BEFOR PRAIAP NARAYAN TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13
SL NO. 08 DT. 03.7.24

Before the National Green Tribunal

Eastern Zone Bench, Kolkata

Original Application No. 43/2024/EZ

Akash Kalo

... Applicant

-Versus-

M/s. JSW Bhushan Power and Steel Limited & Ors.

... Respondents

COUNTER AFFIDAVIT ON BEHALF OF THE RESPONDENT NO 1

I, Rakesh Kumar Pujari, son of Binaya Pujari, aged about 52 years, working for gain at Bhushan Power and Steel Limited, Thelkoloi, PO Lapanga, Tehsil Rengali, District Sambalpur, Odisha 768212, do hereby solemnly affirm and state as follows:

1. I am the constituted attorney of the Respondent No 1 and have made myself fully acquainted with the facts and circumstances of the instant case and am competent to make, sign and affirm the present affidavit on behalf of the Respondent No 1.

2. The Respondent No 1 has been served with a copy of the application bearing Original Application No 43 of 2024 (hereinafter referred to the said application) in terms of order dated 12 March 2024 passed by this Hon'ble Tribunal. A copy of the said order dated 12 March 2024 is annexed hereto and marked with the letter **"R-1"**.

3. I have read the said application and have understood the meaning and purport thereof.

For Bhushan Power & Steel Ltd.
Rakesh Kumar Pujari
Authorised Signatory

4. I say that save and except what are matters of undisputed records or what may be specifically admitted by me herein, each and every allegation made in the said application should be deemed to have been denied by the Respondent No 1 as if set out in seriatim and specifically traversed.

5. The present affidavit is filed without prejudice to the Respondent No 1's right to deal with the report that may be filed by the committee constituted by virtue of this Hon'ble Tribunal's order dated 12 March 2024, if necessary.

6. Before specifically dealing with the allegations contained in the said application, I state as follows: -

a) The instant application is not maintainable, either in law or on facts.

b) I say that the present proceeding has been initiated by the applicant as a counterblast to the complaint made by the Respondent no 1 before the Inspector in Charge, Badmal Police Station, Jharsuguda against the applicant complaining of threatening and causing hurt to the employees of the Respondent No 1. The said complaint is pending. The present proceedings have therefore been initiated with a malafide intention and on this ground alone the application should be dismissed.

c) I say that the Respondent No 1 has the consent to establish and operate the pond-cum-tailing stock yard, as shall be evident from orders of Consent to Operate & Consent to Establish, issued by State Pollution Control Board, Odisha, copies whereof are annexed hereto and collectively marked with the letter **"R-2"**.

d) I say that the alleged project does not violate law by operating pond-cum-tailing stock yard as the same is situated outside the reserve forest and does not exceed the prescribed limits. Further, I say that that no forest land has been used for the construction thereof.

For Bhushan Power & Steel Ltd.

Authorised Signatory

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e) The alleged Project which the applicant refers to as Bhushan Power and Steel Limited (BPSL) has complied with requisite environmental norms. Appropriate Air and Water Pollution control measures have been taken for construction and operation of the pond-cum-tailing stock yard. The Village Air Quality Test Report, Surface Water Quality Test Report of Village Ponds, Ground Water Test Report near the tailing pond and Village and Soil Test Report near the Tailing Pond are annexed hereto and collectively marked with the letter **"R-3"**. The Respondent No 1 has not violated any rights of the residents living in the area and ensures a clean and pollution-free environment. The operation of the pond-cum-iron-stock yard is in compliance of the statutory norms and there exists no threat to the environmental, agricultural land, health, and hygienic of the villagers. The Respondent No 1 had complied with air and water pollution control measures during the construction of the pond-cum-tailing stock yard. It is submitted that the tailing material (mixture of crushed rock and processing fluids from mills, washeries or concentrators that remain after extraction of economic metals, minerals from mine source) is recycled in the steel plant of the Respondent No 1 which reduces stock at the pond. Thereafter, tailing is recycled through the Sinter Plant thereby reducing the overall consumption of Iron ore (natural resource). Hence, the Respondent No 1 have taken all initiative for conservation of natural resources. Consequently, no constant raw iron is deposited from pond-cum-stock yard in the locality. It is submitted that there has been no infringement of the fundamental rights of the residents and there has been no increase in the level of pollution because of the operation of the tailing pond.

GOVT. OF ODISHA NOTARY PRATAP NARAYAN TIWARI JHARSUGUDA REGD. NO. ON-0103

f) The Respondent No 1 has ensured testing of the underground water sample of the village, Bisadihi and tailing pond-cum-tailing stock yard area by an accredited NABL and MOEF third party laboratory. The

For Bhushan Power & Steel Ltd.

Authorised Signatory

reports obtained by the Respondent No 1 are part of Annexure "R-3". It is submitted that from a perusal of the test results related it shall be evident that the pond-cum- tailing stock yard does not contaminate the underground water and the allegation that the groundwater at the village is contaminated and rendered unsuitable for drinking is totally unfounded.

g) The Respondent No 1 is a company which operates and manufactures Iron, Sponge Iron, and Steel, etc. Raw iron or the iron ore which flows from the pond-cum-iron stock yard is a natural resource. The beneficiation is done by the Respondent No 1 to remove silica and alumina to enrich iron content in iron ore by washing with water. Hence, it is submitted that the production of crop, vegetation, and aquatic system in the locality is not adversely impacted because of deposition of raw iron in the pond cum-raw iron stock yard. The crops adjacent to the tailing pond and the vegetation are evident from photographs annexed and collectively marked with the letter **"R-4"**. The Respondent No 1 submits that the TCLP study (Toxicity Characteristic Leaching Procedure) of iron ore tailing has been done by an independent NABL and MOEF accredited laboratory, a copy whereof is annexed hereto and marked with the letter **"R-5"**. It would be evident from the report that there is no toxicity evidenced in the surface water sample taken from the ponds of two nearby and further the groundwater sample taken from two bore wells of the tailing pond as per the analysis done by NABL and MOEF accredited laboratory shows no contamination of the water from the raw iron pond.

h) It is submitted that the inspection conducted by the State Pollution Control Board on the 18 August 2023 had analyzed water samples from 2 ponds in the nearby villages (wherein it was alleged that waste water from the tailing pond is discharged). From a perusal of the inspection

For Bhushan Power & Steel Ltd.

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report, it shall be evident that the water sample was within the prescribed parameters of the Board. Further, water samples from agricultural paddy field revealed that all parameters are within prescribed standard of the Board. No discharge from the supernatant pond or active tailing pond were found upon inspection. Further, no fugitive emission observed from the tailing pond to the Bisadihi village. A copy of the said inspection report is annexed as Annexure "R-5" to the application. On this very ground the application should be dismissed.

i) The Respondent No 1 states and submits that the men and agents of the Respondent No 1 have deployed water tankers on a regular basis to reduce dust from the connecting road, and the same would be evident from the photographs annexed hereto and marked with the letter **"R-6"**. The Respondent No 1 further states that the analyzed parameters of the Project meet the National Ambient Air Quality Standard, 2009 and inasmuch as the alleged Project has installed Paste Thickener to reduce water from slurry and the tailings are pumped through the disposal pipe. The thickener overflow water is thereafter being taken back to be used in the process of Beneficiation. The Respondent No 1 submits that the Paste Thickener which has been installed helps in dewatering of tailings, reducing the water content and transforming them into a paste like consistency. By producing a thickened paste, the environmental impact of tailings disposal is minimized.

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j) The parameters of the soil test reports near the pond-cum-tailing stock yard are within the prescribed limits. The reports obtained by the Respondent No 1 are part of Annexure "R-3". The health of people residing in nearby areas to Respondent No 1 is not in jeopardy. They are not exposed to polluted water, air, and soil as alleged or at all.

For Bhushan Power & Steel Ltd.

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k) The Respondent No 1 states that 300-micron HDPE sheet of polythene has been installed in the disputed site as shall be evident from the photographs annexed hereto and marked with the letter **"R-7"**. In view of the aforesaid facts and circumstances, it is submitted that the Respondent No 1 and its agents are not guilty of causing pollution as alleged or at all. There has been no damage to the environment. The Respondent No 1 and its agents are not liable to pay any damages for restoration of the environment and ecology as alleged or at all. The Respondent No 1 states and submits that the applicant does not have prima facie case on merits and there has been no illegal act done by the Respondent No 1 and there has been no damage, loss or injury caused to human life or to the environment in the locality near the project.

l) The Respondent No 1 states that in terms of Section 17(1) of the NGT Act, the person responsible for causing the adverse impact of the environment is liable to pay compensation for the damage. The Respondent No 1 and its agents are in compliance of the prescribed norms and have not caused damage to the environment or injury to the mankind. Thus, the Respondent No 1 is not liable to pay any compensation as there has been no adverse impact on the environment due to the operation of the pond-cum-tailing stock yard by the Respondent No 1. The present application is an abuse of the process of law and no relief can or ought to be granted in favour of the applicant.

7. Without prejudice to the above contentions, I shall now deal with the specific allegations contained in the said application.

8. With reference to the allegations contained in paragraph numbers 1 to 7 of the said application, save what are matters of undisputed records all allegations contrary thereto are denied. It is denied that the Respondent No 1 has caused violation of any environmental obligations such as air,

For Bhushan Power & Steel Ltd.

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water, agricultural land and forest land or any illegality has been done by constructing a pond-cum-tailing stock yard in the village as alleged or at all. It is stated that no substantial question of environment arising out of Environmental Protection Act, 1986, The Water (Prevention and Control) Act, 1974, The Air (Prevention and Control) Act, 1981, The Forest Conservation Act, 1980, Forest (Conservation) Rules, 2003, Biological Diversity Act, 2002 and other acts have been raised by the applicant as is being alleged. I say that the Respondent No 1 has not caused any damage to the environment or injury to the mankind and the Applicant's endeavours to invoke the principle of "Polluter Pay" and "Public Trust Doctrine" are totally unfounded. It is denied that the pond cum-tailing stock yard is negligently operated by the Respondent No 1. It is denied that the iron pond-cum-stock yard does not have green belt surrounding or any proper boundary as alleged or at all. It is denied that the answering respondent did not intentionally install any polythene before depositing raw iron dust near Bisadihi village or that as a consequence the entire underwater is polluted and contaminated with crude iron as alleged or at all.

NOTARY GOVT. OF ODISHA PRATAP NARAYAN TIWARI NOTARY JHARSUGUDA REGD. NO. ON-0113

9. With reference to the allegations contained in paragraph Nos 8 to 17 of the said application, save and except what are matters of undisputed records, all allegations contrary thereto are denied. It is denied that the pond-cum-raw iron stock yard is not covered with green belt or that there is no proper boundary as per the industry establishment rules and NGT guidelines as alleged or at all. It is denied that the underground water is contaminated with crude iron or that the water from well or borewell is unfit for consumption or that production from agricultural land or green vegetables have decreased due to contamination of the ground water with the crude iron as alleged or at all. It is denied that pond-cum-tailing stock yard is constructed over the reserve forest land without any environmental

For Bhushan Power & Steel Ltd.

Authorised Signatory

clearance as alleged or at all. It is denied that the applicant or the residents in the village are completely landless or do not have any income source or that their livelihood was ruptured due to operation of the Respondent No 1 and 2 or that the operations of the said answering Respondents are illegal or negligent as alleged or at all. The Respondent No 1 has taken the applicable approvals to carry out its business activities in accordance with law. It is submitted that the applicant's reference to a separate case before this Hon'ble Tribunal at paragraph 12 has no bearing on the present case. I crave leave to make appropriate submissions at the time of hearing, if necessary. It is denied that the agricultural land is being destroyed permanently or the (agricultural) production has decreased due to the illegal operation of the raw iron pond as alleged or at all. It is denied that there is contamination of ground water due to deposition of raw iron ore at or near Bisadihi village of Sambalpur district as alleged or at all. It is denied that construction of pond-cum-tailing stock yard has led to serious health, hygiene and environmental problems, as alleged or at all. It is denied that the right to life of the villagers enshrined under Article 21 of the Constitution of India have been violated. It is further denied that the legal principle of inter-generation equity has been threatened as alleged or at all. It is denied that any urgent intervention of this Hon'ble Tribunal in any form is called for in the facts and circumstances of the case. It is denied that any relocation of the iron pond is required to prevent natural calamity as alleged or at all. It is denied that the applicant has a good prima-facie case on merits or that the balance and convenience is in favour of the applicant as alleged or at all. It is denied that any urgent orders or directions from the Learned Tribunal are required to prevent from any further irreversible damages or loss or injury to the human lives as alleged or at all. It is stated the Respondent No 1 has caused no damage to the environment or injury to the mankind or that any illegal act has been committed by the Respondent No 1. I say that the applicant is not entitled

NOTARY ODISHA PRATAP NARAYAN TIWARI JHARSUGUDA REGD. NO. 01/13

For Bhushan Power & Steel Ltd.

Authorised Signatory

to any relief in the instant application. I deny that the said application is bonafide or for the interest of justice as alleged or at all. I say that the said application is bad, illegal, vexatious, speculative and is liable to be dismissed.

10. The Respondent No 1 states and submits that the said application is bad, illegal and is liable to be dismissed with exemplary costs.

11. The statements made in paragraph nos. 1, 3 to 6 (a), (b), (d), (j), (l), 7, 8, 9 are true to my knowledge and those contained in paragraphs 2, 6 (c), 6 (e) to 6(i), 6(k), are information derived from records and rest are my humble submissions before this Learned Tribunal.

For Bhushan Power & Steel Ltd.

Authorised Signatory

DEPONENT

NOTARY PTATAP NARAYAN TIWARI JHARSUGUDA REGD. NO. ON-01/13 GOVT. OF ODISHA

08.7.14

PRATAP NARAYAN TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13
MOB No - 9437345360

Before the National Green Tribunal

Eastern Zone Bench, Kolkata

Original Application No. 43/2024/EZ

Akash Kalo

... Applicant

-Versus-

M/s. JSW Bhushan Power and Steel Limited & Ors.

... Respondents

COUNTER AFFIDAVIT ON BEHALF OF THE RESPONDENT NO 1

NOTARY PRATAP NARAYAN TIWARI NOTARY JHARSUGUDA REGD. NO. ON-0113 GOVT. OF ODISHA

KHAITAN & CO
EMERALD HOUSE
1B OLD POST OFFICE STREET
KOLKATA- 700001

X Annexure – R – 1

Item No.03 Court No.1

BEFORE THE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
(THROUGH PHYSICAL HEARING WITH HYBRID MODE)

Original Application No.43/2024/EZ

Akash Kalo Applicant(s)

Versus

M/s JSW Bhushan Power and Steel Limited & Ors. Respondent(s)

Date of hearing: 12.03.2024

CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER

For Applicant(s) : Mr. Batakrishna Behera, Advocate (in Virtual Mode)

ORDER

1. Heard Mr. Batakrishna Behera, learned Counsel appearing (in Virtual Mode) for the Applicant.

2. The allegation of the Applicant in the present Original Application is that the Respondent No.1, M/s JSW Bhushan Power and Steel Limited, is causing illegal deposition of raw iron dust over the forest land by constructing a pond-cum-stockyard and operating the same in the highly risky level near village Bisadihi, District-Sambalpur, Odisha.

3. It is stated that the Respondent No.1 industry has been established with the objective of operating and manufacturing production of Iron, Sponge Iron, Steel etc. by burning huge quantities of coal situated at Thelkoloi, P.O.- Lapanga, District-Sambalpur, Odisha. It is also stated that for production of iron materials the Respondent Nos.1 & 2 are supposed to keep the raw iron in the stockyard-cum-iron pond by mixing it with water.

4. It is further stated that the iron pond having been constructed by Respondent No.1 is about 200 meters from the Applicant's village

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P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

BHUSHAN POWER & STEEL LTD.

and there is no green belt surrounding the area nor any boundary or polythene sheet has been installed before depositing the raw iron dust after digging 50 feet near the Village-Bisadihi and the underground water is also contaminated with crude iron and turned in red colour.

5. It is stated that construction of raw iron pond-cum-iron stockyard was started in the month of November, 2020, and due to heavy dust pollution and contamination of ground water, the Applicant and other villagers submitted the representation on 14.07.2023 (Annexure-B (colly), before the Respondent No.4, Collector and District Magistrate, Sambalpur, but no action has been taken till date.

6. Photographs have been filed with the Original Application in support of the allegations made in the Original Application.

7. Matter requires consideration.

8. Issue notice to the Respondents, returnable within four weeks.

9. Ms. Papiya Banerjee Bihani, learned Counsel who is present in Court, accepts notice on behalf of the Respondent No.3, State Pollution Control Board, Odisha.

10. Mr. Shakti Prasad Panda, learned Additional Government Advocate who is present (in Virtual Mode), accepts notice on behalf of the Respondent Nos.4, 5 & 6, State Respondents, Government of Odisha.

11. Mr. Dipanjan Ghosh, learned Counsel who is present in Court, accepts notice on behalf of the Respondent No.7, Central Pollution Control Board.

