

No. J-11015/324/2008-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
CGO complex, Lodi Road,  
New Delhi – 110003  
Dated 05<sup>th</sup> July, 2013

To

Mr. M.M. Ojha,  
GM (Mining),  
M/s DB Power Limited,  
G-3A/4-6 Kamnwala Chambers,  
New Udyog Mandir-2, Mahim (West),  
MUMBAI – 400 016.

**Sub: DurgapurII/Sariya Coal Block (2 MTPA in ML Area of 540.750 ha) open cast mining of M/s DB Power Limited, located in Villages Taraimar, Bayasi, Medarmar, Dharam Colony, & Bayasi Colony in District Raigarh, Chhattisgarh – Environment Clearance-reg.**

Sir,

This is with reference to letter no. DBPL/BSO/2007-08/02 dated 05.07.2008 along with the application for Terms of Reference (TOR) and this Ministry's letter dated 23 October 2008 granting TOR and submitting therewith the final EIA/EMP for Environmental Clearance for the above mentioned subject vide your letter DBPL/MINING/EC/MOEF/21911 and subsequent letters dated 4.10.2011 and 01.11.2011, 10.11.2011, 18.11.2011, 16.12.2011, 06.03.2012, 02.04.2012, 10.04.2012, 28.05.2012, 27.2.2013 and 26.4.2013.

2. The Ministry of Environment & Forests has considered the application. It is noted that the application is for environmental clearance for DurgapurII/Sariya Coal Block (2 MTPA in ML Area of 540.750 ha) open cast mining of M/s DB Power Limited, located in Villages Taraimar, Bayasi, Medarmar, Dharam Colony, & Bayasi Colony in District Raigarh, Chhattisgarh. The proponent has informed that:

- i. Durgapur II/Sariya Coal Mine Block was allotted to M/s DB Power Limited on 6.11.2007 by MOC for linked 2x600MW TPP at village Baradarah, dist. Raigarh as per MOU entered with Govt. of Chhattisgarh.
- ii. The total land requirement is 540.75 ha of which 290.399 ha is forest land, 238.38 ha is agricultural land, 3.642 ha is waste land, 0.542 ha is surface water bodies, and 9.813 ha is others (which totals 542.776 ha) Mining Plan has been approved by MOC on 25.06.2009.
- iii. The proposed land use would be as under:

S.N	Description	As per revised Mine Plan September 2011		
		Area (ha) at the end of		
		5 <sup>th</sup> year	8 <sup>th</sup> year	Mine life
1.	a)Mining/Excavation	112.56	192.5	517.48
	b)Settling pond at surface*	5.00	5.00	0.00
2.	Surface Dump			
	a) Surface Dump Within ML area	96.05	150.00	0.0

	b)Top soil dump	2.00	2.00	0.00
3	Facilities			
	a)Office buildings, coal stockpile etc.	5.5	5.5	0.00
	b) Road	5.00	5.00	2.00
	c) Undisturbed	314.64	180.75	21.27
	<b>Total ML area (ha)</b>	<b>540.75</b>	<b>540.75</b>	<b>540.75</b>

- iv. The mining lease area has been reduced from the original ML area of 693.326 ha to 540.750 ha after the conduct of Public Hearing as there was widespread opposition against the project for acquisition of Dharmajaygarh town which formed a part of the lease and the details of the changes made to the land use of the ML which are as follows:

#### Details of Land Use for Mining Lease

	Land Type	Pre-Public Hearing land (ha)	Post-Public Hearing land (ha)
(A)	Revenue land	423.50	250.351
(B)	Revenue Record Chote Jhar ke Jungle )	56.731	14.971
(C)	Forest Land (Bade Jhar ke Jungle)	134.975	214.595
(D)	Protected Forest land	78.120	60.833
	<b>Total A+B+C+D</b>	<b>693.326</b>	<b>540.750</b>

#### Land use details of mine lease based on revenue record

S.N.	Land use	Area in ha
1.	Agriculture land	236.354
2.	Forest	290.399 (Revenue & PF)
3.	Waste land	3.642
4.	Grazing land	nil
5.	Surface Water body	0.542
6.	Others	09.813
	<b>Total</b>	<b>540.750</b>

