



NILACHAL IRON & POWER LIMITED

CIN-U27100WB2002PLC094612

Works : Ratanpur, Kandra Chandil Road,
Saraikela - Kharsawan, Jharkhand - 832402 (India)
Phone : 7091099239, 7091095130
E-mail : nilachaltata@gmail.com
E-mail : admin@nilachal.co.in
GSTIN : 20AABCN5428K1ZN
Date:10/01/2023

Ref: NIPL/ED/30/09/22/02

To

Additional Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Integrated Regional Office,
2nd Floor, Jharkhand State Housing Board, Harmu Chowk,
Ranchi, Jharkhand-834002

SUB: Six monthly compliance report from **April 2022 to September 2022** as per Environmental Clearance Conditions issued by MoEF&CC, "*Vide Letter No. J-11011/662/2008, Dated 24.12.2008*" W.R.T. "*Expansion of Sponge Iron Plant (350 TPD Into Integrated Steel Plant Of 0.7 MTPA Capacity along with Captive Power Plant of 75 MW*" at Ratanpur, District Saraikela-Kharswan, Jharkhand by Nilachal Iron & Power Limited.

Respected Sir,

With reference to the above, we are submitting herewith the six-monthly compliance status reports from April 2022 to September 2022 for Nilachal Iron & Power Limited, Ratanpur, District – Saraikela-Kharswan, Jharkhand.

Hard copy of this report will be shortly submitted to the concerned department very soon. Thank you for your support and cooperation in sustainable growth of NIPL.

Thanking you

Yours faithfully

For, NILACHAL IRON & POWER LIMITED
KANDRA

AUTHORISED SIGNATORY

(NILACHAL IRON & POWER LIMITED)

Encl: Attached

Six monthly compliances of conditions stipulated in the Environmental Clearance of Nilachal Iron & Power Limited, Ratanpur-Kandra Village, Gamharia Block, Dist – Sareikala Kharswan, Jharkhand F.No. J-11011/662/2008-IA II (I) dated 24.12.2009

[Period from Apr'2022 to Sep'2022]

A. COMPLIANCE TO SPECIFIC CONDITIONS

- i. *Compliance to all specific and general conditions stipulated for the existing sponge iron plant by central/state govt. shall be ensured and regular reports submitted to the Ministry and its Regional office at Bhubaneswar.*

Status:

Stipulations made by Jharkhand State Pollution Control Board are being complied and Progress report is regularly being sent to JSPCB. Compliance to the CTO conditions, Hazardous waste return, bi-annual compliance report and Environment Statement are submitted to JSPCB, Ranchi as per the schedule.

- ii. *Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. Continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices like Electrostatic precipitator (ESP), gas cleaning plant, multi cyclone, wet scrubber, bag filters etc. shall be provided to keep the emission levels below 50 Mg/Nm³. At no time the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds limit.*

Status:

- On-line Stack monitoring facility has been installed in all the major process stacks/ ducts. The real time data from all the stacks/ducts have been uplinked to CPCB and JSPCB server. Necessary emission control facilities Like ESP and bag filters have been installed in all stacks to maintain the emission level below stipulated standards. The emission level in all the stacks is within stipulated standards.
- Three (n=03) High efficiency Electrostatic Precipitator (ESP) of 99.9% are provided for limiting SPM concentration in the flue gas to less than 50 mg/Nm³ in 2x100 and 350 DRI Plant respectively.
- Similarly, we have installed 02 bag filter in 2x100 and 3 bag filter in 350 for removing the dust contained in the exhaust gases.

- iii. *Electrostatic precipitator (ESP) shall be provided to DRI kilns, pellet plant, CFBC boiler and waste heat recovery (WHRB) to control gaseous emissions within 50 mg/Nm³. Blast furnace shall be provided with cyclone / multi-cyclone followed by wet scrubber type Gas cleaning plant (GCP) to control dust pollution. Bag filters shall be provided to stock house to control dust emissions. Fume extraction system with bag filters to steel melting shop (SMS), electric arc furnace (EAF), ladle refining furnace (LRF), ferro alloy plant and to rolling mill. Data on ambient air quality, stack emissions and fugitive emissions shall regularly submitted to the Ministry's regional office at Bhubaneswar, Jharkhand Pollution Control Board (JPCB) and Central Pollution Control Board (CPCB) once in six months.*

Status:

As reported earlier, ESP has been provided to control emissions from the kiln to keep emission level below 50 mg/Nm³ and regularly the carbon present in the exhaust gas is being monitored to know its design limit. It has been found that carbon percentage always remains below 4 and fulfils the design criterion. This indicates the efficient functioning of ESP in the system. Similarly, ESP shall also be provided in WHRB. Data on ambient air quality, stack emissions & fugitive emissions are being submitted to all concerned. Copy enclosed.

