

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

**Original Application No. 04 of 2019 (SZ)
with**

**Original Application No. 04 of 2020 (SZ)
with**

Original Application No. 05 of 2020 (SZ)

IN THE MATTER OF:

Anirudh Reddy	Vs	...	Applicant(s)
Union of India and Ors.	With	...	Respondent(s)
Chava Srinivas and Anr.	Vs	...	Applicant(s)
M/s. Anand Metallics & Power Pvt. Limited and Ors.	With	...	Respondent(s)
Capt L.K. Reddy (Retd)	Vs	...	Applicant(s)
M/s. Om Shiv Shakthi Iron Industries Pvt. Ltd. & Ors.		...	Respondent(s)

STATUS REPORT OF TELANGANA STATE POLLUTION CONTROL BOARD

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Place: Hyderabad

Date: 27-08-2022.

STATUS REPORT DATED 27-08-2022 OF TELANGANA STATE POLLUTION CONTROL BOARD IN OA No.4 OF 2019; OA No.4 OF 2020 AND OA No.5 OF 2020 AS PER HON'BLE NGT ORDER DATED 16.08.2022.

It is to submit that the Hon'ble NGT, Chennai vide order dated 16.08.2022 in OA No.4 of 2019 filed against M/s. Bilasraika Sponge Iron Pvt Ltd; OA Nos. 4 & 5 of 2020 filed against M/s.Anand Metallics & Power (Pvt) Ltd., & M/s. Om Shiv Shakti Metal Industries Ltd., (Kedia Alloys Ltd.) ordered as follows: -

"The State Pollution Control Board is also directed to file a present status of the proceedings initiated on the basis of the directions issued by this Tribunal and the present status of the alleged erring units against whom closure orders have been issued".

In this regard the following is submitted: -

Siting criteria guidelines:

The Board was receiving complaints against the Sponge Iron Plants particularly those located near to the habitation. To ensure proper regulation of Sponge Iron Plants, the Pollution Control Board has constituted a Technical Committee and based on the recommendations of the Technical Committee, the Board has formulated the following guidelines on 06.10.2005 for establishment of Sponge Iron Plants (**Annexure-I**) : -

1. No population shall exist within 1 Km from the periphery of the unit.
2. In case of recreational areas the distance shall be 2 Km from the periphery.
3. No other Sponge Iron Plants shall be located within 1 Km.
4. The distance between the boundary of the site and the boundary of the
 - a. National Highway and State Highway shall be – 500 m.
 - b. Major District roads – 100 m, other roads – 25 m.
5. The distance between the boundary of the site and the boundary of the gardens / horticulture / orchards / agricultural lands – 1 Km.

Subsequently, the MoEF, GoI vide G.S.R.414 (E), dated 30.05.2008 (**Annexure-II**) notified guidelines for the Sponge Iron Plants under Environment (Protection) Rules, 1996 regarding stack height, emissions standards, effluent standards etc. The MoEF guidelines stated that siting of new Sponge Iron Plants shall be as per respective State Pollution Control Board guidelines. However the following aspects shall also be considered:

- a) Residential habitation (residential localities / village) and ecologically and / or otherwise sensitive areas: A minimum distance of at least 1000 m (1.0 km) to be maintained.

- b) If any plant / cluster of plants are located within 1 km from any residential area / village they may be shifted by State Pollution Control Board / State Govt. in a phased manner for which a time bound action plan is to be prepared by SPCBs.
- c) The location of Sponge Iron Plant should be at least 500 m away from National Highway and State Highway.
- d) Radial distance between two Sponge Iron Plants should be 5 km for plants having capacity 1000 TPD or more.
- e) Sponge Iron Plants can be established in designated industrial areas / Estates as notified by State Govt.