- v. Of the total ML area of 540.75 ha, quarry area would be 517.46 ha and an estimated 409.10 Mm<sup>3</sup> of waste (including 1.55 Mm<sup>3</sup> of topsoil) would be generated.
- vi. The rated capacity of coal production is 2 MTPA. Mining would be mechanised using a combination of shovel-dumper and surface miner. Ultimate working depth is 180m which would be reduced to 40m at the post mining stage.
- vii. Grade of coal is D to F.
- viii. The ML is drained by River Mand and its tributaries. No embankment is required as the RL of the mining is higher than the nala.
- ix. An estimated 409.10 Mm<sup>3</sup> of OB generated would be stored in an external OB dump of 100m in an area of 96.05 ha. Partial backfilling would begin during 6<sup>th</sup> year and concurrent backfilling of 412.43 Mm<sup>3</sup> of OB during 8<sup>th</sup> to 35<sup>th</sup> year of mine life. An amount of 72.662 Mm<sup>3</sup> of OB would re-handle to be backfilled in the decoaled void raising the backfilled area to 50m above ground level.
- x. At the post mining stage, 299.43 ha of the decoaled void of 540.75 ha would be reclaimed as a water body (241.32 ha) and the balance backfilled and reclaimed with plantation. The depth of the final void of 180m to 55m.

- xi. The proponent informed that the height of the 2 external OB dumps were 100m, the height of one OB towards East Pit has been subsequently reduced to 60m in an area of 20ha but the height of West Pit would remain the same i.e.100m in an area of 150 ha.
- xii. There would be no change in area of OB dumps. An estimated 93.77Mm<sup>3</sup> of OB is proposed to be stored in external dumps (86.87 Mm<sup>3</sup> in West Pit and 6.90 Mm<sup>3</sup> over East Pit. The external dumps would be temporary.
- xiii. The height of surface dump will remain less than 80m up to 14<sup>th</sup> year and would reach 100m during 15<sup>th</sup> year and reduced to 80m again during 18<sup>th</sup> year. It was informed that that the entire OB would be backfilled into the voids of an area of 517.48 ha up to adjoining ground level and all OB from the external OB dumps would be re-handled and backfilled into the excavated area. About 20.45 Mm<sup>3</sup> OB would be stored on the backfilled area of 300 ha to a height of 10m above the adjoining ground level. An estimated 217.48 ha land would be reclaimed with proper treatment of top soil.
- xiv. There will be no void left at the end of the mine life.
- xv. 21 tribal PAFs belong to Taraimar village. It was stated that a total of 119 PAPs (including land losers), who are ST would be affected by the project. They would be compensated as per provisions of the Panchayat Extension in Scheduled Areas (PESA) Act, 1996.
- xvi. R&R Plan would be submitted to the MOEF after approval by the District Commissioner. A separate budget of Rs 7.70 crores has been provided in the R&R for tribals PAFs.
- xvii. Life of mine is 35 years.
- xviii. On the matter of progressive and final mine closure plan and habitat restoration, the proponent informed that the mined out area would be completely backfilled up to ground level and reclaimed with the plantation consisting of native species like Sal, Mahua, Neem, Siris, Acacia, Mango etc.
- xix. Bamboo and grass would be planted as a part of Habitat Restoration for elephants occasionally visiting the study area.
- xx. It was clarified that there would be two temporary OB dumps in the mineralised area with an estimated OB of 93.77Mm<sup>3</sup> to be dumped externally, of which 86.87 Mm<sup>3</sup> would be dumped in west pit and the balance 6.90 Mm<sup>3</sup> dumped over east pit. The height of surface dump would be about 80m till the 14<sup>th</sup> year and would reach 100m during 15<sup>th</sup> year and reduced to 80m again during the 16<sup>th</sup> year of mine operations.
- xxi. An estimated 20.45 Mm<sup>3</sup> of OB would be stored in the backfilled area of 300 ha which would be 10m above ground level.
- xxii. The entire OB stored in external OB dumps would be re-handled and backfilled into the decoaled void of an area of 517.48 ha up to ground level.
- xxiii. The proponent has agreed to develop a 50m thick 3-tier plantation (after extraction of coal) in the between the mine and township & mine and agricultural fields to act as a shield against fugitive particulate emissions from the mine operations.
- xxiv. An amount of Rs 30 lakhs has been earmarked for Wild Life Conservation Plan, vide letter dated 26.04.20012 to PCCF, over and above a total budget of Rs 7.17 crores for the implementation of Wild Life Conservation Plan.
- xxv. The proponent agreed to dovetail the project specific WL Conservation Plan with a Regional WL Conservation Plan to be prepared by the State Govt. and in consultation with BALCO, who would be operating the adjoining Durgapur–Taraimar Coal mine, to ensure free movement of animals through coal mines between adjoining forests in the study area.
- xxvi. It was informed that the matter of establishing a private railway siding is being pursued with the railway authorities, as the existing one at Kharsia is about 70 km away from the mine. It was informed that a Pre-Feasibility Report has been prepared for laying the railway track and a survey of the area is going on. It was clarified that the railway line would not be through villages of Dharmajagarh.