- iv. *Hot gases from DRI kiln shall be passed through dust settling chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in ESP before leaving out into the atmosphere through ID fan and stack.*



Status:

Hot gases from DRI kiln are passing through DSC to remove coarse solids and ABC to burn CO efficiently and then to ESP. Excess gas is being utilized in Power Plant through passing of hot gases from ABC to WHRB and then to the stack through ESP.

- v. *Proper and full utilization of DRI and blast furnace gases in power plant using heat recovery system generators shall be ensured and no flue gases shall be discharged into the air. The national ambient air quality standards issued by the Ministry vide G. S. R. No. 826(E) dated 16 November, 2009, shall be followed.*

Status:

Emissions in DRI and Induction furnace remain well below 50 mg/Nm³ of stipulated norm. Gases is being utilized fully and judiciously as fuel. Excess gas is being utilized in Power Plant through passing of hot gases from ABC to WHRB and then to the stack through ESP.

- vi. *In plant control measures for checking fugitive emissions from all the vulnerable sources. Bag filters shall be provided at intermediate bins/separation buildings. Product storage silos, iron ore circuit, cooler discharge and raw material handling section, stock house, grinding and material transfer and junction points etc. Dust extraction system with bag filters shall be provided to crusher house, screens, transferring chutes, junction towers, feed points below reclaim hoppers, pellet plant and blast furnace stock house. Dust suppression system with dry fog type and water sprinkler shall be provided at coal handling plant.*

Status:

Control measures have been taken up for checking fugitive emissions. Bag filters have been provided at intermediate bins or separation buildings, product storage silos, coal circuit, cooler discharge & raw materials handling section. Dust extraction system with bag filters is provided to crusher house, screens, transferring chutes, junction towers, feed points below reclaim hoppers, dust suppression system with dry fog type and water sprinklers are being provided at coal handling and crushing area to control fugitive dust emissions.

- vii. *Zero effluent discharge shall be strictly followed and no waste water shall be discharged outside the premises.*

Status:

Total quantity of waste water discharged through two outfalls will be treated and recycled back in cooling ponds for plant operation. For controlling measure, there is a STP with 50 KLD capacity has been installed. The waste water is recycled & presently used for in plant activities and suppression of fugitive emission. All the new projects will be commissioned with Zero Liquid discharge facility.

- viii. *Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / code of practice issued by the CPCB shall be followed. New standards issued by the ministry for the sponge iron plant in May, 2008 shall be followed.*

Status:

As reported earlier, ESP has been provided to control emissions from the kiln to keep emission level below 50 mg/nm³ and regularly the carbon present in the exhaust gas is being monitored to know its design limit. It has been found that carbon percentage always remains below 4 and fulfills the design criterion. This indicates the efficient functioning of ESP in the system. Similarly, ESP shall also be provided in WHRB.

Gaseous emission level including secondary fugitive emissions are within latest permissible limit. The fugitive emission level in different areas of the Plant is being monitored regularly by third party monitoring agency, reports are being submitted to JSPCB in bi-annual report.



- ix. *Vehicular pollution due to transportation of raw materials and finished goods shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of raw materials and finished products.*

Status:

Roads within the plant premises is been converted to concrete roads and asphaltic road in phases. Sprinklers & water tankers are used to spray water to control of fugitive emission. The vehicular emission is regularly monitored inside the plant.

- x. *Total water requirement from Subarnarekha River shall not exceed 19,200 m³/day and prior permission for the drawl of 19,200 m³/day water from the concerned department shall be taken to settling tank and used for dust suppression. The waste water from Gas Cleaning plant (GCP) of blast furnace shall be treated in an effluent treatment plant (ETP) and clarified water reused in GCP itself. The regeneration waste water from the demineralization (DM) plant shall be neutralized in a neutralization pit and used for dust suppression. The effluent from captive power plant shall be taken to ash pond and reused for ash handling and slag granulation. The waste water generated from SMS and rolling mill shall be taken to scale pit and reused for cooling and slag granulation. The waste water from coal washery after recovery of fines shall be re-circulated.*

Status:

Total water requirement from Subarnarekha River shall not exceed 19,200m³/day and prior permission for the drawl of 19,200 m³/day water from the concerned department shall be obtained. Presently waste water from DRI kilns is recycled & reused in the in-plant activities. However, all conditions will be complied with regard to waste water treatment of other units.

- xi. *Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.*

Status:

Rain Water Harvesting facility already Implemented. Total amount of 14315 cum of rain water is available for usage in Plant and other activities. Taking into account 300 working days 47.7 m³ of rain water is available per day.

- xii. *Zero' effluent discharge shall be strictly followed and no waste water shall be discharged outside the premises. Domestic waste water shall be met from other sources*

Status:

Presently no waste water is discharged outside the premises. For controlling measure, there is a STP with 50 KLD capacity has been installed. The waste water is recycled & presently used for in plant activities and suppression of fugitive emission. In addition, Total quantity of waste water discharged through two outfalls will be treated and recycled back in cooling ponds for plant operation

- xiii. *The water consumption shall not exceed 16 m³/Ton of steel as per prescribed standard*

Status:

Total amount of water requirement in plant process and ancillary activities is 552.2 cum/day and within the limit prescribed by standard. This water will be met partly from RWH pond, recycling and from Subarnarekha River (through tankers).

