

No. J-11015/1129/2007-IA.II (M)
Government of India
Ministry of Environment, Forests & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jor Bagh Road,
New Delhi-110003
Dated: 22nd August, 2014

To,

The General Manager
M/s South Eastern Coalfields Ltd.,
Bilaspur,
Chhattisgarh.

Sub. : Manikpur Open Cast Mine Expansion. Project (from 2.0 MTPA to 3.5 MTPA in an ML area of 1,018.925 ha; Latitude 22° 19'00" to 22° 19'30" N and Longitude 82°42'30" to 82°44'30"E of M/s South Eastern Coalfield Limited, in dist. Korba, Chhattisgarh – Environment Clearance - reg.

Sir:

This is with reference to letter no. 43011/116/2007-CPAM dated 18.10.2007 with the application for Terms of Reference (TOR) and this Ministry's letter dated 12.5.2008 and the modified ToR dated 16.06.2008 granting TOR. Reference is also invited to the letter no SECL/BSP/Env./Manikpur OC/1651 dated 11.01.2010 and subsequent letter no. dated 05.11.2013 for Environmental Clearance and Board's Resolution vide latter no SECL/BSP/CAD/13-14/614 dated 20.1.2014 for not repeating the violation 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 **Manikpur Open Cast Mine Expansion. Project (from 2.0 MTPA to 3.5 MTPA in an ML area of 1,018.925 ha; Latitude 22° 19'00" to 22° 19'30" N and Longitude 82°42'30" to 82°44'30" E) of M/s South Eastern Coalfield Limited, in dist. Korba, Chhattisgarh.** The proposal was considered in the 5th EAC held on 12th - 13th December, 2013 and 9th EAC meeting held on 20th - 21st January, 2014. The proponent has informed that:

- i. ToR was accorded vide letter no. J-11015/1129/2007-IA.II (M) dated 16.06.2008.
- ii. Manikpur was under moratorium which has been lifted since 17.9.2013
- iii. Presently, the mining is being done with the Consent under the Water Act, 1974 and Air Act, 1981.
- iv. The latitude and longitude of the project are 22° 19'00" to 22° 19'30" N and Longitude 82°42'30" to 82°44'30" respectively.
- v. The land usage of the project will be as follows:



Manikpur_EC

Pre-mining:

Sl. No.	Land Use	Area In Ha
1	Government Land	111.170
2	Tenancy Land	531.856
3	Forest Land	375.899
	Total Land	1,018.925

Post-mining:

Infrastructure & Rehabilitation Site	88.510 Ha
Internal Ob Dump – Reclaimed	189.585 Ha
External Ob Dump – Reclaimed	187.700 Ha
Green Belt	5.000 Ha
Void / Water Body	321.350 Ha
Safety Zone	226.780 Ha
Total Land	1,018.925 Ha

Core area:

S.No.	Purpose	Mining Lease in Ha				Total
		Govt.		Private		
		Forest	Other	Agriculture	Other	
1.	Area to be excavated	310.001	13.953	80.29	NIL	404.244
2.	Storage for top soil	NIL	NIL	10.00	NIL	10.00
3.	Over Burden / dump	4.12	97.217	361.736	NIL	463.073
4.	Mineral Storage	2.18	NIL	4.95	NIL	7.13
5.	Infrastructure (Work shop, Administrative Building)	NIL	NIL	6.4	NIL	6.4
6.	Road	NIL	NIL	1.09	NIL	1.09
7.	Railways	NIL	NIL	1.24	NIL	1.24
8.	Green Belt	NIL	NIL	NIL	NIL	NIL
9.	Tailing Pond	NIL	NIL	NIL	NIL	NIL
10.	Effluent Treatment Plant	NIL	NIL	0.4	NIL	0.4
11.	CHP	0.64	Nil	1.6	NIL	2.24
12.	Township Area	NIL	NIL	19.46	NIL	19.46
13.	Others (specify)	58.958	NIL	44.69	NIL	103.646
	Total	375.899	111.17	531.856	NIL	1018.925