- xxvii. The proponent agreed to transport coal by road using covered 30-T trucks for the initial five years until the railway line was operational.
- xxviii. The proponent also informed that the State Government is also proposing to construct a dedicated 4-lane BOT (Built- Operate-Transfer) road for transportation of coal from mines of the region for which a tender stands already floated.
- xxix. It was informed that Stage-I Forest Clearance has been applied for and site inspection is expected to be carried out shortly.
- xxx. It was informed that the loading at railway siding would be carried out by hopper/mechanical loading system.
- xxxi. The land acquisition for the project would be carried out as per State Government norms under various regulations.
- xxxii. The R&R Plan has been forwarded to the Collector, Raigarh (Chhattisgarh) on 15.05.2012 for approval and also sent to Mineral Resource Dept. for Raipur for comments.
- xxxiii. Of the total Rs 63.56 crores earmarked for R&R Policy, Rs 7.70 crores is for Tribal Development Plan (TDP) and Rs 10 crores for CSR. It was informed that a Committee has been constituted for implementation and monitoring of CSR. There are only 21 Tribal PAFs belonging to Taraimar village, who require relocation.
- xxxiv. The 119 PAFs (including land losers) consist mainly of ST and would be compensated as per the provisions of the Panchayat Extension in Scheduled area (PESA) Act, 1996. The approval of the Gram Panchayat has been obtained land for building a Hospital in the area.
- xxxv. The Committee was informed that a Writ Petition No. 3876 of 2011 has been filed in the Hon'ble High Court of Chhattisgarh at Bilaspur against the proposed mining project in Dharmajaigarh Nagar Panchayat Area and the Hon'ble High Court of Chhattisgarh had issued Ex-parte Interim Order on 9.12.2011 banning consideration of the environmental clearance, which had been subsequently vacated on 03.01.2012.
- xxxvi. Representations dated 27.02.2011 against the project, which were received in the Ministry from residents of Dharmajaigarh Township and village had been circulated in advance to the EAC members and to the proponent for consideration in the meeting. The proponent also made a detailed presentation on the issues raised in the representation.
- xxxvii. The total water requirement is 741m<sup>3</sup>/day (406 m<sup>3</sup>/day-mining and 335m<sup>3</sup>/day for domestic use). It is proposed to use bore well water in the initial stage.
- xxxviii. The ground water level is in the range of 1m-13m bgl (pre-monsoon) and 0.1- 9.8 m bgl (post-monsoon).
- xxxix. Capital cost of the project is Rs 425 crores. The cost of EMP measures is Rs 421.34 lakhs or Rs 21.07/T of coal produced and Rs 299.41 lakhs/year (recurring) cost or Rs 14.97/T of coal.
  - xl. The project involves R&R of 128 PAF's from the villages of Taraimar (48), Bayasi, Dharamjaigarh (16), Bayasi /Medarmar (64), Dharam colony included in Taraimar. The relocation site would be in Sagarpur(Potiya) within Dharmajaigarh Tehsil in Raigarh. The total cost of R&R would be Rs 770.01 lakhs.
  - xli. Public hearing was held on 28.02.2011.
  - xl.ii. The CSR cost would be at Rs 5/T of coal with a provision of Rs 170 lakhs (capital) and Rs 100 lakhs (recurring) would be implemented.
  - xl.iii. Coal is proposed to be transported by 50-T trucks to linked thermal power plant of M/s D.B. Power near Kharsia at a distance of 85km. Coal is to be transported by road to Robertson's Siding at a distance of 65km.
  - xl.ii. It was informed that SECL is planning a new line for coal transportation for Raigarh coalfield and the same may be partly utilised for the transportation of coal for Sariya mine also. It was informed that a private railway siding would be established with 4-5 other coal companies whose blocks fall in the area for link upto Robertson's Siding.
  - xl.ii. The expected year of commissioning of common rail corridor is 2016, which would eliminate entire road transportation. A coal stock facility has also been provided for accommodating one

