***Ministry of Environment & Forests (MOEF)***

**BY SPEED POST**

No. J-11015/239/2008-IA.II (M)

Paryavaran Bhawan,
CGO Complex,
New Delhi-110510.

To

Dated: 23rd December 2010

Shri Arun Sinha,
GM, Corporate Affairs,
**M/s Nilachal Iron & Power Ltd.,**
Jajodia Mansion, 5, Bentinck Street,
KOLKATTA – 700 001.

**Sub: Dumri Coal Mine Project (1 MTPA in ML area 279 ha ) of M/s Nilachal Iron & Power Ltd., located in North Karanpura Coalfields, Tehsil Terhesa, Dist. Hazaribagh, Jharkhand - Environmental Clearance – reg.**

Sir,

This is with reference to letter No. Nil dated 24.4.2008 enclosing an application for Terms of Reference (TOR) and this Ministry's grant of TOR vide letter dated 25.08.2008 and application for environmental clearance dated 30.11.2009 and subsequent letters dated 21.12.2009, 15.03.2010, 11.06.2010, 29.10.2010 and e-mails dated 21.12.2010 and 22.12.2010. The Ministry of Environment & Forests has considered the application. It is noted that the project is for opening a new opencast coalmine - **Dumri Opencast Coal Mine Project of 1 tonnes per annum (MTPA) rated capacity in a total ML area of 279 ha in North Karanpura Coalfields**. The mine is captive to the company's sponge iron plant and for M/s Bajrang Ispat Pvt. Ltd. Of the total ML area, forest land is 183 ha which includes surface water bodies of 8 ha, agricultural land 83 ha, waste land 6 ha, settlements 10 ha. Of the total forestland of 183 ha within the ML consist of medium-dense forest and open forest. Forestry clearance has been applied for. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. However there are a number of reserved and protected forests in the study area. A number of Schedule-I and II fauna such as the Sloth Bear, Indian Wolf, Spotted Deer, Sambar, Leopard, Indian Monitor Lizard have been reported in the study area as per study done for the projects of other neighbouring coal blocks such as Chhattibaritau, Kerandari, etc. An area of 93 ha of forest along the western side of the ML which is non-mineralised is not proposed to be acquired and this land left unused out of the ML could serve as a corridor/passageway for the movement of wild animals to and from forest areas adjoining the block. A number of seasonal nallahs pass through the block. The Bandori Nala flowing through the ML joins River Hendraj flowing SE to the mine in the buffer zone, which joins River Ghagra and River Haharo, a tributary of River Damodar. It is proposed to modify the natural drainage by diversion of 2km stretch of the Baldeori nala and realign it to its original course at the lease boundary. A 2m high boundary wall of the embankment on the eastern side of the nala would be erected over the 2km stretch of the embankment along the diverted nala to ensure that the animals do not stray into the quarry area.

The project is opencast by mechanised method involving shovel-and-dumper and blasting. Of the total ML area of 279 ha, area to be excavated is 208 ha, area for ext. OB dumps 7.5 ha, area for mineral storage/coal handling 6.5 ha, infrastructure area 5.05 ha, roads 2 ha, nala diversion and embankment 21 ha, sedimentation tank is 1.45 ha, safety zone 4.5 ha, and green belt 23 ha. The rated capacity would be achieved by 4th year of production. The mine is proposed to be mined in two main quarries with a central haul road. Ultimate working depth 160m bgl. Grade of coal is F. CHP is proposed. No mineral beneficiation is proposed. An estimated 125.26 $Mm^3$ of OB would be generated over the life of the mine of which 121.76 Mm3 would be backfilled and the balance 3.50 Mm3 would be stored in one ext. OB dump created within the mineralised area in an area of 7.5 ha and the OB would be rehandled and backfilled from the 7th year of operation. No OB would be dumped on forestland. No underground mining is envisaged. An approach road of 10 km would be constructed. The mineral transportation would be initially by road upto the 5th year and therefore would shift to rail transportation for which a new rail link would require to be established. Alternately, transportation would be by belt conveyor. Water table is in the range of 6.04 -7.10m bgl during pre-monsoon and 2.5-3.5m bgl during post-monsoon. Peak water requirement is 1000 $m^3/d$ is to be met from mine pit water except during the initial phase when 120 m3/d of water would be drawn from tubewells or from the nala. Project involves R&R (1737 PAPs and 534 PAFs consisting of land and homestead losers) of 5 villages – Pagar (68 PAPs), Balia (74 PAPs),Tunda, Pandu (1435 PAPs), Chati-Bariatu (160 PAPs). Estimated cost of Phase-I of R&R of villages of Pagar and Balia would be Rs 297.30 lakhs. An amount of Rs 2 crores has been earmarked for maintenance of R&R colony. Anticipated life of mine at the rated capacity of 1 MTPA is 44 years. Public Hearing was held on 07.09.2009. Mining Plan was approved by Ministry of Coal on 09.01.2008. Capital cost of project is **Rs. 170 crores.**

2. The Ministry of Environment & Forests has examined the application in accordance with the EIA Notification 2006 and under the provisions thereof, hereby accords environmental clearance for the above-mentioned **Dumri Opencast Coal Mines of 1 MTPA rated capacity in an ML area of 279 ha of M/s Nilachal Iron & Power Ltd.,** under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the terms and conditions mentioned below:

**A. Specific Conditions**

(i) The maximum production of coal shall not exceed 1 MTPA.

