

No. J-11015/391/2012-IA.II(M)  
Government of India  
Ministry of Environment & Forests

Parayavaran Bhawan  
CGO Complex, Lodhi Road,  
New Delhi-110003  
Dated: 21<sup>st</sup> May, 2014

To,

The Chief General Manager,  
M/s Mahanadi Coalfields Ltd.,  
PO Jagriti Vihar, Burla,  
Dist. Sambalpur - 768020.  
Orissa.

**Sub. : Expansion (under 7(ii) of EIA Notification 2006) of Lakhanpur OCP (from 15 MTPA to 18.75 MTPA) in the existing ML area of 2389.60 Ha + ancillary activities of 212 Ha = 2601.60 Ha.; Latitude 21°42'15" N to 21°47'10" North & Longitude 83°48'11"E to 83°52'38" East) of M/s Mahanadi Coalfields Ltd, Jharsuguda, Orissa - Environment Clearance - reg.**

Sir:

This is with reference to letter no. 43011-231-2012-CPAM dated 03.10.2012 with the application and subsequent letter no. dated 13.06.2013; 29.11.2013; 23.12.2013; 25.12.2013; 16.01.2014; 17.01.2014; 20.01.2014 and 23.01.2014 for Environmental Clearance for Expansion under 7(ii) of EIA Notification 2006 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 Expansion (under 7(ii) of EIA Notification 2006) of Lakhanpur OCP (from 15 MTPA to 18.75 MTPA) in the existing ML area of 2389.60 Ha + ancillary activities of 212 Ha = 2601.60 Ha.; Latitude 21°42'15" N to 21°47'10" North & Longitude 83°48'11"E to 83°52'38" East) of M/s Mahanadi Coalfields Ltd, Jharsuguda, Orissa. The proposal was considered in the 63<sup>rd</sup> EAC meeting held on 17<sup>th</sup> - 18<sup>th</sup> December, 2012, 5<sup>th</sup> EAC held on 25-26 November, 2013 & 9<sup>th</sup> EAC meeting held on 20-21<sup>st</sup> January, 2014 and 12<sup>th</sup> EAC meeting held on 27<sup>th</sup> - 28<sup>th</sup> February, 2014. The proponent has informed that:

- i. The project obtained EC vide letter dated no. J-11015/14/87-IA.II(M) dated 10.09.1991 for 5 MTPA. The project was again granted EC vide letter no. J-11015/44/96-IA.II(M) dated 24.10.1996 for an expansion in production from 5 MTPA to 10 MTPA in a Mining lease area of 1572 ha. The project was again granted EC vide letter no. J-11015/638/2007-IA.II(M) dated 02.07.2008 for an expansion in production from 10 MTPA to 15 MTPA in a Mining lease area of 2485 ha. Now application submitted under 7(ii) of EIA Notification, 2006 for expansion 15 MTPA to 18.75 MTPA.

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*Passwd*  
*28/5/14*

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

Pre-mining land use

S.N.	Item/Purpose	Land Requirement (in ha)		
		Forest	Non-forest (Govt. & tenancy)	Total
1	Quarry excavation	243.10	1198.54	1441.64
2	Blasting danger zone	52.80	653.60	706.40
3	OB dumps (external)	OB area of 38.40ha falls in safety zone.		
4	Infrastructure including CHP magazine etc	6.33	181.67	188.00
5	Railway siding			
6	Rationalisation of Project Boundary	26.60	122.36	148.96
Mine lease area (1+2+3+4+5+6)		328.83	2156.17	2485.00
7.	Residential colony	0.00	60.00	60.00
8.	Resettlement site	0.00	152.00	152.00
Total Land Requirement (1 to 8)		328.83	2368.17	2697.00

Post-mining land use

Sl. No.	Category	Land use (in ha)					Total
		Plantation	Water body	Dip side slope & haul road	Undis- turbed	Built-up area	
1	Quarry excavation	1269.47	69.42	102.75	0.00	0.00	1441.64
2	Blasting danger zone	175.84	0.00	0.00	492.16	0.00	668.00
3	OB dumps (external)	38.40	0.00	0.00	0.00	0.00	38.40
4	Railway siding						
5	Infrastructure	42.66	0.00	0.00	0.00	145.34	188.00
6	Rationalisation of Project Boundary	148.96	0.00	0.00	0.00	0.00	148.96
7	Residential colony	12.00	0.00	0.00	0.00	48.00	60.00
8	Resettlement site	30.40	0.00	0.00	0.00	0.00	152.00
	Total	1717.73	69.42	102.75	492.16	314.94	2697.00