week's production. It was stated that a 2km stretch of Dharamjaigarh-Kharsia State Highway (No.22), along northern boundary is to be diverted along the NW boundary.

- xlvi. There are no National Parks, Wildlife Sanctuary, Biosphere Reserves in the 10km buffer zone.
- xlvii. The study area is rich in Sal forests and a number of endangered fauna including elephants are reported. Sherband RF is located at a distance of 0.08 km south and 3 protected forests are also found in the buffer zone.
- xlviii. The Wild Life Conservation Plan has been prepared and submitted to the State Govt. The Plan includes measures such as fencing, fire protection, creation of water holes, salt lick, flower and fruits trees, creation of hide, habitat improvement, eco-development, cattle immunisation, eco-tourism, etc. Estimated cost of the WLCP is Rs 490 lakhs.
- xliv. A Wildlife Conservation Plan has been prepared in consultation with BALCO, whose Durgapur-Taraimar coal mine forms the adjoining block, for free movement of animals through the coal mines between adjoining forest areas but the same is under consideration of the PCCF (Wildlife), Govt. of Chhattisgarh.
  - 1. The Principal Chief Conservator of Forest (Wild life management and biodiversity conservation), vide its letter no. 1930 of 30.06.2012, has approved the Wild Life Conversation plan and suggested that the proponent has to deposit Rs. 717.00 Lakhs for the Wild Life Conversation Plan. In case of delay in the project, this amount shall be increased with the price index. It further suggested that the proponent may deposit the funds, at a time, in order to prevent the price escalation.
  - li. Elephants occasionally visit the study area from Orissa and Jharkhand in search of habitat. They move from East Corridor (Bhupdevpur-Gharghoda-Dharmanjaygarh).
  - lii. A provision of Rs 6.5 crores has been made for implementation of the Wildlife Conservation Plan, of which Rs 4.685 crores has been earmarked for elephant related initiatives such as solar fencing, water holes and dusting place, habitat improvement, activities of village committees including publicity and awareness campaigns, compensation for loss/damage, etc.
  - liii. Public Hearing held on 28.02.2011.
  - liv. A Writ Petition No. 3876 of 2011 has been filed in the Hon'ble High Court of Chhattisgarh at Bilaspur against the proposed mining project in Dharmajaigarh Nagar Panchayat Area. The Hon'ble High Court of Chhattisgarh had issued Ex-parte Interim Order on 9.12.2011 and vacated the stay on 03.01.2012.
  - lv. The Forest Clearance has been obtained, vide letter no.8-48/2012-FC dated 23<sup>rd</sup> November, 2012 for diversion of 290.399 ha of forest land.

3. A Writ Petition No. 3876 of 2011 has been filed in the Hon'ble High Court of Chhattisgarh at Bilaspur against the proposed mining project in Dharmajaigarh Nagar Panchayat Area and the Hon'ble High Court of Chhattisgarh had issued Ex-parte Interim Order on 9.12.2011 banning consideration of the environmental clearance, which had been subsequently vacated on 03.01.2012.