(ii) No mining shall be carried out in the 183 ha of forestland until prior forestry clearance is obtained under FC Act 1980. No OB shall be dumped on forestland.

(iii) The stretch of nala flowing in the west-central part of the ML shall not be disturbed. Prior approval of the Flood and Irrigation Department of the State Government shall be obtained for the proposed diversion of 2km stretch of Baldeori nala and realignment of the diverted nala along the fault lines and for design of the embankment. A minimum safe distance of 60m distance shall be maintained between the realigned nala and the mine. The embankment of 2km along the diverted stretch of the nala shall be a minimum 3m higher than the HFL of the nala and 30m wide at the bottom. The slope of the embankment shall at least 2:1 towards the ML, compacted and stone pitching shall be done towards the river and the embankment shall be stabilised with plantation. Materials such as OB shall be tested for strength before using for construction of embankment.

(vi) Top soil shall be stored in the earmarked site and shall be used within a year of its generation for green belt development and for plantation/reclamation.

(vii) OB shall be temporarily stored on mineralised area and rehandled by 7th year of mining operations. Monitoring and management of existing reclaimed dumpsites including slope stability

shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneshwar on a yearly basis.

(vii) Garland drains (size, gradient and length) around the safety areas and low lying areas and sump capacity shall be designed keeping 50% safety margin over an above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. Sump capacity shall also be provided adequate retention period to allow proper settling of silt material.

(ix) Catch drains and siltation ponds of appropriate size shall be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted and maintained properly.

Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.

(x) Dimension of the retaining wall at the toe of the dumps and OB benches within the mine to check run-off and siltation shall be based on the rainfall data.

(xi) Crushers at the CHP shall be operated with high efficiency bag filters/water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system which shall be closed, haulage roads, transfer points, etc.

(xii) Drills shall be wet operated only.

(xiii) Controlled blasting shall be practiced with use of delay detonators and only during daytime. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.

(xiv) The main Approach road of 10km shall be black topped and developed with 3-tier avenue plantation using a mix of species suitable for controlling fugitive dust emissions.

(xv) Coal transportation to proposed Tori Railway siding by trucks covering a distance of 8 km shall be until the $8^{th}$ year of mine operations only and thereafter coal transportation shall be by rail from the proposed Railway siding on the proposed Tori-Shibpur-Hazaribagh railway line. The rail link and route for coal evacuation from the mine shall form a part of an integrated plan for the entire North Karanpura Coalfields. Until the railway siding and the rail link is established of the, coal transport is permitted by road using a minimum 20-T trucks (160 trips/day) to Churi Railway siding at a distance of 42 km.

(xvi) A Plan for afforestation of not less than 196 ha of the mine lease shall be implemented, which includes backfilled quarries (178 ha), ext. OB dump (7.5 ha), mineral storage area (6.5 ha), along ML boundary, along roads, infrastructure (4 ha), safety zone, embankment, colony including R&R colony outside the ML and the 32 ha area falling between the forestland left out of the ML and between the embankment shall be thickly vegetated by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.

(xii) Of the total quarry area of 208 ha, an area of 178 ha shall be backfilled and reclaimed with plantation and the balance 30 ha of the decoaled void being converted into a water reservoir not exceeding 30m depth at the post mining stage shall be gently sloped along the higher benches

and stabilised by plantation/afforestation by planting native plant species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.

(xxiii) A Project specific Conservation Plan for endangered Schedule-I and II faunal species reported in the study area shall be prepared and implemented in consultation with the State Forest and Wildlife Departments. The Plan shall include conservation of fauna found in the core and buffer zone in conjunction with the neighbouring mines which come up in the area to allow movement of these fauna passing through the project area into the buffer zone. The project authorities shall also participate in a Regional Conservation Plan as and when prepared in the future for the conservation of flora-fauna found in the region as a whole including a budgetary support over the life of the project. The status of budgetary provision of capital and revenue expenditure on the various activities under the Project specific and Regional WL Conservation Plan and the status of the Plans shall be regularly reported to the MOEF RO and also uploaded on the company website.

(xvii) No groundwater shall be used except during the initial phase of mine operations until mining intersects the water table and thereafter only mine pit water shall be used. Any additional water requirement shall be met from mine water and from rainwater harvesting systems.

(xvii) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of exiting wells and construction of new peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.