- xiv. *Regular monitoring of influent and effluent surface, subsurface and groundwater shall be ensured and Treated waste water shall meet the norms prescribed By the State Pollution control Board or described under The E(P) Act whichever are more stringent Lachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional office at Bhubaneswar, Jharkhand SPCB and CPCB.*



Status:

Regular monitoring of influent & effluent surface & sub-surface water as well as groundwater has been carried out and submitted with bi-annual report.

- xv. *Char from DRI Plant, coal rejects and fines from coal washery shall be recycled to sinter plant to produce sinter.*

Status:

Presently char from DRI plant is stored at a safe place.

- xvi. *All the char from DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else AFBC boiler shall be installed simultaneously along with the DRI plant to ensure the full utilization of char from the beginning. All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. SMS slag and kiln accretions shall be properly disposed off in environment friendly manner. Dust and sludge from blast furnace, mill scales from rolling mill and casting machines and dust from DRI plant. SMS, ferro alloy plant shall be reused in pellet plant. Oily waste and spent oil shall be provided to authorized recyclers/reprocessors.*

Status:

Shall be complied with once projects are commissioned.

- xvii. *All the slag (ferro alloy, blast furnace slag etc.) shall be used for land filling inside the plant or used as building material only after passing through Toxic Chemical Leachability Potential (TCLP) test. Toxic slag shall be disposed off in secured land fill as per CPCB guidelines. Otherwise, hazardous substances shall be recovered from the slag and output waste can be disposed off in secured land fill as per CPCB guidelines*

Status:

Shall be complied with once projects are commissioned.

- xviii. *Slag production from Ferro-Manganese (Fe-Mn) production shall be used in manufacture of Silico-Manganese (Si-Mn)*

Status:

Shall be complied with once projects are commissioned.

- xix. *Proper utilization of fly ash shall be ensured as per Fly ash notification, 1999 and subsequent amendment in 2003. All the fly ash and blast furnace slag shall be provided to cement and brick manufacturers for further utilization and 'Memorandum of Understanding' shall be submitted to the Ministry's Regional Office at Bhubaneswar within 3 months of issue of this letter.*

Status:

As per fly ash notification 1999 and subsequent amendment in 2003, MoU has been signed with ACC and other local cement industry. There is no Power Plant hence no Generation of Fly Ash.

- xx. *Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office at Bhubaneswar, Jharkhand SPCB and CPCB.*

Status:

Shall be complied



xxi. *A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal*

Status:

Time bound action plan to reduce solid waste, its proper utilization and disposal has been Made and it is under process for approval.

xxii. *A disaster management plan shall be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, Jharkhand SPCB and CPCB within 3 months of issue of this letter.*

Status:

Disaster Control & management Plan has been developed with the help of certified third party "Kamal Technical Services" and submitted to the regional labour department and fire and safety department. A copy has been sent to the Jharkhand SPCB.

xxiii. *As proposed, green belt shall be developed in 58 acres (34%) of the total project area of 176.33 acres within and around the plant premises as per the CPCB guidelines in consultation with DFO.*

Status:

Mass Trees Plantation Drive has been taken-up since the year 2021 and NIPL has planted more than 6000 no's of trees saplings till 30th October, 2022 and it will continue further in the coming years to achieve Green Belt in 24 acre (35%) out of 67 acres of acquired land area.

xxiv. *Prior permission from the state forest department shall be taken regarding likely impact of the expansion of the proposed steel plant on the reserve forests. Measures shall be taken to prevent impact of particulate matters emissions / fugitive emissions, if any from the proposed plant on the surrounding reserve forests viz, Pendrabera PF, Kanki PF, Basrapahar PF, Palubera PF, Giddibera PF, Muskikudar PF, Tetuldanga PF, Poradih PF, Dalma PF, Brijnathpur PF, Baslikoacha PF and Dalma Reserve Forest located within 10 km. radius of the project. Further, conservation plan for the conservation of wild fauna in consultation with the state forest department shall be prepared and implemented.*

Status:

Prior permission of the state forest department will be taken.

xxv. *All the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for the steel plants shall be implemented.*

Status:

- Fugitive emission are within norm.
- Fugitive emission in DRI and Induction Furnace of NIPL is within norm.
- All pollution control equipment is monitored closely and bi-annual compliance reports are being sent to JSPCB as per regulatory guidelines.
- Third party monitoring is also being done by M/s Asia Enviro (MoEF&CC recognized laboratory)
- COD, BOD, TC & FC content in STP Plant is below stipulated norm. All pollution control equipment is monitored and calibrate regularly.

xxvi. *All the commitments made to the public during public hearing / public consultation meeting held on 27th august 2009 shall be satisfactorily implemented by allocating separate budget to implemented the same.*

Status:

All commitments made during public hearing are being complied with;

- The Continuous Ambient Air Quality Monitoring Station has been installed & commissioned. Its data have been uplinking to CPCB & JSPCB server.