12. Issue notice to the Respondent Nos.1&2, M/s JSW Bhushan Power and Steel Limited, returnable within four weeks.

13. All the Respondents shall file their counter-affidavits within four weeks.

14. Considering the allegations made, we deem it appropriate to constitute a Committee comprising of the following Members:-

    (i) Senior Scientist, Odisha State Pollution Control Board;

    (ii) Senior Scientist, Central Pollution Control Board;

    (iii) Collector-cum-District Magistrate, Sambalpur, or his representative not below the rank of Additional District Magistrate,

15. The Committee shall visit the site in question and submit its report on affidavit within four weeks with regard to the allegations made in the Original Application.

16. The District Magistrate, Sambalpur, shall be the Nodal Office for all logistic purposes.

17. The Committee Report on affidavit shall be filed by the State Pollution Control Board, Odisha.

18. The Counsel Applicant shall serve e-copy/soft copy of the Original Application along with all its annexures upon Mr. Shakti Prasad Panda, Ms. Papiya Banerjee Bihani and Mr. Dipanjan Ghosh, Counsel for the Respondents within 48 hours.

19. **List on 02.05.2024.**

.....
B. Amit Sthalekar, JM

.....
Dr. Arun Kumar Verma, EM

March 12, 2024,
Original Application No.43/2024/EZ
AK

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REGD. NO. ON - 01/13

HINDUSTHAN POWER & STEEL

Annexure – R – 2

E-mail:paribesh1@ospcboard.org
Website: www.ospcboard.org

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
Paribesh Bhawan, A/118, Nilakantha Nagar, Unit – VIII
Bhubaneswar – 751012, INDIA

No. 15404 / IND-II-CTE-6021 Date 04.10.2023

Through Online/
By Regd. Post

AMENDED CONSENT TO ESTABLISH ORDER

In consideration of the online application No. **729947** for Consent to Establish for **M/s Bhushan Power and Steel Ltd,** the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 for modification/amendment of Consent to Establish of **Integrated Steel Plant capacity from 5.5 MTPA & CPP capacity 710 MW to Integrated Steel Plant capacity 4.5 MTPA & CPP capacity 546 MW within its existing premises of Acs. 1950.25 Dec with additional project cost of ₹ 4900 Crores in supersession of the earlier CTE Order issued vide SPCB CTE order No.- 20324 dt.17-12-2021**At- Thelkoloi, P.O- Lapanga, Tahasil – Rengali (Plot Nos. and Khata Nos. as mentioned in the application form) in the district of **Sambalpur.**

The existing and proposed plant facilities are as follows.

Sl. No.	Facilities	Capacity as per3.0 MTPA CPP of 560 MW (CTE Order No.20712 Dt.06.11.2023)	Capacity as per 5.5 MTPACPP of 710 MW (CTE Order No. 20324 Dt.17.12.2021)	Present Facilities as per CTO Order No.4429 Dt. 22.03.2023	Proposed capacity at 4.5 MTPA and CPP of 546 MW	Change/ Remarks
1	Coal Washery	1×1.0 MTPA + 1× 3.5 MTPA Total 4.5 MTPA	1×1.0 MTPA + 1× 3.5 MTPA Total 4.5 MTPA	1 × 1.0 MTPA + 1 × 3.5 MTPA	1 ×1.0 MTPA + 1 × 3.5 MTPA Total: 4.5 MTPA	No change
2	Iron Ore Beneficiation Plant	1×1200 TPH	1×1200 TPH 6.5 MTPA	1200 TPH	1×1200 TPH 6.5 MTPA	No change
3	Pellet Plant	1×3.5 MTPA	4.0 MTPA	3.5 MTPA	4.0 MTPA	No change
4	Sinter Plant	1×105 m^2 + 1×450 m^2	SP-1: 1 ×105 m^2 SP-2: 1 × 450 m^2 Total: 5.9 MTPA	SP-1: 1 x 105 m^2 SP-2: 1 x 450 m^2	SP-1: 1 ×105 m^2 SP-2: 1 ×450 m^2 Total: 5.9 MTPA	No change
5	Coke Oven	2 x 0.45 MTPA (Non Recovery Type)	2 x 0.45 MTPA (NR) 1 x 1.2 MTPA	1 x 0.45 MTPA (NRT) 1 x 1.0 MTPA	1 ×0.45 MTPA (NR))	0.45 MTPA (NR) surrendered

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REGD. NO. ON - 01/13

BHUSHAN POWER & STEEL LTD.

Sl. No.	Facilities	Capacity as per3.0 MTPA CPP of 560 MW (CTE Order No.20712 Dt.06.11.2023)	Capacity as per 5.5 MTPACPP of 710 MW (CTE Order No. 20324 Dt.17.12.2021)	Present Facilities as per CTO Order No.4429 Dt. 22.03.2023	Proposed capacity at 4.5 MTPA and CPP of 546 MW	Change/ Remarks
		1 x1.0 MTPA (Recovery Type)	(Recovery) Total: 2.1 MTPA	(RT)	1 ×1.2 MTPA (Recovery) Total: 1.65 MTPA	
6	DRI Kiln	14× 500 TPD	1×4 500 TPD Total: 2.3 MTPA	12× 500 TPD	12×500 TPD Total: 2.0 MTPA	2×500 TPD DRI Kiln surrendered
7	Blast Furnace	1×1008 m^3 + 1 ×2015m^3	BF 1 :1× 1008 m^3 + BF 2 :2 × 2015 m^3 Total: 3.9 MTPA	BF 1 :1 × 1008 m^3 + BF 2 :1 × 2015 m^3	1 ×1120m^3 (0.8 MTPA) 1 × 2015 m^3 (1.55 MTPA) Total: 2.35 MTPA	Augmentation of BF from 1008 m^3 to 1120m^3 and 1×2015 m^3 BF surrendered
8	EAF/Zero Power Furnace (ZPF)	(6×100)T	**SMS-1:** EAF: 4×100T **SMS-2:** EAF: 2×100T Total: 600 T	**SMS-1:** EAF: 2×90T + 2× 100 T **SMS-2:** EAF: 1× 70 T	**SMS-1:** EAF:4×105 T **SMS-2:** EAF: 1×75 T + ZPF: 1×75 T Total: 570 T	4×100 is upgraded to 4×105 T and 2×100 T EAF change to 1×75 T EAF +1×75 T ZPF
9	LF	(6×100) T	6×100 T + 2 × 250 T Total 1050T	**SMS-1:** EAF: 2 × 90T + 2×100 T **SMS-2:** EAF: 1 × 70 T	6x100 T+2 x 75 T Total 675 T	250 T LF changed to 75 T LF
10	Alloy Smelter	NIL	4 x 16 MVA	NIL	NIL	All units surrendered
11	BOF	NIL	2x250 T	NIL	Nil	All units surrendered
12	VD/AOD	(2×100) T	(As per CTE :1× 100 T + (As per EC :1 ×100 T + 2 × 250 T)	NIL	2 ×100 T +2 × 75 T	2x250T LF changed to 2×75 T VD/AOD
13	RH	NIL	2 × 250 T	NIL	NIL	All units surrendered
14	HMDP	NIL	2 × 250 ton Total 500 T	NIL	2×100 T Total 200 T	300 T Surrendered
15	Lime Plant	3×300 TPD + 1× 600 TPD	3 × 300 TPD + 2×600 TPD	3 × 300 TPD + 1 × 600 TPD	3×300 TPD + 2 × 600 TPD	No change
16	Dolo Plant	1×300TPD + 1×100TPD	1x300TPD+ 1x100TPD+1x600TPD		1×600 TPD	1×100 TPD +1×300 TPD Surrendered
17	Billet caster	1×2 +2×4 +1×5 Strand	1×2 +2×4 +1×5 Strand	1×2 +1×4+1×5 Strand	1×3 +2×4 Strand	4 Strands surrendered
18	Oxygen Plant	1× 400TPD + 1× 660 TPD	1 × 400 TPD + 1 × 660 TPD + 1 × 1250 TPD	1× 400 TPD + 1 × 660 TPD	1 ×400 TPD + 1× 660 TPD + 1× 1000 TPD+	Reduction of capacity 1250 TPD to 1000TPD. Addition of 3×200 TPD

Sl. No.	Facilities	Capacity as per3.0 MTPA CPP of 560 MW (CTE Order No.20712 Dt.06.11.2023)	Capacity as per 5.5 MTPACPP of 710 MW (CTE Order No. 20324 Dt.17.12.2021)	Present Facilities as per CTO Order No.4429 Dt. 22.03.2023	Proposed capacity at 4.5 MTPA and CPP of 546 MW	Change/ Remarks
					3 × 200 TPD	(VPSA)
19	Bloom Caster	1× 2 Strand	1 × 2 Strand	NIL	NIL	All units surrendered
20	CSP/USP	1.8 MTPA	4.0 MTPA	1.8 MTPA	4.0 MTPA	No change
21	Thin Slab Caster	2×1 Strand	3 × 1 Strand	2 ×1 Strand	2 × 1 Strand	1 × 1 strand surrendered
22	Cold Rolling Mill	1.0 MTPA	2.5 MTPA	1.0 MTPA	2.5 MTPA	No change
23	HR Skin Pass Mill	NIL	0.4 MTPA	NIL	NIL	All units surrendered
24	Pipe and Tube Mill	0.2 MTPA	0.80 MTPA	0.2 MTPA	0.80 MTPA	No change
25	Galvanizing Line	0.50 MTPA	0.7 MTPA	0.50 MTPA	0.7 MTPA	No change
26	Galvalume Line	0.50 MTPA	0.6 MTPA		0.6 MTPA	No change
27	Coil Annealing Line	NIL	0.7 MTPA	NIL	NIL	All units surrendered
28	Color Coating line	0.45 MTPA	0.35 MTPA	0.45 MTPA	0.7 MTPA	Addition of 0.35 MTPA
29	Wire Rod &Mill	0.45 MTPA	0.45 MTPA	0.45 MTPA	0.60 MTPA	Addition of 0.15 MTPA
30	Heavy Bar Mill	0.55 MTPA	0.55 MTPA	NIL	0.60 MTPA	Addition of 0.05 MTPA
31	Cement Plant (Slag grinding and blending)	1.0 MTPA	1.0 MTPA	NIL	2.0 MTPA	Addition of 1.0 MTPA
32	Captive Power Plant	560 MW	Total 710 MW (Coal fired & WHRB)	506 MW (a) 3 ×130 MW (4 ×210 TPH CFBC Boiler + 1 ×390 TPH CFBC Boiler + 1 ×340 TPH CFBC Boiler (b) 2 ×8 MW (WHRB of Coke Oven) (c) 40 MW (1 ×75 TPH AFBC Boiler) (d) 60 MW (1 ×150 TPH AFBC Boiler)	Total 546 MW (Coal fired, Gas & WHRB) {3 ×130 MW (CFBC-Coal & WHRB of DRI 5-12)} + {40 MW (AFBC & WHRB of DRI 1-4)} + {60 MW (AFBC & WHRB of DRI 1-4)} + {16 MW (WHRB of NR Coke Oven) + {40 MW (250 TPH Process	Surrender of 150 MW CPP and Addition of 40 MW (250 TPH coal/gas based boiler)

Sl. No.	Facilities	Capacity as per3.0 MTPA CPP of 560 MW (CTE Order No.20712 Dt.06.11.2023)	Capacity as per 5.5 MTPACPP of 710 MW (CTE Order No. 20324 Dt.17.12.2021)	Present Facilities as per CTO Order No.4429 Dt. 22.03.2023	Proposed capacity at 4.5 MTPA and CPP of 546 MW	Change/ Remarks
					Steam BoilerCoal/ Gas based)}	
33	Slag processing unit	NIL	NIL	NIL	300TPH + 150 TPH	New
34	Iron ore crusher	NIL	NIL	NIL	350TPH	New

The Consent to Establish is granted with the following conditions.

GENERAL CONDITIONS.

1. This Consent to establish is valid for the raw materials, product, manufacturing process and capacity mentioned in the application form. This order is valid for **five** years which means the proponent shall commence construction of the project within a period of five years from the date of issue of **SPCB CTE order No. - 20324 dt.17-12-2021**. If the proponent fails to do substantial physical progress of the project within the validity period of five years, then a renewal of this consent to establish shall be sought by the proponent.
2. The industry shall comply to the provisions of Environment Protection Act, 1986 and the Rules made there under with their amendments from time to time such as the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 as amended from time to time, Hazardous Chemical Rules, Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989 etc. and amendments there under. The industry shall also comply with the provisions of Public Liability Insurance Act, 1991, if applicable.
3. The industry is to apply for grant of Consent to Operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board.
4. **This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

SPECIAL CONDITIONS

A. GENERAL CONDITIONS.

1. The proponent shall comply the conditions imposed in environmental clearance granted by the MoEF&CC, Govt. of India vide EC Identification No. EC23A008OR181742, File No. 11011/40/2009-IA-II(I). dated 13.01.2023 and 18-07-2023 for expansion of integrated Steel Plant capacity from 3.0 MTPA to 4.5 MTPA (Crude Steel production) along with CPP from 710 MW to 546 MW.
2. The proponent shall provide temporary storage space within the plant premises for storage of solid and hazardous waste before final disposal. The hazardous and e-waste shall be stored under covered shed on concrete floor.

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3. The proponent shall submit six monthly progress report every year (i.e. June and December) of construction activity of the project to the Board (at Head Office and Regional Office) for record and verification.
4. Certificate from the designer or manufacturers of plant facilities shall be provided to the Board before going for installation of plant facilities. An undertaking shall also be submitted to the Board before construction activities that the installed capacity shall not exceed Consent to Establish capacity.
5. This Consent to Establish is granted for the capacity as mentioned above and any expansion in the capacity, change or modification in the process, addition, alternation any nature has to be undertaken with prior approval of the Board. For any change in the site or area, fresh Consent to Establish has to be obtained from the Board. The proponent shall carry out construction activity as per approved lay out map (**enclosed**). If the proponent wants to change the approved plant layout map, they can submit a modified plant layout map with adequate justification for such modification.
6. The Proponent shall comply with the environmental standard for integrated Iron& Steel plant notified by the MoEF&CC. Govt. of India vide Gazette Notification No. G.S.R 277(E) Dt. 31.03.2012 and amendment made thereof.
7. The proponent shall earmark the Greenbelt/Green area, Solid, Hazardous and other Waste storage area and ETP/STP area etc. as per the approved plant layout by putting display board at the time of construction work of the project without diverting the same for other purpose. Further, the industry shall earmark adequate area for surface run off treatment system at different locations inside the plant. Same shall be verified at the time of construction work by the Regional Officer and/or Head Office of SPCB.
8. A green belt of adequate width and density preferably with local species along the periphery of the unit shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under green cover, in such a manner that, plantation shall be taken up progressively to achieve 100% by September 2024 and under no circumstances this land earmarked for green belt shall be used for any other purpose.
9. The proponent shall not divert any other purpose for the area earmarked for solid waste disposal (Ac. 30.0 Dec) and green belt development (Ac. 643.60Dec).
10. Dedicatedrailwaysidingwithinthesteelplantcomplexshallbeestablishedbytheproponentby December,2023 for the transportation of materials
11. The industry shall review conditions stipulated in Consent to Establish/ Environmental Clearance and their implementation well in advance before applying for Consent to Operate.
12. The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of Environment Impact Assessment (EIA) report.
13. The unit shall obtain NOC from CGWA for using of ground water for getting Consent to Operate of State Pollution Control Board, Odisha.
14. The proponent shall obtain permission from Department of Water Resources, Govt. of Odisha for drawl of ground water and surface water.
15. Good housekeeping practices shall be followed to improve the work environment. All roads and shop floors shall be cleaned regularly.
16. The construction and demolition wastes to be generated from the proposed project shall be disposed of in accordance with the provision under "Construction & Demolition Wastes Management Rules 2016".

17. The proponent shall comply to the provisions of E-Waste (Management) Rules, 2016 and shall handover e-waste to authorized collection centers/register dismantlers/recyclers for proper disposal of e-waste.
18. The proponent shall comply with the provision made under Plastic Waste Management Rules, 2016 and amendment made thereafter and shall ensure prohibition on use of Single Use Plastics within the premises.
19. All the plastic waste generated from the premises shall be collected and sent for co-processing to the nearby cement kilns and/or registered recyclers under Plastic Waste Management Rules, 2016.
20. Monitoring of stack emissions, fugitive emissions, trade effluent and noise level shall be done as per CPCB regulations.
21. The environmental quality monitoring of air, surface and ground water and soil shall be carried out regularly in the disposal area and the monitoring report shall be submitted to the Board quarterly.
22. The industry shall comply to all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines.
23. Parkingareafortrucks/dumpersshallbeprovidedwithinthesteelplant.Notruck/dumpershallbeparked outside the steel plant premises.
24. The occupational health envisaged in the integrated steel plants are respiratory problems due to dust and CO poisoning due to accidental exposure to untreated gases. Workers working in the areas like RMH yard and other dusty areas that generate fugitive dust should be diagnosed for respiratory functions at periodic intervals and during specific complaints for lung function test, sputum test, X-ray test etc. in order to cater to routine mechanical injury to body parts, first aid boxes equipped with medicines should be kept handy. The proponent shall provide a health care facility for the above purpose.
25. The proponent shall provide a full-fledged Environmental Management Cell and head of Environmental Management Cell should report to the unit head. A detail structure of Environmental Management Cell is to be submitted to the board at the time of applying Consent to Operate to the Board.
26. The civil construction shall be carried out with fly ash bricks. A statement indicating use of fly ash bricks during construction period shall be submitted to the Board quarterly for record.
27. The Board may impose further conditions or modify the conditions stipulated in this order during installation and/or at the time of obtaining consent to operated and may revoke this clearance in case the stipulated conditions are not implemented and/or any information suppressed in the application form.
28. No production activity shall commence prior to installation of all pollution control measures. In case, it is found that the plant is operating without installation of appropriate pollution control equipment and without permission for trial operation form the Board, a direction of closure shall be issued u/s 31(A)of Air (PCP) Act, 1981 and /or u/s 33(A) of Water (PCP) Act, 1974 without any further notice in this regard.
29. All compliance shall be made with respect to manufacture, storage and import of Hazardous Chemical Rule, 1989 and other provisions of the Environment Protection Act,1986.

