

No.J-11015/148/2008-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
C.G.O.Complex,
New Delhi -110510.

Dated: 18th May 2009

To
General Manager (Mines),
M/s Jindal Steel & Power Ltd.,
241B, Road No.2, Ashok Path,
Ashok Road, RANCHI - 834002,
JHARKHAND.

Sub: Jitpur Opencast Coal Project (2.5 MTPA) of M/s Jindal Steel & Power Ltd.,
located in villages Jitpur, Dahubera, Dumberpalem, Pakeri, Teibhitta, Kairajori,
& Jiajore, Tehsil Sunderpahari, District Godda, Jharkand - environmental
clearance - reg.

Sir,

This is with reference to letter No. Nil dated 21.03.2008 for Terms of Reference (TOR) and this Ministry's letter dated 11.07.2008 granting the TOR and application for environmental clearance based on TOR dated 24.02.2009 and subsequent letter dated 18.04.2009 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. It has been noted that the project is for opening a new Jitpur Opencast Coal Mine Project of 2.5 million tonnes per annum (MTPA) for captive consumption of the proposed linked 1000 MW Thermal Power Plant to be located at a distance of about 36 km. The project involves a total area of 537.93 ha of which 141.24 ha is forestland, 354 ha is agricultural/tenancy land and 42.69 ha is Govt. land. Of the total project area, 300 ha is mine lease and the balance 237.93 ha falls outside the lease for infrastructure (137.93 ha) and OB dumps (100 ha) to be located in non-forest land. A township is proposed. Major part of the area is forested Khelari RF and numerous Protected forests and mixed jungle. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 15 km buffer zone. The project involves modification of the natural drainage by diversion of the Kewari nala passing through the ML, at the northern edge of the Block within the first two years of mining operation, which finally joins the Gumari nala. The 'in-principle' approval of the Flood & Irrigation Dept. has been obtained. The project is opencast by mechanised method involving shovel-and-dumper. The rated capacity of the mine is 2.5 MTPA of coal production. Mineral transportation of coal to the linked TPP would be by conveyors. Ultimate working depth of the mine is 202m below ground level (bgl). Water table is in the range of 4.6-8.28m bgl during pre-monsoon and 2.30-6.34 m bgl during post-monsoon. Peak water requirement is 1027 m³/d, which will be met from mine pit water (800 m³/d) and recycled water (227.4 m³/d). Of the total 247.50 Mm³ of OB that will be generated over the life of mine, 48.09 Mm³ of OB will be dumped in external OB dumps of an area of 100 ha and of a max. height of 50m, and the balance 199.41 Mm³ of OB will be backfilled in the decoiled void of 153.47 ha and the balance area of 141.34 ha would be converted into a water reservoir. Backfilling will begin from the 6th year and continue till end of mine life. Project involves R&R of 7 villages - comprising 82 PAFs (homestead and land losers) and 136 PAFs who are only land losers. Life of the mine at the rated capacity of 2.5 MTPA is 27 years. Public Hearing was held on 25.10.2008. Mining Plan was approved by Ministry of Coal on 12.08.2008. Capital cost of the project is Rs. 37.50 crores.

2. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Jitpur Opencast Coal Project of M/s Jindal Steel & Power Ltd. for production of coal at 2.5 MTPA annual rated capacity in a total project area of 537.93 ha under the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and Circulars thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions

- (i) Mining shall not be carried out in forestland until forestry clearance is obtained.
- (ii) The plan for diversion and realignment of the nala and modification of the natural surface drainage and design of the diversion canal shall be done in consultation and approval of the concerned State Flood and Irrigation Department. Dimension and depth of the nala should be finalised based on the peak flow of the water.
- (iii) Topsoil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.
- (iv) OB shall be stacked at earmarked external OB dumpsite within ML area and shall be a maximum height of 40m only each. The ultimate slope of the dump shall not exceed 28°. A minimum 100m distance shall be maintained between the OB dump and Kewari Nala and between the dump and Jitpur village. Monitoring and management of existing reclaimed dumpsites 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 Bhubaneswar on yearly basis.
- (v) 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 utilised 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 provided adequate retention period to allow proper settling of silt material.
- (vi) 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.
- (vii) 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, haulage roads, transfer points, etc.
- (viii) Drills shall be wet operated.
- (ix) Controlled blasting shall be practiced only during daytime with use of delay detonators. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.
- (x) Mineral transportation to linked TPP shall be by conveyors only.
- (xi) Area brought under afforestation shall not be less than 326.59 ha which includes reclaimed external OB dump (100 ha), backfilled area (153.47 ha), along ML boundary, along roads, green belt, in undisturbed areas and in colony 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) A Progressive Closure Plan shall be implemented by reclamation of quarry area of which 153.47 ha shall be backfilled and afforested 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. The balance 141.34 ha of decoladed area being converted into a water reservoir shall gently sloped along the upper benches and stabilised and reclaimed with plantation.
- (xiii) A Conservation Plan for endangered species found in and around the project area shall be formulated and for the medicinal plants (in-situ and ex-situ) shall be prepared and implemented in consultation with the State Forest and Wildlife Departments. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MOEF Regional Office, Bhubaneshwar
- (xiv) No groundwater shall be used for mining operations. Additional water required, if any, shall be met by recycling/reuse of the water from the existing activities and from rainwater harvesting measures.
- (xv) Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing 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.
- (xvi) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicated decline in water table. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xvii) ETP shall also be provided for workshop, and CHP. Effluents shall be treated to conform to prescribed standards, particularly for pH and TSS in case of discharge into any water course outside the lease.
- (xviii) An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for their reuse in project activities.
- (xix) 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 provide for a minimum outlay of Rs. 10 crores and Rs 2 crores as revenue expenditure and shall include specific income generation schemes.
- (xx) 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.

- (xxi) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests for approval 5 years in advance of final mine closure for approval.

B. General Conditions

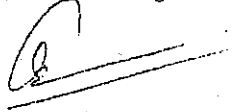
- (i) No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment and Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.
- (iii) Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring SPM, RPM, SO₂, NO_x and heavy metals such as Hg, Pb, Cr, As, etc. 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.
- (iv) Fugitive dust emissions (SPM and RSPM and heavy metals such as Hg, Pb, Cr., As, etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.
- (v) Data on ambient air quality (SPM, RSPM, SO₂, NO_x and heavy metals such as Hg, Pb, Cr, As, etc) shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months.
- (vi) 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.
- (vii) Industrial wastewater (workshop and wastewater from the mine) 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 before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- (viii) Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.
- (ix) Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (x) 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.

- (xi) 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.
- (xii) 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 Bhopal.
- (xiii) The Regional Office of this Ministry located at Bhopal 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.
- (xiv) A copy of the will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
- (xv) State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.
- (xvi) 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>. The compliance status shall also be uploaded by the project authorities in their website and regularly updated at least once in six months so as to bring the same in the public domain. The data shall also be displayed at the entrance of the project premises and mines office and in corporate office.

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

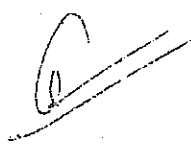
4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environment (Protection) Act, 1986.

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 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. Secretary, Department of Environment & Forests, Government of Jharkand, Secretariat, Ranchi.

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3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, V/3 Chandrashekarapur, Bhubaneswar -- 751023.
 4. Chairman, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi.
 5. Chairman, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, New Delhi -110032.
 6. Member-Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi.
 7. District Collector, Godda, Government of Jharkhand.
 8. Monitoring File 9. Guard File 10. Record File.