The individual status of three Sponge Iron Plants is as follows: -

I. M/s Bilasraika Sponge Iron India Pvt. Ltd., Gundlapotlapally Village, Balanagar Mandal, Mahaboobnagar District

1. M/s Bilasraika Sponge Iron India Pvt. Ltd. is a Sponge Iron manufacturing unit with a production capacity of 166 TPD (Two Kilns of each 100 TPD & 66 TPD).
2. The industry has obtained CFO of the Board vide order dated 19.08.2017 for production of Sponge Iron (Two Kilns – 100 TPD + 66 TPD) - 166 Tons/day which is valid upto 31.05.2022.
3. The industry has two nos. of kilns of capacity 100 TPD (Kiln – I) & 66 TPD (Kiln – II). During the inspection the industry was operating both the kilns.
4. The industry has ESPs (2 Nos.) to the kilns as APCE and are attached to common chimney of 49 m height.
5. The industry has provided heat exchanger in place of GCT to the kiln-I (100 TPD) and provided GCT to kiln – II (66 TPD).
6. The industry has provided closed room with MS sheets to the bottom of the Heat exchanger for collection of dust and storing within the room.
7. The industry has provided wet scrapper with collection pits to the ESP – I & ESP - II to collect the dust in wet form.
8. The industry has provided wet scrapper with sludge collection pits individually at ABC- I & II, GCT – II and ESP – I, ESP- II to collect dust in wet form.
9. The industry has rectified ducts leakages at ID Fans of Kiln – I & Kiln – II.
10. The industry has provided bag filters at i) Coal Crusher ii) Stock house iii) Injection coal conveyor iv) Cooler discharge v) Intermediate bin vi) Product house top and vii) Iron ore circuit.

11. The industry has installed separate bag filters to the both kilns outlet points and provided with closed chamber to the bag filter for collecting and storage of dust.
12. The industry has provided closed rooms to all bag filters to collect the dust and storage within the room at Coal crusher, Stock house, Injection coal conveyor, Intermediate bin, cooler discharge, Iron ore circuit, Injection coal conveyer.
13. The industry has provided RCC Walls two sides to the Kilns transfer chute and Cooler inlet to avoid the cooling water spillages.
14. The industry has provided claddings conveyor belt and closed bottom with M.S. Sheets at coal crusher.
15. The industry has provided closed shed for storage of coal. The industry has provided closed shed for storage of Iron ore Pellets and also provided closed shed for Ground Hopper.
16. The industry has provided closed shed for Product House bunker to unload product directly into the trucks within closed premises.
17. The industry has provided closed shed to the iron ore pellets transfer points with attached bag filter.
18. The industry has provided cladding sheets to all conveyor belts and transfer points with MS Sheets.
19. The industry has provided fixed water sprinklers at near the process area, coal storage shed, along the internal Roads, coal & iron ore ground hopper, kiln area, product house and within coal storage shed. The industry has also water sprinklers at top of conveyor belts, transfer points and Road leading to product House to Weigh Bridge.
20. The industry has provided 2 Nos. of mechanical flow meters at raw water collection sump. One flow meter for water sprinklers & another for process and maintaining the water consumption records.
21. The industry has developed green belt along the west and south side compound walls and also planted saplings i.e. near coal shed, internal roads, kiln area, stock house and product house.
22. The industry has installed IP camera to the ABC cap and installed continuous online stack monitoring system to the stack attached to the kilns and connected to the TSPCB Server.
23. The industry has also installed 4 Nos. of IP cameras at corners of the industry. But not connected to the TSPCB server and also not provided recording facility.

24. The industry has PLC system for recording the opening and closing time of emergency cap to the ABC.
25. The industry has provided lorry parking area with concreted platform within the premises.
26. The nearest village is Rangareddyguda is located at a distance of about 400 m. The nearest residence is at a distance of 350 m from the industry.
27. The industry has not provided wind breaking wall with height of 25 ft. along with compound wall towards approach Road and village to avoid the inconvenience to the Road passers.
28. The emissions directly let out through chimney, while power interruption and tripping of ESP due to power failures. The industry representative informed that, they are immediately restoring alternative power supply by operating Generators for APCEs operation continuously.
29. As per the earlier directions of Hon'ble NGT, the Board has levied Environmental compensation of Rs.4,21,50,000/- to M/s. Bilasraika Sponge Iron India Pvt Ltd.
30. The industry vide letter dated 29.12.2021 requested the Board that they will remit the Environmental Compensation (EC) in three instalments. The Board vide letter dated 02.02.2022 directed that the industry shall remit the EC as per the following schedule:-

Instalment	Amount	Time line
FIRST	Rs.1,40,50,000/- (Rupees One Crores Forty Lakh Fifty Thousand only)	Immediately
SECOND	Rs.1,40,50,000/- (Rupees One Crores Forty Lakh Fifty Thousand only)	After one month from the date of payment of the 1 st instalment
THIRD	Rs.1,40,50,000/- (Rupees One Crores Forty Lakh Fifty Thousand only)	After one month from the date of payment of the 2 nd instalment

31. The industry has paid the EC of Rs.1,40,50,000/- to the Board on 10.02.2022 and not paid 2nd & 3rd installments of Rs.2,81,00,000/-.
32. Subsequently, the industry vide letter dated 17.05.2022 requested the Board to issue permission to continue production activity. The Board vide letter dated 07.06.2022 directed the industry to pay the balance EC amount immediately, failing which the Board will be constrained to take action as per Law. However, the industry has not paid the EC amount.