B. <u>WATER POLLUTION</u>

30. The proponent shall adopt Zero Liquid Discharge of effluent as proposed and under no circumstances there shall be discharge of any effluent outside the factory premises.

31. The industry shall conduct surface run off management study and develop rain water harvesting structures and surface runoff treatment systems inside the premises.
32. Rainwater harvesting structure shall be developed inside the plant premises and maximum effort shall be made to reuse harvested rainwater, with a definite plan and programmed to reduce the drawl of fresh water from water bodies. **Under no circumstance ground water recharge shall be done.**
33. The runoff water from the whole factory premises including solid waste dumping area shall be collected through dedicated garland drains and shall be adequately treated in the wastewater treatment plants (WTP-I, WTP-II and WTP-III) so as to meet the prescribed standard of the Board and shall be reused to maximum extent and excess if any shall be discharged to outside in rainy season only. Additional wastewater treatment plants shall be installed if required.
34. Coke Dry Quenching (CDQ) shall be provided for coke quenching for both recovery and non-recovery type coke oven. Coke Oven Gas shall be desulfurized. Tarsludge shall be mixed with coal and reused.
35. The proponent shall provide modified wet quenching system as standby in coke oven plant.
36. The project proponent shall provide the ETP for coke oven and by-product to meet the standards prescribed in G.S.R277 (E) dated 31st March 2012 (Integrated Iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O.3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time; Treated water from ETP of COBP shall not be used for coke quenching.
37. The wastewater generated from the Coke Oven-II (Recovery Type) and their respective coal chemical departments shall be adequately treated in the BOD plant and the treated effluent after confirming to the prescribed standard shall be utilized in coke quenching in coke oven, slag granulation in blast furnaces and dust suppression. Under no circumstances, there shall be any diversion of effluent from coke oven and byproduct plant into any other drains or discharge system.
38. Wastewater generated from raw water treatment system and back wash of filtration plant shall be properly treated and taken to guard pond and reused.
39. The storm water drain should be so designed that the industrial effluent does not have any access under any circumstances.
40. The proponent shall provide garland drain around coal storage area followed by series of settling tanks to retain the solids, if any, in order to prevent damage to the surrounding land and water bodies.
41. The total water consumption including domestic use shall not be more than 5 m^3/ton of steel for long products and 8 m^3/ton steel for flat products.
42. Specific water consumption in the power plant shall be limited within 3.5m^3/MWh by 6th Dec, 2017 as per MoEF& CC vide Notification dtd. 07.12.2015.
43. Wastewater generated from the pickling lines of Cold Rolling Mill, color coating and galvanizing plants shall be treated in the modified ETP and the treated water shall be reused. Care shall be taken to avoid spillage of the pickling acids. Sludge generated at CRM ETP shall be sent to TSDF. Acid recovery plant shall be included to recover acid from pickling lines.
44. Water used for cooling purposes in sinter plant shall be fully recycled in a closed loop. The periodical cooling blow down shall be treated in existing RO plant and shall be reused.

45. Cooling blow down from DRI plants shall be treated in settling tank and recycled for cooling with make-up water.
46. Cooling blow down from SMS plant shall be treated in settling tank and recycled for cooling with make-up water.
47. Acidic/Alkaline effluent generated from DM water plant shall be properly neutralized and taken to common monitoring basin.
48. Oil catch pits shall be provided in the oil handling area of CPP for collection of spillages.
49. The wastewater generated from Blow down from WHRB boiler/AFBC boilers, leakages in Power Plants, and DM plant effluent shall be treated individually shall meet the following standards before it is discharged to the common monitoring basin and shall be used for dust suppression purposes inside the factory premises.

Parameters	Boiler Blow down	Cooling Tower Blow down	DM plant
pH	------	------	6.5 to 8.5
Suspended solids	100	------	100
Oil and grease	20	------	10
Copper (Total)	1.0	------	------
Iron (Total)	1.0	------	------
Free available Chlorine	-------	0.5	------
Zinc	------	1.0	------
Chromium (Total)	------	0.2	------
Phosphate	------	2.0	------

N.B: Limiting concentration in mg/l except for pH.

50. The wastewater is generated from various sections like Coke Oven, Sintering Plant, Blast Furnace, Steel Melting Shop. Rolling Mill etc. shall conform to the following prescribed standards and shall be recycled.

Parameters	Coke oven	Sintering Plant	Blast Furnace	Steel melting Shop	Rolling Mill
	Standards				
pH	6.0 to 8.5	6.0 to 8.5	6.0 to 8.5	6.0 to 8.5	6.0 to 9.0
Suspended Solids	100	100	50	100	100
BOD, 3 days at 27°C	30	----	10	----	----
COD	250	-----	----	----	----
Oil and Greases	10	10	----	10	10
Ammoniacal Nitrogen as N	50	----	50	----	----
Cyanide as CN	0.2	----	0.2	----	----
Phenol	1.0	----	-----	-----	-----

N.B: Limiting concentration in mg/l except for pH.

51. The treated effluent shall be recycled and reused in industry and/or used for water spraying or green belt development etc. the excess wastewater shall be collected in Common monitoring basin for reuse/recycle.
52. The unit shall reuse the treated effluent from the WWTP-I, WWTP-II, WWTP-III for dust suppression, green belt, and ash handling. The unit shall adopt zero discharge concept as proposed in the environment management plan.
53. The industry shall explore to adopt chemical free automated self -maintained electrolysis system for removal of scale, corrosion, bio-film from cooling towers and automated tube cleaning system for heat exchangers and condensers with remote access and alarm system wherever applicable for conservation of water and energy to reduce wastewater generation and increase plant efficiency.
54. The unit shall install online Continuous Effluent Quality Monitoring System (CEQMS) at the outlet of Effluent Treatment Plants (ETPs), STPs and Common Monitoring Basin for online real time data transmission through GPRS system to SPCB RTDAS server of SPCB, Odisha and CPCB.
55. Storm water shall not be allowed to mix with effluent. Scrubber water and/or floor washing and shall be channelized through separate drains as per natural gradient, passing through High Density Polyethylene (HDPE) lined pits, each having holding capacity of 10 minutes (hourly average) of rainfall.
56. In the iron ore beneficiation plant, process wastewater is to be recycled form thickener overflow to the maximum possible extent and **the underflow to be further treated in paste thickener** in order to reduce surface water pollution to ensure zero discharge to the surrounding environment and supplement process water requirement.
57. The industry shall operate mechanized wheel washing system along with effluent treatment and recycling facilities for the raw material/product/solid waste transport vehicles at the exit point of the industry.
58. The domestic effluent generated from colony and plant buildings shall be treated in STP and shall meet the standards prescribed by MoEF& CC vide notification G.S.R 1265(E) dtd.13th October 2017 as follows; pH - 6.5-9.0, BOD - less than 30mg/l, TSS - less than 100mg/l and Fecal Coliform (FC) MPN/100ml<1000.
59. The Effluent Treatment Plant (ETP) and the Sewage Treatment Plant (STP) shall be operated effectively and continuously through a dedicated experienced team, so as to confirm to the prescribed norms.
60. The performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter shall conducted by a reputed institute like NIT/IIT and annual report shall be submitted to the Board by end of June for previous financial year.
61. Flow meter and level sensors with telemetry system should be installed in the bore wells as stipulated by Central Ground Water Authority/Water Resources Department.
62. Maximum recovery of iron ore fines/micro fines need to be encouraged by adoption of hydro-cyclones, slow speed classifiers in the wet beneficiation circuit in order to increase the life of tailing dam.
63. Garland drains along with settling pit shall be provided around the iron ore fines stock yard to control washout of iron ore fines form the stockyard along with surface runoff.
64. Tailing pond shall be located on impervious areas with deep water table. The ground underlying the dam must be structurally sound and able to bear the weight of impoundment.
65. Under no circumstances, the industry shall use ground water for construction as well as operational activities. An undertaking to this effect shall be submitted. Ground water

level in the plant be monitored every six months (once each in December/January and July/August) so as to keep track of the depletion of the ground water table.

66. Depending on the environmental condition, stricter standards may be imposed for the effluent or restriction for discharge may be made for which adequate facilities from the beginning shall be made to made to meet such situation in future.

C. AIR POLLUTION

67. Dust emission from Steel Plant stacks shall be up to 30 mg/Nm^3.
68. Gas flaring shall be restricted to <1%.
69. The proponent shall comply with the emission standards for Integrated Iron & Steel plant notified by the MoEF&CC, Govt. of India vide Gazette Notification No. G.S.R. 277(E) dt. 31.03.2012.
70. The emission standards issued by the MoEF&CC, Govt. of India vide G.S.R. No. 612 (E)dated 25th August, 2014 and subsequent amendment dated 9th May, 2016 and 10th May, 2016 regarding cement plants with respect to particulate matter, SO2 and NOx shall be followed as hot gases from HAG will be vented through cement mill main stack.
71. The proponent shall comply with the emission standards for Thermal Power Plant notified by the MoEF&CC, Govt. of India vide Gazette Notification No. G.S.R. 593 (E) dt. 30.06.2018.
72. Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National ambient air quality standards and standards for noise in industrial area as per **Annexure-I.** Ambient air quality at the boundary of the plant premises shall meet the prescribed standards of the Board as per **Annexure - II.** The ambient air quality monitoring report shall be submitted to the Board every month.
73. The unit shall install online Continuous Stack Emission Monitoring Systems (CSEMS) at all the stack of the plant for online real time monitoring for PM, SO_2 and NO_x (particulate matter and gaseous pollutants) and operated effectively & uninterruptedly data transmission through GPRS system and shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server for use by SPCB/ CPCB.
74. Online analyzers for measuring flow, temperature and velocity of flue gas shall be installed at the stacks and integrated with online CEMS data.
75. The industry shall strictly follow the guidelines of CPCB dated July, 2018 for Online Continuous Effluent Monitoring Systems (OCEMS) and Guidelines for continuous Emission Monitoring Systems of August, 2018 for PM and other gaseous pollutants.
76. The industry shall ensure tampered proof real time transmission of online monitoring data to the server of CPCB and SPCB and maintain the health of the analyzers and data connectivity through valid AMC.
77. The emission of SO_x, NO_x and Mercury from captive power plant shall meet the standards prescribed by MOEF & CC of India. Online mercury analyzer shall be installed at the stack of CPP. Online monitoring system for PM, SO_2, NO_X, Hg for thermal power plants as per CPCB guideline for CEMS, July 2017 and Standards prescribed for these parameters by MoEF & CC Dt 7.12.2015 shall be complied.
78. The unit shall provide low NO_x burners to reduce NO_x emission to keep the level within the prescribed standard by MoEF& CC vide Notification dtd. 07.12.2015.
79. Steps shall be taken for installation of Flue Gas Desulpurisation (FGD) system in future if required to keep the SO_2 level within 600mg/Nm^3 to confirm the MoEF& CC Notification

dtd. 07.12.2015. This shall also include management and disposal of effluent / solid waste to be generated from FGD system.

80. The unit shall install online Continuous Ambient Air Quality Monitoring Systems (CAAQMS) within and outside the plant premises at least at six locations covering upwind and downwind directions at an angle of 120° each for online real time monitoring and data transmission through GPRS system to SPCB RTDAS server and also upload data for use by CPCB.
81. Industry shall install HD IP (Internet Protocol) surveillance cameras at suitable location to view emission from all the stacks and fugitive emission of the plant, having PAN, Tilt, Zoom (PTZ) with wiper facility and minimum 30X optical zoom. The camera shall support day & night operation with Infra-red cut filters, cover 400m or more distance. The camera must support latest network protocols, network security (password protection, IP address filtering, HTTPS encryption), 3rd party applications and supported with Network Security Certificate of NIST. This camera shall comply with international standards IEC 62262, IP66 with IK10 ratings or higher quality. Real Time Un-interrupted data from this online IP camera shall be connected with the Central Server of State Pollution Control Board, Odisha through IoT/GPRS device for data streaming and/or through dedicated lease line by the industry. The industry shall make provisions at the site to store video streaming data of this camera for at least one month and facility for data migration to external devices.
82. Ambient Air Quality shall be maintained as per National Ambient Air Quality standard prescribed for industrial and mixed used area under E(P) Act, 1986.
83. The minimum stack height of the boilers, furnaces, kilns etc., shall be according to the following formula:

    $H = 14 (Q)^{0.3}$ meters

    H = Height of the stack in meter and

    Q = Quantity of SO_2 emission in kg/hr
84. Air compressor and DG set should be acoustically designed and should be housed in appropriate acoustic enclosures so that the noise level outside it shall conform to the prescribed norms.
85. D.G. sets should be acoustically enclosed with anti-vibration measures and equipped with A.M.F. (Auto Mains Failure Device) for auto changeover of power supply from grid to D.G. in the event of power failure. The AMF Panel should preferably be PLC (Programmable Logic Control) based. Dedicated D.G. sets of adequate capacity shall be installed to ensure adequate standby power supply to run all pollution control devices of the plant in the event of power failure.
86. The height of the stack attached to D.G. sets shall be maximum of the following in meter:

    $14 Q^{0.3}$, Q=Total SO_2 emission from the plant in kg/hr.

    Minimum 6 m above the building where generator set is installed.

    30 Mts.

    The emission standards and regular check up shall be carried out as per norms prescribed under Environmental Protect Act 1986 and rules framed thereunder.

87. The proponent shall install ESP in Sinter Plant and Indurating Furnace to control emission so as to meet the following standards:
    (i) Sinte plant -30 mg/Nm^3
    (ii) Indurating furnace - 30 mg/Nm^3.

(iii) Sinter cooler waste recovery system shall be installed to generate process steam or power. Equipped with MEROS technology to reduce emission ofSO_2, NOx and heavy metals.

88. The proponent shall also design all the newair pollution control equipment such as ESP and bag filters to achieve an emission standard of 30 mg/Nm^3 with one spare field during the design of ESP.
89. The proponent shall install Pneumatic dust handling system in Electro Static Precipitator (ESP) and Bag Filters. A mechanical operated system for timely collection and removal of the flue dust generated in air pollution control device shall be installed.
90. Sinter Plant shall be equipped with Sinter cooler waste recovery system and suitable technology for control of dioxins and furans emissions from the plant.
91. The unit shall provide adequate dust extraction system such as bag filter in the fuel and flux crushing unit, proportioning unit and plant de-dusting unit of Sinter plant so that particulate matter emission shall not exceed 30 mg/Nm^3.
92. Adequate air pollution control equipment shall be installed at all sources of emissions so as to meet the prescribed norms under the Environment Protection Act, 1986 particularly with respect to Blast Furnace, Sintering plant, Material Handling section, Coke Oven, Steel Melting Shop, Rolling Mill etc. Depending on the environmental conditions after operation of the plant or otherwise, stricter standards than prescribed under Environment Protection Act 1986 and rules framed thereunder may be imposed. As such the project proponent right from now select the best air pollution control equipment to achieve such norms as prescribed from time to time.
93. The prescribed emission standards for coke oven plant are as follows:

Emission standards		
New Batteries (at Green field site)	**Fugitive visible emission**	**Parameter**
	Leakage from door	5 (PLD)
	Leakage from charging lids	1 (PLL)
	Leakage from AP covers	4 (PLO)
	Charging emission (Second / charge)	16 (with HPLA)
PLD - Percent leaking doors , PLL - Percent leaking lids , PLO - Percent leaking off takes and HPLA-Aspiration through high pressure liquor injection in gooseneck		
Stack emission standards	SO_2 (mg/Nm^3)	800
	NO_x (mg/Nm^3)	500
	Particulate matter (mg/Nm^3)	30
	Particulate matter during charging of stamp charging batteries (mg/Nm^3)	25
	Sulphur in coke oven gas used for heating (mg/Nm^3)	800
Fugitive emission: Benzo (a), Pyrene (BaP)	Battery area (top of the battery) (µg/m^3)	5
	Other units in coke oven plant (µg/m^3)	2
	Carbon Monoxide in coke oven	3 kg/ton of coke produced
	Particulate matter during coke pushing in coke oven	5 gm/ton of coke produced.
	Particulate matter for quenching	50 gm/ton of coke

	operation in coke oven	produced.

94. The Unit shall adopt the following for Control of emission in Coke Ovens
    a. Land-based APCsystemshallbeinstalledtocontrolcokepushingemissions.
    b. Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustionefficiencyandcross leakages in thecombustion chamber.
    c. Vapor absorption system shall be provided in place of vapour compression system forcoolingofcokeovengasin caseof recoverytype cokeovens.

