

No.J-11015/372/2013-IA-II (M)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division (Coal Mining)

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3
Dated: 23rd October, 2019

To,

The General Manager (E&F)
M/s Bharat Coking Coal Ltd,
Koyala Bhawan,
District **Dhanbad** (Jharkhand)
Email: envbccl@gmail.com

Sub: Expansion of Cluster-IV (5 mixed mines) Coal Mining Project from 3.706 MTPA (Peak) to 7.34 MTPA (Normative)/9.55 MTPA (Peak) in ML area of 1123.79 ha of M/s Bharat Coking Coal Ltd, District Dhanbad (Jharkhand) – Continuation of Environmental Clearance - reg.

Sir,

This has reference to your online proposal No. IA/JH/CMIN/109351/2019 dated 28th June, 2019 on the above-mentioned subject.

2. The Ministry of Environment, Forest and Climate Change vide letter dated 20th February, 2018, has granted environmental clearance to the Cluster-IV (Group of 5 mixed mines) Coal Mining Project from 3.706 MTPA to 9.55 MTPA of M/s Bharat Coking Coal Limited in Mine Lease area of 1123.79 ha in District Dhanbad, (Jharkhand), subject to compliance of certain terms and conditions, which *inter-alia* included the following:-


'The environmental clearance shall be valid for a period of one year from the issue of this letter. Further extension/continuance of the project shall be based on evaluation of the action taken on each of the observations of this Ministry's Regional Office during their site visit on 22nd August, 2016.

3. In line with the above condition, site inspection was carried out by Ministry's Regional Office at Ranchi on 17-18 May, 2019 to monitor compliance status of the conditions stipulated in the said environmental clearance. The report in this regard has been forwarded by the Regional Office vide letter dated 22nd June, 2019.

4. The proposal was considered by the sectoral Expert Appraisal Committee (EAC) in its meeting held on 22nd August, 2019 and recommended for continuance of the project beyond 16th July, 2019 and validity of environmental clearance dated 16th July, 2018 for a period of 30 years or life of the mine, whichever is earlier. Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval for continuance of the Cluster-IV (Group of 5 mixed mines) Coal Mining Project from 3.706 MTPA to 9.55 MTPA of M/s Bharat Coking Coal Limited in Mine Lease area of 1123.79 ha in District Dhanbad, (Jharkhand), for a period of 30 years or life of the mine, whichever is earlier, under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto,


5. The project proponent shall carryout source apportionment study and establishment of piezometers, within 3 years from the date of issue of this letter.

6. All other terms and conditions stipulated in the said environmental clearance dated 16th July, 2018 shall remain unchanged.


(Sharath Kumar Pallerla)
Scientist F

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi
3. The Additional Principal Chief Conservator of Forests, Regional office (ECZ), Ministry of Environment Forests and Climate Change, Bungalow No. A-2, Shyamali Colony, Ranchi - 834002
4. The Member Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
7. The District Collector, **Dhanbad**, Government of Jharkhand
8. Monitoring File 10. Guard File 11. Record File. 12. Notice Board


(Sharath Kumar Pallerla)
Scientist F

No.J-11015/372/2013 -IA-II (M)
Government of India
Ministry of Environment, Forest and Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3
Dated: 16th July, 2018

To,

The General Manager (E&F)
M/s Bharat Coking Coal Ltd,
Koyala Bhawan,
District **Dhanbad** (Jharkhand) Email: envbccl@gmail.com

Sub: Expansion of Cluster-IV (Group of 5 mixed mines) Coal Mining Project from 3.706 MTPA to 9.55 MTPA of M/s Bharat Coking Coal Limited in Mine Lease area of 1123.79 ha in District Dhanbad (Jharkhand) - Environmental Clearance - reg.

Sir,

This has reference to your letter No. BCCL/GM (Katras) /F-EC/15 4709 dated 2nd December, 2015 along with online proposal No.IA/JH/CMIN/20227/2013 dated 8th December, 2014 and subsequent letters dated 13.1.2015, 15.1.2015, 17.8.2015, 1.12.2015, 1.1.2016, 8.1.2016, 15.2.2016, 3.8.2017, 20.8.2017, 23.8.2017, 31.8.2017, 12.2.2018, 15.2.2018 and 10.3.2018 on the above mentioned subject.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for environmental clearance to expansion of Cluster-IV (Group of 5 mixed mines) Coal Mining Project from 3.706 MTPA to 7.34 MTPA (Normative)/9.55 MTPA (Peak) of M/s Bharat Coking Coal Ltd in mine lease area of 1123.79 ha located in District Dhanbad (Jharkhand).

3. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Sector in its 29th meeting held on 15 -16 January, 2015, 49th meeting on 7-8 January, 2016, 17th meeting on 31st August, 2017, 26th meeting on 15-16 February, 2018 and 30th meeting held on 17-18 May, 2018. The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are as under:-

- (i) Earlier, Cluster-IV Coal Mining project for capacity of 3.706 MTPA in an area of 1123.79 ha was granted environmental clearance on 6th February, 2013. The present proposal is for expansion of the project to implement Jharia Master Plan to deal with the fire in the coal field.
- (ii) The project was accorded ToR vide letter dated 10.02.2014 with exemption from fresh public hearing for preparation of EIA/EMP report.
- (iii) The latitude and longitude of the project are 23°46'31.71" N to 23°49'1.87" N and 86°17'25.11" E to 86°20'13.13" E respectively.
- (iv) Joint Venture: No Joint Venture.
- (v) Employment Generated/To be generated: 5359 persons deployed.
- (vi) Benefits of the project: Providing valuable coking coal to steel plant and coal to power plant; liquidating fire to conserve coal reserve and dovetailing EC condition with Jharia Master Plan; liquidating fire to prevent further spread of fire and safeguard population; Liquidating fire to improve environmental condition of the region.