Core area

Sl.No.	Landuse	Total
(a)	Agricultural	1182.97
(b)	Forest	323.83
(c)	Waste land (Govt. land)	930.58
(d)	Grazing	
(e)	Surface water bodies	0.00
(f)	Others (specify) (Homestead other tenancy land)	42.62
	Total	2485.00

- iii. The total geological reserve is 422 million tons. The mineable reserve 358.58 MT as on 1.4.06; 269.35 MT as on 1.4.13, extractable reserve is 269.35 Mt as on 01.04.2013. The per cent of extraction would be 90%.
- iv. The coal grades are Grade F to G .
- v. There will be one Lajkura seam with maximum thickness of 33.53 m with the stripping Ratio 2.34.
- vi. The average Gradient would be  $4^{\circ}-6^{\circ}$ .
- vii. The total estimated water requirement is 6.171 m<sup>3</sup> /d. The level of ground water ranges Pre-monsoon 4.54m to 8.03 m bgl; Post-monsoon 1.85m to 5.90 m bgl.
- viii. There are two external OB dump with Quantity of 1.94 Mm<sup>3</sup> in an area of 17.50 ha with height of 26.5m(max) 15m(avg) and seven internal dump with Quantity of 140.1432 Mcum (as on 31/12/2013 ) in an area of 275.700 ha (as on. 31/12/2013) with height of 85 m.
- ix. The final mine void would be in 156 ha with depth of 30 - 40 m (Max.) and the Total quarry area is 1441.64 Ha. Backfilled quarry area of 1285.64 ha (Afforestation - 328.83 Ha & Agriculture - 956.81 Ha) shall be reclaimed with plantation.
- x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xi. The life of mine is 15 years @ 20MTY. The life of the mine will be proportionate to 18.75 MTPA
- xii. **Transportation:** Coal transportation in pit to surface by Tippers (existing), Surface to Siding by Tippers (existing), siding to loading By Pay loaders (existing). There is R & R involved. There are 1279 PAFs.
- xiii. **Cost:** Total capital cost of the project is Rs. 38,812.23 lakhs (uptill 31/03/2013). CSR Cost Rs 1068.75 lakhs (uptill 31/03/2013). R&R Cost 11035.09 lakhs (uptill 2013) Environmental Management Cost is Rs. 4.43 per tonne of coal.
- xv. **Water body:** There is Lillari nallah flowing at a distance of about 0.5 km.
- xvi. **Approvals:** Mining Plan approved by MoC vide Letter no. 34012/(4)/2011-CPAM Dt. 15.05.2013. Mine closure plan Submitted to MoC for approval.
- xvii. **Board's Approval:** Project Report approved by MCL Board in its 100<sup>th</sup> meeting held on 27.09.2008.
- xviii. **Wildlife issues:**
- xix. **Forestry issues:** Total forest area involved for mining 328.83 ha ha. FC has been granted for diversion of 233.43 Ha of forest land vide No.8-280/89-FC dated 08.10.1990 by MoEF. Extent of forest land in the project is 328.83 ha. The FC for 95.40 ha forestland is not available.
- xx. **Total afforestation plan** shall be implemented covering an area of 1798.44 ha at the end of mining. Green Belt over an area of 367.46 ha and Reclaimed internal dump would be 38.40 ha. Density of tree plantation 2500 trees/ha of plants.
- xxi. There are no court cases.
- xxii. There is an excess production during 2007-08.
- xxiii. **Public Hearing:** Public Hearing was held on 27.07.2007 at Gram Panchayat Office Bandhabahal, Jharsuguda.

The issues raised during the public hearing were regarding mine water before discharging to Lillari Nallah; Proper land acquisition, rehabilitation & settlement programme; control measures to control fugitive dust deposition on water bodies; coal transportation road should be separated from public road; Transportation road should be repaired & maintained to avoid spillage of coal on road; plant trees on the OB dumps; compensatory afforestation & Roadside-Avenue plantation, in the affected localities;

employment to the local people on a priority basis; Free medical facilities & Ambulance service for affected people; establish a technical training institute to train local youth etc. The committee deliberated on the public hearing issues. The proponent has given assurances to address the issues raised during the Public Hearing.