- Three (n=03) High efficiency Electrostatic Precipitator (ESP) of 99.9% are provided for limiting SPM concentration in the flue gas to less than 50 mg/Nm³ in 2x100 and 350 DRI Plant respectively.
- Similarly, we have installed 02 bag filter in 2x100 and 3 bag filter in 350 for removing the dust contained in the exhaust gases.
- Furthermore, for Hot flue gases, we have Installed Waste heat recovery boiler (WHRB) and use it for power generation.
- Four ambient air quality monitoring stations have been installed. All twelve Parameters as per the Notification are being monitored since.
- Stack emission level in all units is below stipulated norm.
- Noise level at different locations of all plant units is within norm.
- Preventive maintenance of valves and other equipment.
- Green belt on all sides within the project boundary, and community plantation around the unit. 6000 new saplings have been planted during 2021-22.
- For control water pollution, we have installed 50 KLD STP for treatment of administrative sewage waste from all sections. Further, treated water we utilised in sprinklers for dust suppression on roads, stock yard and material handling area.

xxvii. *Rehabilitation and Resettlement Plan for the project affected population including tribals, if any, shall be implemented as per the policy of state govt. of Jharkhand compensation paid in any case shall not be less than the prescribed norms under the National Rehabilitation and Resettlement Policy, 2007.*

Status:

Compensation Paid and Employment has been given for PAP.

xxviii. *The company shall provide housing for 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, crèche, etc. the housing may be in the form of temporary structures to be removed after the completion of the project.*

Status:

Will be complied

B. COMPLIANCE TO GENERAL CONDITION

- i. *The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JPCB) and State Government.*

Status:

Stipulations made by Jharkhand State Pollution Control Board are being complied and Progress report is regularly being sent to JSPCB. Compliance to the CTO conditions, Hazardous waste return, e-Waste Return, Bi-annually compliance report of PC equipment and Environment Statement are submitted to JSPCB, Ranchi as per the schedule.

- ii. *No further expansion or modification in the plant should be carried out without prior approval of the Ministry of Environment and forests.*

Status:

No expansion or modification will be carried out without ministry's prior approval.

- iii. *The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.*



Status:

Gaseous emissions from various process units are conforming to the norm stipulated by Ministry, CPCB and JSPCB. All the parameters are monitored as per March'2012 Notification.

- iv. *At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOX are anticipated in consultation with the Jharkhand PCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the Jharkhand PCB/CPCB once in six months.*

Status:

Four Ambient Air Quality Monitoring Stations have been set up at different locations surrounding the Plant, which monitors PM10, PM2.5, SO2, NO2, O3, NH3, B(a)P, CO, Pb, As & Ni on bi-weekly basis. The data of Ambient Air Quality and stack emission are being regularly submitted to CPCB and JSPCB. Monitoring report of stipulated period has been enclosed. Continuous Ambient Air Quality Monitoring Station have also been installed & uplinked to CPCB & JSPCB server.

- v. *Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.*

Status:

Industrial administrative waste water from is collected and treated in STP. All the pollutant level after treatment is well within stipulated norm. This water is being used for cooling, dust separation and other processes. The effluents from all other plants are being treated prior to reuse. STP outlet effluent quality report has been attached.

- vi. *The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).*

Status:

Noise levels in various areas are being monitored on regular basis. Noise level in all areas is below stipulated norm. The provision of snort valve in DRI & acoustic enclosures in plant are there to control the noise at source. Noise level is monitored regularly and reported to CPCB every month. Day and night time ambient noise level is also monitored at different locations. The same is also reported to CPCB on Bi-annual basis.

- vii. *Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.*

Status:

Health status of all the workers including contract labourer is regularly monitored by a dedicated Occupational Health Service Centre, situated inside the Plant. The health status record is regularly maintained by them. Total health check-up during 2021-22 was;

- ✓ Health Check-up-68
- ✓ Eye Check-up -106
- ✓ Eye Wear-50 Person
- ✓ CPR Training -4 (DRI & Power Plant)

- viii. *The company shall develop surface as well as ground water harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.*



Status:

The water table in neighbouring villages is very rich. A rain water harvesting pond has also been constructed with earthen base to retain rain water and to replenish the ground water table. The water storage pit has earthen base; hence this works as recharge Pit also. Total amount of 14315 cum of rain water is available for usage in Plant and other activities. Taking into account 300 working days 47.7 m3 of rain water is available per day.