95. The prescribed emission standards for Sintering Plant, Blast Furnace, Steel Melting Shop, (Basic Oxygen Furnace), Electric Arc Furnace, Rolling mill and Lime Kilns are as follows:

Source	Pollutant		Emission Standard
Sinter plant	Particulate matter (mg/Nm^3)		30
Blast Furnace	**Stack emission**		
	Particulate matter (mg/Nm^3)		30
	SO_2 (mg/Nm^3)		200
	NOx (mg/Nm^3)		150
	CO (Vol/Vol)		1 % maximum
	Space de-dusting / other stacks of BF area		
	Particulate matter (mg/Nm^3)		**30**
	Fugitive emission		
	Particulate matter size less than 10 microns (µg/m^3)		3000
	SO_2 (µg/m^3)		150
	NOx (µg/m^3)		120
	CO (µg/m^3)	8 hours	5000
		1 hour	10,000
	Lead as Pb in fugitive dust (µg/m^3) at cast house		2
Steel Melting Shop (SMS)	**Stack emission**		
	Particulate matter (mg/Nm^3)		**30**
	Particulate matter (mg/Nm^3)	Blowing / lancing operation	Should be with gas recovery
		Normal operation	Should be with gas recovery
	Fugitive emission		
	Particulate matter size less than 10 microns (µg/m^3)		3000
	SO_2 (µg/m^3)		150
	NOx (µg/m^3)		
	CO (µg/m^3)	8 hours	5000
		1 hour	10,000
	Lead as Pb in fugitive dust (µg/m^3) at cast house		2
Rolling Mill	**Stack emission**		
	Particulate matter (mg/Nm^3)		**30**
Electric arc Furnace	**Stack emission**		
	Particulate matter (mg/Nm^3)		**30**
Lime kiln	Emission standard (capacity above 40ton		

	per day)	
	Particulate matter (mg/Nm^3)	150

96. Blast Furnaces shall be equipped with Top Recovery Turbine (capacity more than 450m^3), dry gas cleaning plant, stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.
97. Basic Oxygen Furnace (BOF) gas shall be cleaned dry.
98. The unit shall provide secondary fume extraction and gas cleaning facilities to extract fumes and gas cleaning system comprises of water cooled duct, gas cooler, (bag house, ID fan and stack in the Electric Arc Furnace so that particulate matter emission shall not exceed 30 mg/Nm^3.The waste Heat Recovery system for charge preheating shall be included for 75T Electric Arc Furnace.
99. Submerged Arc Furnace and Electric Arc Furnace shall be closed type with 4th hole extraction system.
100. Producer gas plant shall not be established by the proponent.
101. The unit shall provide adequate dust extraction system such as bag filter in the stack attached to Laddle Refining furnace so that particulate matter emission shall not exceed 30 mg/Nm^3. Use torpedoladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles.
102. Working area including the roads surrounding the plant shall be asphalted or concreted & water sprinkling system shall be installed to suppress the fugitive dust emission.
103. The raw material handling yards shall be provided with adequate water sprinkling facilities so as to prevent fugitive dust generation during raw material handling and vehicle movement. All the raw material processing units and their transfer points shall be provided with an adequate network of dry fog nozzles. The dust suppression system shall be operated continuously and effectively to avoid dust nuisance in the area.
104. Both dust suppression (dry fog) and extraction (bag filter) system shall be provided at all dust generating source such as crushing, screening & material transfer points etc. to control fugitive emission.
105. Cement from the cement grinding section shall be transported to the storage silo through pneumatic conveying system and same shall be of closed type and connected to the dust extraction system.
106. The emission norms applicable for the cement plant shall be adhered to.
107. Dioxin and Furan monitoring shall be carried out once in six months at cement kiln stack.
108. The unit shall adopt adequate safety measures such as exposure to high temperature surfaces, exposure to CO emissions, and prevention (and control) of explosions and backfires.
109. Leakage proof doors shall be provided to control fugitive dust emission during the operation of coke oven plant.
110. Coke oven gas shall be desulfurized.
111. Air pollution control devices shall be maintained properly. Fabric bags and cages in bag house shall be checked regularly and replaced whenever required. Adequate availability of spares shall be ensured for immediate replacement.
112. 85-90 % of billets/slabs shall be rolled directly in hot stage. Only 10-15 % rolling shall be done through RHF using only Light Diesel Oil or Mixed BF/CO gas.

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113. All Pollution control equipment may be provided with separate electricity meter and totalizer for continuous recording of power consumption. The amperage of the ID fan may also be recorded continuously. Non-functioning of Pollution control equipment should be recorded in the same logbook along with reasons for not running the Pollution Control Equipment.
114. The unit shall provide porthole and platform at suitable location with safe approach to conduct emission and monitoring at all the stacks.
115. Desulphurization of flue gas from different sources if and when asked for shall be adopted by the industry. Therefore adequate space shall be earmarked at the installation stage for establishment of desulphurization plant if required in future.
116. There shall be no leakage of flue gas through the emergency caps, slip rings or any other process areas of DRI kilns except during exigencies.
117. There shall not be any leakages from flanges and pipes and gas conveyance system of the Blast furnaces and such leakages if any shall be immediately attended.
118. The Pneumatic Dust Handling system installed at the hoppers of all the ESPs and bag filters shall be operated continuously and effectively so that no fugitive dust nuisance is created.
119. The performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, AAQMS & surveillance cameras shall conducted by a reputed institute like NIT/IIT and annual report shall be submitted to the Board by end of June for the previous financial year.
120. The digital display board installed at the main gate shall be of minimum size of 6ft x 4ft as stipulated by CPCB with provision of display of real time data online analyzers (CEMS, CAAQMS & CEQMS), so that the public can visualize the actual emission and the values of parameters displayed at the gate. Outdoor LED video screens should be preferred for digital display of environmental parameters, CTO and authorization conditions and awareness clippings on environment at the main gate, colony area and process area.
121. Online CO/Ammonia/Chlorine and such other gas monitoring system shall be installed in every process area where such toxic gas are expected to be generated and in the plant premises along with alarm system to avoid accidental hazards due to gas leakage.
122. Telescopic chute shall be installed at the bottom of hoppers/silo wherever applicable to prevent emission of fugitive dust during material transfer/unloading.
123. Adequate no. of Carbon Monoxide (CO) detectors shall be installed near Gas Cleaning Plant area of the blast furnaces and those shall be in operation all the time. Appropriate and adequate alarm provision shall also be made.
124. Adequate measures shall be taken to control acid fumes in the shop floor of pickling lines.
125. Iron ore and coal used in the plant shall be stored under covered shed. Material storage area of the plant, approach roads shall be covered with adequate sprinkling facility. The water sprinkling system shall be kept operational all the time to avoid any fugitive dust nuisance.
126. Dust suppression facilities by provision of adequate water sprinkling shall be made at the active dumping area and roads to prevent dust nuisance in the area.
127. Accumulation of dust and other solid waste in the work zone and non-dumping areas inside the factory premises shall be avoided. The work zone shall be properly cleaned

either manually or mechanically every day and the dust so collected shall be disposed off in the designated dump site.

128. The approach roads and all the internal roads shall be fully concreted/blacktopped. All the roads shall be cleaned periodically to avoid accumulation of dust. Adequate sprinkling facility, preferably by fixed water sprinklers shall be provided alongside all the internal roads to prevent generation of fugitive dust during vehicular movement.
129. The industry shall put up sign Boards at appropriate places with nomenclature of the stacks in consultation with Regional Officer of the Board. It shall install electronic display Board in front of main gate to display the monitoring data, prescribed standard for public information.
130. The DRI off gas shall be utilized in waste heat recovery boilers for power generation ESP shall be provided at the stacks attached to the WHRB boilers such that particular emission shall not exceed 30 mg/Nm^3.
131. The unit shall provide ESP in the stack attached to kiln of cement plant so that particulate matter emission shall not exceed 30 mg/Nm^3.
132. The unit shall provide adequate dust extraction system at raw material handling section feed hopper, grinding unit, transfer points, packing unit and all other potential dust generating points of Cement plant as per CPCB norms so that particulate matter shall not exceed 50 mg/ Nm^3.
133. ESP shall be provided in the stack attached to AFBC and CFBC boilers of 40 MW (new) power plant so that particulate matter emission shall not exceed 30 mg/Nm^3.
134. The fly ash shall be pneumatically conveyed to a silo. The unit shall provide adequate dust extraction system to control dust emission in the transfer points for collection of ash to silo. Fly ash shall be moistened in conditioner before transportation to users/ disposal site.
135. The unit shall provide pneumatic conveyor system for ESP dust collection and handling vents of silo shall be provided with bag filter to control fugitive emission.
136. The particulate emission from all vents/stacks connected to the bag filters shall not exceed 50 mg/Nm^3. The height of the stacks/ vents shall not be less than 30 meter.
137. The unit shall provide port hole and platform at suitable location on the stack with safe approach to conduct emission monitoring. The unit has provided monkey ladder in all the existing stacks as a riding system for flue gas monitoring. So, the unit shall make provision of staircase or lift system instead of monkey ladder in tall stacks of power plant and other plants for smooth monitoring of flue gas emission.
138. Unloading of coal by trucks or wagons should be carried out with proper care avoiding dropping of the materials from height. It is advisable to moist the material by sprinkling water while unloading.
139. Enclosure should be provided for belt conveyors and transfer points of belt conveyors. The above enclosures shall be rigid and permanent (and not of flexible/cloth type enclosures) and fitted with self-closing doors and close-fitting entrances and exits, where conveyors pass through the enclosures. Flexible covers shall be installed at entry and exit of the conveyor to the enclosures, minimizing the gaps around the conveyors.
140. There shall not be any leakages from flanges and pipes of blast furnace, such leakages shall be immediately attended.
141. Electrochemical CO detector probes with no cross –sensitivity to hydrocarbon and other gases with digital display and warning arrangement shall be installed in suitable locations in the Blast Furnace area and other strategic places.

142. The safety cap/emergency stack of rotary kiln type plant which is generally installed above the After Burner Chamber (ABC) of feed end column should not be used for discharging untreated emission by passing the pollution control device.
143. In order to prevent bypassing of emissions through safety cap and operation of pollution control device, software controlled interlocking facility should be provided on the basis of real time data from the plant control system to ensure stoppage of feed conveyor, so that feed to the kiln would stop automatically, if the safety cap of the rotary kiln is opened or Air Pollution Control System is not in operation. The system should be able to take care of multiple operating parameters and their inter relations to present any possibility of defeating the basic objective of the interlock. The system should be full proof to prevent any kind of tampering. The software based interlocking system proposed to be installed by industry should get approved by the concerned SPCB, for its adequacy before installation by the industry.

D. SOLID & HAZARDOUS WASTE:

144. Ash generated from the Hot Air Gas Generator (HAG) of Cement Plant shall be used in the Cement Unit.
145. Rejectsfromcoalwasheryshallonlybeusedeitherinthecaptivepowerplant(or)intheThermal Power Plants meeting emission standards.
146. TailingsfromIronOrewashingplantshallbedewateredinfilterpress/paste thickener and disposed off in tailing pond. It shall not be stored beyond a period of 30 days inside the plant premises.
147. The PP shall install a slag crusher to convert steel slag into aggregate for use in construction industry, fine sand for use as flux in steel plant, sand in brick making and as lime in cement making. Used refractories shall be recycled as far as possible.
148. A mechanical operated system for timely collection and removal of the flue dust generated in air pollution control devices shall be installed.
149. The various types of solid wastes generated should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water.
150. Permeability and leachability study shall be carried out while preparing solid waste disposal site.
151. The unit shall not carry out any construction activity in the land earmarked for solid waste disposal area (30Acs) as per approved lay out map.
152. The unit shall make concrete road from plant site to all the disposal sites of solid waste as well tailing disposal area.
153. Industry shall provide the check/retaining dyke all around the proposed disposal sites to prevent entry of runoff /wash out and subsequent contamination of natural nallah during rain.
154. Proper garlands drain along with adequate settling pond shall be provided to prevent washouts of solids from solid waste dumping area to nearby water bodies during rainy season.
155. Dumping of solid waste shall be made at designated locations in a systematic manner with proper engineering applications by providing proper slope, angle, berms, height, toe wall, retaining wall and road network. The active dumping area shall be kept at minimum. The exhausted dump area shall be technically reclaimed by spreading a layer of soil with proper compaction and consolidation. Biological reclamation of the

same shall be made by planting saplings of appropriate species. Adequate provision for watering plants and protection of trees shall be made.

156. The industry shall have adequate space at any point of time for waste disposal at least for a period of two years. Before using any new patch of land / site for solid waste dumping, the industry shall obtain prior consent to establish of the Board.
157. Fly ash and bottom ash etc shall be stored at the designated areas for future utilization. The industry shall submit a definite ash utilization plan to the Board. In case it is proposed to be used in cement plant, they should enter into an agreement with the cement plants. A copy of the agreement shall be submitted to the Board.
158. Ash generated shall be handled and used in a phased manner as per provisions of the notification on Fly Ash Notification issued by the Ministry of Environment, Forest and Climate Change Govt. of India Dt. 14-09-1999 and subsequent amendment thereof latest notification S.O 5481 (E) Dt. 31-12-2021 and amended thereafter. The unit shall submit fly ash utilization status to the Board annually and shall comply to the provisions of revised fly ash Notification No. SO.5481 (E),dt. 31.12.2021 of MoEF& CC, Govt. of India.
159. Fly ash brick making plant shall be installed for ash utilization. Fly ash shall be utilized in own cement industry and partially in RCC structure also. The industry shall explore other reuse/recycle techniques for flue dust/fly ash.
160. The bottom ash shall be grinded and conveyed through submerged belt conveyor to silo from there it shall be transported to disposal site in moistened condition.
161. Other solid non-hazardous wastes except iron ore tailings from the beneficiation plant generated in the factory shall be disposed off at the designated areas in environmentally sound manner without causing any environmental impact in that area.
162. Iron ore tailing generated from the iron ore beneficiation plant shall be disposed at earmarked tailing disposal site over 152 Acres at **Siripura village** in an environmentally sound manner without causing any environmental impact in that area.
163. The tailing pond shall be covered though vegetation once the life of pond is over.
164. The proponent shall provide filter press or belt for ETP sludge of CRM. The unit shall provide filter press/paste thickener and tailings shall be disposed in wet cake form in the tailing pond of area 152 acres at Sripura mouza as proposed. Care shall be taken to minimum tree felling in proposed tailing pond site at Sripura as well as all solid waste disposal sites.
165. The unit shall make an effort to use the tailings generated from wet beneficiation plants as raw materials for value added products like ceramic floor tiles, wall tiles and bricks.
166. The iron ore fines, mix coke, return fines and plant waste shall be used to manufacture sinter in sinter plant BF slag shall be sold to the cement manufactures after granulation. Non granulated BF slag shall be used in road making BOF slag shall not be dumped anywhere except used for making cement and road etc. as proposed in EIA/EMP Mill scales shall be reused in the sinter plant. Char, blast furnace gases and washery coal rejects shall be used properly as fuel in FBC boiler for generation of steam and dumping char shall be minimized. The kiln accretions shall be utilized for filling low laying area. DM resin from process shall be stored in secured landfill only. Used oil shall be sold to recyclers and preprocessors GCP sludge (LD sludge) of SMS shall be sold to actual users as per SOP of CPCB and authorized by SPCB.
167. Under no circumstances char should be disposed off in agricultural fields/other areas Logbook for daily record of char production and usage must be maintained by the

industry and the record shall be made available to officials of CPCB/SPCB/PCC during inspection.

168. The kiln accretions are heavy solid lumps and can be used as sub- base material for road construction or landfill after ascertaining the composition for its suitability and ensuring that it should not have any adverse environmental impact. The industry can explore other reuse/recycling techniques for kiln accretions.
169. The hazardous wastes shall be disposed to authorized re-processors or CHWTSDF Detail proposal shall be submitted during application for consent to operate.
170. Separate application shall be made to obtain letter of authorization for disposal of all hazardous wastes under Hazardous and Other Waste (Management & Transboundary Movement) Rules, 2016 and amendment thereafter.
171. A Solid Waste Management Cell shall be created under Environmental management cell and complete utilization of all solid waste shall be envisaged and implemented in a sustained manner. All the available research and development options shall be scouted in this regard. The exact utilization of solid waste shall be finalized in consultation with the State Pollution Control Board.
172. Domestic solid waste generated from colony, canteen, office complex etc. shall be operated through mechanically operated waste convertors with facility for recovery of useful products. The products to be used by the industry or sold and the inorganic residues is to be used for captive consumption/ sold/ disposed in sanitary landfill developed inside the premises.
173. Municipal Solid Waste generated from the unit shall be disposed off as per the Solid Waste Management Rules, 2016 and amendment thereafter.

Encl: As above

MEMBER SECRETARY

To,

The President & Whole Time Director,
M/s Bhushan Power & Steel Limited,
At-Thelkoloi, P.O- Lapanga,Dist. - Sambalpur, Odisha.
Pin- 768212.

