

No. J-11015/288/2010-IA-II.(M)
Government of India
Ministry of Environment, Forests & Climate Change
IA-II (Coal Mining Division)

Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110003
Dated: 22nd September, 2014

To,
The General Manager (E&F)
M/s Eastern Coalfields Ltd.,
Asansol, Dist. Burdwan,
West Bengal.

Sub.: Cluster 5 (2 mixed mines – Parbelia & Dubeswari) a total production capacity of 0.485 MTPA (Normative) and 0.63 MTPA (peak) in an ML area of 2970 ha; Latitude 23° 38' N & 23° 41' N and Longitude 86° 46' E & 86° 51' E) M/s Eastern Coalfields Ltd., located in Raniganj Coalfields district Purulia, West Bengal - Environment Clearance - reg.

Sir:

This is with reference to letter no. 43011/34/2010-CPAM dated 30.08.2010 with the application for Terms of Reference (TOR) and this Ministry's letter dated 03.12.2010 & revised letter dated 29.02.2012 granting TOR. Reference is also invited to the letter no CIL/DLI/EMP/2014/06 dated 09.04.2014 and subsequent letter nos. dated 30.06.2014 for environmental clearance on the above-mentioned subject.

2. The Ministry of Environment, Forests & Climate Change has considered the application. It is noted that the proposal is for grant of Environmental Clearance for **Cluster 5 (2 mixed mines – Parbelia & Dubeswari) a total production capacity of 0.485 MTPA (Normative) and 0.63 MTPA (peak) in an ML area of 2970 ha; Latitude 23° 38' N & 23° 41' N and Longitude 86° 46' E & 86° 51' E) M/s Eastern Coalfields Ltd., located in Raniganj Coalfields district Purulia, West Bengal.** The proposal was considered in the 15th EAC meeting held on 27th – 28th June, 2014. The proponent has informed that:

- i. The project was accorded TOR vide letter no. J-11015/288/2010-IA.II(M) dated 03.12.2010. Revised TOR letter no. J-11015/288/2010 -IA.II (M) dated 29.02.2012. Extension of TOR for one year obtained vide letter no. J-11015/288/2010-IA.II (M) dated 11.03.2014.
- ii. The latitude and longitude of the project are 23° 38' N & 23° 41' N and 86° 46' E & 86° 51' E respectively.
- iii. Total Leasehold Area: 2970.0 Ha. Leasehold area of each mine in ha is as follows:

Name of Mine	Production Capacity (MTY)		Lease Hold Area (Ha)	Life of the mine
	Normative	Peak		
Parbelia UG	0.15	0.19	2730	>25 years
Parbelia OC Patch	0.1	0.13		1.5 years
Dubeshwari UG	0.135	0.18	240	> 50 years
Dubeshwari OC Patch	0.1	0.13		2.5 years
Total	0.485	0.63	2970	



iii. The land usage of the project will be as follows:

Sl. No.	LAND USE	Present Land use (in Ha)	Post Mining Land use (in Ha)
1	Infrastructure area	320	200
2	Water Bodies	117	117
3	OB Dump and Quarry	0	0
4	Agriculture	1550	1550
5	Plantation	0	455.54
6	Barren Land	814	478.46
7	Village/Basti	120	120
8	Road	49	49
TOTAL		2970	2970

Post Mining Land use of Core Zone (Cluster Area)

S No.	Description	Land-use (Ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1.	Top-soil Dump	-	-	-	-	-
2.	Excavation	20.2	-	-	-	20.2
3.	Rail /Road	-	-	-	49.0	49.0
4.	Mine Infrastructure/ Built-up	120.0	-	200.0	-	320.0
5.	Village/Basti	-	-	-	120.0	120.0
6.	Barren / Vacant land	315.34	-	-	478.46	793.8
7.	Water bodies	-	-	-	117.0	117.0
8.	Cultivable	-	-	-	1550.0	1550.0
	Total	455.54		249.0	2265.46	2970.0

- iv. The total geological reserve is 35.93 MT. The mineable reserve 14.37 MT. The coal grade is B & Sc. Gr.-I.
- v. The total estimated water requirement is 1660 m³/day. The level of ground water ranges from 1.20 m to 9.55 m.
- vi. The mining would be of Dubeswari UG and proposed OC patch- At present Dubeswari colliery is working the Hijuli seam. For OC patch, Shovel-Dumper combination has been proposed for both coal extraction and OB removal. The present production of the mine is being obtained from one Development district with SDLs and another manual depillaring panel with caving. For OC patch, Shovel-Dumper combination has been proposed for both coal extraction and OB removal and by bord & pillars method for underground mining.
- vii. The OC voids are proposed to be completely backfilled after extraction of available coal reserves and there will be no residual external dump. Total amount of OB to be produced and subsequently backfilled for both the proposed OC patches is 5.9 Mm³.
- viii. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- ix. The **life of mine** is Parbelia UG is more than 25 years; Parbelia OC Patch 1.5 years; Dubeshwari UG is more than 50 years; Dubeshwari OC Patch is 2.5 years.
- x. **Transportation:** Coal transportation in pit: Underground mine - coal tubs at the faces are being hauled by Tugger Haulage & Opencast mine - coal is proposed to be transported from

pit to surface depot by tippers, Surface to Siding: Parbelia UG – Coal produced is transported by endless haulage to hoppers at Parbelia Railway Siding existing near the mine pits. There is no truck transportation & Parbelia OC Patch – Coal produced will be transported to Parbelia Railway siding located a 3 kms away. Dubeswari UG & OC – Coal produced will be transported by covered trucks to Parbelia Railway Siding and loading to siding: Coal is loaded by pay loaders into railway wagons.