3. The proponent presented the compliance report from the RO, MoEF vis-a-vis the commitments by the proponent (vide their letter no.06-10/EPE dated 14.12.2012) EAC deliberated to compliance report which includes the following:

- i. Top soil and sub-soil are not separately kept but used for back filling of the mine voids. The top soil as well as the sub-soil should be kept separately and used for spreading after the completion of the back filling of mine voids and before taking up plantation.
- ii. No hydrological study on the impact of diversion of Pullizore Nullah has been conducted. PP stated that a study is being initiated by M/s CMPDI.
- iii. Slopes of External OB has gaps and which need to be planted. Over 162 ha of back filled area still remain to be planted
- iv. Garland drains are filled up with silt and have heavy grass & weeds growth. Corrective action on this are required to be taken.
- v. Details of changes in the water level and water quality parameters were not submitted to the Regional Office
- vi. The capacity of the ETP should be increased to meet the requirement of the expansion project of the 15 MTPA.
- vii. Detailed Final Mine Closure Plan along with details of Corpus Fund are yet to be submitted.
- viii. Project should identify the causes for higher value of RPM and take up appropriate measures accordingly.
- ix. Fugitive emission should be monitored.
- x. People working in the dusty areas need to wear the PPE.
- xi. For effective implementation of the environmental stipulations and environmental management, Environmental Cell should be established with financial and executive powers. The officer concerned should be made responsible & accountable for implementation of environmental safeguard measures.
- xii. Six monthly compliance reports on the environmental stipulations do not provide detailed information on the status of compliance to the conditions.
- xiii. Project has been operating without 'NOC' from OSPCB. This is a violation case. SPCB be informed about this to take appropriate action.

4. M/s MCL had submitted that it has complied with several conditions and also submitted the commitments for compliance of conditions that include the following:

- i. The breach in the Bund has already been in June-2013 and now no water is going directly to the Lilari Nullah.
- ii. Back filled area of 162 ha will be planted after extraction of bottom coal seam. Gap Plantation will be taken up in next monsoon to enhance survival rate. Presently almost all the area within the safety zone is under plantation.
- iii. Presently, all the dip-side workings are active. Once all the coal is extracted the faces will be stabilized with internal backfilling and thereafter it will be biologically reclaimed.