(vii) Coal Linkage: The coal from the cluster is linked to power plants and steel plants via rail and road.

| Mode | Railway Siding | Linkages | |
|------|----------------|--|-------------------------|
| | | Power Plants | Steel Plants |
| Rail | KDS 2 | Panipat, Paricha, Panki, Uchhahar, BGB, HGJ (Harduaganj), Farakka, PMRG, DTPS, DSTP, Roper, Koderma Pit, Kanti, CTPS BTPS, Budge-Budge, DGTP | Panipat, B.T.I., Nangal |
| Road | | MPL, Moonidih, RGNTPR (Raghunathpur), RNPTS, CTPS | |

(viii) The land usage of the project will be as follows:

Pre-Mining:

| S.N. | LANDUSE | Within ML Area (ha) | Outside ML Area(ha) | TOTAL |
|------|----------------------|---------------------|---------------------|----------------|
| 1. | Agricultural land | 21.22 | 0 | 21.22 |
| 2. | Forest land | 0 | 0 | 0 |
| 3. | Wasteland | 455.27 | 0 | 455.27 |
| 4. | Grazing land | 0 | 0 | 0 |
| 5. | Surface water bodies | 48.42 | 0 | 48.42 |
| 6. | Settlements | 136.87 | 0 | 136.87 |
| 7. | Infrastructure | 134.40 | 0 | 134.40 |
| 8. | Quarry | 294.65 | 0 | 294.65 |
| 9. | OB Dump | 28.89 | 0 | 28.89 |
| 10. | Plantation | 4.07 | 0 | 4.07 |
| | Total | 1123.79 | 0 | 1123.79 |

Post- Mining & Core Area:

| S.N. | Land use during Mining | Land Use (ha) | | | | TOTAL |
|------|------------------------|---------------|--------------|---------------|---------------|----------------|
| | | Plantation | Water Body | Public Use | Undisturbed | |
| 1 | External OB Dump | 28.89 | 0 | 0 | 0 | 28.89 |
| 2 | Top soil Dump | - | - | - | - | 0 |
| 3 | Excavation | 608.95 | 10.76 | 0 | 0 | 619.71 |
| 4 | Roads& Rail | 0 | 0 | 106.52 | 0 | 106.52 |
| 5 | Built up area | 18.52 | 0 | 0 | 72.5 | 91.02 |
| 6 | Green Belt | 0 | 0 | 0 | 4.07 | 4.07 |
| 7 | Undisturbed Area | 9.36 | 0 | 0 | 264.22 | 273.58 |
| | TOTAL | 665.72 | 10.76 | 106.52 | 340.79 | 1123.79 |

(ix) Total geological reserve, mineable reserve and extractable reserve are 228.5 MT, 201.67 MT and 99.607 MT respectively. Thus, percent of extraction would be 49.39 %.

(x) The coal grade is W-IV to ST-II. The stripping ratio in AKWMC is 1:2.54, in Gaslitand is 1:9, in Katras Choitudih is 1: 10.54 and in Salanpur colliery is 1:2.434. The average gradient of the seams is 1 in 5 and thickness of seams is worked to be 1.32 to 8 m.

(xi) Total estimated water requirement for the project is 9678 m³/day. The level of ground water ranges from 0.85-9.65 m. A request in this regard has been made to the CGWB, New Delhi on 26th August, 2017.

(xii) The method of mining would be mixed i.e. with opencast and underground mining technologies.

| | Salanpur Colliery | Katras Choitudih Colliery | Amalgamated Keshalpur West Mudidih Colliery | Angarpathra colliery & Ramkanali colliery | Gaslitand colliery |
|------------------|--|--------------------------------|---|---|--------------------|
| Method of mining | Bord & Pillar (UG) & Shovel- dumper Combination (OC) | Shovel-dumper Combination (OC) | Shovel-dumper in OC and Bord & Pillar in (UG) | Bord & Pillar (UG) | Shovel-dumper (OC) |

(xiii) There are 6 external OB dumps with quantity of 9.903 Mcum in an area of 37.84 ha with height of 30 m above the surface level. There are 4 internal dumps with quantity of 174.38 Mcum in an area of 257.67 ha with height up to ground level.

(xiv) The final mine void would be in an area of 10.76 ha with depth of 20-30 m which is proposed to be converted into a water body. Out of the total quarry area of 603.4 ha, backfilled quarry area of 592.64 ha shall be reclaimed with plantation.

(xv) The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

(xvi) The life of mines are:

| | Salanpur Colliery | Katras Choitudih Colliery | Amalgamated Keshalpur West Mudidih Colliery | Angarpathra colliery & Ramkanali colliery | Gaslitand colliery |
|--------------------|-------------------|---------------------------|---|---|--------------------|
| Life of mine (yrs) | 10 years | 4 years | 20 years | Over 30 years | 3 years |

(xvii) There are 7012 project affected families. R&R cost for the project is Rs.299.22 Crore.

(xviii) Total capital cost of the project is Rs 346.36 Crores. CSR shall be done on actual production basis. An amount of Rs. 191.0 Lakhs will be used for the CSR works per year for the project at the peak production i.e. 9.55 Mt. The fund for CSR will be allocated on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per tonne of Coal production of previous year whichever is higher. Environmental Management Cost shall be provided as per norm.