- xi. There is no **R & R** involved. There are no PAFs.
- xii. **Cost:** Total capital cost of the project is Rs. 43.24 Crores (Parbelia colliery – Rs. 33.21 crore; Dubeswari colliery – Rs. 10.03 Crore. Environmental Management Cost (capital cost Rs. 3.75 crores, Revenue cost Rs 5.40 crores).
- xiii. **Water body:** Although there is no prominent stream or nallah within the leasehold, the area is drained by a number of ephemeral streams ultimately discharging into the Damodar River.
- xiv. **Approvals:** Application has been made to CGWA for Ground water clearance.
- xv. **Mining plan approval:** All the existing mines within the cluster are taken over mines after nationalization. Mine Closure Plan approval obtained in December, 2013.
- xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xvii. **Forestry issues:** There is no forest land within the cluster boundary.
- xviii. Total **afforestation** plan shall be implemented covering an area of 455.54 ha at the end of mining. Density of tree plantation 1600 saplings/ha of plants.
- xix. There are no **court cases/violation** pending with the project proponent.
- xx. **Public Hearing** was held on 26th December, 2013, in Purulia, West Bengal. The issues raised in the PH includes dust emission; noise pollution; drinking facilities; drainage system; stopping illegal mining in the area etc.

3. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 15th EAC meeting held on 27th – 28th June, 2014 for granting Environmental Clearance. The Ministry of Environment, Forests & Climate Change hereby accords environmental clearance for the above-mentioned **Cluster 5 (2 mixed mines – Parbelia & Dubeswari) a total production capacity of 0.485 MTPA (Normative) and 0.63 MTPA (peak) in an ML area of 2970 ha; Latitude 23° 38' N & 23° 41' N and Longitude 86° 46' E & 86° 51' E) M/s Eastern Coalfields Ltd., located in Raniganj Coalfields district Purulia, West Bengal** under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments thereto subject to the compliance of the terms and conditions mentioned below:

A. Specific Conditions:

- i. The maximum production from the mine at any given time shall not exceed the limit as prescribed in the EC.
- ii. The validity of the EC is for the life of the Mine or as specified in the EIA Notification, 2006, whichever is earlier.
- iii. The open cast voids shall be completely backfilled after extraction of available coal reserves and there shall be no residual external dump.
- iv. Total amount of OB produced shall be backfilled for both the proposed OC mines.
- v. Coal transportation in pit: Underground mine - coal tubs at the faces are being hauled by Tugger Haulage & Opencast mine - coal shall be proposed to be transported from pit to surface depot by tippers, Surface to Siding: Coal produced from Parbelia UG shall be transported by endless haulage to hoppers at Parbelia Railway Siding existing near the mine pits. There shall be no truck transportation. Coal produced from Parbelia OC Patch will be transported to Parbelia Railway siding located a 3 kms away. Coal produced from Dubeswari

UG & OC will be transported by covered trucks to Parbelia Railway Siding and loading to siding. Coal shall be loaded by pay loaders into railway wagons. Transportation of coal from the mine to railway siding should be by mechanically covered trucks.

