

F. No. J-11011/77/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated 22nd September, 2008

To,

✓
The Executive Director (Iron & Steel)
M/s Jindal Steel & Power Limited
Jindal Centre, 12 Bikaji Cama Place
New Delhi - 110 066

E-mail : rajeshjha@jindalsteel.com / vrvikumar@jindalsteel.com ;
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Subject : Integrated Steel Plant (6.0 MTPA) and Captive Power Plant (1,000 MW) at Balkudra, Pataru, Hazaribagh, Jharkhand by M/s Jindal Steel & Power Ltd. (JSPL) – Environmental clearance reg.

Sir,

This has reference to your letter no. JSPL/TOR/JHARKHAND/AB/06-07/01 dated 11th January, 2007 alongwith Form I, Pre-feasibility Report, draft Terms of References and EIA/EMP and subsequent clarifications furnished by you vide your letters dated 18th January, 2007, 24th January, 2007, 21st February, 2007, 4th April, 2007 and 2nd May, 2008 for environmental clearance on the above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that M/s Jindal Steel & Power Ltd (JSPL) have proposed for the Integrated Steel Plant (6.0 MTPA) with Captive Power Plant (1,000 MW) at Balkudra, Patratu, Hazaribagh, Jharkhand. A sick unit viz. UMI Special Steel Ltd. is purchased from Jharkhand Govt. and existing plant is located in 600 acres. 2,538 acre more land (950 acre Govt. land and 1,588 ha. private land) will be acquired for ancillary units, water reservoir and colony. Thus, total land requirement will be 3,138 acre. Approximately, 700 people will be displaced and rehabilitated. Rehabilitation and Resettlement (R & R plan) is still under preparation and a copy approved by the State Govt. is yet to be submitted. No forest and is involved. No wetland, biosphere reserve, wildlife sanctuary, national park, protected monuments etc. are located within 15 Km. Total cost of the project is Rs. 21,439.00 Crores. Following will be installed :

	Products	Capacity (MMTPA)
Pellet Plant	Iron Ore Pellets	5.0
Blast Furnace	Pig Iron	6.0
Coke Oven Plant (Recovery Type)	Coke & By product	3.0
Sinter Plant	Sinter	6.0
SMS & Casting Shop	Steel	6.0
Rolling Mill	Rolled steel products	6.0
Ferroalloy Plant	Ferroalloy	0.05
Lime Dolime Plant	Calcined Lime/Dolime	0.82
Coal Based Power Plant	Electricity	1000 MW

UTILITIES		
Steam & Power Blowing Station	Steam and power	3x270 TPH (mixed gas fired) Turboblower (2 x 12MW)
DM Plant	DM water	1800 Kl/h
Oxygen Plant	Oxygen	4000 TPD

3.0 The gaseous emissions from blast furnace (BF), sponge iron (DRI) plant, steel melt shop (SMS), rolling mill & captive power plant (CPP) will be controlled within 100 mg/Nm³. Continuous on-line stack emission monitoring will be done. Coal gas will be used as reductant in DRI plant as well as reheating furnace. The heat gases from recovery type of coke oven will be used in the process. Waste gases will be used for power generation. Dedusting of casting shop will be done. Fugitive emissions will be controlled in SMS. Total water requirement from Nalkari dam & Sarpahi / Tokisud River / Doadhab nalla will be 15,000 m³/hr and permission is yet to be obtained. Cooling tower blow down will be used for ash handling and disposal. Coke oven wastewater will be treated in BOD plant to meet the standards. Wastewater will be used for wet quenching. 100% water will be reused. Pellets will be used in the BF and sinters in the BF. BF slag will be 100 % utilized. The middlings, coal fines alongwith raw coal will be used for power generation. Fly ash will be dumped in used mines.

4.0 Public hearing / Public consultation meeting was held on 10th December, 2007.

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

A. SPECIFIC CONDITIONS :

- i) Project proponent shall confirm that compensation shall be paid to the land oustees for acquisition of agriculture land as per the State Government Norms and the norms prescribed in the National Resettlement and Rehabilitation Policy, 2007.
- ii) Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. Continuous on-line stack monitoring facilities for all the stacks including Captive Power Plant (CPP) shall be provided and sufficient air pollution control devices viz. ESPs and bag filters etc. to keep the emission levels below 100 mg/Nm³ for the Steel Plant. High efficiency Electrostatic Precipitator (ESPs) shall also be provided to Captive Power Plant (CPP) to ensure particulate emission below 100 mg/Nm³. One multi-flue stack of 275 m height shall be provided with continuous on-line monitoring equipments for SO₂, NO_x and particulate matter. Exit velocity of flue gases shall not be less than 20 m/sec.
- iii) Regular monitoring of ground level concentration of SO₂, NO_x, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with JSPCB. Periodic monitoring reports shall be submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and JPCB.
- iv) All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using heat recovery steam generators shall be ensured and no flue gases shall be discharged into the air.