- ix. *The project proponent shall also comply with all the environment protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages complied like community development programmes, educational programmes, drinking water supply and health care etc.*

Status:

All the Environmental protection measures and safe guards recommended in EIA/EMP report are being complied. NIPL Steel has working with 5 km radius within periphery of plant under CSR.

- Basic amenities like table, Almira and other stuff have been provide to Raghunath Middle School under Kalayan Vidyalaya.
 - Health camps are arranged in Raipur at Raipur Samudaik Bhavana & Eye check-up are arranged in Raghunath Middle School under Sarva Swasthya Abhiyan.
 - School Bag and Stationary Items distribution at Dumra Aanganbar Kendra under Kalayan Vidyalaya under Kalayan Vidyalaya.
 - 500 blanket distribution non-entitled people and under privileged mass of society.
 - For community development, drowning competition, inter community football sponsorship have been given by NIPL.
 - We are going for Swachchh Bharat Abhiyan by giving, training, awareness and plantation as well as installation of dustbin in the nearest school and Samudaik Bhavana.
 - Drinking water facility such as hand pumps has been installed in the Raipur village
- x. *As proposed, Rs. 135.00 Crores shall be earmarked towards total capital cost and recurring cost/annum for environmental pollution control measures and judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.*

Status:

All the Capital funds allocated are being utilized on pollution control measures only. The annual allocation of recurring cost is being utilized on Pollution control measures only and will compiled in next Six-monthly compliances monitoring schedule.

- xi. *The Regional Office of this Ministry at Bhubaneswar / CPCB / Jharkhand SPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.*

Status:

Six monthly compliance reports are being sent to RO, MoEF&CC as per EIA/EMP Notification 2006, on regular basis

- xii. *The project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the JSPCB and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall advertise within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the regional office.*



Status:

Project Deptt. had informed the public by giving advertisement in two local daily after getting the Environment Clearance from MoEF& CC.

- xiii. *A copy of clearance letter shall be sent by proponent Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.*

Status:

Project Deptt. had informed the public by giving advertisement in two locals daily after getting the Environment Clearance from MoEF& CC. The copy of the EC is updated in the company website.

- xiv. *The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF, the respective Zonal Office of CPCB and the JPCB. The criteria pollutant levels namely; PM10, PM2.5, RSPM, SO2, NOX (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.*

Status:

The copy of the compliance reports is updated in the company website on regular interval. Six monthly compliance reports are being sent to RO, MoEF&CC as per EIA/EMP Notification 2006, on regular basis.

- xv. *The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEF at Bhubaneswar, the respective Zonal Office of CPCB and the JPCB. The Regional Office of this Ministry at Bangalore / CPCB / JPCB shall monitor the stipulated conditions.*

Status:

Six monthly compliance reports are being sent to RO, MoEF&CC as per EIA/EMP Notification 2006, on regular basis.

- xvi. *The environmental statement for each financial year ending 32st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF by email.*

Status:

The environmental statement for each financial year ending 30th March in Form-V are being sent to RO, MoEF&CC and updated in company website as per EIA/EMP Notification 2006, on regular basis.

- xvii. *Project authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.*

Status:

Regional office of Jharkhand State Pollution Control Board is being updated as and when required about the financial closure and final approval.



Name of the Steel Plant: Nilachal Iron & Power Limited

Stack Emission Load (All Stack Monitoring Station)

Production Capacity: (2x100 and 1x350=550 TPD)

1 Name of Plant	2 Stack connected to (Name of the unit)	3 Height of the stack (m)	4 Pollution Control unit provided (Name)	5 Internal Diameter of the stack (m)	6 Production during the period of monitoring	7 Date & Time of the monitoring	8 Flow rate of the flue gas (NM3 /Hr)	9 Parameters (whichever are applicable)				
								Particulate matter (PM) (mg/Nm3)	SO2	NOx	HC	CO
Klin-1	Stack-1	45 meters	ESP's	1.5 meters	100 TPD	15.04.2022	24484	48.56	78.8	35.6	-	<0.2%
						20.05.2022	23945	49.52	79.2	38.4	-	<0.2%
						18.06.2022	24502	49.23	68.9	39.4	-	<0.2%
						16.07.2022	24217	49.52	72.5	36.8	-	<0.2%
						17.08.2022	23978	48.67	72.6	37.4	-	<0.2%
						15.08.2022	24566	48.89	68.9	36.5	-	<0.2%
Klin-2	Stack-1	45 meters	ESP's	1.5 meters	100 TPD	15.04.2022	23596	48.77	67.7	36.8	-	<0.2%
						20.05.2022	23874	48.96	72.5	37.4	-	<0.2%
						18.06.2022	24109	49.25	60.5	39.5	-	<0.2%
						16.07.2022	24212	49.51	69.6	38.5	-	<0.2%
						17.08.2022	23789	47.89	68.2	36.7	-	<0.2%
						15.08.2022	23667	47.99	72.5	35.8	-	<0.2%
Klin-3	Stack-2	65 meters	ESP's	3.5 meters	350 TPS	15.04.2022	195040	48.56	95.6	42.5	-	<0.2%
						20.05.2022	194935	48.59	112.6	44.6	-	<0.2%
						18.06.2022	195229	49.26	96.5	40.5	-	<0.2%
						16.07.2022	194878	49.88	98.7	42.5	-	<0.2%
						17.08.2022	195648	48.98	105.4	41.5	-	<0.2%
						15.08.2022	194869	48.78	95.6	44.6	-	<0.2%