- vi. The production shall be within the same Mining Lease area.
- vii. The OB shall be completely re-handled at the end of the mining.
- viii. There shall be no void.
- ix. Coal Extraction shall also be optimised in areas where agricultural production is continuing. Some pillars shall be left below the agricultural land. No depillaring & coal extraction should be carried out below habitation, H.T. Lines & beneath road, water bodies
- x. Subsidence shall be monitored closely and if subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement with the landowners.
- xi. Garland drains (size, gradient and length) around the safety areas such as mine shaft and low lying areas 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 sites. Sump capacity shall also provide adequate retention period to allow proper settling of silt material.
- xii. Water sprinkling system shall be provided to check fugitive emissions from loading operations, conveyor system, haulage roads, transfer points, etc. Major approach roads shall be black topped and properly maintained.
- xiii. Mining shall be carried out as per statuette at a safe distance from the river/nallah flowing adjacent to the lease boundary.
- xiv. The land after mining shall be brought back for agriculture purpose.
- xv. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xvi. High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
- xvii. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xviii. The mining in the existing mines should be phased out after expiry of the current mining lease and after reclamation of mined over area. The operating mines may be analysed and monitored for compliance of conditions, bearing with movement of wildlife and until such time they are closed/phased out.
- xix. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xx. Dust mask to be provided to everyone working in the mining area.
- xxi. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xxii. People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area.
- xxiii. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xxiv. The embankment constructed along the river boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side and stabilised with plantation so as to withstand the peak water flow and prevent mine inundation.
- xxv. There shall be no overflow of OB into the river and into the agricultural fields and massive plantation of native species shall be taken up in the area between the river and the project.
- xxvi. 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 provide adequate retention period to allow proper settling of silt material.
- xxvii. 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.
 - xxviii. Crushers at the CHP of adequate capacity for the expansion project 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.
 - xxix. Acid Water Treatment Plant, volume of water to be treated and disposal of brine should be provided.
 - xxx. Mine discharge water outside the ML shall be monitored, particularly for TDS and treated to conform to prescribed levels before discharge into the natural environment.
 - xxxi. Drills shall be wet operated.
 - xxxii. The project authorities shall undertake regular repairing and tarring of roads used for mineral transportation. A 3-tier green belt comprising of a mix of native species shall be developed all along the major approach roads,
 - xxxiii. 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.
 - xxxiv. A Progressive afforestation plan shall be implemented covering an area of 455.54 ha at the end of mining, which includes reclaimed Excavation area (20.2 ha), Mine Infrastructure/ Built-up area (120 ha) and Barren/Vacant land (315.34 ha) and in township located outside the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha. Massive plantation shall be carried out in open spaces in and around the mine and a 3-tier avenue plantation along the main approach roads to the mine.
 - xxxv. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
 - xxxvi. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
 - xxxvii. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
 - xxxviii. No groundwater shall be used for mining operations.
 - xxxix. Of the total quarry area 20.2 ha, the backfilled quarry area of 20.2 ha shall be reclaimed with plantation 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.
 - xl. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. 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 & Climate Change and to the Central Pollution Control Board quarterly within one month of monitoring.
 - xli. Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads, and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures shall be taken to avoid loss of life and material. Cracks shall be effectively plugged with ballast and clayey soil/suitable material.
 - xl.ii. If subsidence is found exceeding the permitted limits, then the landowners shall be adequately compensated with mutual agreement of the landowners.
 - xl.iii. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring indicates a 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.
- xliv. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
 - xliv. 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 specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.
 - xlvi. Land oustees shall be compensated as per the norms laid out R&R Policy of CIL or the National R&R Policy or R&R Policy of the State Government whichever is higher.
 - xlvii. For monitoring land use pattern and for post mining land use, a time series of land use 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&CC and its concerned Regional office
 - xlvi. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest & Climate Change within 6 months of grant of Environmental Clearance.
 - xlvi. The project authorities shall in consultation with the Panchayats of the local villages and administration identify socio-economic and welfare measures under CSR to be carried out over the balance life of the mine.
 - 1. 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 mining technology and scope of working shall be made without prior approval of the Ministry of Environment, Forests & Climate Change.
- ii. No change in the calendar plan of production for quantum of mineral coal 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 PM₁₀, PM_{2.5}, SO₂ and NO_x monitoring. 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, etc carried out at least once in six months.
- iv. Data on ambient air quality (PM₁₀, PM_{2.5}, SO₂ and NO_x) and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly submitted to the Ministry including its concerned Regional Office 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 EPA rules, 1986 shall be furnished as part of 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, 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.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting 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 EPA 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.
- x. 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 and records maintained thereof. The quality of environment due to outsourcing and the health and safety issues of the outsourced manpower should be addressed by the company while outsourcing.
- 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 concerned Regional Office.
- xiii. 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 & Climate Change at <http://envfor.nic.in>.
- xiv. A copy of the environmental clearance letter shall be marked to concern 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 company's website.
- xv. A copy of the environmental clearance letter shall be also 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 Sector and Collector's Office/Tehsildar's Office for 30 days.
- xvi. The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated environmental clearance 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 public domain. The monitoring data of environmental quality parameter (air, water, noise and soil) and critical pollutant such as PM₁₀, PM_{2.5}, SO₂ and NO_x (ambient) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mine office and in corporate office and on company's website.
- xvii. The project proponent shall submit six monthly compliance reports on status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the Ministry, respective Zonal Office s of CPCB and the SPCB.

- xviii. The Regional Office of this Ministry located in the Region 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.
- xix. The Environmental statement for each financial year ending 31 March in For –V is mandated to be submitted by the project proponent for 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 MoEFCC by e-mail.

4. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.

5. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

6. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

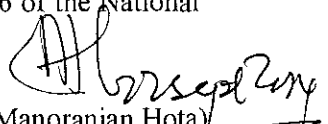
7. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

8. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.

9. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

10. 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 and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. 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.


11. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


(Dr. Manoranjan Hota)
Director

Copy to:

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment & Forests, Government of West Bengal, Secretariat, Kolkatta.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar – 751023, Orissa.
4. Member Secretary, West Bengal State Pollution Control Board, Paribesh Bhawan, 10A, Block LA, Sector-III, Salt Lake City, Kolkatta – 700098.
5. Member Secretary, 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. Dr. R.K. Garg, Advisor, Coal India Limited, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, New Delhi.
8. District Collector, Purulia, Government of West Bengal.
9. IG (Wild life), Ministry of Environment and Forests, New Delhi.
10. Monitoring File 11. Guard File 12. Record File. 13. Notice Board


(Dr. Manoranjan Hota)
Director

