



सत्यमेव जयते

File No: IA-J-11011/310/2009-IA-II-(IND-I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division



Date 13/09/2023



To,

M/s BIHAR FOUNDRY AND CASTINGS LIMITED
Bihar foundry and casting Limited, Plot No.0 1405, Ramgarh Industrial Area, Marar 607, Marar,
RAMGARH, JHARKHAND, 829117
E-mail: bfcferroalloys@gmail.com

Subject: Expansion of Steel plant –Sponge Iron through DRI Klins from 99,000 TPA to 4,05,375 TPA, WHRB Based Power generation from 5.0 MW to 29 MW, New AFBC Power Plant of 8.0 MW Capacity, MS Billets/ Hot Billets through Induction Furnace from 48,000 TPA to 1,58,400 TPA, Rolled products through New Rolling Mill of 1,65,000 TPA, & New Slag Crusher of 120 TPD by M/s Bihar Foundry & Castings Limited, located at Ramgarh Industrial Area, Plot No. 1364 Marar Village, Ramgarh Tehsil & District, Jharkhand– Grant of Environmental Clearance Regarding.

Sir/Madam,

This refers to your proposal no. IA/JH/IND1/430894/2023 dated 2nd June 2023 along with copy of EIA/EMP report and certified compliance report for seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The PP has submitted/uploaded the information on Parivesh portal on dated 02.08.2023

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A1001JH5222447N
(ii) File No.	IA-J-11011/310/2009-IA-II-(IND-I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	3(a) Metallurgical Industries (ferrous and non ferrous),1(d) Thermal Power Plants,1(d) Thermal Power Plants
(vi) Sector	Industrial Projects - 1
(vii) Name of Project	Expansion of steel plant –Sponge Iron through DRI Klins from 99,000 TPA to 4,05,375 TPA, WHRB Based Power generation from 5.0 MW to

	29 MW, New AFBC Power Plant of 8.0 MW Capacity, MS Billets/ Hot Billets through Induction Furnace from 48,000 TPA to 1,58,400 TPA, Rolled products through New Rolling Mill of 1,65,000 TPA, & New Slag Crusher of 120 TPD
(viii) Name of Company/Organization	M/s BIHAR FOUNDRY AND CASTINGS LIMITED
(ix) Location of Project (District, State)	RAMGARH, JHARKHAND
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. The proposed project activity is listed at S. No. **3(a) & 1(d) under Category “A”** of the schedule of the EIA Notification, 2006 and appraised at Central Level.

4. The instant Proposal was considered in the **40th EAC Meeting held during 19th – 21st July, 2023** wherein after detailed deliberations, the committee recommended the proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions. The minutes of the meeting and all the project documents are available on PARIVESH portal which can be accessed at <https://parivesh.nic.in>

5. The details of the proposal are as per the EIA/EMP report submitted by the proponent. The salient features of the proposal as presented during the above-mentioned meetings of EAC (Industry 1 Sector) are at **Annexure-I**.

6. The Unit configuration and capacity of the proposed project is at **Annexure-II**.

7. The EAC, in its 40th meeting held during **19th – 21st July, 2023**, inter-alia, deliberated the following:

(i) The instant proposal is for Expansion of Steel plant –Sponge Iron through DRI Klins from 99,000 TPA to 4,05,375 TPA, WHRB Based Power generation from 5.0 MW to 29 MW, New AFBC Power Plant of 8.0 MW Capacity, MS Billets/ Hot Billets through Induction Furnace from 48,000 TPA to 1,58,400 TPA, Rolled products through New Rolling Mill of 1,65,000 TPA, & New Slag Crusher of 120 TPD capacity.

(ii) The EAC, constituted under the provision of the EIA Notification, 2006 comprising Expert Members/domain experts in various fields, examined the proposal submitted by the Project Proponent in desired format along with EIA/EMP reports prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the Project Proponent.

(iii) The EAC noted that the Project Proponent has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.

(iv) The Committee noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The Committee deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The Committee suggested that the storage of toxic/explosive raw materials/products shall be undertaken with utmost precautions and following the safety norms and best practices.