- iv. The ground water level and quality is being monitored regularly. Action has been initiated for installation of new peizometers, onitoring will start by Nov.2014.
- v. Reviving of the existing ground water tank and pump house for recycling and reuse of treated water from the ETP will be completed by May-14.
- vi. There are two ETPs of 240 M<sup>3</sup>/day existing as of now. Another ETP of 240 M<sup>3</sup>/day capacity is under construction for additional effluent of 200 M<sup>3</sup>/day for the 5 Mt<sub>y</sub> incremental production and shall be commissioned by Feb.-14.
- vii. Final mine closure plan has been approved by MCL Board. Mine closure cost as per the mine closure plan is Rs.168.35 Cr (Feb 2011 cost base). An escrow account for this purpose has been opened in Union Bank of India and Rs.2527.36 Lakh has been deposited in the account till date.
- viii. Dumping and haul road in Quarry 3 & 4 had mainly contributed in higher RPM. Presently no dumping is being done there and the haul road is also diverted.
- ix. The coal transportation by road which earlier passed through Jurabaga village, has now been bye-passed to join NH-49 directly. The recent data of Nov 2013 of the Village is (RPM in µg/m<sup>3</sup>): Ubuda (92) & Tingismal (86).
- x. All the field workers have been issued PPE and are wearing them. Sensitization programmes are being done regularly regarding the use of PPEs.
- xi. In addition, General Manager (Operation)/ Addl. GM has been posted at Area level with adequate executive and financial powers. Environment Functionaries are now reporting directly to him.
- xii. As the UTLS system has become very old and is semi- automatic and there is no further scope of change in the system and the New Silo with latest technology has already been programmed for this project. Additional coal dispatch through the existing UTLS is neither feasible nor required.
- xiii. Presently 2.7 MTPA is dispatched through MGR and this can be increased to 5 MTPA so as to meet the requirement of OPGC, if required. Thus the entire additional 3.75 MTPA proposed coal production will be transported through MGR/New Railway Siding (Rail Mode only).
- xiv. The transportation lead has already been reduced from 14 km to 3 km, resulting in reduction of dust generation. The new coal transportation road passing through the two mines of Lakhanpur and Belpahar OCP is completely temporary, over the coal bearing area having multiple seams and over the undulating and frequently undulated terrain. Despite of this a feasibility survey will be carried out and if it is technically feasible, conveyor system shall be introduced so as also to reduce the problem.
- xv. Top soil will be utilised concurrently, wherever feasible. Further if concurrent utilization of the generated top soil is not possible, the top soil dump would be preserved by plantation of grass seeds and leguminous species and the utilization from the top soil dump is as fast as possible and the area of top soil dumping is kept as minimum as practicable.
- xvi. Regular monitoring of water from the clear water tank shall be started from next month i.e. February, 2014
- xvii. Re-use of the water from clear water tank with its quality shall be checked periodically from February, 2014.
- xviii. The project has exceeded the production in the FY: 2007-08 by an amount of 0.332 Mt. (i.e. the project has produced 10.332 Mt as against and EC of 10.0 Mt.). The EC was for 10.0 MTY granted vide letter no. J-11015/44/96 -IA.II (M) dt: 24.10.1996. This excess production of 0.332 Mt. during the FY: 2007-08 was prior to the OM no. J-11013/41/2006-IA.II(I) dt: 16.10.2010 & subsequent OM no. J-11013/41/2006-IA.II(I) dt: 12.12.2012 which deals with proposals involving

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violation of EIA Notification, 2006. It is therefore, this may not be construed as violation. The proponent has submitted the Board's Resolution for no future violation of E(P) Act, 1986.

5. Out of the total area of 2697 ha, the ML area is 2485 Ha and 212 Ha is for ancillary activities. Total forest land is 328.83 ha. The FC for 95.40 Ha forestland is not available. Therefore, EC is for ML area of 2389.60 Ha (2485 Ha - 95.40 Ha = 2389.60) + 212 Ha for ancillary activities = 2601.60 Ha. FC has been granted for diversion of 233.43 Ha of forest land vide No.8-280/89-FC dated 08.10.1990 by MoEF. In this regard, you are required to follow the guidelines issued by the FC Division of the Ministry of Environment & Forests vide no. 11-362/2012-FC dated 01-02-2013 "Guidelines for diversion of forest land for non-forest purposes under the Forest (Conservation) Act 1980. Submission of proposals to obtain forest land located within the mining lease and grant of environment clearance to mining projects" addressed to the Principal Secretary (Forests), Principal Secretary (Environment) of all the States/UT Govts. and copy to concerned Government Departments/Organisations which prescribes, inter-alia, the following:

"(iii) As regards Environment Clearance (EC) cases of existing mining operations, where approval under the FC Act for the full forest area in the mining lease area is not available, granting of EC may be considered and the following process will be adopted for processing such cases:

- i Grant of EC may be considered only for the non-forest area plus the forest area within the mining lease for which FC is available. No mining activities will be allowed in forest area for which the FC is not available; and
- ii The project proponent will seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines, failing which the mining lease area will be reduced to the non-forest area plus the forest area for which the project proponent has been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, the project proponent will need to get a revised mining plan approved from the competent authority for reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed."

6. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 12<sup>th</sup> meeting held on 27<sup>th</sup> - 28<sup>th</sup> February, 2014 for granting Environmental Clearance. The Ministry of Environment & Forests hereby accords environmental clearance for the above-mentioned Expansion (under 7(ii) of EIA Notification 2006) of Lakhanpur OCP (from 15 MTPA to 18.75 MTPA) in the existing ML area of 2389.60 Ha (2485 Ha - 95.40 Ha = 2389.60) + ancillary activities of 212 Ha = 2601.60 Ha.; Latitude 21°42'15" N to 21°47'10" North & Longitude 83°48'11"E to 83°52'38" East) of M/s Mahanadi Coalfields Ltd, Jharsuguda, Orissa 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. You will need to seek and obtain approval under the FC Act for diversion of the entire forest land located within the mining lease within a period of two years from the date of issue of these guidelines (i.e. 01 February, 2013), failing which the mining lease area will be reduced to the non-forest area plus the forest area for which you have been able to obtain the FC at the end of this time period. In the case of reduction in mine lease area, you will need to get a revised mining plan approved from the competent authority for

reduced area and enter into a new mining lease as per reduced lease area. The EC will be construed to be available for the mining lease area as per the revised mining lease deed.