MINE PARAMETERS

DETAILS	VALUE
Overall pit slope	37 Degrees
Slope of individual bench	70 Degrees

Usual height of OB bench	10 Meters
Usual width of non-working bench	20 Meters
Usual width of working bench	30 Meters
Specific gravity of coal	1.67
Specific gravity of OB	2.40

- vi. The total geological reserve is 117.23 MT. The mineable reserve 101.50 MT; extractable reserve is 101.50 MT. The per cent of extraction would be 90 %.
- vii. The coal grade is G grade. The stripping ratio is 2.68 cum/te of coal. The average Gradient is 9-27 Degree. There will be three seams with thickness ranging from 4.44 to 32.70 m.
- viii. The total estimated water requirement is 1.212 MLD. The level of ground water ranges from 0.72m to 11.58m. A void of 321.350ha with depth of about 300mtrs, which is proposed to be converted into water body.
- ix. The Method of mining would be Opencast with Shovel – Dumper
- x. There are two external OB Dumps covering an area 187.70 ha with the height upto 90m and 120m. The quantity will be 103.20 Mm³. There are three internal dumps covering an area 189.585 Ha with the height 90 m and 120 m. The quantity will be 169.10 m. There final mine void of 321.35 Ha with a depth of 300 m
- xi. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xii. The **life of mine** is 30 years.
- xiii. **Transportation:** Coal transportation in pit by tippers, Surface to Siding by tippers and siding to loading.
- xiv. There is no R & R involved. 100 PAFs may be required to rehabilitate in phase II, i.e. beyond 1018.925 Ha.
- xv. **Cost:** Total capital cost of the project is Rs. 321.5 Crore (Existing Rs.183.5 Crores, proposed Rs. 138.0 Crores). CSR Cost Rs 100 lakhs. R&R Cost Rs 132 lakhs. Environmental Management Cost 557.17 Lakhs.
- xvi. **Water body:** The Hasdeo River, is flowing from North to South in the Western side, Kachandi Nullah, other first order streamlets.
- xvii. **Approvals:** The Manikpur Opencast Expansion Project 3.5 MTY was approved by the SECL Board vide REF.NO.SECL/BSP/BD.SECY/185BM/09/284 dated 18.12.09. Approval of mine closure was obtained on 18.05.2013.
- xviii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xix. **Forestry issues:** The forest land involved for mining is 375.899 ha. Stage-I FC was issued vide letter no. F. No. 8-9/2006- FC Dated 14.06.2006 for 181.177 ha and vide F.No.8-9/2006-FC-pt (vol.I) Dated 31.12.2009 for 194.728 ha.
- xx. Total **afforestation** plan shall be implemented covering an area of 382.285 ha at the end of mining. Green Belt will be developed 5.00 ha where 2500 trees /ha shall be planted.
- xxi. There is no court cases/violation pending with the project proponent.
- xxii. The **Public Hearing** for the project was held on 27.08.2009 at Tehsil Office campus Korba, Distt.-Korba Chattisgarh. The issues raised during the public hearing include for making provisions of employment, facilities such as electric, water, road, medical, education, land reclamation etc.

3. The proponent further informed that:

- i. The management of overburden as per mine closure plan shall be as follows:



Year	Coal production (Mtes)	OB removal (Mcum)	Dump Plan (Mcum)		Dump Area (Ha.)		Dump area available for reclamation (Ha)		No. of plantation /2500 Nos/Ha.
			External	Internal	External	Internal	External	Internal	
1st Year	2.5	7.75	4.45	3.30	12.7	4.0	-	-	Nil
2 nd - 10 th Year Cumulat.	31.0	85.0	49.7	35.3	48.0	79.0	-	-	Grass to be provided
11 th - 20 th year cumulat.	35.0	100.0	100.0	-	175.0	-	200.0	-	500000
21 st - 30 th year cumulat.	33.0	79.55	79.55	-	144.67	-	263.07	-	657675