4. The project was considered in EAC meetings held on November 28<sup>th</sup> -29<sup>th</sup>, 2011; 23<sup>rd</sup> -24<sup>th</sup> April 2012 and on 50<sup>th</sup> EAC meeting held on 18-19 June, 2012 for granting Environment 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 **Durgapur-II/ Sariya Opencast Coalmine Project of production of 2 MTPA of M/s DB Power Limited, located in a total mining lease area of 540.750 ha** under the provisions of the Environmental Impact Assessment Notification, 2006 and amendments thereto and Circulars issued thereon and subject to the compliance of the terms and conditions mentioned below:

**A Specific Conditions:**

- i. The maximum production of the opencast mine at any given time shall not exceed 2 MTPA.
- ii. Mining shall be carried out as per statute at a safe distance from River Mand.

- iii. Coal transportation even via a dedicated road would cause considerable air pollution to adjoining habitations/villages from coal dust due to spillages. The rail mode of coal transportation should be introduced in five years. The coal transportation shall be by 30-T mechanically covered trucks until a railway line gets operational within 5 years of start of mine operation. Thereafter, the coal shall be transported by rail.
- iv. The proponent shall use mechanically covered trucks for coal transportation and also make avenue plantation along the 70 km stretch of the dedicated coal transportation road, in consultation with State Government.
- v. M/s DB Power will transport coal by 30T truck upto the railway siding by road from Dharmjayagrah to Kharasia (57 Kms on NH) and by State Highway, which is 65.80 km. The State Govt. has conveyed that M/s DB Power has to construct road either from its own funds or has to expand and improve the existing road before the commencement of mining activities. The conditionalities imposed by the State Government shall be met by the proponent.
- vi. The proponent should pursue with the Railway authorities for establishment of a railway siding as existing one at Kharsia is about 70 km away from mine.
- vii. The Railway line has been proposed by Fatehpur Logistics Private Limited (FLPL), a JV where DB Power Limited is an equal partner. M/s DB Power Limited, as a partner, shall ensure the progress on the development of the FLPL Railway Corridor.
- viii. The proponent should expedite the process of establishing railway siding ensuring that the minimum fragmentation forest and should ensure safety of elephants present in the area and shall be aligned to ensure minimal disturbance to movement of wild fauna found in the area.
- ix. The area between the mine and the township and the mine and agricultural fields should be planted with a 50m thick 3-tier plantation (after extraction of coal) to act as a shield against fugitive particulate emissions from the mine operations.
- x. The laying of railway track for coal transportation should take into consideration the requirements of other mines coming up in the area.
- xi. The loading arrangements at the railway siding should be by hopper /mechanical loading.
- xii. The WL Conservation Plan should be prepared in consultation with the proponent of the neighbouring Durgapur-Taraimar so that free passageways between the adjoining forest areas and coal blocks can be created for free movement of animals even as mining operations commence.
- xiii. The Principal Chief Conservator of Forest (Wild life management and biodiversity conservation), vide its letter no. 1930 of 30.06.2012, has approved the Wild Life Conversation plan and conveyed that the proponent shall deposit Rs. 717.00 Lakhs for the Wild Life Conversation Plan. In case of delay in the project, this amount will be increased with the price index. It further conveyed that the proponent may deposit the funds, in one time, in order to prevent price escalation.
- xiv. The project specific WL Conservation Plan should be dove-tailed with the Regional WL Conservation Plan prepared by the State Govt. for which the proponent has earmarked an additional Rs 30 lakhs. Villagers and local communities should form an important stakeholder in the implementation of the WL Conservation Plan and Habitat Restoration Programme.
- xv. The proponent shall dovetail the project specific WL Conservation Plan with a Regional WL Conservation Plan shall be prepared by the State Govt. and in consultation with BALCO, who would be operating the adjoining Durgapur-Taraimar Coal mine, to ensure free movement of animals through coal mines between adjoining forests in the project area.
- xvi. The proponent shall in consultation with PCCF (WL), Govt. of Chhattisgarh introduce alert/waning system such as whistle, horn, etc. and train their drivers of MGRs for reducing train speeds to enable the wild animals including wild elephants to move away from the MGR tracks.
- xvii. The R&R Plan should include Plan for the 21 tribal PAFs and details furnished and issues of PESA (Panchayat Extension to Scheduled Areas) under Tribal Rights Act incorporated. CSR should include supply of drinking water to villagers.