33. The issue was discussed in the Task Force Hearing in TSPCB held on 28.07.2022. After detailed discussions, the Task Force Committee recommended to issue Closure orders to the above industry for not remitting the balance Environmental Compensation of Rs.2,81,00,000/- (Rupees Two Crores Eighty One Lakhs) i.e., 2nd and 3rd instalments even after giving sufficient time and not yet complied with Board directions viz., not connected the IP cameras at corners of the industry to TSPCB server and not provided wind breaking walls with height of 25 feet along the compound wall towards approach road & village.
34. The Board issued closure orders to the industry for the above reasons vide Order dated 03.08.2022 and also issued power disconnection orders to the TSSPDCL vide Order dated 03.08.2022. The TSSPDCL has disconnected the power supply to the industry.

II.M/s. Anand Metallics & Power (Pvt.) Ltd., Sy.No. 275, Kodicherla (V), Kothur (M), Rangareddy (formerly Mahaboobnagar) District.

1. M/s. Anand Metallics & Power (Pvt.) Ltd is a Sponge Iron manufacturing unit.
2. The industry has obtained CFO of the Board vide order dated 26.08.2021 for Sponge Iron – 100 TPD (One Kiln) for a period upto 30.04.2026.
3. The industry uses Coal, Iron and Lime Stone as raw materials for production of Sponge Iron.
4. The industry consumes total water of about 175 KLD, out of which 150 KLD for Cooling makeup, 15 KLD for Domestic and 10 KLD for gardening. The industry generates wastewater of about 10 KLD from domestic section only, which are letting out into septic tank.
5. The industry has one Rotary Kiln of capacity 100 TPD. During the inspection, the Kiln was in operation.
6. The industry has provided ESP as APCE to the Kiln.
7. The industry has installed Bag Filters at various locations viz., 1) Coal Crusher 2) Stock house 3) Intermediate Bin 4) Cooler discharge and 5) Product House to control the fugitive dust emissions.
8. The industry has provided separate individual closed rooms to all the bag filters to collect the dust and storing within the room at the following locations.
 - 1) Coal Crusher 2) Stock house 3) Intermediate Bin 4) Cooler discharge 5) Product House
9. The industry has provided separate energy meters and hour meters for the air pollution control equipments .i.e., Coal Crusher Bag filter, Stock House Bag filter, Intermediate

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Bin Bag filter, Product House Bag filter, ESP-ID Fan, GCT Pump and maintaining energy consumption records.

10. The industry has provided cladding with M.S. Sheets to Coal Crusher, Screen, Stock House, Intermediate Bin House, Product House, CD House, Kiln Inlet & Outlet points and to all conveyer belts and at all transfer points to arrest fugitive emissions.
11. The industry has provided claddings to ABC cap with M.S. Sheets.
12. The industry has provided fixed water sprinklers at Iron Ore and Coal ground hoppers, near process area, along the Internal Roads and near the Raw material storage sheds. The industry has also provided fixed water sprinklers on top of conveyor belts at various locations to control fugitive dust emissions. The industry provided separate energy meter to the water sprinklers and maintaining the records.
13. The industry has provided separate energy meter to the ESP and other APC equipment and maintaining the records.
14. The industry has provided closed sheds for storage of Raw materials viz., Iron Ore, Lime Stone and Coal.
15. The industry has also provided wet scrappers with sludge collection tank to the ESP, GCT & ABC Cap to collect the dust in wet form to avoid the fugitive dust emissions.
16. The industry generates solid waste such as ESP dust, Bag filter dust and Char & Dolo char. The industry disposing solid waste such as ESP dust, Bag filter dust and Char & Dolo char to the outside parties.
17. The industry has installed PLC system for recording opening and closing time of emergency cap to the ABC.
18. The industry has installed continuous online stack monitoring system to the stack attached kiln and connected to the TSPCB Website.
19. The industry has installed 2 Nos. of IP cameras, one is at ABC Cap and another is for ESP stack and connected to the TSPCB Server.
20. The industry has provided 4 Nos. of IP cameras at 4 corners of the premises and connected to TSPCB server.
21. The industry has laid RCC roads near the process area and other areas.
22. The industry was maintaining moderate housekeeping.
23. The industry has concreted platform for lorry parking within the premises.

