	Carraige-1	84.4
N-55	Carraige-2	89.1
N-56	backside	87.9
Jigging		
N-57	Pond	78.9
N-58	Fab Yard	63.8
Screening House		
N-59	Ground Floor	61.6
N-60	1st floor	62.1
N-61	2nd floor	63.4
Plant side		
N-62	Dolomite stack	55.8
N-63	Store	61.3
N-64	Lab	58.8
N-65	Admin Room	50.8
Industrial Noise Standard		**75.0**

Prepared By

Reviewed By

Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Enginering
- Water Resource Management
- Environmental & Social Study
- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy
- Agricultural Development
- Information Technology
- Public Health Engineering
- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services
Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

Ref : Envlab/23-24/R-02438 **Date : 26.05.2022**

SIX MONTH COMPLIANCE ILLUMINATION ANALYSIS REPORT JAN-23

1. Name of Industry : **Ferro Alloys Plant Baleswar, (M/s TATA Steel Limited); Baleswar.**
2. Monitoring Instruments & Date : Lux Meter & 31.01.2023
3. Sample collected by : VCSPL Representative in presence of TATA Representative

Location ID	Location	Measuring in LUX	Standard For IS 6665-1972
11 KVA Substation			
L-01	Shift Office	**114.8**	150
L-02	Work Shop	**101.8**	300
L-03	LT Room	**86.3**	100
L-04	HR Room	**114.3**	100
Furnished Production Yard			
L-05	Infront of rest Shed	**75.3**	100
L-06	Breaking Yard (Cast House corner)	**51.3**	150
L-07	Hot Metal Dumping Yard	**78.3**	150
L-08	Metal Loading Area	**88.1**	150
Cast House			
L-09	Infront Of FCE-1 & T.H-2	**55.3**	150
L-10	Middle Person	**62.4**	100
L-11	Infront of FCE-2	**57.9**	150
L-12	Buffer Man Standing Area	**62.8**	150
L-13	FCE-2 Slag Dump Area	**55.4**	150
Road			
L-14	Infron of cast House	**154.3**	150
L-15	Infront of GCP	**171.6**	150
L-16	Infront of daybin	**141.3**	150
FCE Building			
L-17	Near Hoist	**101.4**	150
L-18	In Between 2 FCE	**105.6**	100
L-19	Near Staircase	**114.3**	100
1st Floor FCE			
L-20	Near FCE-2	**121.3**	150
L-21	In between 2FCE	**114.3**	150
L-22	Stair Case	**109.3**	100
L-23	Near FCE-1	**117.3**	150
L-24	FCE Control Room	**109.3**	150
2nd Floor FCE			
L-25	Stair case	**109.3**	100
L-26	Transformer Room	**114.3**	100
L-27	Between 2 FCE	**108.3**	100
L-28	FCE-2	**112.3**	150
3rd floor FCE			
L-29	Stair case	**112.3**	100
L-30	FCE-2 MCC Room	**98.3**	200
L-31	FCE-1 MCC Room	**97.1**	200
L-32	Infront of MCC Room	**108.6**	200
4th floor FCE			
L-33	Casing Manufacture-2	**75.4**	200
L-34	Casing manufacture-1	**79.6**	200
5th floor FCE			

L-35	Rotary Conveyor-2	**77.4**	150
L-36	Rotary Conveyor-1	**75.6**	150
Pump House			
L-37	Panel Room	**74.4**	200
L-38	Pump Room	**66.3**	200
GCP			
L-39	Dust Loading Area	**62.8**	200
L-40	GCP Control Room	**55.4**	150
L-41	Silo Dust Release area	**44.9**	150
L-42	Bag House-1	**72.4**	150
L-43	Bag house-2	**78.6**	150
L-44	Compressor Room	**52.6**	150
DayBin 1st Floor			
L-45	BC-8 FCE-1 & 2	**198.2**	150
DayBin 2nd Floor			
L-46	Bin-3	**181.3**	150
L-47	Bin-9	**167.3**	150
L-48	Bin-6	**161.2**	150
L-49	Bin-10	**171.3**	150
DayBin 3rd Floor			
L-50	Entrance	**103.4**	100
L-51	Carraige-1	**94.3**	150
L-52	Carraige-2	**89.2**	150
L-53	backside	**87.3**	150
Jigging			
L-54	Fab Yard	**51.4**	150
Screening House			
L-55	Ground Floor	**55.4**	100
L-56	1st floor	**56.4**	100
L-57	2nd floor	**62.4**	100
Plant side			
L-58	Dolomite stack	**68.3**	150
L-59	Store	**75.3**	200
L-60	Lab	**108.3**	300
L-61	Admin Room	**61.9**	150

P. Pathi
Prepared By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.

Jagmohan Nagar
Reviewed By

VISIONTEK CONSULTANCY SERVICES PVT. LTD.