

F. No. J-11011/662/2008- IA II (I)  
**Government of India**  
**Ministry of Environment and Forests**  
**(I.A. Division)**

**Paryavaran Bhawan**  
CGO Complex, Lodhi Road  
New Delhi – 110 003

E-mail : [pb.rastogi@nic.in](mailto:pb.rastogi@nic.in)  
Telefax : 011: 2436 7668

Dated 24<sup>th</sup> December, 2009

To, ✓  
The Executive Director (Project & Technology)  
M/s Nilachal Iron & Power Ltd.  
5, Bentinck Street  
Kolkatta – 700 001, West Bengal

E-mail : [cpattnaik@jaibalajigroup.com](mailto:cpattnaik@jaibalajigroup.com) / [jbajaji@vsnl.net](mailto:jbajaji@vsnl.net) ; Fax No. : 033-22430021 ;

**Subject : Expansion of Sponge Iron Plant (350 TPD) into Integrated Steel Plant (0.7 MTPA) alongwith Captive Power Plant (75 MW) at Ratanpur-Kandra Village, Gamharia Block, District Saraikela Kharswan, Jharkhand by M/s Nilachal Iron & Power Ltd. – Environment clearance reg.**

**Ref. : Your letter no. nil dated 15<sup>th</sup> September. 2009.**

Sir,

This has reference to your letter no. nil dated 15<sup>th</sup> September. 2009 alongwith Form I, Pre-feasibility Report, draft Terms of References, EIA/EMP, Public hearing report and subsequent clarifications furnished by you vide your letters dated 11<sup>th</sup> & 13<sup>th</sup> November, 2009 for environmental clearance on the above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that proposal is for the expansion of Sponge Iron Plant (350 TPD) into Integrated Steel Plant (0.7 MTPA) alongwith Captive Power Plant (75 MW) at Ratanpur-Kandra Village, Gamharia Block, District Saraikela Kharswan, Jharkhand by M/s Nilachal Iron & Power Ltd. Existing plant area is 57 acres. Total land acquired for expansion is 176.33 acres. Pendrabera PF, Kanki PF, Basrapahar PF, Palubera PF, Giddibera PF, Muskikudar PF, Tetuldanga PF, Poradih PF, Dalma PF, Baijnathpur PF, Baslikoacha PF are located within 10 km radius of the project site. Dalma Reserve Forest is located at 8 km. No national park, wild life sanctuary, biosphere reserve, wetland etc. are located within 15 km. area of the project site. Total cost of the project is Rs. 1,350.00 Crores. Following are the details of existing and proposed facilities :

S. N.	Plants	Existing Capacity	Proposed expansion	Final Production
1	Sponge Iron Plant	1,05,000 TPA (1x350 TPD)	6,00,000 TPA (1800 TPD)	7,05,000 TPA
2	Blast Furnace	-	3,50,000 TPA (2x250 m <sup>3</sup> )	3,50,000 TPA
3	Pelletization Plant	-	6,00,000 TPA	6,00,000 TPA
4	Coal Washery	-	13,00,000 TPA	13,00,000 TPA
5	Steel Making Shop with CCM (2x50 T EAF)	-	7,00,000 TPA	7,00,000 TPA
6	Captive Power Plant	-	75 MW	75 MW
7	Re-Rolling Mill (Liquid steel)	-	7,00,000 TPA	7,00,000 TPA
8	Ferro Alloy Plant	-	1,25,008 TPA	1,25,000 TPA
9	Oxygen Plant	-	1,000 TPD	1,000 TPD

3.0 Sponge iron will be produced in the DRI kilns by conventional process. Iron ore will be reduced in blast furnaces with a hot gas. Proportioned mixture of iron ore concentrate and bentonite will be fed to disk pelletizer to produce green balls which will be fed to traveling grate, rotary kiln and annular cooler to produce iron pellets. Steel melting will be carried out in an electric arc furnace (EAF) and ladle furnace (LF). Casted billets/slabs will be manufactured in rolling mill. Heavy media cyclone technology will be adopted in the coal beneficiation plant. Ferro alloy will be produced in submerged arc furnace (SAF) will be used in the.

4.0 Electrostatic precipitator (ESP), dust settling chamber (DSC), after burning chamber (ABC), bag filters, gas cleaning plant (GCP), cyclone, multi-cyclone, wet scrubber type, dust & extraction system with bag filters, dust suppression system (dry fog type and water sprinkler) will be provided to control air emissions. Total water requirement from Suvarnarekha River will be 19,200 m<sup>3</sup>/day. Effluent treatment plant (ETP) will be installed to treat wastewater from various units and all the treated wastewater will be recycled / reused for ash handling, dust suppression and green belt development. No effluent will be discharged and 'zero' discharge will be adopted. Blast furnace slag will be granulated and provided to cement manufacturers. Dust and sludge from blast furnace, dust from DRI plant, pellet plant, SMS, ferro alloy plant, and mill scales from rolling mill and casting machines will be reused in pellet plant. Fly ash will be used in cement making, brick making etc. Char from DRI Plant, coal rejects and fines from coal washery will be used in AFBC boilers as fuel. SMS and ferro alloy slag will be disposed as per CPCB guidelines.