- xviii. The ML area should be reduced from 693.326 ha to 540.750 ha deleting areas with high population. No excavation would be carried out within 45m of habitation in Dharmajaigarh Nagar Panchayat.
- xix. There will be no void left at the end of the mine life and the mined out area should be completely backfilled upto ground level. This be reclaimed with plantation consisting of native species of the pre-mining ecosystem and should also include bamboo and grass species as a part of Habitat Restoration for the elephants for which an additional Rs 30 lakhs should be provided.
- xx. The temporary external OB dumps should be stabilised with grass species until the 14<sup>th</sup> year when the re-handling begins.
- xxi. The issues of land acquisition, which form the crux of the Court Case, need to be considered by the State Government vide norms laid down under the various regulations for land acquisition and vide norms laid down by the State Government and in the R&R Policy.
- xxii. The matter of rehabilitating and resettlement of projects affected families/persons should also be in compliance with the provisions laid down under PESA.
- xxiii. Species from the pre-mining ecosystem and use of species of minor forest produce such as Amla (*Embelica officinalis*), Char or Chironji (*Bucchnania lanzen*), Baheda (*Terminalia bellirica*) and native species like Sal, Mahua, Neem, Siris, Acacia, Mango etc in the green belt should be reintroduced. Bamboo and grass should be planted as a part of Habitat Restoration for elephants occasionally visiting the study area.
- xxiv. The approved copy of R&R Plan should be submitted to Ministry for record.
- xxv. The proponent also engages experts in occupational health.
- xxvi. Two external experts should be included in the monitoring of implementation of CSR.
- xxvii. The Tribal Rehabilitation Colony should be provided with fruit trees such as Jackfruit, Lemon, Mahua, Mango and tree species of minor forest produce, including bamboo. The proponent must facilitate multi-species agriculture to be also undertaken in the area.
- xxviii. Top soil shall be stored in the earmarked area and used for green belt development and for plantation/reclamation within a year of its generation. Green belt development shall be completed within the first 3 years of mining operation.
- xxix. OB shall be stacked within the mineralised area within ML area and rehandled during the mine operations.
- xxx. The maximum height of external dump is proposed to be 100m. For increasing the dump height of the external dump beyond 60m to 90m and from 90m to a maximum height of 100m above ground level, the proponent shall undertake Slope Stability Modelling Study which shall be got carried through a recognised institution for possible dump failures, by taking into consideration parameters such as peak rainfall data (for a cumulative number of high rainfall days in rainy season, compaction for OB stabilisation, mix of soil material which increases dump stability and reduces dump slope failures, water erosion characteristics of the dump, etc. Based on modelling, the best option for stabilisation shall be selected, checked with actual data/situation and appropriate course corrections taken thereon. In addition, proper slope and gradient of the OB dump shall be maintained.
- xxxi. In addition, recommendations of the CIMFR study for adoption of specific stability measures such as provision of garland drain, gabion toe wall, maintaining a minimum distance of 120m between dump toe and bank of River Mand, retaining wall near toe of dump along haul road, grassing of dumps reinforced with geo-textile material in critical patches and reclamation with vegetation at the final stage, shall be strictly followed. A batter against River Mand shall also be created.
- xxxii. 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.