(xviii) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater levels indicate decline of water table. Any additional water requirement for mining operation shall be met from rainwater/recycling of water only. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

(xix) ETP shall also be provided for treatment of effluents from workshop, CHP and an STP shall be provided for treating wastewater from the township and the treated effluents shall be used for green belt development. Wastewater generated form the mine shall be treated and recycled for mine operations to the extent possible and the balance shall be treated to prescribed standards before discharge into the surface waters/agricultural use.

(xx) Besides carrying out regular periodic health check up of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health check up for occupational diseases and hearing impairment, if any, through an agency such as NIOH, Ahmadabad within a period of one year and the results reported to this Ministry and to DGMS.

(xxi) For monitoring land use pattern and for post mining land use, a time series of landuse maps, based on satellite imagery (on a scale of 1: 5000) of the core zone and buffer zone, from the start of the project until end of mine life shall be prepared once in 3 years (for any one particular season which is consistent in the time series), and the report submitted to MOEF and its Regional office at Bhubaneshwar.

(xxii) A detailed project specific R&R Plan prepared for the villages Pagar, Balia,Tunda, Pandu, Chatti-Bariatu comprising about 1737 PAP & 534 PAFs and land & house losers shall be implemented within an agreed time frame. R&R Plan for a cost of Rs 297.30 lakhs shall be implemented intilaly in consultation with the stakeholders of the villages- Pagar and Balia to be shifted in Phase-I. R&R shall be based on norms laid down/approval by the State Government and shall not be

inferior than that in the National R&R Policy and shall be completed within a specified time-frame. R&R shall include specific income generation schemes. A Corpus Fund of Rs 2 crores shall be created for maintenance of the R&R colony. Annuities of not less than Rs 1500/month shall be provided for persons of vulnerable sections of the displaced population. Alternate livelihood schemes shall be implemented for the persons not being absorbed for employment. The daily wages persons/labourers who are regularly used by the company on a long term basis may also be provided housing and other amenities as regular employees. In addition, 1% of the profits will be disbursed to the displaced population as per the State Govt. R&R Policy.

(xxiv) A minimum provision of Rs 1 crore shall be earmarked as capital expenditure and Rs 5/tonne of coal towards recurring expenditure. Initially, activities under CSR would be undertaken for the adjoining villages such as Dumri, Manatu and Gopda in stage-I and extending to other villages in Stage-II. Monitoring of the socio-economic status of the local communities living in the villages near the project area shall be based on a scientific methodology such as the UNDP Human Development Index. Report of the monitoring of the impacts of project on the socio-economic and human development of the local communities shall be regularly reflected in the Annual Report of the company and also furnished as part of the Monitoring Report submitted to MOEF.

(xxv) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests three years before completion of this project. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem.

**B. General Conditions**

(i) No change in technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.

(ii) No change in the calendar plan including quantum of mineral coal and waste being produced shall be made.

(iii) Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring $PM_{10}$, $PM_{2.5}$, $SO_x$ and $NO_x$. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in particulates shall be carried out at least once in six months.

(iv) Data on ambient air quality ($PM_{10}$, $PM_{2.5}$, $SO_x$ and $NO_x$ and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneshwar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.

(v) Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs.

(vi) Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, and treated so as to conform to the standards including for heavy metals before discharge prescribed under GSR 422 (E) dated 19$^{th}$ May 1993 and 31$^{st}$ December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.

(vii) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of the mineral shall be covered with tarpaulins and optimally loaded.

(viii) Monitoring of environmental quality parameters shall be carried out through establishment of adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board and data got analysed through a laboratory recognised under EP Rules, 1986.

(ix) Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance programme of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and to take corrective measures, if needed.

(x) A separate environmental management cell with suitable qualified personnel shall be set up under the control of a Senior Executive, who will report directly to the Head of the company.

(xi) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhubaneshwar.

(xii) The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at http://envfor.nic.in

(xiii) A copy of the environmental clearance letter shall be marked to concerned Panchayat/Zila Parishad, Municipal Corporation or Urban Local Body and local NGO, if any, from whom any suggestion/representation has been received while processing the proposal. A copy of the clearance letter shall also be displayed on the company's website.

(xiv) A copy of the clearance letter shall be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.

(xv) The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM10, PM2.5, $SO_2$ and $NO_x$ (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.

(xvi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.

(xvii) The Regional Office of this Ministry located at Bhubaneshwar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.

(xviii) The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent tot the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MOEF by E-mail.

3. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.

5. The above conditions will 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 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

(Dr.T.Chandini)
Director

**Copy to:**

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. DG (F) and Special Secretary, MOEF, New Delhi.
3. Principal Chief Conservator of Forests, Biodiversity Conservation and Chief Wildlife Warden, Govt. of Jharkhand, Ranchi w.r.t. Special Condition No. (xxiii) and (xxv)
4. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
5. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A/3 Chandrashekarpur, Bhubaneshwar – 751023.
6. Chairman, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.
7. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
8. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
9. District Collector, Hazaribagh, Government of Jharkhand.
10. Monitoring File 11. Guard File 12. Record File.

(Dr.T.Chandini)
Director