5.0 Public hearing/consultation meeting was conducted on 27<sup>th</sup> August, 2009.

6.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 subject to strict compliance of the following specific and general conditions:

#### A. SPECIFIC CONDITIONS :

- i) Compliance to all the specific and general conditions stipulated for the existing sponge iron plant by the Central/State Govt. shall be ensured and regular reports submitted to the Ministry and its Regional Office at Bhubaneswar.
- 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 viz. Electrostatic precipitator (ESP), gas cleaning plant, cyclone, multi-cyclone, wet scrubber, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm<sup>3</sup>. 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 the limit.
- iii) Electrostatic precipitator (ESP) shall be provided to DRI kilns, pellet plant, CFBC boiler and waste heat recovery boiler (WHRB) to control gaseous emissions within 50 mg/Nm<sup>3</sup>. 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 rolling mill shall be provided to control dust pollution. Recuperator system with high stack shall be provided 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.

- 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.
- v) Proper and full utilization of DRI and blast furnace gases in power plant using heat recovery steam generators shall be ensured and no flue gases shall be discharged into the air.
- vi) The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 shall be followed.
- vii) 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 sprinklers shall be provided at coal handling and crushing area to control fugitive dust emissions. Closed conveyers and closed crushing unit with water sprinkling system shall be provided to suppress fugitive emissions from the coal washery. Further, specific measures like asphaltting of the roads within premises shall be carried out to control fugitive emissions. Fugitive emissions shall be controlled, regularly monitored and records maintained.
- 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.
- ix) Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.
- x) Total water requirement from Subernrekha River shall not exceed 19,200 m<sup>3</sup>/day and prior 'permission' for the drawl of 19,200 m<sup>3</sup>/day water from the concerned department shall be obtained. Cooling tower blow down shall be taken to settling tank and used for dust suppression. The wastewater 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 wastewater 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 wastewater generated from SMS and rolling mill shall be taken to scale pit and reused for cooling and slag granulation. The wastewater from coal washery after recovery of fines shall be re-circulated.
- 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.
- xii) 'Zero' effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises. Domestic wastewater shall be treated in sewage treatment plant (STP) and used for green belt development.



- xiii) The water consumption shall not exceed 16 m<sup>3</sup>/Ton of Steel as per prescribed standard.
- xiv) Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the E(P) Act whichever are more stringent. Leachate 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.
- xv) Char from DRI Plant, coal rejects and fines from coal washery shall be used in AFBC boilers as fuel. Iron ore, fluxes, mill scale from rolling mill etc. shall be recycled to sinter plant to produce sinter.
- 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 alongwith the DRI plant to ensure 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 also be properly utilized properly. All the other solid waste including broken refractory mass 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, pellet plant, SMS, ferro alloy plant shall be reused in pellet plant. Oily waste and spent oil shall be provided to authorized recyclers/reprocessors.
- 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 in secured landfill as per CPCB guidelines. Otherwise, hazardous substances shall be recovered from the slag and output waste and be disposed in secured landfill as per CPCB guidelines.
- xviii) Slag produced in Ferro-Manganese (Fe-Mn) production shall be used in manufacture Silico-Manganese (Si-Mn).
- 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.
- 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.
- xxi) A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.
- 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 environment clearance letter.
- xxiii) As proposed, green belt shall be developed in 60 acres (34 %) out of total 176.33 acre area within and around the plant premises as per the CPCB guidelines in consultation with DFO. ✓

- 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 emissions / fugitive emissions, if any from the proposed plant on the surrounding reserve forests viz. Pendraber PF, Kanki PF, Basrapahar PF, Palubera PF, Giddibera PF, Muskikudar PF, Tetuldanga PF, Poradih PF, Dalma PF, Baijnathpur 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.
- xxv) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.
- xxvi) All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 27<sup>th</sup> August, 2009 shall be satisfactorily implemented by allocating separate budget to implement the same.
- xxvii) Rehabilitation and Resettlement Plan for the project affected population including tribals, if any, shall be implemented as per the policy of the State Govt. in consultation with the State Govt. of Jharkhand. Compensation paid in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.
- 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.

#### B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JPCB) and the State Government.
- ii. No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.
- iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19<sup>th</sup> 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.
- 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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.
- v. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.
- 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).

- vii. Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- 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.
- ix. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
- x. As proposed, Rs. 135.00 Crores and Rs. 13.5 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.
- 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.
- 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 be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.
- xiii. A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.
- 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; PM<sub>10</sub>, PM<sub>2.5</sub>, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (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.
- 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.



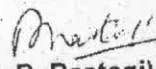
- xvi. The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.
- 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.

7.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

8.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

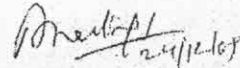
9.0. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

10.0. 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 Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

  
(Dr. P. B. Rastogi)  
Director

Copy to:-

1. The Secretary, Department of Environment, Govt. of Jharkhand, Jharkhand.
2. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. Chairman, Jharkhand Pollution Control Board, Jharkhand, Town Administrative Building, H.E.C., Dhruwa, Raanchi - 824004, Jharkhand.
4. The Chief Conservator of Forests (Eastern), Regional Office (EZ), A/3, Chandrasekharapur, Bhubaneswar - 751 023, Orissa.
5. Adviser (IA-II), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Monitoring Cell
8. Guard File.
9. Record File.

  
(Dr. P. B. Rastogi)  
Director