(v) The existing project was accorded environmental clearance vide F. No. J-11011/310/2009-IA (II) (I) dated 28.01.2010. Consent-to-Establish (CTE) has been obtained vide order No. 632, dated 24.02.2010 for Sponge

Iron Plant (3X100 TPD), Induction Furnace 1X6, 2X3 TPH & 1X10 TPH , WHRB 6 MW & AFBC Power Plant 4 MW. Consent To Operate from JSPCB vide no. JSPCB/HO/RNC/CTO-4426528/2019/2376 dated 28.11.2019 Valid up to 31.12.2024 for Induction Furnace (48,000 TPA). CTO for sponge iron (99,000 TPA) & captive power plant – 5 MW vide order No. JSPCB/HO/RNC/CTO-11688208/2022/345 dated 25.03.2022 and is valid till 31.03.2025.

(vi) The EAC noted that the instant project comes under Severely Polluted area (SPA) falling in the Ramgarh district of Jharkhand. PP has committed the proposed mitigation measures and also submitted detailed action plan as detailed in para 40.1.19 above. The EAC is of the opinion that the mitigation plans shall be strictly implemented.

(vii) Total project land is 7.69 ha (19 Acres) which is allotted by Jharkhand Industrial Area Development Authority (JIADA). The total land as per existing E.C. is 14 Acres (5.67 Ha.) for a period of 99 years from 01.05.1974. Subsequently, PP has acquired another 5 Acres (2.02 Ha.) from JIADA for a period of 30 years from 28.10.2015. Hence the total land of 19 Ac. (7.69 Ha.) is envisaged for the project. Expansion will be taken up partly in existing land and remaining in the additional land.

(viii) The nearest human settlement from the project site is Village Marar (0.3 km, N). The EAC is of the opinion that PP shall strictly implement the environmental safeguard measures proposed to minimise the impact on the habitation of the locals.

(ix) Damodar River (1.4 Km, S), Raura Nala (2.5 km, E), Meramgarh Nala (4.7 Km, E), Unnamed stream (0.7 Km, W), Ramgarh Village pond (3.6 Km, S) and Seota village Pond (1.5 Km, NE) exists within the study area of 10 km from the project site. The EAC is of the opinion that water bodies shall not be disturbed. Mitigation measures w.r.t. safeguarding the water bodies shall be implemented.

(x) The existing plant requirement is 300 m³/day which is obtained from water ground water. The water requirement for the proposed expansion project is estimated as 1260 m³/day and the same is proposed to be sourced from Damodar River.

(xi) The Committee has found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.

(xii) Existing green belt has been developed in 1.9 Ha. (4.7 Ac) area which is about 33 % of the total project area of 5.67 Ha. (14 Acres) with total number of plants of 4620. Proposed greenbelt will be developed in 1.19 Ha. (2.94 Ac.). Thus total of 3.09 Ha. area (40% of total project area) will be developed with greenbelt. Additional 3,200 nos. of plants will be planted by October 2023. Total number of plants will be 7,820. PP further assured to develop 3-tier Plantation at the School premises all along the school boundary and at the Dispensary premises all along the Dispensary boundary. The EAC deliberated on the greenbelt action plan and found it satisfactory.

(xiii) The EAC observed that a case has been filed vide Original Application No. 172/2023 dated 13th March 2023 before the Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi. Also there is a NGT Kolkata case which has been stayed by Hon'ble Kolkata high court by its order no. CO1615 of 2023 dated 22nd May 2023. The EAC deliberated that PP shall abide by the directions of the Hon'ble NGT in the aforementioned cases.

(xiv) The committee deliberated on the details of carbon foot prints and carbon sequestration study w.r.t. proposed project and found them to be satisfactory.

(xv) The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.

(xvi) The Committee also deliberated the CCR of earlier EC and its Action Plan and found it satisfactory.

(xvii) The EAC also deliberated on the submitted written representation of project proponent and found it satisfactory.

(xviii) The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance.

(xix) The environmental clearance recommended to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The project proponent shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

(xx) The EAC also reviewed the EC conditions (specific and general) pertaining to Industry-I projects and observed that some of the specific conditions stipulated so far in the previously recommended EC projects are common and applicable to most of the projects in general. In view of the same, the General Conditions (in case of EC projects) have been revised through reallocation of these common conditions from specific to General Conditions (in case of EC projects). Accordingly, the instant project is also being stipulated with the modified General conditions.