Memo No. 15405 **/ Dt.** 04.10.2023

Copy forwarded to:

1. The District Magistrate& Collector, Sambalpur
2. The Director, Factories & Boiler, Bhubaneswar
3. The DFO, Sambalpur
4. Consent to Operate Cell, SPC Board, Odisha, Bhubaneswar
5. Hazardous Waste Management Cell, SPC Board, Odisha, Bhubaneswar
6. The Regional Officer, SPC Board, Odisha Sambalpur
7. Copy to Guard file/Consent to Establish register.

03/10/2023
ADDL. CHIEF ENV. ENGINEER

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

O/C

BHUSHAN POWER & STEEL LTD.

NATIONAL AMBIENT AIR QUALITY STANDARDS
CENTRAL POLLUTION CONTROL BOARD
NOTIFICATION

New Delhi, the 18th November, 2009

No. B-29016/20/90/PCI-I.—In exercise of the powers conferred by Sub-section (2) (h) of section 16 of the Air (Prevention and Control of Pollution) Act, 1981 (Act No.14 of 1981), and in supersession of the Notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998, the Central Pollution Control Board hereby notify the National Ambient Air Quality Standards with immediate effect, namely:-

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO_2), $\mu g/m^3$	Annual*	50	20	- Improved West and Gaeke
		24 hours**	80	80	-Ultraviolet fluorescence
2	Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual*	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 hours**	80	80	- Chemiluminescence
3	Particulate Matter (size less than 10µm) or PM_{10} $\mu g/m^3$	Annual*	60	60	- Gravimetric - TOEM
		24 hours**	100	100	- Beta attenuation
4	Particulate Matter (size less than 2.5µm) or $PM_{2.5}$ $\mu g/m^3$	Annual*	40	40	- Gravimetric - TOEM
		24 hours**	60	60	- Beta attenuation
5	Ozone (O_3) $\mu g/m^3$	8 hours**	100	100	- UV photometric - Chemilminescence
		1 hour**	180	180	- Chemical Method
6	Lead (Pb) $\mu g/m^3$	Annual*	0.50	0.50	- AAS/ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
		24 hours**	1.0	1.0	
7	Carbon Monoxide (CO) mg/m^3	8 hours**	02	02	- Non Dispersive Infra Red (NDIR) spectroscopy
		1 hour**	04	04	
8	Ammonia (NH_3) $\mu g/m^3$	Annual*	100	100	-Chemiluminescence
		24 hours**	400	400	-Indophenol blue method

(1)	(2)	(3)	(4)	(5)	(6)
9	Benzene (C_6H_6) $\mu g/m^3$	Annual*	05	05	- Gas chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m^3	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m^3	Annual*	06	06	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m^3	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note. — Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.

SANT PRASAD GAUTAM, Chairman
[ADVT-III/4/184/09/Exty.]

Note: The notifications on National Ambient Air Quality Standards were published by the Central Pollution Control Board in the Gazette of India, Extraordinary vide notification No(s). S.O. 384(E), dated 11th April, 1994 and S.O. 935(E), dated 14th October, 1998.

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REGD. NO. ON - 01/13

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and Published by the Controller of Publications, Delhi-110054.

SHYAM POWER & STEEL LTD.

ANNEXURE-II

SCHEDULE
(see rule 3(l) and 4(l)

Ambient Air Quality Standards in respect of Noise

Area Code	Category of Area/Zone	Limits in dB(A) Leq *	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note

1. Day time shall mean from 06:00 A.M. to 10:00 P.M.
2. Night time shall mean from 10:00 P.M. to 06:00 A.M.
3. Silence zone is defined as an area comprising not less than 100 meters around hospitals, educational institutions and courts. The silence zones are zones which are declared as such by the competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq : It is an energy mean of the noise level, over a specified period.

Signature invalid

[F. No. [illegible]012/1[illegible]PA]
VIJAI S[illegible]. Secy.
Digitally Signed by :CHIRANJIB [illegible]ISHRA
Date: 202[illegible]04[illegible]2:16 IST

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REGD. NO. ON - 01/13

STATE POLLUTION CONTROL BOARD, ODISHA

(DEPT., OF FOREST ENVIRONMENT & CLIMATE CHANGE, GOVT. OF ODISHA)
A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2561909/ EPABX : 2561909/2562847
E-mail: cto17category@ospcboard.org / Website: www.ospcboard.org

No. 3439 / IND-I-CON-4650 Dt. 12.03.2024

CONSENT ORDER

Sub: Consent for Existing / New operation of the plant under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981.

Ref : Your online application **ID No 5145549, dtd. 18.10.2023**

The Consent is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed there under to

Name of the Industry: **M/s. BHUSHAN POWER & STEEL LTD.,**

At- Thelkoloi, PO– Lapanga, Rengali, Dist - Sambalpur

Name of the Occupier & Designation: **Shri Anil Kumar Singh, President and Whole Time Director**

Address: **At- Thelkoloi, PO– Lapanga, Rengali, Dist - Sambalpur–768 232**

This consent order is valid for the period **upto 31.3.2025**

This consent order is valid for the product quantity, specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

A. Details of Products Manufactured

Sl. No.	Product	Quantity
01.	Sponge Iron (DRI Kilns-I,II,III,IV,V,VI,VII,VIII,IX, X, XI, XII-12×500 TPD)	2.0 MTPA
02.	Coal Washeries (1.0 MTPA + 1×3.5 MTPA)	4.5 MTPA
03.	Steel Melting Shop (SMS-I) & Casting Unit i) Electric Arc Furnace ii) Ladle Furnace iii) Billet Caster iv) Single continuous thin Slab Caster v) VD / AOD	 4 x 105 T 4 x 105 T 1 × 4 Strand 2 × 1 Strand 2 x 100 T
04.	Steel Melting Shop (SMS-2) & Casting Unit i) Electric Arc Furnace (EAF) ii) Zero Power Furnace (ZPF) iii) Ladle Furnace iv) Billet Caster v) VD / AOD	 1 x 75 T 1 x 75 T 2 x 75 T 1 x 3 Strand + 1 x 4 Strand 2 x 75 T

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05.	Captive Power Plants (CPP) (a) 3×130 MW (4x210 TPH Boiler + 1x390 TPH Boiler + 1x340 TPH Boiler) (b) 2×8 MW (WRHB of Coke Oven) 1x75 TPH AFBC Boiler + 150 TPH AFBC Boiler (c) 250 TPH CFBC Boiler (using Coal and MBF Gas)	506 MW
06	Blast Furnace –I (1×1008 m^3)	0.80 Million Tons / Annum
07	Blast Furnace-II (1 x 2015m^3)	1.55 Million Tons/Annum
08	Sinter Plant – I & II	1×105 m^2 & 1 x 450 m^2
09	Coke Oven Plant-1 (Non-Recovery Type)	0.45 MTPA
10	Coke Oven Plant -2 (Recovery Type)	1.2 MTPA
11	Oxygen Plants	1× 400 TPD + 1×660 TPD+ 3×200 TPD (VPSA) + 1000 TPD
12	CSP (HRM)	4.0 MTPA
13	Lime & Dolo Plant	3 × 300 TPD + 3 x 600 TPD
14	Wire / Rod Mill Complex (WRM)	0.6 MTPA
	Wire / Rod Mill and Heavy Bar	0.6 MTPA
15	Pipe & Tube Mill	0.8 MTPA
16	Iron ore beneficiation plant	1200 TPH
17	Pellet Plant	4.0 MTPA
18	Deep Bed Pest Thickener	200 TPH
19	Slag Processing Unit	300 TPH
20	Cold Rolling Mill (CRM)	2.5 MTPA
	a) Galvanizing	0.70 MTPA
	b) Glavolume Unit	0.60 MTPA
	c) Colour Coating Mill	0.70 MTPA

B. Discharge permitted through the following outlet subject to the standard

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge	Prescribed standard							
				pH	SS (mg/l)	TDS (mg/l)	COD (mg/l)	BOD (mg/l)	O&G (mg/l)	Fe (mg/l)	FC MPN/ 100ml
1	Domestic effluent of the township treated in STP	No discharge. Treated water shall be used for plantation purposes	No discharge	6.5 to 9.0	100	--	--	30	--	---	1000

2.	Domestic wastewater (plant)	Soak pit via septic tank	No discharge	--	--	--	--	--	--	--	--
3	Cooling water	To be completely recycled	No discharge	--	--	--	--	--	--	--	--
4	Washery effluent	To be completely recycled	No discharge	--	--	--	--	--	--	--	--
5.	Effluent from Iron ore beneficiation plant	To be completely recycled	No discharge	--	--	--	--	--	--	--	--
6	Treated storm water drain outlet near plaza gate (Outlet No.1) Outlet of WTP-III	Bheden river after utilziing to the maximum extent (Monsoon period)	Discharge only in monsoon.	6.5 to 9.0	100	2100	250	--	10	1.0	--
7.	Treated surface runoff near Thelkoli High school culvert SH-10 (Outlet No.2) Outlet of WTP-I & II	Local nallah leading to river Bheden after utilziing to the maximum extent (Monsoon period)	Discharge only in monsoon	6.5 to 9.0	100	2100	250	--	10	1.0	--
8.	BOD plant outlet	No discharge to outside. To be reused completely.	--								

pH	TSS (mg/l)	Phenol(mg/l)	Cyanide (mg/l)	BOD (mg/l)	COD (mg/l)
5.5-9.0	100	1.0	0.2	30	250
NH3 N2 (mg/l)	**O &G (mg/l)**	**TDS (mg/l)**	**Iron (as Fe) (mg/l)**	**Total Chromium (mg/l)**	
50	10	2100	3.0	2.0	

C. Emission permitted through the following stack subject to the prescribed standard

Chimney / Stack No.	Description of Stack	Stack height (m)	Quantity of emission (Nm^3/hr)	Prescribed Standard mg/Nm^3	
				PM mg/Nm^3	CO (vol/vol)
1.	**DRI Kilns** Stack attached to				
	(i) De-dusting ESP of Kiln –I & II	45	350000	50	1%
	(ii) De-dusting ESP of Kiln –III &IV	45	350000	50	
	(iii) De-dusting ESP of Kiln-V & VI	45	350000	50	
	(iv) De-dusting ESP of Kiln – VII & VIII	45	350000	50	
	(v) De-dusting ESP of Kiln – IX & X	45	350000	50	
	(vi) De-dusting ESP of kiln –XI & XII	45	350000	50	
2.	**Blast Furnace Complex -1** **Stack attached to**				
	(i) GCP of Blast furnace	30	180000	50	
	(ii) Bag filter of stock house	35	220000	50	
	(iii) Bag house of Gas cleaning stack	45	108000	50	

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BHUSHAN POWER & STEEL LTD.

3	**Blast Furnace Complex -2** **Stack attached to** (i) RMHS and Stock House (ii) Cast House	 30 30	 6,10,000 8,50,000	 50 50
4.	**Sinter Plant - 1** Stack attached to (i) ESP of Charging Stack (ii) ESP of Discharging Stack (iii) Bag filter of De-dusting Stack	 60 40 40	 570000 450000 190000	 50 50 50
5.	**Sinter Plant - 2**			
	Stack attached to ESP of Sinter Process	120	700000	50
	Stack attached to ESP of Sinter Plant De-dusting	60	600000	50
6.	**SMS-1 Area** Stack Attached to (i) Bag filter of EAF -I (FTP-1) (ii) Bag filter of EAF -II (FTP-2) (iii) Bag filter of EAF -III (FTP-3) (iv) Bag filter of EAF -IV (FTP-4)	 60 50 50 60	 13,95,000 14,31,000 14,31,000 13,95,000	 50 50 50 50
7.	**SMS-2 Area** Stack Attached (i) FTP of EAF and LF (ii) ZPF FTP (iii) ZPF Raw Material Handling	 50 60 40	 13,64,000 10,00,000 5,50,000	 50 30 30
8.	**CSP Plant** Bag filter stack attached to Tunnel Furnace (Line A Process Stack-I) Tunnel Furnace (Line A Process Stack-II) Tunnel Furnace (Line A Process Stack-III) Tunnel Furnace (Line B Process Stack-I) Tunnel Furnace (Line B Process Stack-II) Tunnel Furnace (Line B Process Stack-III)	 60 60 60 60 60 60	 34,800 23,600 9,700 34,800 23,600 9,700	 50 50 50 50 50 50
9.	**Raw Material Preparation Plant** Bag filter stack attached to RMP Stack –I	 30	 50000	 50
10.	**Lime Dolo Plant (3 x 300 TPD)** Bag filter stack attached to Lime Plant –Kiln –I Lime Plant – Kiln –II Dolo Plant	 50 50 50	 50,000 50,000 50,000	 50 50 50
	Lime Dolo Plant (3 x 600 TPD) **Stack attached to lime plant of**			
	Process Bag Filter LCP – 4	49	1,20,000	50
	Dedusting bag filter 1	35	27,800	50
	Dedusting bag filter 2	35	58,400	50
	Dedusting bag filter 3	38	46,400	50
	Dedusting bag filter 4	35	8,000	50
11.	Process Bag Filter LCP - 5	40	1,20,000	30
12.	Process bag filter LCP – 6	49	1,20,000	30

13.	**Coke Oven Plant-1 (Non-Recovery type)**			
	Bag filter stack attached to			
	Coke Oven Plant (Stack –I)	70	81,535	50
	Coke Oven Plant (Stack –II)	70	81,535	50
	Coke Oven Plant (Stack –III)	70	81,535	50
	Coke Oven Plant (Stack –IV)	70	81,535	50
14.	**Coke Oven -2 (Recovery type)**			
	i. Process stack	144	1,50,000	50
	ii. Pushing Emission Control System	45	5,04,000	50
	iii. DE system for pre crusher building	30	28,000	30
	iv. DE System for blending bin building	30	40,000	30
	v. DE system for coal crushing building	30	25,000	30
	vi. DE system for coal mixing building	30	3500	30
	vii. DE system for coke treatment building	30	50,000	30
15.	**Cold Rolling Mill**			
	Acid Re-Generation Plant –I	34	20,000	50
	Acid Re-Generation Plant –II	34	20,000	50
	Acid Re-Generation Plant –III	34	20,000	50
	Acid Re-Generation Plant –IV	34	20,000	50
	Pickling Plant –I (Stack –I)	32	15,716	50
	Pickling Plant –I (Stack –II)	32	15,716	50
	Pickling Plant –II (Stack –I)	32	15,716	50
	Pickling Plant –II (stack –II)	32	15,716	50
16.	**Bar & Wire Rod Mill**			
	Bag filter stack attached to			
	Wire Rod Mill (Reheating Furnace Stack) Wire	85	10,000	50
	Rod Mill (De-dusting stack)	34	15,000	50
17.	**WRM & Heavy Bar Mill**			
	i. Stack attached to Reheating Furnace	60	40,000	30
	ii. WRM Bar to Bar drawing stack	34	15,000	30
	iii. Bar rod mill reheating furnace	78	40,000	30
18.	**Iron ore pellet plant**			
	Stack attached to			
	(i) ESP of wind box and hood exhaust	85	13,95,000	50
	(ii) ESP of de-dusting unit	50	2,40,000	50

		Stack height	Quantity of emission (Nm^3/hr)	PM	SO_2	NO_x	Hg
19.	**Captive Power Plant** Stack Attached to :						
	(i) ESP of AFBC (40 MW)	75	143000	30	600	450	0.03
	(ii) ESP of AFBC (60 MW)	95	286000	50	600	450	0.03
	(iii) Common stack of ESP of Unit-1 Boiler -I & II (1x130 MW)	120	650000	50	600	450	0.03
	(iv) Common stack of ESP of Unit-2 of Boiler -III & IV (1x130 MW)	120	650000	50	600	450	0.03
	(v) ESP of Unit-3 Boiler -V (1x130 MW)	120	650000	50	600	450	0.03
	(vi) ESP of Unit-3 Boiler -VI (1x130 MW)	120	650000	50	600	450	0.03
	(vii) ESP of 250 TPH CFBC Boiler	105	576792	30	100	100	0.03
	(viii) ESP of WHRB of Kiln –I	76	210000	50	--	--	--
	(ix) ESP of WHRB of Kiln –II	76	210000	50	--	--	--
	(x) ESP of WHRB of Kiln –III	76	210000	50	--	--	--
	(xi) ESP of WHRB of Kiln –IV	76	210000	50	--	--	--
	(xii) ESP of WHRB of Kiln –V	76	210000	50	--	--	--
	(xiii) ESP of WHRB of Kiln –VI	76	210000	50	--	--	--
	(xiv) ESP of WHRB of Kiln –VII	76	210000	50	--	--	--
	(xv) ESP of WHRB of Kiln –VIII	76	210000	50	--	--	--
	(xvi) ESP of WHRB of Kiln – IX	76	210000	50	--	--	--
	(xvii) ESP of WHRB of Kiln – X	76	210000	50	--	--	--
	(xviii) ESP of WHRB of Kiln – XI & XII	76	210000	50			

D. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity generated (TPA)	Quantity to be reused on site (TPA)	Quantity to be reused off site (TPA)	Quantity disposed off (TPA)	Description of disposal site.
1.	DRI Hot ESP dust and WTP sludge	237250	237250	--	--	Will be stored in designated area and disposed
2.	Char of the DRI Section	2,53,400	2,53,400	--	---	Used in the AFBC/CFBC Boilers
3.	Kiln Accretion	18,000	---	---	18,000	To be used in quarry and low land filling.
4.	Slag from SMS	949400	949400	--	--	Metallic part to be reused in sinter plant and remaining to be stored inside the premises and used for road making.
5.	Fly ash and Bottom ash from the AFBC & CFBC Boiler (CPP)	12,04500	---	---	12,04500	Disposed as per Fly ash Notification, Dec, 2021
6.	Granulated slag of blast furnace plant	1127850	-	--	11,27,850	Sold to cement plant

7.	Mill scales,Dust from APC devices of of SMS,BF,Sinter Plant and Pellet Plant	182500	182500	-	--	Reused in Sinter plant and Pellet Plant
8.	Sludge from the STP	45	45	----	----	Mix with soil and used in horticulture application

E. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for review/variation/revocation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. . In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during their visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been taped by the consumer for utilization for any purposes whatsoever.
12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:
    a) Industrial cooling, spraying in mine pits or boiler feed,
    b) Domestic purpose
    c) Process
13. The applicant shall display suitable caution board at the lace where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.
18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.