(xix) Katri Nallah flows within the cluster whereas Khudia Nallah, Jarian Nallah and Kumari Jore are on the west, east and north side respectively of the Cluster-IV and flow southwardly.

(xx) Almost all the mines of BCCL are taken over from the erstwhile private owners. Therefore, the mine does not have structured mining plans. The mining operations are being continued as amalgamated collieries in Cluster-IV. BCCL Board has approved the mining plans & Mine Closure Plans of Salanpur, AKWMC & AARC in 305th meeting held on 12.03.2014 and of Katras choitudih in its 312th meeting held on 13th December, 2014.

(xxi) There are no national park, wildlife sanctuary and biosphere reserves located in 10 km buffer zone.

(xxii) There is no forest area involved.

(xxiii) Total afforestation plan shall be implemented covering an area of 665.72 ha at the end of mining operations. Green belt shall be developed over an area of 105.55 ha having density of tree plantation as 2500 trees/ ha.

(xxiv) Jharkhand State Pollution Control Board had issued closure orders for all the mines of BCCL in August, 2011 and March 2012 stating that BCCL is operating all its mines without the environmental clearances. M/s BCCL filed Writ Petition in the Hon'ble High Court of Jharkhand, Ranchi for legal relief against closure of mines by JSPCB with the fact that M/s BCCL had already initiated the process of seeking environmental clearances in 2008 onwards with the approved cluster concept in 2009.

(xxv) Public hearing for the project was conducted on 21st January, 2012 at Katras Club, Sijua for 3.706 MTPA (Peak) in an area of 1123.79 ha. There being no change in lease hold area for the present project, urgency for controlling the mine fires and on the request of the project proponent, the EAC recommended the ToR providing exemption from fresh public hearing.

(xxvi) Regional office, MOEF&CC, Ranchi has sent the certified Compliance Report to the Ministry vide letter no.103-398/ROR-2015/189 dated 22.08.2016.

(xxvii) Mining Plan and Mine Closure Plan of Cluster-IV was approved by M/s BCCL Board, for a peak capacity of 9.55 MTPA on 3rd August, 2017 and 2nd February, 2018 respectively. The Final Mine Closure plan will be submitted 5 years before final closure.

4. The Expert Appraisal Committee in its 26th meeting held on 15-16 February, 2018 has recommended the project for grant of environmental clearance. Based on recommendations of the EAC and subsequent revision of minutes in its meeting held on 17-18 May, 2018, the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for expansion of Cluster-IV (Group of 5 mixed mines) Coal Mining project from 3.706 MTPA to 9.55 MTPA (Peak) of M/s Bharat Coking Coal Ltd in mine lease area of 1123.79 ha located at Tehsil Baghmara, District Dhanbad (Jharkhand), under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the terms & conditions and environmental safeguards mentioned below:-

(i) The environmental clearance shall be valid for a period of one year from the issue of this letter. Further extension/continuance of the project shall be based on evaluation of the action taken on each of the observations of this Ministry's Regional Office during their site visit on 22nd August, 2016.

(ii) The project proponent shall obtain Consent to establish from the State Pollution Control Boards of Jharkhand for the proposed peak capacity of 9.55 MTPA prior to commencement of the increased production.

(iii) Transportation of coal from face to Coal heap shall be carried out by truck. Further, the coal transportation from Coal heap to Coal Handling Plant shall be carried out through covered trucks.

(iv) Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.

(v) Sufficient coal pillars shall be left un-extracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.

(vi) Solid barrier shall be left below the roads falling within the block to avoid any damage to the roads and no depillaring operation shall be carried out below the township/colony.

(vii) Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.

(viii) Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rain fall.

(ix) The company shall obtain approval of CGWA for use of groundwater for mining operations at its enhanced capacity of 9.55 MTPA.

(x) Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.

(xi) The fire dealing operations by excavating out fire should be expedited.

4.1 The grant of EC is further subject to compliance of standard EC conditions are as under:

(a) Mining

- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act, 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980
- (iv) No change in mining method *i.e.* UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- (v) Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.

(b) Land reclamation and water conservation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by the Ministry of Environment, Forest and Climate Change from time to time shall be submitted to MoEFCC/Regional Office.
- (ii) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/Gol Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (iii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009.
- (iv) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (v) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued

vide S.O.2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

(vi) It shall be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry.

(vii) Post-mining land shall be rendered usable for agricultural/forestry purposes and handed over to the respective State Government, as specified in the Ministry of Coal Guidelines dated 27th August, 2009 for Preparation of Mine Closure Plan.

(viii) Regular monitoring of subsidence movement on the surface over and around the working areas and its 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 beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.

(ix) A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.

(x) Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.

(xi) Native tree species shall be selected and planted over areas affected by subsidence.

(c) Emissions, effluents, and waste disposal

(i) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

(ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(iii) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.



- (iv) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (v) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vi) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (vii) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (viii) Catch and or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (ix) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
- (x) Solid waste/hazardous waste generated in the mines shall be addressed in accordance to the MSW Rules, 2016.
- (xi) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development *etc.* The drains shall be regularly desilted particularly after monsoon and maintained properly.
- (xi) Major approach roads shall be black topped and properly maintained.
- (xii) The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- (xiii) Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The

sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff.

(xiv) Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.

(d) Illumination, noise & vibration

(i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.

(ii) Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted.

(iii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc. as per the guidelines prescribed by the DGMS.

(iv) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Occupational health & safety

(i) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

(ii) Personnel working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(f) Ecosystem and biodiversity conservation

(i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

(ii) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine upto a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation/water resource department in the State Government.