24. The industry has constructed compound wall towards residential houses. Greenbelt developed along the boundary walls and between the process area to adjacent Thanda side.
25. Earlier, the Board has issued Closure order to the industry vide order dated 11.09.2018 for non-compliance of Board's directions / conditions. Subsequently, based on the compliance, revocation of closure orders were being issued to the industry. The latest temporary revocation order was issued on 06.04.2022 for a period of six months i.e., upto 05.10.2022 and the industry is kept under observation.
26. The industry has submitted two Bank Guarantees of Rs.6 Lakhs and Rs. 10 Lakhs, which are valid upto 13.02.2023.
27. Recently, a complaint made by Sri.V.Bhasker was forwarded by CPCB to the TSPCB for causing air pollution by the industry. The same will be reviewed in the ensuing Task Force Committee meeting and necessary action will be taken as per the recommendations of the Committee.

III.M/s. Om Shiv Shakti Iron Industries Pvt. Ltd.,(Formerly Kedia Alloys Ltd.,)
Sy.No.256 & 257, Mogiligidha (V), Shadnagar (M), Rangareddy District

1. M/s. Om Shiv Shakti Metal Industries Ltd., (Kedia Alloys Ltd.,) is involved in production of Sponge Iron with one kiln– 100 TPD.
2. The industry has obtained CFO of the Board vide order dated 20.06.2022 for production of Sponge Iron – 100 (one kiln) Tons/day which is valid upto 28.02.2027.
3. The industry has Rotary Kiln of capacity 100 TPD. During inspection, the kiln was in operation.
4. The industry consumes total water of about 264 KLD, out of Cooling (kiln cooler, GCT & ABC) – 240 KLD and Domestic – 24 KLD. The industry generates wastewater of about 20 KLD from domestic section, which are letting out into septic tank.
5. The industry has provided fixed water sprinklers at various areas along the roads, at ground hopper, kiln area and at coal storage shed.
6. The industry has provided closed sheds for storage of raw material i.e., coal and iron ore.
7. The industry has also provided closed shed of for storage of dolachar, char coal and Sponge Iron
8. The industry has provided Bag Filters at crusher, screen, Stock house, Intermediate Bin, Product House, cooler discharge and provided closed rooms to the Bag filters to collect the dust and storage

9. The industry has provided separate Energy meters to ESP, GCT and bag filters provided at coal crusher, screen, Intermediate bin, product House, kiln outlet, Cooler Discharge and maintaining the energy consumption records.
10. The industry has provided ESP as Air pollution control Equipment to the kiln of capacity 100 TPD and chimney of height is about 33 mtrs.
11. The industry has provided wet scrappers to the GCT & ABC Cap to collect the dust in wet form. The industry has constructed common RCC drain from ABC, GCT and ESP and routed to a common sludge collection pit which is away from the source i.e. ABC Cap, GCT and ESP. The sludge is collected from the pit and stored on the RCC platform to dry the sludge.
12. The industry has provided cladding with MS Sheets to Crusher house, Screen house, Stock house, Kiln Inlet, Intermediate Bin, Kiln outlet and CD house, all the conveyer belts, at all transfer points, to the kiln outlet and Cooler Discharge.
13. The industry generates Hazardous / solid waste viz., Dust & solid waste (Char & Dolo Char) – 10 TPD (Shall be sent to brick manufacturing industries) and Used oil – 1200 LPA (Shall be sent to authorized re-processors /Recyclers).
14. The industry has provided IP camera to ABC cap with recording facility and connected to TSPCB server.
15. As per the Board directions the industry has installed 4 Nos. of IP Cameras with TILT Zoom facility at 4 corners of the premises and connected to TSPCB server.
16. The industry has laid concreted road from entrance gate to ground hopper and has to lay at coal and iron ore shed area.
17. The industry has provided concrete platform for lorry parking within the premises.
18. Earlier, the Board has issued Closure order to the industry vide order dated 23.03.2018 for non-compliance of Board's directions / conditions. Subsequently, based on the compliance, revocation of closure orders were being issued to the industry. The latest temporary revocation order was issued on 24.05.2022 for a period of one year i.e., upto 23.05.2023 and the industry is kept under observation.
19. The industry has submitted Bank Guarantee of Rs.4 Lakhs which is valid upto 31.08.2022.