Standards: PM - 50, SO2 - , NOx - , CO - (Units: mg/Nm3)
Monitoring values for corresponding Kiln duct (Klin-1 & Klin-2). Two Kilns through individual Ducts are connected to a common stack.



Ambient Air Quality
Ambient Air Quality (AAQ) (All Ambient Air Quality Monitoring Station)

Station	Date of Sampling	PM ₁₀	PM _{2.5}	SO _x	NO _x	O ₃	NH ₃	Pb	As	Ni	C ₂ H ₆	BAP	CO
	Unit						µg/m ³						mg/m ³
AAQ-1	23.04.2022	93.4	57.7	15.1	34.4	27.6	11.3	ND	ND	ND	ND	ND	0.85
	20.05.2022	90.54	56.7	14.1	32.8	26.8	12.3	ND	ND	ND	ND	ND	0.86
	21.06.2022	91.55	56.1	13.7	31.8	26.4	12.1	ND	ND	ND	ND	ND	0.88
	18.07.2022	89.13	55.7	12.6	29.5	24.3	13.1	ND	ND	ND	ND	ND	0.76
	22.08.2022	88.12	50.6	10.4	23.5	24.5	10.1	ND	ND	ND	ND	ND	0.88
AAQ-2	23.09.2022	87.13	48.4	12.2	19.5	21.5	11.8	ND	ND	ND	ND	ND	0.89
	23.04.2022	94.78	53.6	16.1	35.4	27.7	12.7	ND	ND	ND	ND	ND	0.76
	20.05.2022	95.81	55.4	15.3	31.3	27.8	11.5	ND	ND	ND	ND	ND	0.75
	21.06.2022	97.82	55.2	14.2	34.2	26.9	12.3	ND	ND	ND	ND	ND	0.85
	18.07.2022	96.21	54.1	13.9	32.1	27.6	11.1	ND	ND	ND	ND	ND	0.71
AAQ-3	22.08.2022	94.21	51.1	11.9	29.1	25.6	10.1	ND	ND	ND	ND	ND	0.98
	23.09.2022	91.20	49.1	10.9	28.1	22.6	11.1	ND	ND	ND	ND	ND	1.08
	23.04.2022	90.54	47.4	12.1	33.3	26.4	11.6	ND	ND	ND	ND	ND	0.86
	20.05.2022	89.42	46.5	12.6	34.2	26.2	13.1	ND	ND	ND	ND	ND	0.82
	21.06.2022	91.43	47.5	18.6	32.2	24.2	13.4	ND	ND	ND	ND	ND	0.89
AAQ-4	18.07.2022	90.21	46.4	16.3	31.1	25.1	34.4	ND	ND	ND	ND	ND	0.84
	22.08.2022	84.21	36.4	12.3	29.1	23.2	13.6	ND	ND	ND	ND	ND	0.97
	23.09.2022	86.22	36.8	12.9	27.1	20.2	11.4	ND	ND	ND	ND	ND	1.14
	23.04.2022	93.9	51.3	12.6	32.1	29.4	11.6	ND	ND	ND	ND	ND	0.62
	20.05.2022	92.8	50.6	11.7	30.9	28.6	10.4	ND	ND	ND	ND	ND	0.76
AAQ-4	21.06.2022	92.9	49.3	13.6	32.0	29.0	11.4	ND	ND	ND	ND	ND	0.96
	18.07.2022	90.7	48.3	14.6	31.6	28.4	11.8	ND	ND	ND	ND	ND	1.02
	22.08.2022	86.9	45.3	13.6	28.4	23.3	11.6	ND	ND	ND	ND	ND	1.32
	23.09.2022	88.4	46.2	14.5	26.3	21.8	12.7	ND	ND	ND	ND	ND	1.22

Standards: PM₁₀-100, PM_{2.5}-60, SO₂-80, NO₂-80, NH₃-400, O₃-100, Pb -1.0, C₆H₆-5.0, (Units: micro gram/meter³), As - 6.0, B(a)P - 1.0, Ni - 20.0 (units - Nano gram/meter³), CO - 2.0 mg/m



Fugitive emission
Fugitive Emission Quality (FEQ) (All Fugitive Emission Quality Monitoring Station)

Production Capacity: (2x100 TPD and 1x350 TDP Plant)