20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
21. The sludge generated from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank of treatment plant.
22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made therein.
24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
25. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner to the meet the prescribed standards by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
28. The stack and ambient monitoring system installed by the applicant shall be opened for inspection to this Board at any time.
29. There shall not be any fugitive or episodal discharge from the premises.
30. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
31. The applicant shall keep the premises of the industrial plant and air pollution control equipment clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipment, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
32. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurrence.
33. The industry has to ensure that minimum three varieties of indigenous species of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as no to cause fugitive emission, dust problems through leaching etc., of any kind.
35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
    i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
    ii) Controlled incineration, wherever possible in case of combustible organic material.
    iii) Composting, in case of bio-degradable material.
36. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
37. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
38. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
40 Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
42. The industry shall comply to all the conditions stipulated under Charter on Corporate Responsibility for Environmental Protection (CREP) guidelines in a time bound manner as envisaged there in. (if applicable)
43. The industry shall comply to the conditions stipulated in CTE order issued by ODISHA State Pollution Control Board.
44. The industry shall abide by E(P) Act, 1986 and Rules framed there-under

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45. In case the consent fee is revised upward or the fees paid is found to be inadequate for any reason during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the adequate amount within the period stipulated by the Board the consent order will be revoked without prior notice.
46. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall analyze the effluent / emissions and Ambient Air Quality every month through approved laboratory for the parameters indicated in TABLE- 'B', 'C' & Part -'B' as mentioned in this order and shall furnish the report thereof to the Board on monthly basis.
2. The following information shall be forwarded to the Member Secretary on or before 10th of every month.
   a) Performance / progress of the treatment plant.
   b) Monthly statement of daily discharge of domestic and/or trade effluent.
3. Non-compliance with effluent limitations

a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
   i) Causes of non-compliance
   ii) A description of the non-compliance discharge including its impact on the receiving waters.
   iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
   iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
   v) Steps to be taken by the applicant too prevent the condition of non-compliance.

b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.

4. Proper housekeeping shall be maintained inside the factory premises including process areas by a dedicated team.
5. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.
6. The industry shall engage dedicated qualified manpower to ensure continuous and effective operation of online stack / Ambient Air Quality / Effluent monitoring stations for maintenance of database, real time data transfer to SPCB server, data analysis and co-ordination with concerned personnel of process units for taking corrective measures in case of non-compliances and to respond to the instructions of SPCB in this matter.
7. All employees of the industry including officers, staff, workers, contract workers involved in operation/maintenance/ supervision of process area, pollution control areas, raw material and waste handling areas shall undergo short term training at least twice in a year in the field of pollution control and environment protection to create awareness and develop green skill. The report on the activities along with details and photographs shall be submitted to the Board on annual basis by end of June for previous financial year.
8. ISO auditing reports of the industry in the field of environment shall be submitted to the Board every year on annual basis.

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9. The environmental cell shall be established and upgraded effectively to guide, monitor the pollution control and environmental protection activities inside the industries on day to day basis to ensure that the conditions stipulated in the consent to establish/operate order of the SPCB and conditions imposed in EC and provisions of various environmental acts and rules are complied with and the report returns, compliances are submitted to the Board in due time.

10. Adequate numbers of scientific / technical persons having qualification in environmental engineering/ environmental science from recognized institution/ university must be engaged or appointed along with other interdisciplinary qualified persons to effectively implement and monitor different areas of environment management and regulatory compliances including air pollution control, water pollution control, online monitoring, real time data transmission, management of solid waste, hazardous waste, E-waste, plastic waste etc. The Head of the environmental cell should be a senior level official, who will directly report to the plant head to ensure that environmental management is performed effectively to ensure compliance to the environmental norms on priority basis.

11. Energy consumption data of different pollution control devices like ESP/ Bag filter/ Scrubber/ Cyclone/ Gas cleaning plant/ Fume treatment plant/ ETP/STP/Flow meters (treated effluent recycling) shall be collected online on real time centralized platform/ dashboard with data storage facility and generate tamperproof monthly / periodic reports, which shall be analysed by Energy Auditor, certified by Bureau of Energy Efficiency and accordingly the Energy Management / preventive maintenance of Pollution Control equipment shall be adopted. The energy management of process and pollution control devices shall be practiced to record the progressive achievements to minimize energy consumption in order to reduce greenhouse gas emission.

12. The post EIA monitoring schedule should be strictly followed for different parameters around the plant for the units is covered under EIA notification. The industry shall also conduct noise level study in the core zone and buffer zone of the industry and submit 6 monthly report to the Board.

F. SPECIAL CONDITIONS:

AIR POLLUTION CONTROL

1. All the air pollution control devices like ESPs / GCPs / Bag filters/ Ventury scrubbers installed at various process units and their raw material feeding and product handling sections shall be maintained, operated efficiently and continuously so that particulate matter emission from the stack shall meet the prescribed standard of the Board as indicated in 'Table-C'. The industry shall ensure continuous and effective operation of all the APC devices through preventive maintenance.
2. All the potential fugitive dust generating areas of all the process units shall be covered with the adequate suction points. Fume generated from the ladle furnaces, and other process units of Steel Melting Shops (SMS) shall be collected through adequately designed fume extraction system. The collected dust / fumes shall be treated in the GCPs / bag filters/ scrubbers.
3. The raw material handling yards shall be provided with adequate water sprinkling facilities so as to prevent fugitive dust generation during raw material handling and vehicle movement. All the raw material processing units and their transfer points shall be provided with adequate network of dry fog nozzles. The dust suppression system shall be operated continuously and effectively to avoid dust nuisance in the area.
4. There shall be no leakage of flue gas through the emergency caps, slip rings or any other process areas of DRI kilns except during exigencies.
5. There shall not be any leakages from flanges and pipes and gas conveyance system of the Blast furnaces and such leakages if any shall be immediately attended.
6. Appropriate air pollution control devices shall be installed to collect and treat the secondary emissions from tapping area and casting areas of Blast furnaces.

7. All the online continuous stack emission monitoring systems (CEMS) for measurement of particulate matter and gaseous pollutants shall be operated effectively & uninterruptedly and real time monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.
8. The industry shall strictly follow the guidelines of CPCB dated July, 2018 for Online Continuous Effluent Monitoring Systems (OCEMS) and Guidelines for continuous Emission Monitoring Systems of August, 2018 for PM and other gaseous pollutants.
9. The industry shall ensure tampered proof real time transmission of online monitoring data to the server of CPCB and SPCB and maintain the health of the analyzers and data connectivity through valid AMC.
10. Online monitoring system for PM, SO_2, NO_x, Hg for thermal power plants as per CPCB guideline for CEMS, July 2017 and Standards prescribed for these parameters by MoEF & CC Dt 7.12.2015 shall be complied.
11. All the online continuous ambient air quality monitoring stations (CAAQMS) shall be operated effectively & uninterruptedly and the online monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.
12. Steps shall be taken for regular monitoring of Mercury (Hg) in the stack of AFBC & CFBC boiler and submit data to the Board.
13. The unit shall provide low NOx burners to reduce NOx emission to keep the level within the prescribed standard by MoEF & CC vide Notification dtd. 07.12.2015.
14. Steps shall be taken for installation of Flue Gas Desulpurisation (FGD) system in future if required to keep the SO2 level within 600mg/Nm3 to confirm the MoEF & CC Notification dtd. 07.12.2015. This shall also include management and disposal of effluent / solid waste to be generated from FGD system.
15. The Pneumatic Dust Handling system installed at the hoppers of all the ESPs and bag filters shall be operated continuously and effectively so that no fugitive dust nuisance is created.
16. The performance evaluation of ESP, bag filter, air pollution control devices, online CEMS, CAAQMS & surveillance cameras shall conducted by a reputed institute like NIT/IIT and annual report shall be submitted to the Board by end of June for the previous financial year.
17. The digital display board installed at the main gate shall be of minimum size of 6ft x 4ft as stipulated by CPCB with provision of display of real time data online analysers (CEMS, CAAQMS & CEQMS), so that the public can visualize the actual emission and the values of parameters displayed at the gate. Outdoor LED video screens should be preferred for digital display of environmental parameters, CTO and authorization conditions and awareness clippings on environment at the main gate, colony area and process area.
18. Online CO / Ammonia/ Chlorine and such other gas monitoring system shall be installed in every process area where such toxic gas are expected to be generated and in the plant premises along with alarm system to avoid accidental hazards due to gas leakage.
19. Green belt shall be properly designed and developed with plantation of suitable local species and species prescribed by CPCB.
20. Telescopic chute shall be installed at the bottom of hoppers/silo wherever applicable to prevent emission of fugitive dust during material transfer/unloading.

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21. Adequate no. of Carbon Monoxide (CO) detectors shall be installed near Gas Cleaning Plant area of the blast furnaces and those shall be in operation all the time. Appropriate and adequate alarm provision shall also be made.
22. Adequate measures shall be taken to control acid fumes in the shop floor of pickling lines.
23. Iron ore and coal used in the plant shall be stored under covered shed. Material storage area of the plant, approach roads shall be covered with adequate sprinkling facility. The water sprinkling system shall be kept operational all the time to avoid any fugitive dust nuisance.
24. The unit shall submit fly ash utilization status to the Board annually and shall comply to the provisions of revised fly ash Notification No. SO.5481(E),dt. 31.12.2021 of MoEF & CC, Govt. of India.
25. Dust suppression facilities by provision of adequate water sprinkling shall be made at the active dumping area and roads to prevent dust nuisance in the area.
26. The industry shall comply with all the stipulations contained in the Gazette Notification of Govt. of India vide No. 155, dtd. 31.03.2012. For emission standard, the details of 'Table-C' of this order is applicable.
27. Accumulation of dust and other solid waste in the work zone and non-dumping areas inside the factory premises shall be avoided. The work zone shall be properly cleaned either manually or mechanically every day and the dust so collected shall be disposed off in the designated dump site.
28. The approach roads and all the internal roads shall be fully concreted / blacktopped. All the roads shall be cleaned periodically to avoid accumulation of dust. Adequate sprinkling facility, preferably by fixed water sprinklers shall be provided alongside all the internal roads to prevent generation of fugitive dust during vehicular movement.
29. D.G. sets should be acoustically enclosed with anti-vibration measures and equipped with A.M.F. (Auto Mains Failure Device) for auto changeover of power supply from grid to D.G. in the event of power failure. The AMF Panel should preferably be PLC (Programmable Logic Control) based. Dedicated D.G. sets of adequate capacity shall be installed to ensure adequate standby power supply to run all pollution control devices of the plant in the event of power failure.
30. The installed HD IP camera shall be operated continuously so that video streaming shows in server of the Board on interruptedly.
31. The industry shall put up sign Boards at appropriate places with nomenclature of the stacks in consultation with Regional Officer of the Board. It shall install electronic display Board in front of main gate to display the monitoring data, prescribed standard for public information.
32. The ambient air quality shall confirm to the National Ambient Air Quality standard as per the notification of MoEF dated 16 Nov 2009 (Annexed).

WATER POLLUTION CONTROL

1. Specific water consumption in the power plant shall be limited within 3.5m3/MWh by 6th Dec, 2017 as per MoEF & CC vide Notification dtd. 07.12.2015.
2. Under no circumstances there shall be discharge of any effluent to outside the factory premises. Water used for cooling purposes shall be fully recycled. Water used in various processes shall be suitably treated at source and recycled in those processes.

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3. The wastewater generated from the Coke Oven-II and their respective coal chemical departments shall be adequately treated in the BOD plant and the treated effluent after confirming to the prescribed standard shall be utilized in coke quenching in coke oven, slag granulation in blast furnaces and dust suppression. Under no circumstances, there shall be any diversion of effluent from coke oven and byproduct plant into any other drains or discharge system.
4. Wastewater generated from the pickling lines Cold Rolling Mill shall be treated in the modified ETP and the treated water shall be reused. Care shall be taken to avoid spillage of the pickling acids.
5. Waste water generated from raw water treatment system and back wash of filtration plant shall be properly treated and taken to guard pond and reused.
6. Water used for cooling purposes in sinter plant shall be fully recycled in a closed loop. The periodical cooling blow down shall be treated in existing RO plant and reuse.
7. Blow down from WHRB boiler / AFBC / CFBC boilers and all the cooling towers shall meet the following standards before it is discharged to the common monitoring basin and shall be used for dust suppression;
   a. For boiler blow down: SS-100mg/l,O&G-20mg/l, Cu(Total)-1.0mg/l, Fe(Total)-1.0mg/l
8. For cooling tower blow down: Free available chlorine-0.5mg/l, Zn-1.0mg/l, Cr (Total)-2.0mg/l, Phosphate-2.0mg/l.
9. The unit shall recover moisture from the tailings generated from iron ore beneficiation plant through deep bed paste thickener as a water conservation measures.
10. The unit shall convey the tailings from iron ore beneficiation plant to the deep paste thickener through closed pipe line.
11. The water recovered from the tailings through thickener shall be return back to iron ore beneficiation plant for use in beneficiation through a closed loop.
12. The tailings after recovery of moisture shall be taken through closed pipe line to tailing pond located at Sripura mouza.
13. The unit shall maintain Zero Liquid discharge from the deep bed paste thickener and there shall not be any discharged to outside plant premises.
14. Domestic solid waste generated from colony, canteen, office complex etc. shall be operated through mechanically operated waste convertors with facility for recovery of useful products like oil/ gas/ carbon/ metal/ compost etc. The products to be used by the industry or sold and the inorganic residues is to be used for captive consumption/ sold/ disposed in sanitary landfill developed inside the premises.
15. The industry shall operate mechanized wheel washing system along with effluent treatment and recycling facilities for the raw material / product /solid waste transport vehicles at the exit point of the industry.
16. The domestic effluent generated from colony shall be treated in STP and shall meet the standards prescribed by MoEF & CC vide notification G.S.R 1265(E) dtd.13th October 2017 as follows; pH - 6.5-9.0, BOD - less than 30mg/l TSS - less than 100mg/l and Fecal Coliform (FC) MPN/100ml<1000.
17. Online and continuous effluent monitoring system (CEQMS) shall be operated effectively & uninterruptedly and the online monitoring data so generated shall be transmitted directly to RT-DAS server of the Board without passing through any local PC or server.

18. The runoff water from the whole factory premises including solid waste dumping area shall be collected through dedicated garland drains and shall be adequately treated in the wastewater treatment plant (WTP-I, WTP-II and WTP-III). The treated effluent from the WTP-II & WTP-III shall be treated in RO plant and treated wastewater shall be reused in power plant. The treated effluent from WTP-I, III & III shall be meet prescribed standard for discharge into inland surface water and shall be reused to maximum extent and excess if any shall be discharged to outside in rainy season only.
19. The Effluent Treatment Plant (ETP) and the Sewage Treatment Plant (STP) shall be operated effectively and continuously through a dedicated experienced team, so as to confirm to the prescribed norms.
20. The performance evaluation of ETP, STP, online CEQMS & Web cameras, flow meter shall conducted by a reputed institute like NIT/IIT and annual report shall be submitted to the Board by end of June for previous financial year.
21. Flow meter and level sensors with telemetry system should be installed in the bore wells as stipulated by Central Ground Water Authority/ Water Resources Department.
22. The industry shall conduct surface run off management study and develop rain water harvesting structures and surface runoff treatment systems inside the premises.
23. Dumping of solid waste shall be made at designated locations in a systematic manner with proper engineering applications by providing proper slope, angle, berms, height, toe wall, retaining wall and road network. The active dumping area shall be kept at minimum. The exhausted dump area shall be technically reclaimed by spreading a layer of soil with proper compaction and consolidation. Biological reclamation of the same shall be made by planting saplings of appropriate species. Adequate provision for watering of plants and protection of trees shall be made.
24. The industry shall have adequate space at point of time for waste disposal at least for a period of next year. Before using any new patch of land / site for solid waste dumping, the industry shall obtain prior consent to establish of the Board.
33. Ash generated from Power plant shall be disposed off as per fly ash Notification No. SO.5481(E),dt. 31.12.2021 of MoEF & CC, Govt. of India.
25. ESP dust from DRI Kilns and other non hazardous solid waste generated from factory shall be disposed in designated areas at abandoned stone quarry and low land filling with permission from the Board in environmentally sound manner without causing any environmental impact in that area.
26. Iron ore tailing generated from the iron ore beneficiation plant shall be disposed at earmarked tailing disposal site at Siripura village in an environmentally sound manner without causing any environmental impact in that area.
27. Consent to operate is subject to availability of all other statutory clearances required under relevant Acts / Rules and fulfillment of required procedural formalities.