The Telangana State Industrial Infrastructure Corporation (TSIIC) Ltd., Industries & Commerce Dept., Government of Telangana is the concerned agency for identifying suitable site and development of infrastructure for shifting of the Sponge Iron Plants.

Out of the three Sponge Iron Plants, one of the plant i.e., M/s. Bilasraika Sponge Iron India Pvt Ltd., has been issued with the closure order and presently not in operation. The remaining two sponge iron plants i.e., M/s. Anand Metallics & Power (Pvt) Ltd., & M/s. Om Shiv Shakti Metal Industries Ltd., have been issued with the temporary revocation of closure orders and these industries are kept under observation.

Place: Hyderabad.

Date: 27-08-2022

**Sd/-
MEMBER SECRETARY**

// T.C.F.B.O //

K. S. Reddy

**JOINT CHIEF ENVIRONMENTAL ENGINEER-II,
TSPCB, HEAD OFFICE, HYD.**

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ANNEXURE-I

A.P.POLLUTION CONTROL BOARD
A-3, Industrial Estate, Sanathnagar, Hyderabad- 500 018

Circular No:10/PCB/CFE/ROs&ZOs/05- 1685

Dt.06-10-2005

Sub: PCB-CFE- Guidelines for setting up of Sponge Iron Units -Reg.

The Board has been receiving many number of Consent for Establishment (CFE) applications for establishing Sponge Iron Units in the State. In order to process the applications effectively, it has been decided to frame certain guidelines for processing these applications. Accordingly, the issue was placed in the technical committee meeting of the Board held on 12-05-2005. Based on the recommendations of the Technical Committee, the Board has formulated the following guidelines for establishing the sponge iron plants in the state:

- 1) No Population shall exist within 1 km from the periphery of the unit.
- 2) In case of recreational areas the distance shall be 2 km from the periphery.
- 3) No other Sponge iron plants shall be located within 1km.
- 4) The distance between the boundary of the site and the boundary of the
 - a. National Highway and State Highway shall be - 500 m
 - b. Major District roads - 100 m, other roads - 25 m.
- 5) The distance between the boundary of the site and the boundary of the gardens / horticulture / orchards / agricultural lands - 1 km.
- 6) The built-up area of the plant shall not be more than 50% of total area.
- 7) Greenbelt of 10 m width all around the plant premises shall be developed. In the case of sensitive areas the greenbelt shall be 25 mts width in the prevailing wind direction. The greenbelt development shall be done with "Locally Suitable EVERGREEN plants".
- 8) The SPM emission concentration in stack shall not be more than 100 mg/NM³. The control equipments ESP or bag filters will have 25% addition stand by stages for ESP or bag cells for bag filter.
- 9) The height of the stack attached to the Rotary Kiln shall be minimum 75 m from the ground level for 100 T/day and 100 m for 200 T/day capacities.
- 10) All sources of fugitive emissions i.e., loading and unloading operations, stock yard, transfer points of conveyors and retreat points shall be controlled fully i.e., with total enclosures and all transfer emissions shall be connected with Extractor inlet point and shall pass through a high efficiency Bag filter before discharging into the atmosphere.
- 11) The collected dust from air pollution control equipments shall be disposed in a well designed land fill. Until capping of land fill, top surface shall be kept in wet condition with water sprinklers to avoid re-entrainment into surroundings.
- 12) All internal roads shall be paved with Bitumen or Concrete.
- 13) Separate energy meter for air pollution control equipment shall be provided
- 14) Iron ore and coal stocks shall be with totally covered shed.

In view of the above, all the ROs and ZOs are required to accept and process the applications of sponge iron units based on the above guidelines.

Further, Technical Committee in its meeting held on 31-08-2005 recommended that the Environmental Management Plan (EMP) of sponge iron units shall consist of the following information to process their applications.

