

*Ministry of Environment & Forests*

Paryavaran Bhawan,  
C.G.O. Complex, Lodi Road  
New Delhi -110003.

No. J-11015/240/2010-IA.II (M)

To

Dated: 25<sup>th</sup> January 2012

Director (P&P),  
**M/s Bharat Coking Coal Ltd,**  
Koyla Bhawan, Dhanbad.

**Sub: Patherdih NLW Coal Washery (5 MTPA normative with a peak capacity of 6.5 MTPA in an area of 12 ha) of M/s Bharat Coking Coal Ltd. located in Jharia Coalfields, in district Dhanbad, Jharkhand - Environmental Clearance - reg.**  
Sir,

This has reference to letter No. 43011/25/2010-CPAM dated 01.07.2010 of Ministry of Coal along with application for Terms of Reference (TOR) and this Ministry's grant of TOR vide letter dated 23.09.2010 and application for environmental clearance vide letter No. CIL/DLI/EMP-TOR/2011/08 dated 13.09.2011 and letter dated 19.11.2011 on the above-mentioned subject. The Ministry of Environment & Forests has considered the application. The proposed is for **establishing a new Patherdih Coking Coal Washery**, which is a non-linked washery (NLW) of a capacity of 5 million tonnes per annum (MTPA) and 6.5 MTPA (peak) in an area of 12 ha in Jharia Coalfields, identified as a critically polluted area. The washery is a 3-product coal washery using Jig and HM Cyclone Technology. The washery is being sited in total area of 12 ha land which is a non-coal bearing area. No forestland is involved. The site has been chosen keeping in view the existing railway line available for transportation of raw coal from 3 collieries, namely N/S Tisra OCP, Goluckdih OCP (NC), Ganoodih OCP and Rajapur OCP located at a distance of 5-7 km from the washery and for despatch of washed coal and middling to be sent to powerhouses in Durgapur and Bokaro.

S.N.	Name of the Linked Mine	Capacity (MTPA)	Reserve Capacity (MT)	Life of mine (in Years)
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1.	N/S Tisra OCP	2.1	13.9	6.6
2.	Goluckdih OCP	1.0	22.85	22.85
3.	Ghanoodih OCP	1.3	4.3	3.3
4.	Rajapur OCP	0.75	18.0	24
	<b>TOTAL</b>	<b>5.15</b>	<b>59.05</b>	

Raw coal (5 MTPA) has an ash content of 41.1% would yield 1.12 MTPA of clean (washed) coal of an ash content of 18.1% would be used in steel plants at Durgapur, Bokaro and Rourkela and power grade coal (2.58 MTPA) with an ash content of 39.93% for use in thermal coal for power generation in TPPs and coal rejects of 1.3 MTPA of > 60% ash content would be utilised in an FBC based Thermal Power Plant. The Company has called for an open tender for use of the coal rejects in an FBC based TPP. The water requirement of the plant (make-up water) is 0.5 MGD and would be obtained from old abandoned mines near the washery. The washery will be provided with a Filter Press and Thickener to extract the water from the slurry. Transportation of raw coal would be by road and washed coal from the washery would be by rail from railway siding located within the premises. The entire clean coal and coal rejects would be from the washery by closed conveyors to adjoining Railway Siding by Rapid Loading system consisting of hopper and surge bunker and thereafter transported by rail mode only. In addition, the entire flyash generated from the FBC based TPP would be utilised by cement units in clinker production/ flyash brick unit. A provision of Rs 2 cores and Rs 5/T of coal for recurring expenditure has been made for activities under CSR. CSR activities would cover education, water supply, health care, social empowerment, infrastructure development i.e. road, water supply, electricity and a community centre. A full time Monitoring Cell is proposed to be constituted. Life of the washery is about 18 years. Public Hearing was held on 02.06.2011. Capital cost of the project is Rs 157.50 crores.

**2.0** The Ministry of Environment & Forests hereby accords environmental clearance for the establishment of the above-mentioned **Patherdih NLW Coking Coal Washery of 5million tonnes per annum (MTPA) capacity with a peak capacity of 6.5 MTPA in an area of 12ha of M/s Bharat Coking Coal Ltd.** under the provisions of the Environmental Impact Assessment Notification, 2006 and subsequent amendments thereto and under Circulars there under and subject to conditions specified below:

### **Specific Conditions**

(i) The capacity of the washery shall not exceed 6.5 MTPA without prior environmental clearance from this Ministry.

(ii) Transport of raw coal from the identified mines of the company, washed coal from the washery to the steel plants in Durgapur, Bhilai and Bokaro and middling to TPPs and coal rejects to FBC based TPP shall be by rail mode only from the railway siding located within the premises.

(iii) The entire coal rejects from the washery shall be fully utilised in an FBC based TPP for which open tender for operation of the FBC based TPP has been called by the proponent. The FBC based TPPs shall be preferably located in or near Jharia coalfields. The Company shall enter into a long-term MOU for utilisation of the coal rejects from the washery within 3 months and also for utilisation of flyash generated from the FBC based TPP with a suitable company.