H. ADDITIONAL CONDITIONS:

1) The unit shall maintain the existing FTPS at SMS-I to control PM emission in the stack as well as roof top emission within prescribed norms.

2) The unit shall complete the FTP-5 & FTP – 6 at SMS – I by 31st March, 2025 as per Bank Guarantee.

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NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

BHUSHAN POWER & STEEL

3) The unit shall complete the RO Plant for further treatment of treated water of BOD Plant of Coke Oven Plant-2 to maintain ZLD with mechanical vapour re-compressor system (MVR) for complete evaporation of RO reject by 31st March, 2025.

The occupier must comply with the conditions stipulated in section A, B, C, D E, F, G & H to keep this consent order valid.

To,

The President and Whole Time Director,
M/s. Bhushan Power & Steel Ltd.,
At- Thelkoloi, PO – Lapanga,
Rengali, Dist - Sambalpur – 768 232

Encl : As above

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ODISHA

Memo No. 3440 /Dt. 12.03.2024

Copy forwarded to :

i) Regional Officer, State Pollution Control Board, Sambalpur
ii) District Collector, Sambalpur
iii) D.F.O, Sambalpur
iv) Director of Mines, Odisha, Bhubaneswar
v) Director Factories & Boiler, Bhubaneswar
vi) Consent Register / HWM Cell, Bhubaneswar

CHIEF ENV. ENGINEER
STATE POLLUTION CONTROL BOARD, ODISHA

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REGD. NO. ON - 01/13

BHUSHAN POWER & STEEL LTD.

General Standards for discharge of environment pollutants
PART-A:EFFLUENTS

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practible	------	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	-----	------	
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5^0C above the receiving water temperature	-------	--------	Shall not exceed 5^0C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	----	------	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	------	50
10.	Total Kajeldahl nitrogen (as NH_3) mg/1 max.	100	----	------	100
11.	Free ammonia (as NH_3) mg/1 max.	5.0	----	------	5.0
12.	Biochemical Oxygen Demand (5 days at (20^0C) mg/1 max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/1 max.	250	----	------	250
14.	Arsenic (as As) mg/1 max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/1 max.	0.01	0.01	------	0.001
16.	Lead (as pb) mg/1 max.	01.	1.0	------	2.0

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17.	Cardmium (as Cd) mg/1 max.	2.0	1.0	------	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	--------	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	---------	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	---------	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	---------	15
22.	Selenium (as Sc) mg/l max.	0.05	0.05	---------	0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0	--------	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	---------	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	-------	--------	--------
27.	Sulphide (as S) mg/l max.	2.0	--------	---------	5.0
28.	Phennolic compounds as (C_6H_5OH) mg/l max.	1.0	5.0	---------	5.0
29.	Radioactive materials a. Alpha emitter micro curle/ml. b. Beta emitter micro curle/ml.	10^7 10^6	10^7 10^6	10^8 10^7	10^7 10^6
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l	---------	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	---------	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	---------	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	--------	---------	20 mg/l

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PART –B : NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO_2), µg/m³	Annual *	50	20	-Improved west and Gaeke
		24 Hours **	80	80	- Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO_2), µg/m³	Annual *	40	30	- Modified Jacob & Hochheiser (Na-Arsenite)
		24 Hours **	80	80	- Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM_{10}µg/m³	Annual *	60	60	-Gravimetric - TOEM
		24 Hours **	100	100	- Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or PM_{25} µg/m³	Annual *	40	40	-Gravimetric - TOEM
		24 Hours **	60	60	- Beta Attenuation
5.	Ozone (O_3) µg/m³	8 Hours **	100	100	- UV Photometric - Chemiluminescence
		1 Hours **	180	180	- Chemical Method
6.	Lead (Pb) µg/m³	Annual *	0.50	0.50	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter
		24 Hours **	1.0	1.0	
7.	Carbon Monoxide (CO) mg/m³	8 Hours **	02	02	- Non Dispersive Infra Red (NDIR) Spectroscopy
		1 Hours **	04	04	
8.	Ammonia (NH_3) µg/m³	Annual*	100	100	-Chemiluminescence - Indophenol Blue Method
		24 Hours**	400	400	
9.	Benzene (C_6H_6) µg/m³	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m³	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m³	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni),ng/m³	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

** Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

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BHUSHAN POWER & STEEL LTD.

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ISSUED TO:
M/s Bhushan Power and Steel Limited,
Sambalpur Village & P.O.: Thelkoloi,
Tehsil-Rengali, Sambalpur-768232-Odisha
(India).

Report Number	:	VLL/VLS/23/23131/006
Issue Date	:	2024.03.23
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**Ambient Air Quality Monitoring.**
Test Required	:	Particulate Matter (PM_{10}), Particulate Matter ($PM_{2.5}$), Sulphur dioxide as SO_2 and Nitrogen dioxide as NO_2 O_3 CO, NH_3 Pb, As, Ni, C_6H_6, B (a) P.
Sampling Location	:	**AAQM-1**

Sample Collection Date	:	2024.03.21 to 2024.03.22	Sample Registration Date	:	2024.03.22
Sample Received Date	:	2024.03.22	Analysis Completion Date	:	2024.03.23
Sample Analysis date	:	2024.03.22			
Sampling Duration	:	24 Hours (9:30 AM to 9:30 AM)			
Total Time of Sampling in Minutes: 1440 Minutes					
Method of Testing	:	As per IS: 5182			
Samples Collected by Vimta Labs Limited.					

TEST REPORT

S. No	Test parameters	UoM	Method of Testing	Results	NAAQS Limits
1	Particulate Matter as PM_{10}	$\mu g/m^3$	IS-5182 (P-23)	74.5	100
2	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	IS-5182 (P-24)	43.6	60
3	Sulphur dioxide as SO_2	$\mu g/m^3$	IS-5182 (Part-02)	19.2	80
4	Nitrogen dioxide as NO_2	$\mu g/m^3$	IS-5182 (Part-06)	34.3	80
5	Ozone (O_3)	$\mu g/m^3$	Method-411	7.5	100
6	Carbon monoxide (CO)	mg/m^3	IS-5182 (Part-10)	0.51	2
7	Ammonia (NH_3)	$\mu g/m^3$	Indophenols Blue Method	21.7	400
8	Lead (Pb)	$\mu g/m^3$	IS-5182 (Part-22)	0.12	1
9	Arsenic (As)	ng/m^3	IS-5182 (Part-22)	0.64	6
10	Nickel (Ni)	ng/m^3	IS-5182 (Part-22)	1.03	20
11	Benzene (C_6H_6)	$\mu g/m^3$	ASTM D 3686-95	BDL	5
12	Benzo (A) Pyrene (BaP)	ng/m^3	USEPA 8270D	BDL	1

Remarks: Results related only to the sample tested.

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P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager-Environment

BHUSHAN POWER & STEEL LTD.

Vimta Labs Limited
Registered Office
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M/s Bhushan Power and Steel Limited,
Sambalpur Village & P.O.: Thelkoloi, Tehsil-Rengali,
Sambalpur-768232-Odisha (India).

Report Number	:	VLL/VLS/23/2313 1/001
Issue Date	:	2024.03.21
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**GW1-BPSL TAILING POND (bore well)**			
Sample Collection Date	:	2024.03.14	Sample Registration Date	:	2024.03.15
Analysis Starting Date	:	2024.03.15	Analysis Completion Date	:	2024.03.21
Test Required: Colour, Odour, Taste, Turbidity, pH, TDS, RFC, Total Hardness as $CaCO_3$, Calcium as Ca, Magnesium as Mg, Total Alkalinity as $CaCO_3$, Chloride as Cl, Fluoride as F, Sulphate as SO4, Nitrate as NO3, Chromium as Cr, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminums, Boron, Anionic Surfactants, Mineral Oil.					
Samples Collected by Vimta Labs Limited.					

TEST RESULTS

S.No.	Test Parameters	Method of Testing	UoM	Results	Limits as per IS 10500:2012
1	Colour	APHA-23rd ed 2120 C	Hazen	2	5(15)
2	Odour	APHA-23rd ed 2150	-	Agreeable	Agreeable
3	Taste	IS 3025 (Part 7&8)	-	Agreeable	Agreeable
4	Turbidity	APHA-23rd ed 2130 B	NTU	2.0	1(5)
5	pH at 25°C	APHA-23rd ed 4500-H B	--	7.67	6.5-8.5 (NR)
6	Total Dissolved Solids at 180°C	APHA 23rd ed 2540 C	mg/l	394	500(2000)
7	Residual Free Chlorine as Cl	APHA 23rd ed 4500 Cl G	mg/l	<0.1	0.2(1.0)
8	Total Hardness as $CaCO_3$	APHA-23rd ed 2340-C	mg/l	180	200(600)
9	Calcium as Ca	APHA-23rd ed.3500-Ca	mg/l	37.5	75(200)
10	Magnesium as Mg	APHA-23rd ed.3500-Mg	mg/l	21.4	30(100)
11	Total Alkalinity as $CaCO_3$	APHA 23rd ed 2320B 2017	mg/l	120	200(600)
12	Chloride as Cl	APHA-23rd ed 4500-Cl	mg/l	83.2	250(1000)
13	Fluoride as F	APHA-23rd ed. 4500-F	mg/l	0.6	1.0(1.5)
14	Sulphate as SO_4	APHA-23rd ed 4500-SO_4 E	mg/l	17.9	200(400)
15	Nitrate as NO_3	APHA-23rd ed 4500-NO_3 B	mg/l	8.3	45(NR)
16	Chromium as Cr	APHA -23rd ed. 3125	mg/l	<0.01	0.05(NR)
17	Phenolic Compounds as C_6H_5OH	APHA -23rd ed. 5530	mg/l	<0.001	0.001(0.002)
18	Iron as Fe	APHA -23rd ed. 3125	mg/l	0.21	0.3(NR)
19	Cyanide as CN	APHA-23rd ed 4500-CN B, C, E	mg/l	<0.02	0.05(NR)
20	Copper as Cu	APHA -23rd ed. 3125	mg/l	<0.01	0.05(1.5)
21	Manganese as Mn	APHA -23rd ed. 3125	mg/l	0.11	0.1(0.3)
22	Mercury as Hg	APHA -23rd ed. 3125	mg/l	<0.001	0.001(NR)
23	Cadmium as Cd	APHA -23rd ed. 3125	mg/l	<0.01	0.003(NR)
24	Selenium as Se	APHA -23rd ed. 3125	mg/l	<0.01	0.05(NR)
25	Arsenic as As	APHA -23rd ed. 3125	mg/l	<0.01	0.01(0.05)
26	Lead as Pb	APHA -23rd ed. 3125	mg/l	<0.01	0.01(NR)
27	Zinc as Zn	APHA -23rd ed. 3125	mg/l	0.45	5.0(15)
28	Aluminums as Al	APHA -23rd ed. 3125	mg/l	<0.01	0.03(0.2)
29	Boron as B	APHA -23rd ed. 3125	mg/l	0.13	0.5(1.0)
30	Anionic Surfactants as MBAS	APHA -23rd ed. 5540 B & C	mg/l	<0.02	0.2(1.0)
31	Mineral Oil	IS 3025 Part-39	mg/l	<0.01	0.5(NR)

Results relate only to the sample tested
Remarks: Instrument used: ICP-MS, UV Vis Spectrophotometer.

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

Name & Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager-Environment

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Sambalpur Village & P.O.: Thelkoloi, Tehsil-Rengali,
Sambalpur-768232-Odisha (India).

Report Number	:	VLL/VLS/23/23131/002
Issue Date	:	2024.03.21
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**GW2-BISIDHIHI VILLAGE (bore well)**			
Sample Collection Date	:	2024.03.14	Sample Registration Date	:	2024.03.15
Analysis Starting Date	:	2024.03.15	Analysis Completion Date	:	2024.03.21
Test Required: Colour, Odour, Taste, Turbidity, pH, TDS, RFC, Total Hardness as $CaCO_3$, Calcium as Ca, Magnesium as Mg, Total Alkalinity as $CaCO_3$, Chloride as Cl, Fluoride as F, Sulphate as SO4, Nitrate as NO3, Chromium as Cr, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminum, Boron, Anionic Surfactants, Mineral Oil.					
Samples Collected by Vimta Labs Limited.					

TEST RESULTS

S.No.	Test Parameters	Method of Testing	UoM	Results	Limits as per IS 10500:2012
1	Colour	APHA-23rd ed 2120 C	Hazen	1	5(15)
2	Odour	APHA-23rd ed 2150	-	Agreeable	Agreeable
3	Taste	IS 3025 (Part 7&8)	-	Agreeable	Agreeable
4	Turbidity	APHA-23rd ed 2130 B	NTU	<1.0	1(5)
5	pH at 25^{0}C	APHA-23rd ed 4500-H B	--	6.98	6.5-8.5 (NR)
6	Total Dissolved Solids at 180^{0}C	APHA 23rd ed 2540 C	mg/l	326	500(2000)
7	Residual Free Chlorine as Cl	APHA 23rd ed 4500 Cl G	mg/l	<0.1	0.2(1.0)
8	Total Hardness as $CaCO_3$	APHA-23rd ed 2340-C	mg/l	157	200(600)
9	Calcium as Ca	APHA-23rd ed.3500-Ca	mg/l	32.5	75(200)
10	Magnesium as Mg	APHA-23rd ed.3500-Mg	mg/l	18.6	30(100)
11	Total Alkalinity as $CaCO_3$	APHA-23rd ed.2320 B	mg/l	110	200(600)
12	Chloride as Cl	APHA-23rd ed 4500-Cl	mg/l	74.3	250(1000)
13	Fluoride as F	APHA-23rd ed. 4500-F	mg/l	0.4	1.0(1.5)
14	Sulphate as SO_4	APHA-23rd ed 4500-SO_4 E	mg/l	12.5	200(400)
15	Nitrate as NO_3	APHA-23rd ed 4500-NO_3 B	mg/l	6.7	45(NR)
16	Chromium as Cr	APHA -23rd ed. 3125	mg/l	<0.01	0.05(NR)
17	Phenolic Compounds as C_6H_5OH	APHA -23rd ed. 5530	mg/l	<0.001	0.001(0.002)
18	Iron as Fe	APHA -23rd ed. 3125	mg/l	0.16	0.3(NR)
19	Cyanide as CN	APHA-23rd ed 4500-CN B, C, E	mg/l	<0.02	0.05(NR)
20	Copper as Cu	APHA -23rd ed. 3125	mg/l	<0.01	0.05(1.5)
21	Manganese as Mn	APHA -23rd ed. 3125	mg/l	0.09	0.1(0.3)
22	Mercury as Hg	APHA -23rd ed. 3125	mg/l	<0.001	0.001(NR)
23	Cadmium as Cd	APHA -23rd ed. 3125	mg/l	<0.01	0.003(NR)
24	Selenium as Se	APHA -23rd ed. 3125	mg/l	<0.01	0.05(NR)
25	Arsenic as As	APHA -23rd ed. 3125	mg/l	<0.01	0.01(0.05)
26	Lead as Pb	APHA -23rd ed. 3125	mg/l	<0.01	0.01(NR)
27	Zinc as Zn	APHA -23rd ed. 3125	mg/l	0.36	5.0(15)
28	Aluminum as Al	APHA -23rd ed. 3125	mg/l	<0.01	0.03(0.2)
29	Boron as B	APHA -23rd ed. 3125	mg/l	0.11	0.5(1.0)
30	Anionic Surfactants as MBAS	APHA -23rd ed. 5540 B & C	mg/l	<0.02	0.2(1.0)
31	Mineral Oil	IS 3025 Part-39	mg/l	<0.01	0.5(NR)

Results relate only to the sample tested
Remarks: Instrument used: ICP-MS, UV Vis Spectrophotometer.

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

Name & Designation of Authorized Signatory
Dr. Subba Reddy Mallampati
Manager-Environment

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Sambalpur Village & P.O.: Thelkoloi, Tehsil-Rengali,
Sambalpur-768232-Odisha (India).

Report Number	:	VLL/VLS/23/2313 1/003
Issue Date	:	2024.03.21
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**SW1-BISIDHIHI VILLAGE TALAB-1**			
Sample Collection Date	:	2024.03.14	Sample Registration Date	:	2024.03.15
Analysis Starting Date	:	2024.03.15	Analysis Completion Date	:	2024.03.21
Test Required: Colour, Turbidity, pH, Electrical Conductivity, COD, BOD, TDS, Total Hardness as $CaCO_3$, Calcium as Ca, Magnesium as Mg, Chloride as Cl, Fluoride as F, Sulphate as SO4, Nitrate as NO3, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Anionic Surfactants, Mineral Oil.					
Samples Collected by Vimta Labs Limited.					