(g) Public Hearing, R&R and CSR

- (i) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (ii) The project proponent shall ensure the expenditure towards socio-economic development in and around the mine every financial year in pursuance of the Corporate Social Responsibility Policy as per the provisions under Section 135 of the Companies Act, 2013.
- (iii) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.11 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (iv) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(h) Corporate environment responsibility

- (i) The Company shall have a well laid down environment policy duly approved by Board of Directors. The environment policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. Also, the company shall have a defined system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders.
- (ii) The project proponent shall comply with the provisions contained in this Ministry's OM dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.
- (iii) A separate environmental management cell both at the project and company headquarter level, with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Board level executive/Head of the Organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (vi) Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- (vii) Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.

(i) Statutory Obligations

(i) This environmental clearance shall be subject to obtaining Forest Clearance from the concerned regulatory authority, Wildlife clearance from the Standing Committee of National Board for Wildlife, as applicable to the project.

(ii) The project proponent shall obtain the necessary permission from the Central Ground Water Authority (CGWA) if applicable.

(iii) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project.

(iv) The project proponent shall obtain Consent to Establish/Operate under the Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from concerned SPCB.

(j) Monitoring of project

(i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ 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. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

(ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

(iii) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.

(iv) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27th May, 2009 issued by the Ministry shall also be referred in this regard for compliance.

(v) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter and water quality once a year, and the data thus collected shall be sent regularly to MoEFCC/RO.

(vi) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

(vii) The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental conditions to the MOEFCC/RO. For half yearly monitoring reports, the data should be monitored for the period of April to September and October to March of the financial years.

(viii) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(k) Miscellaneous

(i) Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

(ii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

(iii) A copy of the environmental clearance shall be marked to concerned Panchayat. A copy of the same shall also be sent to the concerned State Pollution Control Board, Regional Office of the MOEFCC, District Industries Centre and Collector's Office/Tehsildar Office for information in public domain within 30 days.

(iv) The EC 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 public domain.

(v) The project authorities shall advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue 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 also at web site of this Ministry at www.environmentclearance.nic.in and a copy of the same shall be forwarded to the Regional Office.

(vi) The environmental statement for each financial year ending 31st March in Form-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 MoEF&CC by e-mail.

(vii) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during their presentation to the EAC.

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

(ix) 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.

(x) Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB.


5. The proponent shall 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. The Ministry or any other competent authority may stipulate any further condition for environmental protection.

6. The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others'.

7. The concerned State Government shall ensure that no mining operations shall be carried out till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.

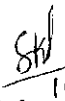
8. This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.

9. This environmental clearance supersedes the earlier environmental clearance granted vide letter no. J-11015/212/2010-IA-II(M) dated 6th February, 2013.


16/7/2018
(S K Srivastava)
Scientist E

Copy to:

1. The Secretary, Ministry of Coal, Shastri Bhawan, New Delhi
2. The Secretary, Deptt of Environment & Forests, Govt of Jharkhand, Secretariat, Ranchi
3. The Additional PCCF, Regional office (ECZ), Ministry of Environment Forests and Climate Change, Bungalow No. A-2, Shyamali Colony, Ranchi - 834002
4. The Member Secretary, Jharkhand State Pollution Control Board, TA Building, HEC Complex, PO Dhurwa, Ranchi
5. The Member Secretary, Central Pollution Control Board, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 32
6. The Member Secretary, Central Ground Water Authority, Ministry of Water Resources, Curzon Road Barracks, A-2, W-3 Kasturba Gandhi Marg, New Delhi
7. The Advisor, Coal India Ltd, SCOPE Minar, Core-I, 4th Floor, Vikas Marg, Laxmi Nagar, N Delhi
8. The District Collector, Dhanbad, Government of Jharkhand
9. Monitoring File 10. Guard File 11. Record File. 12. Notice Board


16/7/2018
(S K Srivastava)
Scientist E

No. J-11015/212 /2010-IA.II (M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi -110003.

To,

Dated: 6th February,, 2013

The General Manager (E&F)
M/s Bharat Coking Coal Ltd.,
Koyala Bhawan,
Dhanbad-826005
Jharkhand

Sub. : Cluster IV (6 mines with production capacity 2.851 MTPA (Normative) 3.706 MTPA (Peak). in a combined ML area of 1123.79 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand excluding Gaslitand Colliery UG -Environment Clearance –reg.

Sir,

This is with reference to letter no.43011/20/2010-CPAM dated 13.05.2010 along with the application for Terms of Reference (TOR) and this Ministry's letter Dated 04.11.2010 granting TOR. Reference may please made to the letter no. BCCL/GM (Env.)/EMP/ F-2012/270 dated 06.04.2012, 12.05.2012, 04.7.2012 and 22.08.2012 for environmental clearance for the above-mentioned project.

2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for grant of Environmental Clearance for new Cluster IV Group of 6 Mines (Four are operating mines namely **Salanpur Colliery UG, Katras Choitudih Colliery UG , Amalgamated Keshalpur & West Mududih UG and OC (mixed mine), Amalgamated Angarpathra & Ramkanali colliery UG. The Gaslitand colliery UG is closed.** The proponent has informed that:

- i. This proposal does not involve increase in lease hold area, change in technology or change in product mix in the mines.
- ii. The area has undulating topography 6 mines of which 3 are UG mines and 1 mixed (OC and UG) in operation, and one UG mines is closed for production in a combined ML area of **1123.79 ha** and production capacity of 2.851MTPA (Normative) 3.706 MTPA (**peak**). as given below:

| Cluster No. IV mines | | | | |
|----------------------|---------------------------------|----------------------------|-------|---------------------|
| S.N. | Name of mines | Production Capacity (MTPA) | | Leasehold area (ha) |
| | | Normative | Peak | |
| 1. | Salanpur Colliery UG | 0.15 | 0.195 | 177.49 |
| 2. | Katras Choitudih Colliery UG | 0.22 | 0.286 | 228.00 |
| 3. | a) Amalgamated Keshalpur & West | 0.19 | 0.247 | 325.00 |

| | | | | |
|----|---|--------------|--------------|----------------|
| | Mududih UG | 2.00 | 2.6 | |
| 4. | b) Amalgamated Keshalpur & West Mududih OC | | | |
| | Amalgamated Angarpathra & Ramkanali colliery UG | 0.291 | 0.378 | 254.64 |
| 5. | Gaslitand Colliery UG (Closed for Production) | 0.00 | 0.00 | 138.66 |
| | Total | 2.851 | 3.706 | 1123.79 |

| LAND USE OF CLUSTER IV | | | | |
|------------------------|--------------------------------------|------------------------------|-------------------------------|---------------------------|
| S.No | Type Land Use | Present Mining Land Use (ha) | Proposed Mining Land Use (ha) | Post-Mining Land Use (ha) |
| 1. | Running quarry | | | |
| | Backfilled | 71.63 | 71.63 | 0.00 |
| | Not Backfilled | 31.68 | 31.68 | 0.00 |
| 2. | Abandoned quarry | | | |
| | Backfilled | 14.26 | 0.00 | 0.00 |
| | Not Backfilled | 87.48 | 87.48 | 0.00 |
| 3. | External OB dump | 14.82 | 14.82 | 0.00 |
| 4. | Service building/mine infrastructure | 17.02 | 17.02 | 17.02 |
| 5. | Coal dump | 4.36 | 4.36 | 0.00 |
| 6. | Homestead land | 132.71 | 132.71 | 132.71 |
| 7. | Agriculture land | 21.22 | 21.22 | 21.22 |
| 8. | Forest land | 0.00 | 0.00 | 0.00 |
| 9. | Plantation/reclamation | 74.67 | 88.93 | 794.09 |
| 10. | Water body | 48.31 | 48.31 | 48.31 |
| 11. | Barren land | 495.19 | 495.19 | 0.00 |
| 12. | Rail, Road etc | 106.52 | 106.52 | 106.52 |
| 13. | Others | 3.92 | 3.92 | 3.92 |
| | Total | 1123.79 | 1123.79 | 1123.79 |

- iii. The area is drained by Katri Nala which flows across the block and joins Khudiya Nala towards the south-west of the block. River Damodar flows at a distance of 7.5 km and joins River Barakar in the East. No nala diversion is proposed.

| Major Project Parameters of Cluster IV Mines | | | | | | |
|--|----------------------|------------------------------|------------------------------------|-------------------------------------|-----------------------|-------|
| Name of mines | Salanpur Colliery UG | Katras Choitudih Colliery UG | West Mududih & Keshalpur UG and OC | Angarpathra & Ramkanali colliery UG | Gaslitand Colliery UG | Total |
| Life of mine | >30 years | >30 years | >30 years | >30 years | Closed mine | |
| Method of mining | Bord & Pillar | Bord & Pillar | Shovel-dumper combination | Bord & Pillar | - | |

| Details of Rehabilitation in Cluster IV | | | | | | |
|---|-----------------------------------|--|--|--|--|--|
| S.N. | Parameter | Details | | | | |
| 1 | Total OB available | 33.45 Mm ³ | | | | |
| 2. | Total Unstable Sites | 51 no. including 3 active fires | | | | |
| 3. | Total unstable Areas | 1078829 sq. m including 358270 sq.m fire area | | | | |
| 4. | No. of Houses to be rehabilitated | 7012 no. as per JAP | | | | |
| 5. | Land for Resettlement | 7.728 ha (BCCL land) 14.23 ha (Non-BCCL land) | | | | |
| 6. | Cost of rehabilitation | Rs 26274 lakhs | | | | |
| 7. | Total cost of fire dealing | Rs 3499 Lakhs | | | | |

| | | | | | | |
|-------------------------------|-------|--------|-----------------------------------|-------|-------|-------|
| | | | in OC & Bord & Pillar in UG | | | |
| Production in (1993-94) in MT | 0.227 | .0161 | 1.294 | 0.604 | 0.074 | 2.380 |
| Production in 2008-09 | 0.121 | 0.596 | 1.768 | 0.201 | 0.00 | 2.180 |
| Production in 2011-12 (MT) | 0.071 | 0.0466 | 2.115 | 0.156 | 0 | 2.389 |
| Proposed peak Production | 0.195 | 0.286 | 3.706 | 0.378 | - | - |

| Major Environmental Issues of Cluster-IV | | |
|--|--|--|
| S.N. | Issues | Mitigation measures and Benefit |
| 1. | Ext. OB Dumps (49.33 ha) | External OB dump will accommodate 28.96 Mm ³ of OB and the rest 16.5Mm ³ OB would be dumped internally plantation would be carried out on both external and internal dump. |
| 3. | Fire /Unstable area 3 site with 358270 Sq km | Extraction of fire and filling with cohesive soil at the cost of Rs 34.99 crores. |
| 4. | Loss of coal (10% locked in barriers) | Recover 25.69 MT from barriers |
| 5. | Reclamation /Mine closure | 10 ha plantation carried out every year. (Funds allocated for mine closure as per MOC guidelines and adopted by BCCL @Rs 1 lakhs /ha in case of U/G mine and Rs 6 lakhs/ha in case of OCP mines)A total of Rs 3298.56 lakhs has been earmarked for mine closure of the cluster). |
| 6. | CSR for a total of Rs. 142.55 lakhs per year@ Rs 5/T of coal | To address socio-economic issues. |

- iv. The peak water requirement of Cluster-IV would be 6786 m³/day (1226 m³/day for mining operations and 5560m³/day for domestic).
- v. The depth of the final mine void would be 15-20m in an area of 139.23 ha at the end of mining. Ground water level is in the range from 0.70-11.70 m bgl during pre-monsoon

and 0.5-6.55 m bgl during post-monsoon in the core zone. The existing mining void is in 119.16 ha area with 15-20 mt depth. There will be no void at the end of mining. it was informed that Salanpur Underground Mine of Katras area of BCCL is being operated by Bord & Pillar method of mining in seam IV, III&II and Opencast mine by Shovel-dumper combination.