- xxxiii. 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.
- xxxiv. 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.
- xxxv. Crushers at the CHP shall be operated with high efficiency bag filters/water sprinkling system shall be provided to check fugitive emissions from crushing operations, conveyor system which shall be closed, haulage roads, transfer points, etc.
- xxxvi. Drills shall be wet operated only.
- xxxvii. 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.
- xxxviii. All internal roads shall be concreted or black topped and the approach roads used for the project shall be blacked topped. Facilities for parking of trucks carrying raw coal from the linked coalmines shall be created within the Unit.
- xxxix. The roads (internal/approach/and roads used for the project) shall be regularly cleaned with mechanical sweepers and with water sprinklers. A 3-tier avenue plantation shall be developed along the major approach roads, internal roads and nearby roads used by the company.
  - 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 and to the Central Pollution Control Board quarterly within one month of monitoring.
  - xli. A Plan for water conservation and recharge measures of ground water along with budgetary provisions be prepared and implemented in consultation with the Central/State Ground Water Board to mitigate the adverse impact of mining which may lead to depletion of ground water in the area. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource in case monitoring of groundwater levels indicate decline of water table. Any additional water requirement for mining operation shall be met from rainwater use only. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine. It shall be ensured that if the river/nala discharge of mine water takes place, it shall be treated to conform to prescribed standards before discharge.
  - xlii. ETP shall also be provided for treatment of effluents from workshop, CHP and an STP shall be provided in the colony and the treated effluents shall be used for green belt development. Outflow of rainfall, if any, from the mine shall meet prescribed norms and the water quality of such discharge shall be monitored at the exit points and records maintained thereof and also uploaded on the company website.
  - xliii. 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 a recognised agency found in the district, and the results reported to this Ministry and to DGMS.
  - xliv. An afforestation plan covering an area not less than 414.15 ha shall be implemented, which includes backfilled area (287.37 ha), along ML boundary road , green belt (23.27 ha), surface dump (120 ha )by planting native species such as reintroduction of species from the pre-mining ecosystem and use of species of minor forest produce such as Amla (*Embelica officinalis*), Char or Chironji (*Bucchnania lanzen*), Baheda (*Terminalia bellirica*) for Habitat Restoration. Sal, Tendu, Mahua, etc in consultation with the local DFO/Agriculture Department/institution with the relevant discipline. The density of the trees shall be around 2500 plants per ha.



- xliv. Backfilling shall start by the 6<sup>th</sup> year of operations and completed by 18<sup>th</sup> year including rehandling of the external OB dump, with cessation of opencast operations. The total excavated area of 287.27 ha shall be backfilled and reclaimed 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. No void shall be left as a water body at the post-mining stage.
- xlvi. A Programme for conservation of the wildlife particularly for the Indian Elephant reported in the study area and for other rare and endangered species/Schedule-I fauna and endangered flora and species of medicinal importance found in the study area shall be formulated and implemented in consultation with the Forest and Wildlife Departments in the State Government. Separate funds shall be earmarked for implementation of the various activities there under and the status thereof shall be regularly reported to this Ministry and the MOEF Regional Office, Bhopal and also uploaded on the company website. The project authorities shall participate in a Regional Action Plan of the State Government for conservation of flora and fauna and wildlife found within the study area. The Wildlife Conservation Plan shall be implemented for life of the project with budgetary provision of Rs 6.5 crores.
- xlvii. The Wildlife Conservation and Management Plan shall include a plan for habitat improvement of the sites identified as “Elephant Use Area” A provision of Rs 6.5 crores has been made for implementation of the Wildlife Conservation Plan, of which Rs 4.685 crores has been earmarked for elephant related initiatives such as solar fencing, water holes and dusting place, development of salt licks, habitat improvement, activities of village committees including publicity and awareness campaigns, compensation for loss/damage, prevention of poaching, restricting grazing , implementation of soil conservation measures addressing human–wildlife conflict issues, vigil and fire protection measures, creation of Conservation awareness, anti-depredation measures, etc. Grasslands shall be developed as part of habitat restoration of the mined out area, for elephants using the area as habitat.
- xlviii. For monitoring land use pattern and for post mining land use, a time series of landuse 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 Bhopal.
- xliv. Cost for environmental protection measures shall not be less than Rs Rs 421.34 lakhs (capital) and the annual recurring costs shall be not less than Rs. 299.41 lakhs.
  - i. A project specific R&R Action Plan for the 128 PAFs from the villages of Taraimar (48), Bayasi, Dharamjaigarh (16), Bayasi /Medarmar (64), Dharam colony included in Taraimar. The relocation site would be in Sagarpur(Potiya) within Dharmajaigarh Tehsil in Raigarh. Of the total Rs 63.56 crores earmarked for R&R Policy, a separate budget of Rs 7.70 crores has been provided in the R&R for tribals PAFs shall be implemented in a time-bound manner in consultation with the District Administration. In addition, a Plan for Tribal Welfare to address the livelihood issues of tribal communities shall also be implemented to address issues for tribal welfare and development and displaced communities and land losers under BPL shall be implemented. Tribal Rehabilitation Colony should be provided with fruit trees such as Jackfruit, Lemon, Mahua, Mango and tree species of minor forest produce, including bamboo. The proponent must facilitate multi-species agriculture to be also undertaken in the area.
  - ii. A project specific CSR Plan for the nearby villages of Taraimar, Byasi, Dharamjaigarh, /Dharam and other adjoining villages shall be implemented. Measures/activities under CSR shall includes strengthening the existing ITI institutions, establishment of more cooperatives and SHGs, effective role as an interface/link between buyers-sellers of local produce/goods, implementing a wide range of skill development and alternate livelihood schemes particularly for the SC/ST including tribals and BPL families, strengthening and adding wherever necessary health care and educational facilities are lacking in and around the project area over the life of the project. A