Code	Location Name	Date of sampling	SPM	SO ₂	Nox
FEQ-1	Near Mechanical substation (Kiln area)	23.04.2022	2060	18	42
		20.05.2022	1835	22	44
		21.06.2022	1895	23	41
		18.07.2022	1978	26	40
		22.08.2022	1785	31	44
FEQ-2	In between crusher and charging area	23.09.2022	1708	24	42
		23.04.2022	1810	28	52
		20.05.2022	1994	24	48
		21.06.2022	1978	26	50
		18.07.2022	1879	29	51
FEQ-3	Near Coal Handling yard	22.08.2022	1955	24	46
		23.09.2022	1869	28	49
		23.04.2022	1985	53	81
		20.05.2022	1945	50	78
		21.06.2022	1978	59	80
FEQ-4	Fugitive dust at plant boundary	18.07.2022	1998	52	76
		22.08.2022	1975	51	72
		23.09.2022	1986	54	79
		23.04.2022	1205	26	33
		20.05.2022	1198	22	26
		21.06.2022	1187	29	38
		18.07.2022	1255	26	35
		22.08.2022	1189	24	32
		23.09.2022	1205	25	33

Standards: The fugitive emissions of SPM should not exceed 2000 µg/m³ at a distance of 10 m where existing industry is allowed up to 3000 µg/m³ of SPM till one year from the date of issue of the notification.



Noise Quality
Status of Ambient Noise Quality (NQ)

S.N	Location Land Use Class	NQ-1 Commercial 23.04.2022	NQ-2 Residential 23.04.2022	NQ-3 Residential 23.04.2022	NQ-4 Silent 23.04.2022
Day Time	Date of Sampling				
	6.00 am	60.7	52.8	52.6	39.4
	7.00 am	61.6	52.0	57.0	41.3
	8.00 am	56.7	56.7	62.1	41.2
	9.00 am	57.1	57.3	60.5	43.1
	10.00 am	62.1	53.7	60.5	44.1
	11.00 am	62.3	63.8	57.9	46.3
	12.00 pm	60.9	64.2	52.5	46.9
	13.00 pm	61.9	58.1	49.9	47.4
	14.00 pm	67.9	58.5	48.9	48.3
	15.00 pm	65.1	61.2	52.8	53.7
	16.00 pm	75.5	56.0	52.3	55.1
	17.00 pm	76.3	61.8	51.9	53.6
	18.00 pm	59.8	56.0	49.8	50.1
	19.00 pm	63.5	54.6	49.2	50.5
	20.00 pm	54.5	51.8	41.2	44.3
	21.00 pm	52.1	56.1	41.7	39.8
	Lday	67.9	58.9	55.1	49.2
	Standard	65	55	55	50
	22.00 pm	57.6	51.0	46.9	40.5
Night Time	23.00 am	46.6	41.2	38.5	36.7
	24.00 am	47.4	53.6	37.9	36.0
	1.00 am	41.8	55.7	51.4	34.3
	2.00 am	43.1	54.2	35.9	34.3
	3.00 am	47.4	54.5	35.8	33.8
	4.00 am	52.8	52.5	33.9	35.7
	5.00 am	52.6	46.8	47.9	37.5
	Night	51.2	52.7	44.5	36.6
	Max	76.3	64.2	62.1	55.1
	Min	41.8	41.2	48.9	33.8
	Standard	55	45	45	40

Standard: The Noise Pollution (Regulation and Control) Rules, 2000



Occupational Noise Quality
Work Zone Noise Quality (ONQ)

S.N	Location	ONQ-1	ONQ-2	ONQ-3	ONQ-4
Day Time	6.00 am	61.1	61.9	53.4	48
	7.00 am	58.6	74.9	67	50.9
	8.00 am	65.8	79	64.5	59.8
	9.00 am	72.9	72.4	62.3	61.7
	10.00 am	79.7	72.7	70.1	59.3
	11.00 am	77.0	81.2	71.5	50.8
	12.00 pm	79.2	72.5	73.9	70.7
	13.00 pm	76.0	73.6	80.3	53.8
	14.00 pm	89.5	78.6	82.2	60.7
	15.00 pm	82.7	80.7	86.5	45.6
	16.00 pm	84.7	83.5	83.8	43.4
	17.00 pm	80.5	69.2	76.8	46
	18.00 pm	78.4	70.5	80.5	47.5
	19.00 pm	72.3	73.5	84.5	55.8
	20.00 pm	69.0	73.8	64.6	66.4
	21.00 pm	63.8	75.8	60.4	65.5
	Lday	83.1	77.2	79.6	62
Night Time	22.00 pm	83.1	62.5	62.8	57
	23.00 am	72.9	62.3	60.6	43.8
	24.00 am	60.9	73.5	51.5	44.5
	1.00 am	69.5	73.5	49.5	42.2
	2.00 am	76.5	47.5	42.4	47
	3.00 am	72.5	48.3	48	53.9
	4.00 am	49.5	57.3	47.3	56.5
	5.00 am	60.1	62.4	46.7	49.4
	Lnight	75.5	68	56.4	52.4
	Max	89.5	47	42.4	42.2
	Min	49.5	83.5	86.5	70.7

Standard: OSHA's permissible exposure limit (PEL) is 90 dBA for all workers for an 8 hour day. Each industry is different, as workers' tasks and equipment differ, but most regulations agree that noise becomes hazardous when it exceeds 85 decibels, for an 8-hour time exposure (typical work shift).