- vi. The proposed transportation for cluster –IV would be that the transportation for Salanpur Colliery UG of 0.15 MTY is from Sijua existing siding at the distance of 6.652 km and proposed siding would be at Salanpur siding located at the distance of 0.837 km from the mines. For the Katras Choitudih Colliery UG 0.22 MTY, the coal transportation is presently from Katras Choitudih existing siding at the distance of 0.944 km would remain same. For the proposed Amalgamated Keshalpur & West Mududih OC, 2 MTY coal transportation from Sijua existing siding at the distance of 3.791km distance would be reduced to 2.820 km from same siding and for the Amalgamated Keshalpur & West Mududih UG, 0.19 MTY coal transportation from Sijua existing siding at the distance of 3.4 km distance would be reduced to 2.429 km from same siding. For the Amalgamated Angarpathra & Ramkanali colliery UG, 0.291 MTY coal transportation is from Sijua existing siding at the distance of 1.712 km distance will be reduced to 0.653 km from same siding. After 15 years in Phase –II, the coal transportation would be mainly by Conveyor to the railway siding at Tetulmari and loading would be by rapid loading system. Presently the transportation of coal is by road upto the railway siding.
- vii. Total 45.5 Mm³ of OB will be generated from one opencast mine (Amalgamated Keshalpur & West Mududih OCP) and shall be simultaneously internally dumped into the quarry. The existing OB dump spreads over 14.82 ha of area consisting of 2.96Mm³. The OB material shall be liquidated and internally dumped in the post-mining stage upto the ground level and plantation will be developed over them. There shall not be any external dump in the post-mining stage. 119.16 ha of voids in the existing as well as abandoned quarries shall be backfilled with OB material in the post-mining stage.
- viii. 48.31 Ha of the existing water body will continue as water body in the post mining stage. Top soil will be spread over the dumps in uniform thickness in post mining stage. Total area of 720.24 ha is to be brought under plantation by planting 1797000 nos of plants at the end of mining.
- ix. As per subsidence, slope and tensile strain studies over the area due to coal extraction in Underground mining. There would be no subsidence and tensile strain is 2.72mm/m and 3.06mm/m as the values are within prescribed limit. However, in Amalgamated Keshalpur & West Mududih UG, the tensile strain would be 21.82 mm to 66.69 mm/m which has to be monitored.
- x. R&R is involved. Out of 595 unstable sites identified in the Master Plan, 51sites consisting of 7012 no. PAF's are affected in this cluster. The affected families will be rehabilitated in adjacent non-coal bearing area at a cost of Rs. 26274 lakhs. The people would be rehabilitated in colonies, which fall in Nagarikalan, Pokerbera, Kolipur, Pocheriand Darida, Tilatanr, Bamkunda, Jursabad, Khrya, Mahanpur, Damodarpur, Mouzas. The Capital cost of R&R would be Rs 26274 lakhs and the annual recurring cost would be Rs 328.55 lakhs. The fires and rehabilitation of affected families from fire and subsidence areas within the cluster would be carried out in a phase wise manner.
- xi. All the mines of the clusters are pre-nationalization mines. Therefore, no mining plan is existing.
- xii. It was informed that Cluster-IV falls in Dhanbad critically polluted area.
- xiii. The CSR Cost would be Rs 142 .55 Lakhs /annum @Rs 5/T of coal. The Capital cost of EMP measures would be Rs 26719.4 lakhs including Rs. 26273.69 lakhs provided under Jharia Action Plan for Cluster-IV. Capital Cost of the project Rs. 191.188 Crores.

- Company has adopted “Corporate Environmental Policy” which has been approved by its Board of Directors on 21.04.2012.
- xiv. It was further stated that the Jharia Action Plan, which consists of all fire dousing projects/plans had been surveyed by DGMS and DGMS is also the monitoring and scrutinizing agency constituted by the Hon’ble Supreme Court of India under the WP(PIL) 387/1997 i.e. Haradhan Roy Vs UOI. It was clarified that any new scheme of fire dousing would need the approval of DGMS.
- xv. The Public Hearing was held on 21.01.2012.

3. This is a violation case. As per the Office Memorandum dated 12.12.2012, issued by the Ministry of Environment and Forests, with regard to the consideration of proposals for ToR/Environment clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/EIA notification, 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. In this case, the Board’s resolution has been received. As regards credible action, Jharkhand State Pollution Control Board, has issued directions of closure of collieries of M/S Bharat Coking Coal Limited under section 31A & 33A of Air (Prevention and Control of Pollution) Act, 1981 & Water (Prevention and Control of Pollution) Act, 1974 respectively for operating without obtaining Environmental Clearance. M/s BCCL has filed a Writ Petition (No. 4944/11) challenging the Board’s directions of closure. The Jharkhand High Court has passed interim order on 25.08.2011 that “Till then, status quo, as on today, shall be maintained by the parties” and passed order on 18.01.2012 that “Until further orders, the interim order dated 25.08.2011 shall continue”. In the light of interim orders of the Jharkhand High Court, the State Pollution Control Board is seeking legal opinion for initiating legal action against the collieries of BCCL in the Court of Law in terms of the OM of the MoEF. The State Government has been asked to expedite taking legal opinion and taking action under intimation to the MoEF.

4. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 53rd meeting held on 16-17 July, 2012 for granting Environmental Clearance. 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 **Cluster IV (6 mines with production capacity 2.851 MTPA (Normative) 3.706 MTPA (peak). in a combined ML area of 1123.79 ha) excluding Gaslitand Colliery UG of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand** under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the following specific conditions, in addition to the general conditions as mentioned below:

A. Specific Conditions:

- (i) The maximum production from one opencast section in the cluster shall not exceed beyond that for which environmental clearance has been granted for the cluster IV as below:

| Cluster No. IV mines | | | | |
|----------------------|---|----------------------------|--------------|---------------------|
| S.N. | Name of mines | Production Capacity (MTPA) | | Leasehold area (ha) |
| | | Normative | Peak | |
| 1. | Salanpur Colliery UG | 0.15 | 0.195 | 177.49 |
| 2. | Katras Choitudih Colliery UG | 0.22 | 0.286 | 228.00 |
| 3. | a) Amalgamated Keshalpur & West Mududih UG | 0.19 | 0.247 | 325.00 |
| | b) Amalgamated Keshalpur & West Mududih OC | 2.00 | 2.6 | |
| 4. | Amalgamated Angarpathra & Ramkanali colliery UG | 0.291 | 0.378 | 254.64 |
| 5. | Gaslitand Colliery UG (Closed for Production) | 0.00 | 0.00 | 138.66 |
| | Total | 2.851 | 3.706 | 1123.79 |

- (ii) The measure to identify in the Environmental Plan for Cluster- IV groups of mine and the conditions given in this environmental clearance letter shall be dovetailed to the implementation of the Jharia Action Plan.
- (iii) The proponent shall prepare time -series maps of the Jharia Coalfields through NRSA to monitor and prevent fire problems in the Jharia Coalfields by Isothermal mapping /imaging and monitoring temperatures of the coal seams (whether they are close to spontaneous ignition temperatures) and based on which, areas with potential fire problems shall be identified. Measures to prevent ingress of air (Ventilation) in such areas, to prevent restart fresh/spread fires in other areas including in mines of cluster IV shall be undertaken. Expertise available internationally could also be utilized for control of fire in Jharia Coalfields and for their reclamation and to further minimize time for fire and subsidence control. Monitoring of fire should be carried out regularly.
- (iv) Underground mining should be taken up after completion of reclamation of Opencast mine area after 15 years.
- (v) 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.
- (vi) The rejects of washeries in Cluster –IV should be send to FBC based plant.
- (vii) No mining shall be undertaken where underground fires continue. Measure shall be taken to prevent/ check such fire including in old OB dump areas where the fire could start due to presence of coal /shale with sufficient carbon content.
- (viii) There shall be no external OB dumps. OB produce from the one OC Patch of cluster IV will be 45.5 Mm³. OB from one OCP patches in mixed mine shall be backfilled. At the end of the mining there shall be no void and the entire mined out area shall be re-vegetated. Areas where opencast mining was carried out and completed shall be reclaimed immediately thereafter.
- (ix) A detailed calendar plan of production with plan for OB dumping and backfilling (for OC mines) and reclamation and final mine closure plan for each mine of cluster-IV shall be drawn up and implemented.

- (x) Mining shall be carried out as per statuette from the streams/nalas flowing within the lease and maintaining a safe distance from the Nalas flowing along the lease boundary. A safety barrier of a minimum 60m width shall be maintained along the nalas/water bodies. The small water bodies in OC shall be protected to the extent feasible and the embankment proposed along water body shall be strengthened with stone pitching taking into account the highest flood level, based on past data, so as to guard against mine inundation. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 3 m higher than the HFL. The embankment to be constructed by OB /solid waste shall be strengthened with stone pitching. Slope stability of the embankment shall be done by planting suitable grass and shrubs using native species selected from the study area.
- (xi) Active OB dumps near water bodies and rivers should be rehandled for backfilling abandoned mine voids. However, those which have been biologically reclaimed need not be disturbed.
- (xii) Thick green belt shall be developed along undisturbed areas, mine boundary and in mine reclamation. During post mining stage, a total of 794.09 ha area would be reclaimed. The total additional area under plantation would be 719.42 ha (101.7 ha abandoned quarry area, 103.31 ha active quarry area, 14.82 OB dump outside quarry area, 4.36 ha service building /mine infrastructure area /coal dump etc, 160.25 ha green belt around OCP, 334.94 ha barren area), by planting 17,98,550 plants at a total cost of Rs 396.41 lakhs.
- (xiii) The road should be provided with avenue plantation on both side as trees act as sink of carbon and other pollutant.
- (xiv) Specific mitigative measures identified for the Jharia Coalfields in the Environmental Action Plan prepared for Dhanbad as a critically polluted area and relevant for Cluster- IV shall be implemented.
- (xv) The locations of monitoring stations in the Jharia Coalfields should be finalized in consultation with the Jharkhand State Pollution Control Board. The Committee stated that smoke/dust emission vary from source to source (fuel wood, coal, flyash from TPPs, silica from natural dust, etc) and a Source Apportionment Study should be got carried out for the entire Jharia Coalfields. Mineralogical composition study should be undertaken on the composition of the suspended particulate matter (PM₁₀ and PM_{2.5}) in Jharia Coalfields and also quantified. These studies would help ascertain source and extent of the air pollution, based on which appropriate mitigative measures could be taken.
- (xvi) The Transportation Plan for conveyor-cum-rail for Cluster-IV should be dovetailed with Jharia Action Plan. Road transportation of coal during Phase-I should be by mechanically covered trucks, which should be introduced at the earliest. The Plan for conveyor-cum-rail for Cluster-IV should be dovetailed with Jharia Action Plan. The Committee desired that road transportation of coal during phase-I should be by mechanically covered trucks.
- (xvii) A study should be initiated to analyse extent of reduction in pollution load every year by reducing road transport
- (xviii) R&R of 7012 nos of PAF's involved. They should be rehabilitated at cost of Rs 26274 lakhs as per the approved Jharia Action Plan.
- (xix) Regular monitoring of groundwater level and quality of the study area 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 including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control Board/SPCB quarterly within one month of monitoring. Rainwater harvesting