- v) Space provision shall be kept for retrofitting of FGD, if required at a later date. Gas cleaning plant having dust catcher and bag filter shall be provided to blast furnace (BF). Coal gas shall be used as reductant in reheating furnace. In-plant control measures for checking fugitive emissions from all the vulnerable sources including casting shop and SMS shall be provided. Dust extraction system shall be provided to control air emissions at material transfer and sizing plants. Further, specific measures like water sprinkling shall be carried out and fugitive emissions shall be controlled, regularly monitored and records maintained.
- vi) Gaseous emission levels including secondary fugitive emissions from all the sources including CPP, blast furnace and sinter plant 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. Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas such as in coal handling plant (CHP), ash handling places, transfer points and other vulnerable dusty areas shall be provided.
- vii) 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.
- viii) Total water requirement from Nalkari dam & Sarpahi / Tokisud River / Doadhab nalla shall not exceed 15,000 m³/hr. No ground water shall be used. Closed cycle cooling system with cooling towers shall be provided. The wastewater from process shall be treated in effluent treatment plant (ETP) as per the prescribed norms. All the treated wastewater shall be recycled and reused to maximum level to conserve water. Cooling tower blow down will be used for ash handling and disposal. The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangements shall be made that effluents and storm water do not get mixed. Sewage treatment plant shall be provided and the treated sewage shall be used for raising greenbelt / plantation.
- ix) Proper source for the drawl of water shall be identified and prior 'Permission' for the drawl of 13,600 m³/h water from the concerned department shall be obtained.
- x) Coke oven wastewater shall be treated in BOD plant to meet the standards and wastewater shall be used for wet quenching. Continuous monitoring of Total Organic Compounds (TOCs) shall be done at the outlet of effluent treatment plant (BOD plant).
- xi) 'Zero' effluent discharge shall be strictly followed and no wastewater shall be discharged outside the premises.
- xii) Ground water monitoring around the solid waste disposal site / secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and JSPCB. Regular monitoring of ground water in and around ash pond area, solid waste disposal site / secured landfill (SLF) shall be carried out in consultation with the Central Ground Water Authority / State Ground Water Board (CGWA/SGWB) and records maintained. Periodic reports shall be furnished to the Ministry's Regional Office at Bhubaneswar, CPCB, JSPCB and CGWA / SGWB.
- xiii) Iron ore, fluxes, mill scale etc. shall be recycled to sinter plant to produce sinter. Pellets shall be used in the BF. BF slag shall be 100 % utilized. The sinters shall be

used in the BF. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Oily waste shall be provided to authorized recyclers/reprocessors.


- xiv) A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal to the Ministry's Regional Office at Bhubaneswar, CPCB and JPCB.
- xv) All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization. SMS slag shall also be properly utilized. Slag from ferro alloy plant shall be used for road making only after passing through Toxic Chemical Leachability Potential (TCLP) test. Toxic slag shall be disposed in secured landfill as per CPCB guidelines.
- xvi) Proper utilization of fly ash shall be ensured as per Fly ash Notification, 1999 as amendment in 2003.
- xvii) The ash pond shall be lined with impervious lining to avoid any leaching into groundwater. The ash dyke shall be so designed and strengthened to ensure guard against breaching. Adequate safety measures shall also be taken so that pond ash does not become air borne to cause air pollution in the surrounding areas.
- xviii) As proposed, green belt shall be developed in 33 % area of total land available (3,138 acre) within and around the plant premises as per the CPCB guidelines in consultation with DFO.
- xix) Rainwater harvesting shall be adopted. Central Ground Water Authority / Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of three months from the date of clearance and details shall be furnished.
- xx) Leq of Noise levels emanating from gas and steam turbines shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs / earmuffs etc. shall be provided. Working engaged in noise areas such as steam and gas turbines, air compressors etc., shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy / less noisy areas.
- xxi) First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
- xxii) Storage facilities for liquid fuel such as LDO / HFO / LSHS shall be made in the plant area at the location where risk is minimum to the storage facilities. Adequate arrangement of risk management shall be made in the Disaster Management Plan for the same. Mock drills shall be conducted regularly as planned.
- xxiii) Adequate safety measures shall be provided in the plant area to check / minimize spontaneous fires in coal yard, especially during summer season. Details of these measures alongwith location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry at Bhubaneswar.
- xxiv) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel plants shall be implemented.

- xxv) Recommendations of the State Forest Department shall be obtained regarding likely impact of the proposed steel plant on the surrounding reserve/protected forests, if any and implemented.

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 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. 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.
- 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 SPM, SO₂ and NO_x are anticipated in consultation with the JPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the JPCB/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 19th May, 1993 and 31st 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 mentioned in the EIA/EMP, Rs. 536.00 Crores and Rs. 81.00 Crores earmarked for capital cost and recurring cost/annum towards environment protection measures shall be 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 / JPCB 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 JPCB 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. 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.
- 6.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- 7.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- 8.0 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.
- 9.0 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, Chandrasekharpur, 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