8. The EAC (Industry-1 Sector), in its 40th meeting held on **July 19 - 21, 2023**, based on information & clarifications provided by the project proponent and after detailed deliberations **recommended** the proposal for grant of Environment Clearance subject to stipulation of specific and general conditions as detailed in the point below.

9. The MoEF&CC has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the Expert Appraisal Committee (Industry-1 Sector) hereby decided to grant **Environment Clearance for instant proposal of M/s Bihar Foundry & Castings Limited** under the provisions of EIA Notification, 2006 subject to the following **specific conditions and general conditions [Annexure-III]**.

10. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

11. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

12. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

13. The above conditions shall be enforced, *inter-alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

14. This issues with approval of the competent authority.

(Dr. R. B. Lal)

Scientist 'F'/Director

Tel: 011-20819346

Email-rb.lal@nic.in

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Enclosure: As mentioned above

Copy To

1. The Additional Chief Secretary, Environment & Forests Department, Government of Jharkhand, Secretariat, Nepal House, Doranda, Ranchi-834001.
2. Principal Chief Conservator of Forests and HoFF, Van Bhawan Jharkhand Sate at-Doranda P.O. Doranda, Ranchi-834002 Jharkhand.
3. The Director General of Forest, Ministry of Environment, Forest and Climate Change, New Delhi.
4. The Regional Officer, Ministry of Env., Forest and Climate Change, Integrated Regional Office, Bunglow No. A-2, Shyamali Colony, Ranchi-834002.
5. The Member Secretary, Central Pollution Control Board Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 32
6. The Member Secretary, Jharkhand Pollution Control Board, Town Administrative Building, HEC, Dhurwa, Ranchi-824004.
7. Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
8. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi
9. District Collector, Ramgarh, Jharkhand
10. Guard File/Monitoring File/ Parivesh Portal /Record File

Annexure 1

Additional EC Conditions

The Specific and General EC conditions are mentioned at Annexures.

Annexure 2

Details of the proposal are as per the EIA/EMP report

S. No.	Particulars	Details		
a.	Terms of Reference for undertaking EIA study	08.02.2023		
b.	Period of baseline data collection	March 2021 to May 2021		
c.	Date of Public Consultation	06-05-2023		
d.	Action plan to address the PH issues	An amount of Rs. 4.5 Cr have been earmarked for action plan. Detail of activities proposed attached as Annexure V .		
e.	Location of the project	Plot No. 1364 Marar Village, Ramgarh Tehsil & District, Jharkhand		
f.	Latitude and Longitude of the project site	Point	Latitude	Longitude
		Point # 1	23°39'25.21' N	5°30'25.80'E
		Point # 2	23°39'26.01' N	5°30'31.55'E
		Point # 3	23°39'15.30' N	5°30'34.89'E
		Point # 4	23°39'15.16' N	5°30'24.01'E
g.	Total land	7.69 Ha		
h.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Total 7.69 Ha. (19 Acres) of land has taken on lease from Ranchi Industrial Area Development Authority (RIADA) & Jharkhand Industrial Area Development Authority (JIADA) <ul style="list-style-type: none"> 14 Acres for a period of 99 years from 01-05-1974 (RIADA) Further 5 Acres for a period of 30 years from 28-10-2015 (JIADA)		
i.	Existence of habitation & involvement of R&R, if any	Project site: No habitation exists in the plant site Study Area:		
		Habitation	Distance	Direction
		Marar	0.3 kms.	NE
j.	Elevation of the project site	193 m to 204 m		
k.	Involvement of Forest land if any.	Nil		
l.	Water body exists within the project site as well as study area	Project Site: Nil. Study area:		
		Water body	Distance (kms.)	Direction
		Damodar River	1.4	S
		Raura Nala	2.5	E
		Meramgarh Nala	4.7	E
		Unnamed stream	0.7	W
		Ramgarh Village pond	3.6	S
		Seota village Pond	1.5	NE