Sewage Treatment Plant (STP)
Outlet Sewage Water Quality

Name of STP	Date of Sampling	Temperature	pH	TSS	Phenol	Cyanide	BOD	COD	Remark
STP-1	23.04.2022	30.4	6.88	23	<0.01	<0.02	12.5	80.6	
	20.05.2022	31.2	7.29	27	<0.01	<0.02	12.8	76.9	
	21.06.2022	31.6	7.69	24	<0.01	<0.02	11.9	72.8	
	18.07.2022	30.2	6.83	31	<0.01	<0.02	13.8	82.6	
	22.08.2022	28.7	7.55	28	<0.01	<0.02	12.2	78.8	
	23.09.2022	26.7	6.86	25	<0.01	<0.02	13.4	77.5	

Standards: Temp.- Upto 40°C, pH -6.0-8.5, TSS- 100, Phenol- 1.0, Cyanide- 0.20, BOD- 30, COD- 250.



Water Quality Status
Status of Groundwater Quality (GW)

S.N.	Parameters	Unit	GW1	GW2	GW3	GW4	GW5	Standard
	<i>Date of sampling</i>				23.04.2022			
	<i>Source</i>		Admin building Drinking water	Worker Shed Drinking water	Raghunathpur Village groundwater	Kandra Village Groundwater	Raimara Village Groundwater	
1	pH value	None	6.54	7.09	6.7	6.86	6.78	6.5-8.5
2	Conductivity	us/cm	791	303	458	189	246	-
3	Total Dissolved Solids	mg/l	484	180	270	110	140	500
4	Chloride (as Cl)	mg/l	134	32	40	12	14	250
5	Fluoride (as F)	mg/l	0.16	0.14	0.12	<0.1	0.2	0.05
6	Nitrate (as NO ₃)	mg/l	2.4	6.6	10	1.9	2.3	45
7	Sulphate (as SO ₄)	mg/l	70	7.1	30	13	1.5	200
8	Total Hardness	mg/l	216	86	130	67	82	200
9	Iron (as Fe)	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05	0.3
10	Copper (as Cu)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	0.05
11	Cadmium (as Cd)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.003
12	Lead (as Pb)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.01
13	Mercury (as Hg)	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
14	Arsenic (as As)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.01
15	Total Chromium (as Cr)	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01	0.05

Standard: Guidelines for Drinking Water Quality, Second Revision, Clause 4, Drinking Water — Specification, IS 10500: 2012



Water Quality Status
Status of Surface Water Quality

S.N.	Parameters	Unit	SW1	SW2	SW3 23.04.2022	SW4	SW5	Standard
	Date of Sampling <i>Whether Pond/River/Sea</i>		River	River	Pond water	Pond water	Pond water	
(I)	Physico-chemical Parameters							
1	Colour	Hazen	<1.0	<1.0	<1.0	<1.0	<1.0	10
2	pH value	None	7.4	6.72	7.3	6.98	6.88	6.5-8.5
3	Conductivity	us/cm	553	574	446	298	317	1000*
4	Total Dissolved Solids	mg/l	310	362	274	184	196	500
5	Dissolved Oxygen	mg/l	5.6	5.7	5.3	6.2	6.0	6
(II)	Chemical Parameters							
6	Chloride (as Cl)	mg/l	38	26	46	22	24	250
7	Fluoride (as F)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	1.5
8	Iron (as Fe)	mg/l	0.19	0.17	0.2	0.32	0.48	0.3
9	Nitrate (as NO ₃)	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	20
10	Sulphate (as SO ₄)	mg/l	5	3.9	5	6.2	3.7	400
11	Lead (as Pb)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.1
12	Arsenic (as As)	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	0.05
13	Biochemical Oxygen Demand	mg/l	10	8.4	9.8	5.8	6.2	2
14	Chemical Oxygen Demand	mg/l	40	32	39	24	27	-
15	Oil and Grease	mg/l	<1.4	<1.4	<1.4	<1.4	<1.4	-
(III)	Bacteriological Parameters							
16	Total coliform bacteria	MPN/100ml	170	100	114	140	145	50
17	Faecal coliform	MPN/100ml	68	49	40	45	30	-

Standard: Surface water quality criteria for different uses (specified by CPCB, 1979 and the Bureau of Indian Standards, 1982)

Bobo Singh