- measures shall be undertaken in case monitoring of water table indicates a declining trend.
- (xx) 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.
 - (xxi) Sufficient coal pillars shall be left unextracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.
 - (xxii) High root density tree species shall be selected and planted over areas likely to be affected by subsidence.
 - (xxiii) Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.
 - (xxiv) Solid barriers shall be left below the roads falling within the blocks to avoid any damage to the roads.
 - (xxv) No depillaring operation shall be carried out below the township/colony.
 - (xxvi) A detailed CSR Action Plan shall be prepared for Cluster IV group of mines. Specific activities shall be identified for CSR for the budget of Rs 142 .55 Lakhs /annum @ Rs 5/T of coal provided for CSR and Rs. 5/T of coal as recurring expenditure. The 416.98 ha of area within Cluster IV ML existing as waste land and not being acquired shall be put to productive use under CSR and developed with fruit bearing and other useful species for the local communities. Third party evaluation shall be got carried out regularly for the proper implementation of activities undertaken in the project area under CSR. Issue raised in the Public Hearing shall also be integrated with activities being taken up under CSR. The details of CSR undertaken along with budgetary provisions for the village-wise various activities and expenditure thereon shall be uploaded on the company website every year. The company must give priority to capacity building both within the company and to the local youth, who are motivated to carry out the work in future.
 - (xxvii) Details of transportation, CSR, R&R and implementation of environmental action plan for the clusters-IV should be brought out in a booklet form within a year and regularly updated.
 - (xxviii) Mine discharge water shall be treated to meet standards prescribed standards before discharge into natural water courses/agriculture. The quality of the water discharged shall be monitored at the outlet points and proper records maintained thereof and uploaded regularly on the company website.
 - (xxix) No groundwater shall be used for the mining activities. Additional water required, if any, shall be met from mine water or by recycling/reuse of the water from the existing activities and from rainwater harvesting measures. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry to dewatering of mine.
 - (xxx) The void shall be converted into a water reservoir of a maximum depth of 15-20 m and shall be gently sloped and the upper benches of the reservoir shall be stabilised with plantation and the periphery of the reservoir fenced. The abandoned pits and voids should be backfilled with OB and reclaimed with plantation and or may be used for pisciculture.
 - (xxxi) Regular monitoring of groundwater level and quality of the study area 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 including Arsenic and Fluoride during the month of May. Data thus collected shall be submitted to the Ministry of Environment & Forest and to the Central Pollution Control

- Board/SPCB quarterly within one month of monitoring. Rainwater harvesting measures shall be undertaken in case monitoring of water table indicates a declining trend.
- (xxxii) ETP shall also be provided for workshop, and CHP, if any. Effluents shall be treated to confirm to prescribed standards in case discharge into the natural water course
 - (xxxiii) The location of monitoring stations in the Jharia coalfield should be finalized in consultation with Jharkhand State Pollution Control Board.
 - (xxxiv) 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 and its Regional office at Bhubaneswar.
 - (xxxv) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests five year before mine closure for approval. Habitat Restoration Plan of the mine area shall be carried out using a mix of native species found in the original ecosystem, which were conserved in-situ and ex-situ in an identified area within the lease for reintroduction in the mine during mine reclamation and at the post mining stage for habitat restoration.
 - (xxxvi) Implementation of Final Mine Closure Plan for Cluster IV, subject to obtaining prior approval of the DGMS in regard to mine safety issues.
 - (xxxvii) A separate management structure for implementing environment policy and socio-economic issues and the capacity building required in this regard.
 - (xxxviii) 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 and Forests.
- (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 Regional Office at Bhubaneswar 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 Regional Office at Bhubaneswar.
- (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 at <http://envfor.nic.in>.
- (xiv) A copy of the environmental clearance letter shall be marked to concern Panchayat/ZilaParishad, 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 shall 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 at 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.
 - (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 MoEF by E-mail
5. The Ministry or any other Competent Authority may stipulate any further condition(s) for environmental protection.
 6. 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.
 7. 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.
 8. The Environmental Clearance is subject to the outcome of the Writ Petition filed by M/S Bharat Coking Coal Limited (BCCL) in response to the closure orders issued by the Jharkhand State Pollution Control Board which is pending in the Jharkhand High Court.

(Dr. Manoranjan Hota)
Director

Copy to:

1. The 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, Chandrashekarapur, 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.
7. District Collector, dist. Dhanbad Government of Jharkhand.
8. Monitoring File 9. Guard File 10. Record File

(Dr. Manoranjan Hota)
Director