S. No.	Particulars	Details												
m.	Existence of ESZ / ESA / national park / wildlife Sanctuary / biosphere Reserve / tiger reserve / elephant reserve etc. if any within the study area	<p>There are no ESZ/ESA/National Park/ Wild life sanctuary / Biosphere reserve / Tiger Reserve / Elephant reserve within 10 Km. radius of the plant.</p> <table border="1"> <thead> <tr> <th>Forest</th> <th>Distance (kms.)</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Unnamed PF near Manuan village</td> <td>0.7</td> <td>W</td> </tr> <tr> <td>Unnamed PF Jaratoli (V)</td> <td>4.0</td> <td>S</td> </tr> <tr> <td>Unnamed PF near Tilaiya village</td> <td>5.0</td> <td>NW</td> </tr> </tbody> </table>	Forest	Distance (kms.)	Direction	Unnamed PF near Manuan village	0.7	W	Unnamed PF Jaratoli (V)	4.0	S	Unnamed PF near Tilaiya village	5.0	NW
Forest	Distance (kms.)	Direction												
Unnamed PF near Manuan village	0.7	W												
Unnamed PF Jaratoli (V)	4.0	S												
Unnamed PF near Tilaiya village	5.0	NW												
n.	Project cost	The capital cost of the existing project is Rs 300 Cr												
o.	EMP cost	The capital cost for environmental protection measures without SID is Rs. 28 Crores and with SID will be Rs 32.5 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs.3.93 Crores.												
p.	Employment opportunity	The employment generation from the proposed expansion project is 250 direct & 250 Indirect.												
q.	Water and Power requirement	<p>The water requirement for the proposed expansion project is estimated as 1260 m³/day and the same will be sourced from Damodar River.</p> <p>The power requirement for the proposed expansion project is estimated as 19.3 MW. Total Power required for after the proposed expansion will be 25 MW.</p>												

Unit configuration and capacity

S. No.	Unit	Total Capacity as per the CTE / E.C. issued vide dated 28-02-2010	Implementation status as per the current CTO dt 28-11-2019& 25-03-2022	Proposed Expansion	Total production capacity After Present Expansion
1.	DRI Kiln for Production of Sponge Iron	3x100 TPD (99,000 TPA)	99,000 TPA	Existing DRI Kilns from 3 x 100 TPD to 3x125 TPD (1,29,375 TPA) New 1x650 TPD (2,76,000 TPA)	4,05,375 TPA
2.	Induction furnace with LRF & CCM to produce MS billets	75,000 TPA (2x3T + 1x6T + 1x10T)	48,000 TPA	Replacement of 2 x 3T IF + 1 x 6T IF with 3 x10 T IF Additional 1,18,800 TPA and 1x10 T Induction furnace	1,58,400 TPA (4x10T IF)
3.	Rolling Mill through Hot charging (Rolled products i.e. TMT bars / Structural steel e.t.c) 85% Hot charging + 15% through RHF	16,500 TPA	Not Implemented	1,65,000 TPA	1,65,000 TPA
4.	Power generation through WHRB of DRI	6 MW	5 MW	Up gradation from 5.0 MW to 7.0 MW Proposed 1 x 22 MW	29 MW
5.	Power Plant through AFBC Boiler	4 MW	Not Implemented	8 MW	8 MW
6.	Slag Crusher	---	---	120 TPD	120 TPD
Note:-Upgradation of Existing DRI Kilns from 3 x 100 TPD to 3x125 TPD & proposed 1x 650TPD DRI kiln with yield of 800 TPD due to usage of Pellets & Imported Coal i.e. 345 days Operation (i.e. 4,05,375 TPA). Replacement of existing 2 x 3T IF + 1 x 6T IF with 3 x10 T IF. The total Production capacity after expansion will be 1,58,400 TPA.					

Specific and General conditions

A. Specific Conditions

- i. **This Environmental clearance is granted subject to final outcome of Hon'ble NGT cases as applicable to the project.**
- ii. The project proponent shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
- iii. The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- iv. PP shall strictly implement the Action Plan/Mitigation measures as prescribed for the SPA, as the Unit is located in SPA.
- v. The nearest human settlement from the project site is Village Marar (0.3 km, N). Project Proponent shall take appropriate environmental safeguard measures to minimise the impact on the habitation of the locals. PP needs to strengthen green belt all around the plant area to reduce the dust pollution. The PP shall also include this location in its environmental monitoring programme.
- vi. Damodar River (1.4 Km, S), Raura Nala (2.5 km, E), Meramgarh Nala (4.7 Km, E), Unnamed stream (0.7 Km, W), Ramgarh Village pond (3.6 Km, S) and Seota village Pond (1.5 Km, NE) exists within the study area of 10 km from the project site. A robust and full proof Drainage Conservation scheme to protect the natural drainage and its flow parameters; along with Soil conservation scheme and multiple Erosion control measures shall be implemented.
- vii. The water requirement of 1260 m³/day shall be sourced from Damodar River after obtaining necessary permission from the Competent Authority. PP shall also explore the possibility of shifting from ground water to alternative source of water to meet the water requirement of existing project.
- viii. Three tier Green Belt shall be developed and maintained in at least 40% of the project area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. PP shall also develop greenbelt in the form of shelter belt comprising of total of 6 rows of 2x2 m plantation with tall trees & broad leaves with thick canopy along with windshield inside the plant premises to act as green barrier for air pollution & noise levels towards Marar Village. As committed, PP shall develop 3-tier Plantation at the School premises all along the school boundary and at the Dispensary premises all along the Dispensary boundary. Compliance status in this regard, shall be submitted to concerned Regional Office of the MoEF&CC.