The industry shall submit detailed EMP consisting of the following information:

- a. Justification to select the present site among the alternative sites available.
- b. Location Map indicating the site with approach road including neighbouring industries, human habitation etc.
- c. Site layout plan drawn to scale clearly showing the greenbelt provision, immediate surroundings, north direction etc.
- d. Copy of Survey of India Topo Plan indicating scale covering an area of 10 km radius indicating water bodies, agriculture lands, reserved forest, monuments, IDA / III, industries, residential areas, and villages, etc.
- e. Quantity of each raw material required per day and their storage capacity.
- f. Daily and annual production capacity of each product, their storage capacity in the premises.
- g. Detailed process description and flow chart with material balance.
- h. Quantities of water consumed for various purposes and quantities of wastewater generated from various sections.
- i. Details of Effluent Treatment Plant (ETP) and the final point of disposal of treated effluent.
- j. Details of sources of air pollution, air pollution control equipment and calculations for stack height and including those control measures proposed to arrest fugitive emissions at storage yards.
- k. Quantity of solid waste generated from various sections, treatment and mode of disposal.
- l. Wind Rose diagrams indicating prevailing wind direction. Details of features existing in the prevailing wind direction, viz., agricultural fields, orchards, human habitation, etc. and their distance from the proposed stack of the industry.
- m. Detailed monitoring schedule during operational phase of the industry.
- n. Measures to control noise pollution.
- o. Details of fire protection system.
- p. Details of environment management cell.
- q. Details of greenbelt on sides of factory, its width and type of plantation proposed.

Hence, all ROs/ZOs can insist for EMP reports containing above mentioned points while accepting the CFE applications from Sponge Iron Units (other than public hearing cases) and ensure the compliance of the same.

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Keeping in view of the pollution problems associated due to establishment of Sponge Iron Units, it has been decided to place all the Sponge Iron Units before Technical Committee for review and evaluation.

Hence, all the ROs/ZOs are hereby informed to forward the CFB applications of Sponge Iron Units to Board Office to place before Technical Committee at Board Office for further action. These guidelines shall be applicable for all the units, in respect of which CFB has not been issued.

Sd/-
MEMBER SECRETARY

To

All JCEBs, JCES, SIEBs at Board Office,
All Task Forces,
All ROs and ZOs.

//T.C.F.B.O//

[Signature]
JOINT CHIEF ENVIRONMENTAL ENGINEER (CBE)

7/10/05

Sponge Iron Standards

**MINISTRY OF ENVIRONMENT AND FORESTS
NOTIFICATION
New Delhi, the 30th May, 2008**

G.S.R.414(E) - In exercise of the powers conferred by Sections 6 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following Rules further to amend the Environment (Protection) Rules, 1986, namely:-

1. (1) These rules may be called the Environment (Protection) Fourth Amendment Rules, 2008.
- (2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Environment (Protection) Rules, 1986, -
 - (i) in Schedule I, after serial number 98 and the entries relating thereto, the following serial number and entries shall be inserted namely:-

Sl. No.	Industry	Parameter	Standard
1	2	3	4
99	Sponge Iron Plant (Rotary Kiln)		A. Emission Standards*

Parameter	Fuel Type	Limiting value for Concentration
Particulate matter	Coal	100 mg/Nm ³
	Gas	50 mg/Nm ³
Carbon Monoxide (Vol/Vol.)	Coal /gas	1%
Stack Height** (minimum)	coal/gas	30.0 m

Note:-

- * Emission shall be normalized at 12% CO₂ in stack emission.
 ** Stack height shall be calculated as $H = 14.0 Q^{0.3}$ where Q is emission of Sulphur Dioxide (SO₂) in kg/hr i.e.

SO ₂ (kg/hr)	Height (metre)
Upto 12.68	30
12.69-33.08	40
33.09-69.06	50
69.07-127.80	60
127.81-213.63	70

(De-dusting unit)

Particulate matter (mg/m³)	Existing unit 100	New unit 50
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Note:-

- (i) Stack attached to de-dusting unit shall have minimum height of 30.0 metre.
- (ii) If, De-dusting unit is connected to After Burner Chamber (ABC), emission shall be emitted through common stack (minimum height 30.0 metre) having separate arrangements for emission monitoring for de-dusting unit.