Final land use details with reference to mine closure plan are as follows:

Sl. No	Particulars	Quarry (After backfilling & reclamation)	Safety zone as green belt	Infrastructure, Colony etc.	R.R Site	Others	Grand Total
1	Afforested area	169.140	3.700	-	-	290.000	462.840
2	Cultivated land	-	-	-	-	-	-
3	Final Void (water body)	321.000	-	-	-	-	321.000
4	Other	-	-	-	-	191.675	112.565
5	Built-up Area	-	-	35.250	8.160	-	43.410
Total Land for the project		490.140	3.700	35.250	8.160	481.675	1018.925

- ii. The seam gradient at Manikpur OC is around 1 in 3 to 1 in 5. at such steep slope forming of stable dump is not feasible. Even if dump is formed with artificial measures, it will pose a constant risk to the safety of the workers while the mine remains in operation. Based on the above fact, the entire OB has been proposed to be dumped outside the quarry. Total volume of OB generated will be 272.30 mcum. Hence, bringing back such high volume is not practically possible. Due to steep seam, since inception, the mine has been planned in such a sequence that OB of a quarry which is in operation, is backfilled into a quarry which is exhausted.
- iii. However, 1.5 -2 mcum of OB can be accommodated in the quarry for the preparation of haul roads, berms, platforms for various installations etc.
- iv. The mine voids of eastern quarry no. 2 & far east quarry after their exhaustion were backfilled by OB of the then operating quarries. Western quarry will be backfilled by mine OB eastern quarry no - 1.
- v. Similarly, eastern quarry no - 1 can be filled with the overburden generated in future while mining the eastern side property. However, rehandling of approx. 2.56 mcum of top soil will be done.

- vi. OB dumps in Manikpur OC have been planned within the already degraded land only i.e. either in already exhausted quarries or above existing dumps.
- vii. Dumps are proposed in 30m tiers with an intervening berm of 30m in between two tiers, thus restricting the overall angle of slope below 26 degrees.
- viii. Considering the observation of EAC, reduction in height of OB dump along the river has been reexamined and the following options are presented:

OPTION-II: If height of OB dump is restricted to 60 mtrs along the river, this will involve degradation of 36 ha of additional virgin land area.

OPTION-III: If the intervening berm between the tiers above 60m and 90m is increased from 30m to 100m, volume of OB dump will be reduced by 2.5 mcum which may be accommodated on the eastern side dump.

- ix. The compliance of NOC of SPCB has been provided.
- x. 2.56 MCum of top soil will be generated in the project and the same will be managed.
- xi. Removed top soil shall be stock-piled in 3-4 mtr layers till such time, the top soil cannot be spread directly over leveled OB dump. Stockpiled materials shall be selectively placed on a stable area, not disturbed, and protected from wind and water erosion, unnecessary compaction, and contaminants which lessen the capability of the materials to support vegetation when redistributed. After the final grading the topsoil would be redistributed in a manner that achieves an approximate uniform stable thickness. If the duration of stacking of top soil exceeds 1 year, the top soil will be suitably amended through manure and organic material to maintain its fertility.
- xii. Stage wise programme of top soil management

Year	OB Removal Mcum	Top Soil Generated Mcum	Top Soil Generated Cumulative, Mcum	Dump Programme Mcum		Area available for reclamation, Ha	Top Soil Used Mcum	Top Soil Used Cumulative Mcum	Top Soil Stored Mcum
				External	Internal				
1 - 5	45.25	0.47	0.47	0.00	45.25			0.00	0.47
6 - 10	47.50	0.47	0.94	32.95	14.55			0.00	0.94
11 - 15	50.00	0.51	1.44	50.00	0.00	100.00	0.81	0.81	0.63
16 - 20	50.00	0.51	1.95	50.00	0.00	75.00	0.61	1.42	0.53
21 - 25	45.50	0.40	2.35	45.50	0.00	75.00	0.61	2.03	0.32
26 - End	34.05	0.21	2.56	34.05	0.00	65.00	0.53	2.56	0.00
Total	272.30	2.56		212.50	59.80	315.00	2.56		