- ix. All the commitments made towards socio-economic development of the nearby villages shall be satisfactorily implemented. The action plan based on the social impact assessment study of the project as per the EMP in accordance to the Ministry's OM dated 30.09.2020 amounting to Rs. 4.50 Crores shall be strictly implemented and progress shall be submitted to the Regional Office of MoEF&CC.
- x. PP shall adopt undertake village adoption programme, prepare and implement the action plan to develop them into model villages.
- xi. The PP shall adopt the best practices of House-keeping in the whole project area.

B. General Conditions

I. Statutory compliance:

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/ Subordinate legislations, etc., as may be applicable to the project.
- ii. This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

II. Air quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as 04 Nos. Continuous Ambient Air Quality Station (CAAQMS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- iii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- iv. Sampling facility at process stacks shall be provided as per CPCB guidelines for manual monitoring of emissions.
- v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- vi. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- vii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

- viii. Ensure covered transportation and conveying of raw material to prevent spillage and dust generation. The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.
- ix. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
- x. The project proponent shall provide primary and secondary fume extraction system at all heat treatment furnaces.
- xi. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- xii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.
- xiii. Pollution control system in the plant shall be provided as per the CREP Guidelines of CPCB.
- xiv. The project proponent shall adopt the Clean Air practices like mechanical collectors, wet scrubbers, fabric filters (bag houses), electrostatic precipitators, combustion systems (thermal oxidizers), condensers, absorbers, adsorbers, and biological degradation. Controlling emissions related to transportation shall include emission controls on vehicles as well as use of cleaner fuels. Sufficient numbers of additional truck mounted Fog/Mist water cannons shall be procured and operated regularly inside the project premises and also in the surrounding villages to arrest suspended dust in the atmosphere.
- xv. Bag filters shall be cleaned regularly and efficiency of bag filter system shall be monitored at regular intervals.
- xvi. Water Sprinklers/Water mist system shall be installed near raw material yards, operational units and other strategic locations to control fugitive emissions from the plant.
- xvii. The particulate matter emissions from the process stacks shall be less than 30 mg/Nm³ and measures shall be undertaken as per the submitted action plan. Efficient Air monitoring equipment shall be installed.
- xviii. Following additional arrangements to control fugitive dust shall be provided:
 - a. Fog / Mist Sprinklers at all on bulk raw material storage area (at the transfer points) like Iron Ore, Coal and for Fly Ash and similar solid waste storage areas.
 - b. Proper covered vehicle shall be used while transport of materials.
 - c. Wheel washing mechanism shall be provided in entry and exit gates with complete recirculation system.
- xix. During operational phase at Captive Power Plant, Action Plan to monitor coke/coal dust exposures in different process plants using personal and area air samplers and to compare with permissible limits as per Indian Factories Act, 1948 shall be implemented.
- xx. The coal dust should be monitored at coal unloading, crushing, furnace areas and should be within 2 mg/m³, respirable dust fraction containing less than 5% quartz as per Indian Factories Act, 1948.
- xxi. Online stack monitoring system for IF and RHF shall be installed and monitoring report shall be submitted to the concerned Regional Office of the MoEF&CC along with the six monthly compliance report.
- xxii. Low NO_x Burners will be installed at Reheating Furnace for control of Gaseous emissions generated while using PNG.