(Rotary Kiln / De-dusting unit)

B. Fugitive Emission Standards

Particulate matter (µg/m³)	Existing unit 3000	New unit 2000
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Note:-

- (i) The existing industry shall comply with a standard of 2000 (µg/m³) after one year the date of notification.
- (ii) Fugitive emission shall be monitored at a distance 10.0 metre from the source of fugitive emission as per following:

Area	Monitoring location
Raw material handling area	Wagon tippler, Screen area, Transfer points, Stock bin area
Crusher area	Crushing plant, vibrating screen, transfer points
Raw material feed area	Feeder area, Mixing area, Transfer points
Cooler discharge area	Over size discharge area, Transfer points, Product processing area Intermediate stock bin area, Screening plant, Magnetic separation unit Transfer points, Over size discharge area, Product separation area, Bagging area
Other areas	As specified by State Pollution Control Board / Pollution Control Committee

C. Effluent Standards

pH	5.5-9.0
Total suspended solids	100 mg/l
Oil & grease	10 mg/l
Chemical oxygen demand	250 mg/l

Guidelines / Code of Practice for Pollution Prevention for Sponge Iron Plants

1. Air Pollution

1.1 Stack Emission from Kiln

- (i) Suitable Air Pollution Control System shall be installed to achieve the prescribed stack emission standards. The following air pollution control system/combination of system are most commonly used in such type of industry:
 - Electrostatic Precipitator (ESP)
 - Bag Filter
 - Wet Scrubber
 - Cyclone / Multiclone
- (ii) All Pollution control equipment may be provided with separate electricity meter and totaliser 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.
- (iii) 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, bypassing the air pollution control device.
- (iv) In order to prevent bypassing of emissions through safety cap and non-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 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 prevent any possibility of defeating the basic objective of the interlock. The system should be foolproof to prevent any kind of tempering. The software based interlocking system, proposed to be installed by industry should be get approved by the concerned State Pollution Control Board, for its adequacy, before installation by the industry.
- (v) Mechanical operated system for timely collection and removal of the flue dust generated in air pollution control device shall be installed.

1.2 Stack Emission from de-dusting units

All de-dusting units should be connected to a stack having a minimum stack height of 30 m. However, in specific cases stack height can be reduced as specified in the notified standards. Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring. De-dusting units can also be connected to ABC Chamber and finally emitted through common stack with kiln off-gas emissions.

1.3 Fugitive Emission

The measurement may be done, preferably on 8-hour basis with high volume sampler. However, depending upon the prevalent conditions at the site, the period of measurement can be reduced.

2. Effluent Discharge

- (i) All efforts should be made to reuse and re-circulate the water and to maintain zero effluent discharge.
- (ii) Storm water / garland drain should be provided in the plant.

3. Noise Control

The industry should take measures to control the Noise Pollution so that the noise level standards already notified for Industrial area are complied.

4. Solid Waste Management

Char

Char should be mixed with coal or coal washery rejects and used as fuel for generation of power. It is techno-economic viable option for plants having capacity 200 TPD and above. Also the smaller capacity individual Sponge Iron Plants (Capacity upto 100 TPD) and operating in cluster can collectively install common unit for power generation. The Sponge Iron Plant are free to explore other options / possibilities to use char for generation of power. Char can be sold to local entrepreneurs for making coal briquettes. It can also be mixed with coal fines, converted to briquettes and used in brick kilns. The industry can explore other reuse / recycling techniques for Char.

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.

Kiln Accretions

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.

Gas Cleaning Plant (GCP)/Scrubber Sludge

The sludge should be compacted and suitably disposed off 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 Gas Cleaning Plant (GCP)/Scrubber Sludge

Flue Dust

Flue dust is generated from air pollution control system installed with kiln. Secondary flue dust is also generated from air pollution control equipment installed with Raw Material Handling, Coal Crusher, Cooler Discharge and Product house unit. The reuse/ recycling of the flue dust generated / collected may be explored and suitably implemented.

Fly ash

Fly ash is generated from Char / Coal based Captive Power Plant, if any. Fly ash brick making plant may be install for fly ash utilization. Fly ash can be utilized in cement making by Cement industry also. The industry can explore other reuse / recycling techniques for Flue Dust / Fly ash.

Bottom Ash

Bottom ash is generated from Char / Coal based Captive Power Plant, if any. Bottom ash may have objectionable metallic compounds, therefore should be stored in properly designed landfills as per CPCB guidelines to prevent leaching to the sub-soil and underground aquifer.

General

- (a) Solid waste management program should be prepared with thrust on reuse and recycling. Solid waste disposal site should be earmarked within the plant premises. The storage site of solid waste should be scientifically designed keeping in view that the storage of solid waste should not have any adverse impact on the air quality or water regime, in any way.
- (b) 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.