TEST RESULTS

S.No.	Test Parameters	Method of Testing	UoM	Results
1	Colour	APHA-23rd ed 2120 C	Hazen	3
2	Electrical Conductivity	APHA-23rd ed.2510 B	µS/Cm	345
3	Chemical Oxygen Demand	APHA 23rd ed 5220 B	mg/l	<5.0
4	Biological Oxygen Denand@3days at 27°C	IS 3025 Part-44	mg/l	<3.0
5	Turbidity	APHA-23rd ed 2130 B	NTU	4
6	pH at 25°C	APHA-23rd ed 4500-H B	--	7.26
7	Total Dissolved Solids at 180°C	APHA 23rd ed 2540 C	mg/l	214
8	Total Hardness as $CaCO_3$	APHA-23rd ed 2340-C	mg/l	57
9	Calcium as Ca	APHA-23rd ed.3500-Ca	mg/l	15.3
10	Magnesium as Mg	APHA-23rd ed.3500-Mg	mg/l	4.7
11	Chloride as Cl	APHA-23rd ed 4500-Cl	mg/l	41
12	Fluoride as F	APHA-23rd ed. 4500-F	mg/l	0.8
13	Sulphate as SO_4	APHA-23rd ed 4500-SO_4 E	mg/l	12.5
14	Nitrate as NO_3	APHA-23rd ed 4500-NO_3 B	mg/l	7.2
15	Phenolic Compounds as C_6H_5OH	APHA -23rd ed. 5530	mg/l	<0.001
16	Iron as Fe	APHA -23rd ed. 3125	mg/l	0.24
17	Cyanide as CN	APHA-23rd ed 4500-CN B, C, E	mg/l	<0.02
18	Copper as Cu	APHA -23rd ed. 3125	mg/l	<0.01
19	Manganese as Mn	APHA -23rd ed. 3125	mg/l	0.03
20	Mercury as Hg	APHA -23rd ed. 3125	mg/l	<0.001
21	Cadmium as Cd	APHA -23rd ed. 3125	mg/l	<0.01
22	Selenium as Se	APHA -23rd ed. 3125	mg/l	<0.01
23	Arsenic as As	APHA -23rd ed. 3125	mg/l	<0.01
24	Lead as Pb	APHA -23rd ed. 3125	mg/l	<0.01
25	Zinc as Zn	APHA -23rd ed. 3125	mg/l	0.05
26	Anionic Surfactants as MBAS	APHA -23rd ed. 5540 B & C	mg/l	<0.02
27	Mineral Oil	IS 3025 Part-39	mg/l	<0.01

Results relate only to the sample tested
Remarks: Instrument used: ICP-MS, UV Vis Spectrophotometer.

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

Name & Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager-Environment

BHUSHAN POWER & STEEL LTD.

Vimta Labs Limited
Registered Office
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Hyderabad-500 051,Telangana, India
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TC-5418

Vimta
Driven by Quality. Inspired by Science.

ISSUED TO:

M/s Bhushan Power and Steel Limited,
Sambalpur Village & P.O.: Thelkoloi, Tehsil-Rengali,
Sambalpur-768232-Odisha (India).

Report Number	:	VLL/VLS/23/23131/004
Issue Date	:	2024.03.21
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**SW-2 BISIDHIHI VILLAGE TALAB-2**			
Sample Collection Date	:	2024.03.14	Sample Registration Date	:	2024.03.15
Analysis Starting Date	:	2024.03.15	Analysis Completion Date	:	2024.03.21
Test Required: Colour, Turbidity, pH, Electrical Conductivity, COD, BOD, TDS, Total Hardness as $CaCO_3$, Calcium as Ca, Magnesium as Mg, Chloride as Cl, Fluoride as F, Sulphate as SO4, Nitrate as NO3, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Anionic Surfactants, Mineral Oil.					
Samples Collected by Vimta Labs Limited.					

TEST RESULTS

S.No.	Test Parameters	Method of Testing	UoM	Results
1	Colour	APHA-23rd ed 2120 C	Hazen	4
2	Electrical Conductivity	APHA-23rd ed.2510 B	µS/Cm	412
3	Chemical Oxygen Demand	APHA 23rd ed 5220 B	mg/l	<5.0
4	Biological Oxygen Denand@3days at 27^0C	IS 3025 Part-44	mg/l	<3.0
5	Turbidity	APHA-23rd ed 2130 B	NTU	2
6	pH at 25^0C	APHA-23rd ed 4500-H B	--	7.18
7	Total Dissolved Solids at 180^0C	APHA 23rd ed 2540 C	mg/l	260
8	Total Hardness as $CaCO_3$	APHA-23rd ed 2340-C	mg/l	94.0
9	Calcium as Ca	APHA-23rd ed.3500-Ca	mg/l	24.0
10	Magnesium as Mg	APHA-23rd ed.3500-Mg	mg/l	9.7
11	Chloride as Cl	APHA-23rd ed 4500-Cl	mg/l	53.2
12	Fluoride as F	APHA-23rd ed. 4500-F	mg/l	0.7
13	Sulphate as SO_4	APHA-23rd ed 4500-SO_4 E	mg/l	43.5
14	Nitrate as NO_3	APHA-23rd ed 4500-NO_3 B	mg/l	2.6
15	Phenolic Compounds as C_6H_5OH	APHA -23rd ed. 5530	mg/l	<0.001
16	Iron as Fe	APHA -23rd ed. 3125	mg/l	0.08
17	Cyanide as CN	APHA-23rd ed 4500-CN B, C, E	mg/l	<0.02
18	Copper as Cu	APHA -23rd ed. 3125	mg/l	<0.01
19	Manganese as Mn	APHA -23rd ed. 3125	mg/l	0.03
20	Mercury as Hg	APHA -23rd ed. 3125	mg/l	<0.001
21	Cadmium as Cd	APHA -23rd ed. 3125	mg/l	<0.01
22	Selenium as Se	APHA -23rd ed. 3125	mg/l	<0.01
23	Arsenic as As	APHA -23rd ed. 3125	mg/l	<0.01
24	Lead as Pb	APHA -23rd ed. 3125	mg/l	<0.01
25	Zinc as Zn	APHA -23rd ed. 3125	mg/l	0.07
26	Anionic Surfactants as MBAS	APHA -23rd ed. 5540 B & C	mg/l	<0.02
27	Mineral Oil	IS 3025 Part-39	mg/l	<0.01

Results relate only to the sample tested
Remarks: Instrument used: ICP-MS, UV Vis Spectrophotometer.

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 0113

Name & Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager-Environment

BHUSHAN POWER & STEEL LTD.

Vimta Labs Limited
Registered Office
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TC-5418

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ISSUED TO:
M/s Bhushan Power and Steel Limited,
Sambalpur Village & P.O.: Thelkoloi, Tehsil-Rengali,
Sambalpur-768232-Odisha (India).

Report Number	:	VLL/VLS/23/2313 1/005
Issue Date	:	2024.03.21
P.O. Ref	:	4500164952
P.O. Date	:	2023.06.15

Sample Name	:	**CROP FIELD NEAR TAILING POND**			
Sample Collection Date	:	2024.03.14	Sample Registration Date	:	2024.03.15
Analysis Starting Date	:	2024.03.15	Analysis Completion Date	:	2024.03.21
Test Required: Colour, Soil Texture, pH, Bulk Density, Porosity, Moisture, SiO_2, Chloride, Sulphate, K, Mg, Ca, Fe, Ni & Pb					
Method of Testing: Soil Chemical Analysis by M.L Jackson & USEPA 3050 B					
Samples Collected by Vimta Labs Limited.					

TEST RESULTS

S.No.	Test Parameters	UoM	Results
1	Colour	-	Brown
2	Soil Texture	-	Sandy Loam
a	Sand	%	55
b	Silt	%	29
c	Clay	%	16
3	pH	-	6.87
4	Bulk Density	gm/cc	1.34
5	Porosity	%	0.47
6	Moisture	%	18.3
7	Silica as SiO_2	%	23.2
8	Chloride as Cl	mg/Kg	145
9	Sulphate as SO4	mg/Kg	121
10	Potassium as K	mg/Kg	214.6
11	Magnesium as Mg	mg/Kg	472
12	Calcium as Ca	mg/Kg	1820
13	Iron as Fe	%	2.17
14	Nickel as Ni	mg/Kg	8.5
15	Lead as Pb	mg/Kg	<1.0

Results relate only to the sample tested
Remarks: Instrument used: ICP-OES, UV-Vis Spectrophotometer.

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P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

Name & Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager-Environment

BHUSHAN POWER & STEEL LTD.

Annexure-R- 4

CROP FIELD NEAR TAILING POND

Annexure - R-5

SGS

Test Report

TC-7047

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

Report No	:	KE24-000357.021	**Issue Date**	:	29/02/2024
ULR No	:	TC704724100000608F	**JOE No**	:	KE24-000357
Report Control No	:	KER0000216963			

Customer Provided Information

Sample Described by Customer as	:	SOLID WASTE
Customer Name	:	BHUSHAN POWER AND STEEL LIMITED
Customer Address	:	Vill- Thelkoloi
	:	Post- Lapanga
City	:	Tehshil-Rengali
Postal Code	:	768232
Country	:	INDIA
Sample Qty. Recd.	:	1KG APPROX.
Sampling Date	:	20/02/2024
Sampling Location	:	PELLET AND BENIFICATION PLANT-TRAILING SLUDGE

Lab Provided Information

Sample Type	:	SOLID_WASTE
Received	:	22/02/2024
Test Start/End Date	:	22/02/2024 - 28/02/2024

NABL Accredited Tests

Analysis	Method	Result	Unit	Requirement/Limit SCHEDULE II Min	Max
NABL Group : Pollution & Environment	Wastes (Liquid/Slurry/Sludge/Solid/Semi-Solid)				
A19-2,4-Dinitrotoluene	USEPA1311+ 3510C + 8041A &8270D	<0.01	mg/L	-	0.13
A31-Hexachloroethane	Qualitative	Absent	mg/L	-	3.0
A32-Methylethylketone	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	200.0
A34-Nitrobenzene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	2.0
A36-Pyridine	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	5.0
2,4,5-TP (Silvex)	Qualitative	Absent	mg/L	-	1.0
A61-Toxaphene	Qualitative	Absent	mg/L	-	0.50
DISCIPLINE: CHEMICAL					
A1-Arsenic	USEPA 1311 & 200.7	<0.05	mg/L	-	5.0
A2-Barium	USEPA 1311 & 200.7	0.14	mg/L	-	100
A3-Cadmium	USEPA 1311 & 200.7	<0.05	mg/L	-	1.0
A4-Chromium and/or Chromium(III) compounds	USEPA 1311 & 200.7	<0.05	mg/L	-	5.0
A5-Lead	USEPA 1311 & 200.7	0.14	mg/L	-	5.0
A7-Mercury	USEPA 1311 & 200.7	<0.05	mg/L	-	0.20

TRUE COPY ATTESTED

P. N. TIWARI NOTARY HARISIDDA REGD. NO. ON-0143

No decision rule is applied, when comparing the measurement result(s) with the applicable limit(s) according to the specification in the respective standard or as shared by the customer.

For any feedback or complaint please write to us at feedback.mlkolkata@sgs.com.

SGS

Test Report

TC-7047

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

Report No	:	KE24-000357.021	**Issue Date**	:	29/02/2024
ULR No	:	TC704724100000608F	**JOE No**	:	KE24-000357
Report Control No	:	KER0000216963			

NABL Accredited Tests

Analysis	Method	Result	Unit	Requirement/Limit SCHEDULE II Min	Max
NABL Group : Pollution & Environment	Wastes (Liquid/Slurry/Sludge/Solid/Semi-Solid)				
A8-Selenium	USEPA 1311 & 200.7	0.08	mg/L	-	1.0
A9-Silver	USEPA 1311 & 200.7	<0.05	mg/L	-	5.0
A14-1,1-Dichloroethylene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.70
A15-1,2-Dichloroethane	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.5
A16-1,4-Dichlorobenzene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	7.5
A17-2,4,5-Trichlorophenol	USEPA1311+ 3510C + 8041A &8270D	<0.05	mg/L	-	400
A18-2,4,6-Trichlorophenol	USEPA1311+ 3510C + 8041A &8270D	<0.05	mg/L	-	2.0
A20-Benzene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.5
A24-Carbontetrachloride	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.50
A26-Chloroform	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	6.0
A27-Cresol (ortho + meta + para)	USEPA 1311+5030C & 8260B	<0.05	mg/L	-	200
A29-Hexachlorobenzene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	.13
A30-Hexachlorobutadiene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.5
A35-Pentachlorophenol	USEPA 1311+5030C & 8260B	<0.05	mg/L	-	100
A37-Tetrachloroethylene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.7
A38-Trichloroethylene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.5
A39-Vinylchloride	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	0.2
A41-2,4-Dichlorophenoxyacetic acid	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	10.0
A51-Endrin	USEPA 1311+3510C & 8081A	<0.001	mg/L	-	0.02
A53-Heptachlor & its Epoxide	USEPA 1311+3510C & 8081A	<0.001	mg/L	-	0.008
A55-Lindane	USEPA 1311+3510C & 8081A	<0.001	mg/L	-	0.4
A47-Chlordane	USEPA 1311+5030C & 8081A	<0.001	mg/L	-	0.03
A57-Methoxychlor	USEPA 1311+3510C & 8081A	<0.001	mg/L	-	10
A25-Chlorobenzene	USEPA 1311+5030C & 8260B	<0.01	mg/L	-	100

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P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

No decision rule is applied, when comparing the measurement result(s) with the applicable limit(s) according to the specification in the respective standard or as shared by the customer.

For any feedback or complaint please write to us at feedback.mlkolkata@sgs.com.

JHARSUGUDA POWER & STEEL LTD.

SGS

Test Report

TC-7047

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

Report No	:	KE24-000357.021	**Issue Date**	:	29/02/2024
ULR No	:	TC704724100000608F	**JOE No**	:	KE24-000357
Report Control No	:	KER0000216963			

Per pro SGS India Private Ltd

SATYA CHARAN MANNA

Authorized Signatory

****End of Report****

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P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

SGS India Pvt. Ltd. SGS India Pvt Ltd.,CS Plot -512(p) ,Mouza, Hanspukuria,Diamond Harbour Rd.PO-Joka, South 24 Parganas.Kolkata - 700104.Phone:+916292153834
Read & Corp. Off : SGS House. 4B. A.S. Marg. Vikhroli (West). Mumbai-400083. Tel : (022) 25798421 to 28 www.sgs.com

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Annexure-R–6

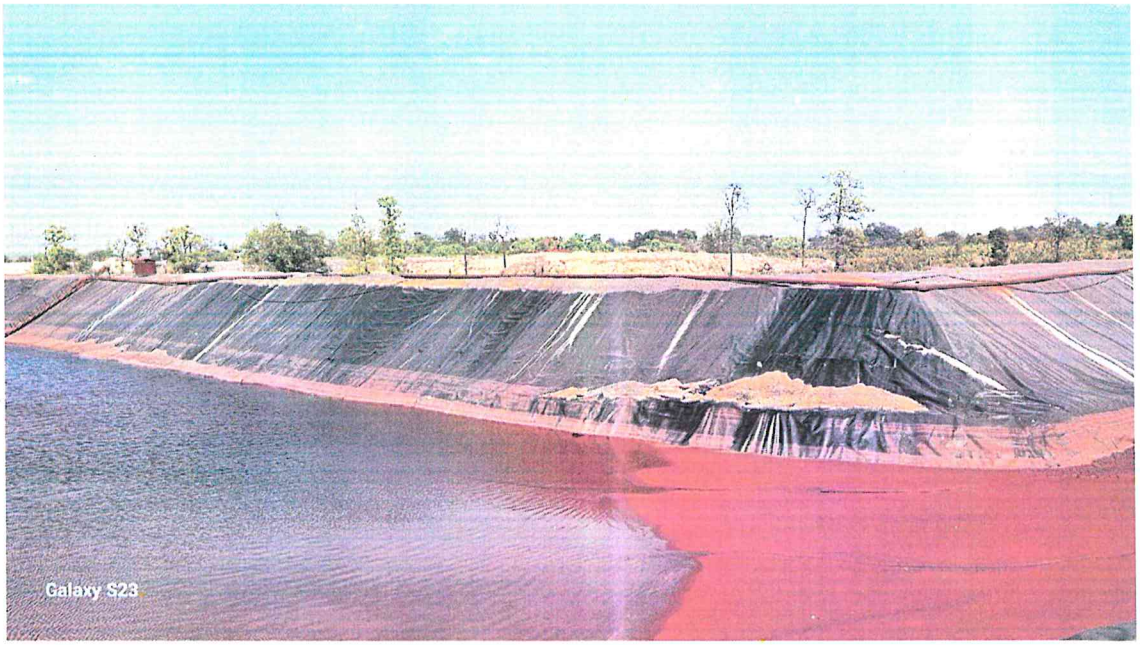
ENGAGEMENT OF WATER TANKER AT TAILING POND

TRUE COPY ATTESTED
P. N. TIWARI
NOTARY JHARSUGUDA
REGD. NO. ON - 01/13

VEDANTA LIMITED
JHARSUGUDA POWER & STEEL LTD.

Annexure-R-7

INSTALLATION OF HDPE LINER



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REGD. NO. ON - 01/13

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