III. Water quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.
- iv. Water meters shall be provided at the inlet to all unit processes in the plants.
- v. The project proponent shall make efforts to minimise water consumption in the plant complex by segregation of used water, practicing cascade use and by recycling treated water.
- vi. The proposed project shall be designed as "Zero Liquid Discharge" Plant. ETP shall be installed and there shall be no discharge of effluent from the plant. Domestic effluent shall be treated in Sewage Treatment Plant. Suitable measures shall be adopted for sewage water handling to ensure no contamination of any kind of water body.
- vii. All stockyards shall have impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains and catch pits to trap the run off material and shall be implemented as per the action plan submitted in EIA/EMP report.
- viii. Rain water harvesting shall be implemented to recharge/harvest water as per the action plan submitted in the EIA/EMP report.
- ix. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.
- x. Air Cooled condensers shall be used in the captive power plant.

IV. Noise monitoring and prevention

- i. Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and amendments thereof, and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
- iii. PP shall identify extreme hot areas through heat stress survey as well as noise monitoring within process plants to ensure that workers not exposed above 90 dBA levels as per Factories Act, 1948.

V. Energy Conservation measures

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- ii. Provide LED lights in their offices and residential areas.
- iii. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.
- iv. Practice hot charging of slabs and billets/blooms as far as possible.
- v. Ensure installation of regenerative type burners on all reheating furnaces.
- vi. The project proponent shall provide waste heat recovery system on the DRI Kilns.
- vii. The dolochar generated shall be used for power generation.
- viii. Tar shall be recovered from producer gas and shall be sold to registered processors and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.
- ix. The PP shall implement the guidelines on sponge iron plants issued by the CPCB/SPCB in this regard.

VI. Waste management

- i. Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil.
- ii. Kitchen waste shall be composted or converted to biogas for further use.
- iii. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.
- iv. The Plastic Waste Management Rules 2016, inter-alia, mandated banning of identified Single Use Plastic (SUP) items with effect from 01/07/2022. In this regard, CPCB has issued a direction to all the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) on 30/06/2022 to ensure the compliance of Notification published by Ministry on 12/08/2021. The technical guidelines issued by the CPCB in this regard is available at <https://cpcb.nic.in/technical-guidelines-3/>. All the project proponents are hereby requested to sensitize and create awareness among people working within the Project area as well as its surrounding area on the ban of SUP in order to ensure the compliance of Notification published by this Ministry on 12/08/2021. A report, along with photographs, on the measures taken shall also be included in the six monthly compliance report being submitted by the project proponents.
- v. A proper action plan must be implemented to dispose of the electronic waste generated in the industry.
- vi. Solid waste utilization
 - a. 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.
 - b. PP shall recycle/reuse solid waste generated in the plant as far as possible.
 - c. Used refractories shall be recycled as far as possible.

VII. Green Belt

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees.
- ii. Project proponent shall submit a study report on Decarbonisation program, which

would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.

- iii. Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.

VIII. Public hearing and Human health issues

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP. Safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

IX. Environment Management

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Integrated Regional Office of the MoEF&CC.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of

which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. Action plan for developing connecting and internal road in terms of MSA as per IRC guidelines shall be implemented
- vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vii. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- viii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. The recommendations of the approved Site-Specific Wildlife Management Plan (in case of involvement of Schedule-I species) shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.
- xi. The PP shall put all the environment related expenditure, expenditure related to Action Plan on the PH issues, and other commitments made in the EIA/EMP Report etc. in the company web site for the information to public/public domain. The PP shall also put the information on the left over funds allocated to EMP and PH as committed in the earlier ECs and shall be carried out and spent in next three years, in the company web site for the information to public/public domain.
- xii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

Action plan as per MoEF&CC O.M. F.No. 22-65/2017-IA.III, dated 30/09/2020:

S. No	Major Activity Heads		Year of Implementation (Rs. In Lakh)			Expenditure (Rs. In Lakhs)
			1 st Year	2 nd Year	3 rd Year	
A). Based on SIA Study						
1	Community & Infrastructure Development Programmes					
	i) Construction of public toilets	Physical Nos. & village	1 no. in Marar (v)	1no. in Phulsarai(v)	1 no. in Manuan(v) & 1 Nos. in Digwar(v)	25
		Budget in Lakhs	7.5	7.5	10	
	ii) Mineral water plants	Physical Nos. & village	1 nos. in Hathimara (v) & 1 Nos. in Marar (v)	1nos. in Manuan (v) & 1 Nos. in Phulsarai (v)	1 nos. in Digwar (v) & 1 nos. Pochra (v)	18
		Budget in Lakhs	6	6	6	
	iii) Village road repair & maintenance	Physical Nos. & village	1 Nos. in Marar (v)	1 nos. in Hathimara (v)	1 Nos. in Phulsarai (v)	30
		Budget in Lakhs	10	10	10	
			Sub Total			73
2	Education					
	i) Providing Sport kits for schools	Physical Nos. & village	5 nos. in Kanjgi (v) & 10 Nos. in Marar (v)	5 no. in Manuan (v) & 10 Nos. in Digwar (v)	10 nos. in Phulsarai(v) & 10 Nos. in Painki (v)	5
		Budget in Lakhs	1.5	1.5	2	
	ii) Construction of class rooms in schools of size 8m x 5m x3 m	Physical Nos. & village	4 nos. in Kanjgi (v)	4 nos. in Seota (V)	4 nos. in Marar (V)	30
		Budget Rs in Lakhs	10	10	10	
iii) Providing Model Anganwadi Centre in consultation with State Women and Child Development Department	Physical Nos. & village	Phulsarai(v) - 1 No.	Digwar (v) – 1 No.	Painki (v) -1 No.	30	
	Budget Rs in Lakhs	10	10	10		
			Sub Total			65

S. No	Major Activity Heads	Year of Implementation (Rs. In Lakh)			Expenditure (Rs. In Lakhs)	
		1 st Year	2 nd Year	3 rd Year		
3	Health & hygiene					
	i) Sanitation facility in existing schools	Physical Nos. & village	in Phulsarai (v)	in Seota (V)	in Marar (V)	30
		Budget in Lakhs	10	10	10	
ii) Napkins Vending Machine in High Schools.	Physical Nos. & village	Machines will be installed in Kanjgi (v)	Machines will be installed in Seota (V)	Machines will be installed in Marar (V)	9	
	Budget in Lakhs	3	3	3		
iii) Primary Health Centre for local people with Doctor & other facilities	Physical Nos. & village	Primary Health Centre with Ambulance in Ramgarh Town			60	
	Budget in Lakhs	---	---	60		
				Sub Total	99	
4	Tree Plantation in water body bunds @1000 Nos. in each village	Physical Nos. & village	1000 nos. in Kanjgi (v) &1000 Nos. in Marar (v)	1000 nos. in Manuan (v) &1000 Nos. in Digwar (v)	1000 nos. in Phulsarai(v) & 1000 Nos. in Painki (v)	30
		Budget in Lakhs	10	10	10	
5	RWH pits in the surrounding villages & De-siltation of ponds	Physical Nos. & village	Sandi (v) 2 nos. of ponds desiltation 2.0 m depth	Phulsarai(v) pond desiltation 1.5 m depth	Digwar (v) pond desiltation 1.5 m depth	84
		Budget in Lakhs	44	20	20	
				TOTAL (A)	351	
B). Based on Public Consultation/Hearing						
1	Impart training to the local villagers for skill development. a)DISHA Centre” along with necessary infrastructure for various vocational training program for employment generation in association with National Skill Development Mission (Automobile Repair,	Physical Nos. & village	One DISHA centre in Ramgarh Town			90
		Budget in Lakhs	30	30	30	

S. No	Major Activity Heads	Year of Implementation (Rs. In Lakh)			Expenditure (Rs. In Lakhs)	
		1 st Year	2 nd Year	3 rd Year		
	Welding, Electrical, Computer Hardware, Soft skills like computer programs etc.)					
2	Providing LED Street lighting with solar panels	Physical Nos. & village	3 nos. in Hathimara (v) & 3 Nos. in Marar (v)	3 nos. in Manuan (v) & 3 Nos. in Phulsarai (v)	3 nos. in Digwar (v) & 3 nos. Pochra (v)	9
		Budget in Lakhs	3	3	3	
					Total (B)	99
		TOTAL	145	121	184	
					Grand Total (A+B)	450
Recurring expenditures under CSR as per companies Act 2014						
<ul style="list-style-type: none"> Health checkup will be carried out periodically in surrounding villages i.e. Marar, Sandi, Phulsarai, Hathimara villages @ Rs 5.0 Lakhs every year. 						