5. Raw Material handling and Preparation

- (a) 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.
- (b) Crushing and screening operation should be carried out in enclosed area. Centralized de-dusting facility (collection hood and suction arrangements followed by suitable de-dusting units such as bag filter or ESP or equally effective method or wet scrubber or any other de-dusting unit and finally discharge of emission through a stack) should be provided to control Fugitive Particulate Matter Emissions. The stack should conform to the emission standards notified for de-dusting units. Water sprinkling arrangement should be provided at raw material heaps and on land around the crushing and screening units.
- (c) Work area including the roads surrounding the plant shall be asphalted or concreted.
- (d) 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.

In the wet system, water sprays/ sprinklers shall be provided at the following strategic locations for dust suppression during raw material transfer:

- Belt conveyor discharge/ transfer point
- Crusher/screen discharge locations

6. Waste Heat Recovery Boiler (WHRB)

Sponge Iron Plants of capacity more than 100 TPD kilns may use Waste Heat Recovery Boiler (WHRB) for generation of power. Installation of Waste Heat Recovery Boiler (WHRB) may qualify the industry for CDM benefits.

7. Cooler Discharge and Product Separation Unit

Permanent and rigid enclosures shall be provided for belt conveyors and transfer points of belt conveyors. Dust extraction cum control system to arrest product loss in cooler discharge and product separation area may be installed.

8. Char based Power Plant

For plant having capacity of 200 TPD of cumulative kiln capacity, the power generation using char as a part of fuel, is a viable option. Power generation using char as a part of fuel may be implemented in a phased manner targeting for 100% utilization of char.

Individual Sponge Iron Plants of capacity upto 100 TPD and located in cluster can install a common char based power plant collectively.

9. New Sponge Iron Plants

- (i) No New Sponge Iron Plant will be commissioned without installation of Pollution control systems to achieve the stipulated Standards. The concerned State Pollution Control Board will accord consent to operate only after physical verification of the adequacy of the installed pollution control systems for meeting the standards and stipulated conditions in the consent to establish.
- (ii) All new kilns shall have independent stack with the kiln or multi-flue stacks in case two or more kilns are joining the same stack for better dispersion of pollutants.
- (iii) Any entrepreneur having more than 2x100 TPD kiln may install WHRB for power generation, as it's a technically viable option, which also qualify the industry for CDM benefits.

For plants having capacity of 200 TPD or more, power generation using char as part of fuel in boiler is techno-economic viable option, therefore, new plants may install power generation unit at the time of installation of the industry.

10. General Guidelines

- (a) Extensive plantation/Green belt shall be developed along the roads and boundary line of the industry. A minimum 15 m width Green Belt along the boundary shall be maintained. However, the green belt may be

designed scientifically depending upon the requirement and local and mix species of plants may be selected for the green belt.

- (b) Monitoring of stack emissions, fugitive emissions, trade effluent and noise level shall be done as per CPCB regulations. On line stack monitoring facilities shall be provided and operated continuously to ensure compliance to stack emission standards. Calibration of the system to be carried out by a third party accredited laboratory. List of the accredited laboratory may be obtained from CPCB/SPCB.
- (c) Pollution control systems shall be operated as an integral part of production to ensure minimum emissions. Pollution Control System shall start before conveyor operation/operation of plant. Similarly pollution control system shall be stopped only after completion of conveyor operation/operation of plant so that possibility of dust settlement in ducts can be eliminated. Continuous evacuation of dust from air pollution control systems such as Dust catchers, ESPs, Bag filter hopper etc. shall be organized.

11. Siting Guideline for Sponge Iron Plants

Siting of new sponge iron plants shall be as per respective State Pollution Control Board guidelines. However the following aspects shall also be considered:

- (a) Residential habitation (residential localities/ village) and ecologically and/or otherwise sensitive areas: A minimum distance of at least 1000 m (1.0 km) to be maintained.
- (b) If any plant/clusters of plants are located within 1 km from any residential area/ village they may be shifted by State Pollution Control Board/ State Govt. in a phased manner for which a time bound action plan is to be prepared by SPCBs.
- (c) The location of Sponge Iron Plant should be at least 500 m away from National Highway and State Highway.
- (d) Radial distance between two Sponge Iron Plants should be 5 km for plants having capacity 1000 TPD or more.
- (e) Sponge Iron Plants can be established in designated industrial areas / Estates as notified by State Govt.