- xiii. CSR activities and expenditures that will be incurred are: In 2011-2012 Rs. 20.55 lakhs; 2012-2013 Rs. 35.50 Lakhs; 2013-14 Rs. 48.20 Lakhs; 2014-15: Rs. 70.00 lakhs; in 2015-16::Rs. 90.00 lakhs which include various activities.
- xiv. The Proponent has stated that the electricity generation from NTPC and to the Chhattisgarh electricity board will be affected and submitted a letter from Chhattisgarh State Power Generation Company has been provided. The requirement of CSEB TPS is 8500t/day i.e. 3.10 mt / annum.
- xv. The moratorium on the project in Korba which was imposed on Korba CEPI area has been lifted with effect from 17.09.2013.

4. The mine has been operating on consent under Water (prevention and Control of Pollution) Act, 1974 and Air (prevention and Control of Pollution) Act, 1981 for a capacity of 2

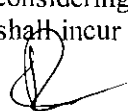
MTPA. The colliery has exceeded the production capacity of the consented capacity.

5. The project proponent, M/s SECL a subsidiary of Coal India Ltd., has been operating on consent under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 for a capacity of 2 MTPA. The colliery has exceeded the production capacity of the consented capacity. The Proponent has submitted the Board's Resolution vide letter no SECL/BSP/CAD/13-14/614 dated 20.1.2014 for not repeating the violation. The proposal was not granted any EC under the EIA Notification, 2006 under the Environment (Protection) Act, 1986 and that the proposal has now only sought EC for its expansion programme. This may not be construed as violation under Environment (Protection) Act, 1986.

6. The Committee has noted that the moratorium has been lifted with effect from 17.09.2013. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 9th meeting held on 20th – 21st January, 2014 for granting Environmental Clearance. The Ministry of Environment, Forests & Climate Change hereby accords environmental clearance for the above-mentioned **Manikpur Open Cast Mine Expansion. Project (from 2.0 MTPA to 3.5 MTPA in an ML area of 1,018.925 ha; Latitude 22° 19'00" to 22° 19'30" N and Longitude 82°42'30" to 82°44'30"E) of M/s South Eastern Coalfield Limited, in dist. Korba, Chhattisgarh** 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 OB be rehandled completely.
- iii. Mine void are to be filled by mine OBs and be brought down to near ground level.
- iv. The top soil is kept separately for use at later date.
- v. The final external OB dump height will be around 60m. and internal dumping will be maximised and eastern quarry 2 ext. O.B. dump will be fully utilised for O.B. dumping to the aforesaid height.
- vi. Sewage treatment be improved. The operating parameters (MLSS & MLVSS) be monitored and regular testing be done. The level of MLSS & MLVSS including F/M ratio is maintained as per Standard Operating Procedure (SOP).
- vii. The CHP conveyor system layout from over eastern Quarry no.2 to across the OB dump be shifted for safety of the men and m/cs and also making available this area for OB dump from active mine.
- viii. Inpit crushing arrangement be installed initially at 150m level in the main Jatraj seam to crush the coal produced from this seam and then transport the same by series of belt conveyors upto the existing CHP and carry the coal from upper Jatraj, E & F seams upto surface by dumpers/trucks through flanks and then will be handled separately in the proposed mine CHP and then transport to siding No. 2 for dispatch by rail.
- ix. An appropriate organization be engaged to examine and study for protective measures required covering shifting any portion of OB dump needed, dump height, pitching work on river side, etc., considering the high flood level (HFL), topography and past rainfall data.
- x. The Proponent shall incur expenditure not less than Rs. 100 lacs per year for the financial



years 2014- 15 and 2015- 16 and w.e.f. from 2016-17 the expenditure on CSR shall be made @ Rs 5/M Ton as per CIL Policy.