provision of Rs 170 lakhs made for CSR for the next 5 years which includes Rs 10 crore earmarked for annual expenditure on developmental activities for the surrounding villages or an annual recurring expenditure of Rs.5/tonne of coal, whichever is higher, which shall be adjusted according to value of the rupee until end of mine life, shall be implemented in a time bound manner. Provision of annuities of Rs 2500/month to vulnerable persons found in and around the project area shall be made. Details of village-wise activities under CSR along with the activities and budgetary provision shall be uploaded on the company website and the status of its implementation along with expenditure thereon and also desired that a Third party audit of implementation of CSR shall be done periodically.

- lii. Both R&R and CSR Plan shall incorporate a Tribal Welfare Development Plan of a total budgetary provision of Rs 63.56 crores.
- liii. 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.
- liv. 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 including excavation, quantum of mineral coal and waste 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 monitoring PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, in PM<sub>10</sub> and PM<sub>2.5</sub> shall be carried out at least once in a year.
- (iv) Data on ambient air quality (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> and heavy metals such as Hg, As, Ni, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhopal and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognised under the EP Rules, 1986 shall be furnished as part of the compliance report.
- (v) Fugitive dust emissions (PM<sub>10</sub>, PM<sub>2.5</sub> and heavy metals such as Hg, Pb, Cr, As, etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, dump trucks (loading and unloading) points shall be provided and properly maintained.

- (vi) 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.
- (vii) 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 19<sup>th</sup> May 1993 and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- (viii) Vehicular emissions shall be kept under control and regularly monitored.
- (ix) An Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
- (x) An Environmental Cell reporting directly to the Head of the company shall be created consisting of experts drawn from disciplines such as ecology, hydrogeology/ground water, sociology for implementation of the environmental clearance.
- (xi) 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.
- (xii) 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.
- (xiii) 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 Bhopal.
- (xiv) The Regional Office of this Ministry located at Bhopal 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.
- (xv) A copy of the will be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.
- (xvi) State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's Office/Tehsildar's Office for 30 days.
- (xvii) 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>. The compliance status shall also be uploaded by the project authorities in their website and regularly updated at least once in six months so as to bring the same in the public domain. The data shall also be displayed at the entrance of the project premises and mines office and in corporate office.

5. The Ministry or any other competent authority may stipulate any further condition 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 case filed in Hon'ble High Court of Chhattisgarh.

(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, E-2/240 Arera Colony, Bhopal 462016.
4. Chairman, Chhattisgarh State Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Avanti Vihar, RAIPUR-Chhattisgarh- 492001.
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, Raigarh, Government of Chhattisgarh, New Delhi.
8. Monitoring File    9.     Guard File    10.     Record File.    11. Notice Board

(Dr. Manoranjan Hota)  
Director