(iv) As the washery is located in Jharia Coalfields, which forms a part of the Critically Polluted Area of Dhanbad, the company shall implement the mitigative measures outlined in the Environmental Action Plan for CPA-Dhanbad applicable to the project, which would be in conformity with the Environmental Action Plan prepared for Dhanbad Area to keep the levels of air quality parameters well within limits. The proponent shall implement mitigative measures such as providing water sprinkling arrangements at various transfer points and loading/unloading points, regular maintenance of vehicles used for coal transportation, periodic and regular checking of vehicles for source emission, main approach roads used for transportation of raw coal to be black topped, monitoring for particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and maintenance of records thereof, bag filter at suitable locations of the washery, wind shelters/wind breaks in coal stockyards (raw coal, clean coal and coal rejects), providing 3-tier green belt with native species.

(v) The proponent shall implement a plan to regularly dredge River Damodar 0.5 km upstream and 1km length downstream of the washery free of sludge, coal fines and silt which has accumulated in the river over a period of time and dispose the wastes in an environmentally friendly manner, in consultation with the Jharkhand State Pollution Control Board.

(vi) The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site(s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored raw coal, washed coal and coal wastes do not catch fire.

(vii) Hoppers of the coal crushing unit and washery unit shall be fitted with high efficiency bag filters and mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.

(viii) All approach roads shall be black topped and all internal roads shall be black topped or concreted. The roads shall be regularly cleaned with mechanical sweepers. A 3-tier avenue plantation using local species shall be developed along the main roads, and approach roads to the washery.

(ix) The proponent shall maintain proper records of the ash content of raw (ROM) coal, clean coal and coal rejects of every consignment received and washed and the same shall be uploaded along with quantum of raw coal obtained and washed and dispatched every month on the company's website every month.

(x) Water for the coal washery shall be met from mine water from BCCL mines. No groundwater shall be used for the washery plant operations. Any additional water requirement envisaged shall be obtained by recycle/reuse to the maximum extent and from rainwater harvesting measures. Pressure Filter and Thickener shall be installed in the washery for water recovery and reuse.

(xi) The Washery unit shall be a zero-discharge facility and no wastewater shall be discharged from the washery into the drains/natural watercourses. The Washery shall be provided with a garland drain to carry/recycle the effluents generated from the washery operations and coal fines collected shall be recovered from the slurry and concentrated and also sold for users. The wastewater from the washery shall be free of coal dust and particles and recycled for development and maintenance of green belt and in the plant operations.

(xii) A separate storm water drain to carry storm water from the washery for discharge outside the premises to nallahs/streams shall be established. The storm water drains shall be regularly desilted.

(xiii) Industrial wastewater (workshop and wastewater from the washery) 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 before discharge. Oil and grease trap shall be installed for treatment of workshop effluents.

(xiv) Green belt shall be developed using local species all along the periphery of the site, along the areas such as the crushing unit and stockyard, transfer and loading points.

(xv) Socio-economic and welfare measures for the local communities shall be implemented under CSR with an outlay of Rs 2 crores and Rs 5/T of coal as recurring expenditure. The village-wise activities undertaken and proposed and the expenditure thereon shall be displayed on the company website every year. A Monitoring Cell shall be established for monitoring activities undertaken under CSR.

(xvi) Levels of heavy metals such as mercury in raw coal, washed coal and rejects shall be analysed twice in a year and records maintained thereof and furnished as part of the Compliance Report to the MOEF RO, Bhubaneshwar.

(xvii) Corporate Environment Responsibility:

a) The Company shall have a well laid down Environment Policy approved by the Board of Directors.

b) The Environment Policy shall prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.

c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.

d) To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

## **B. General Conditions**

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

(ii) Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. 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 PM<sub>10</sub> and PM<sub>2.5</sub> etc. shall be carried out at least once in six months.

(iii) 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.

(iv) Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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.

(v) 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.

(vi) 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.

(vii) 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 Bhubaneswar.

(viii) 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>

(ix) A copy of the environmental clearance letter shall be marked to concerned Panchayat/ Zila Parishad/Municipal Corporation or Urban Local Body/ 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.

(x) 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.

(xi) 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (ambient and stack if any) 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.

(xii) 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.

(xiii) The Regional Office of this Ministry located Bhubaneswar 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) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V 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 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. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
- 3 Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarpur, Bhubaneswar – 751023.
- 4 Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C., Dhurwa, Ranchi – 834004.
- 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.
8. Dr.R.K.Garg, Advisor, M/s Coal India Ltd., SCOPE Minar, New Delhi.
9. District Collector, Dhanbad, Government of Jharkhand.
10. Monitoring File 11. Guard File 12. Record File.

(Dr.T.Chandini)  
Director