- xi. The Proponent should expeditiously take up the matter with the Coal India to create an Environment Cadre for future employment in Coal India and its subsidiaries.
- xii. Coal transportation in pit by tippers, Surface to Siding by tippers and siding to loading.
- xiii. The production shall be within the same Mining Lease area.
- xiv. The OB shall be completely re-handled at the end of the mining.
- xv. The void area will be converted into waterbody. The rest of the area will be back filled upto the ground level and covered with about a meter thick top soil and put to use.
- xvi. Garland drains be provided.
- xvii. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xviii. The land after mining shall be brought back for agriculture purpose.
- xix. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xx. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.
- xxi. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xxii. Dust mask to be provided to everyone working in the mining area.
- xxiii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xxiv. 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.
- xxv. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xxvi. 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.
- xxvii. 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.
- xxviii. OB shall be stacked at two earmarked external OB dumpsite(s) only. The ultimate slope of the dump shall not exceed 28°. Monitoring and management of existing reclaimed dumpsites shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forests & Climate Change and its concerned Regional office on yearly basis.
- xxix. 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.
- xxx. 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.
- xxxi. 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.
- xxxii. Drills shall be wet operated.



- xxxiii. 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.
- xxxiv. 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.
- xxxv. A Progressive afforestation plan shall be implemented covering an area of 382.285 ha at the end of mining, which includes reclaimed External OB dump area (187.700 ha), Internal OB dump area (189.585 ha), and Green belt (5 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.
- xxxvi. An estimated total 272.30 Mm³ of OB will be generated during the entire life of the mine. Out of which 103.20 Mm³ of OB will be dumped in two external OB Dumps an earmarked area covering 187.70 ha of land. 169.10 Mm³ of will be three internal OB dump in covering an area of 189.585 ha. The maximum height of external OB dump for hard OB will not exceed 90 m and that for soft OB shall not exceed 60 m. The maximum slope of the dump shall not exceed 28 degrees. Monitoring and management of reclaimed dump sites shall continue till the vegetation becomes self- sustaining and compliance status shall be submitted to MOEF and its Regional Office on yearly basis.
- xxxvii. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
- xxxviii. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
- xxxix. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
 - xl. No groundwater shall be used for mining operations.
 - xli. Of the total quarry area of 321.35 ha. the backfilled quarry area of NIL ha shall be reclaimed with plantation and a void of 321.35 ha at a depth of 40 m which is proposed to be converted into a water body shall be gently sloped and the upper benches shall be terraced and stabilised with plantation/afforestation 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 peizometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment, Forests & Climate Change and the Central Pollution Control Board quarterly within one month of monitoring.
 - xl. 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.
 - xl. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
 - xl. 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.
- xlvi. 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 concerned Regional office
- xlvi. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forests & 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.
 - i. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
 - ii. 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, PM2.5, SO2 and NOx 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 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 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

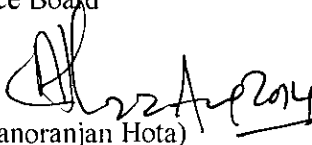
also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEFCC by e-mail.

7. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
8. 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.
9. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
10. 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.
11. 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.
12. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.
13. 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 Chhattisgarh, Secretariat, Raipur.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment, Forests & Climate Change, E-2/240 Arera Colony, Bhopal 462016.
4. Member Secretary, Chhattisgarh State Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, Raipur-Chhattisgarh- 492001.
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, Korba, Government of Chhattisgarh.
9. Monitoring File 10. Guard File 11. Record File. 12. Notice Board


(Dr. Manoranjan Hota)
Director