**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. No mining operations shall be undertaken in the forestland until clearance has been obtained under the provisions of FC Act, 1980.
- iii. The commitment and action plan be complied within one year from the date of the issue of the EC and submit the report to the MoEF. The EAC shall review the compliance report after one year.
- iv. The proponent is directed to stick to the capacity of production as stipulated in the EC.
- v. 162 ha will be suitably planted after extraction of bottom coal seam.
- vi. Piezometers shall be constructed and monitoring of ground water shall start latest by Nov-2014. Recycling & Reuse shall be operational.
- vii. The Conveyor system shall be installed in 2 years for transporting coal from mine to siding.
- viii. Regular monitoring of water from the clear water tank shall be carried out.
- ix. Silo system shall be designed for 20 MTPA, which will cater to full mine production capacity. Silo loading arrangement shall commence in 3 years' time.
- x. The incremental coal production shall be transported through MGR/New Siding.
- xi. Top soil as well as the sub soil shall be utilized concurrently over the backfilled area and when backfilled area is not available top soil and sub soil be stacked separately and scientifically preserved. Scheme for Plantation of grass seeds and leguminous species during the next monsoon season to retain the nutrient value of the top soil including microorganism be prepared.
- xii. The impact on nallah, originates from upstream catchment area which traverse through the mining area and terminate in Lilari Nallah, to the downstream users viz. irrigation, bathing, fishing, etc. be examined and mitigation measures be taken to protect the environment.
- xiii. Regular cleaning strategy should be adopted for both the Secondary Settling tanks.
- xiv. The integrated mine PR and corresponding Mine Closure Plan has to include planning for removal of the internal dumps, extraction of the bottom seams and finally re-filling and reclamation of the entire area.
- xv. Due care should be taken up to protect local encroachment in the safety zone and there has been no encroachment.
- xvi. New piezometers shall be constructed by Nov 2014.
- xvii. Coal transportation in pit to surface by Tippers (existing), Surface to Siding by Tippers (existing), siding to loading By Pay loaders (existing).
- xviii. The production shall be within the same Mining Lease area.
- xix. The OB shall be completely re-handled at the end of the mining.
- xx. Final mine void depth will not be more than 40 m. The void area will be converted into water body. The rest of the area will be back filled up to the ground level and covered with about a meter thick top soil and put to use.
- xxi. Garland drains be provided.
- xxii. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine.
- xxiii. The land after mining shall be brought back for agriculture purpose.
- xxiv. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xxv. The CSR cost should be Rs 5 per Tonnes of Coal produced which should be adjusted as per the annual inflation.

- xxvi. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xxvii. Dust mask to be provided to everyone working in the mining area.
- xxviii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xxix. 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.
- xxx. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xxxi. 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.
- xxxii. 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.
- xxxiii. 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 and its concerned Regional office on yearly basis.
- xxxiv. 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.
- xxxv. 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.
- xxxvi. 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.
- xxxvii. Drills shall be wet operated.
- xxxviii. 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,
- xxxix. 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.
- xl. A Progressive afforestation plan shall be implemented covering an area of 1798.44 ha at the end of mining, which includes reclaimed External OB dump area (38.40 ha), Internal OB dump area (1285.64 ha), along roads and Green belt (367.46 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.
- xli. An estimated total 142.0832 Mm<sup>3</sup> of OB will be generated during the entire life of the mine. Out of which 1.94 Mm<sup>3</sup> of OB will be dumped in two external OB Dumps an earmarked area covering 17.50 ha of land with height of 15 m. 140.1432 Mm<sup>3</sup> of will be seven internal OB dump in covering an area of 275.70 ha with height of 85m. 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.
- xlii. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
  - xlili. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
  - xliv. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
  - xlv. No groundwater shall be used for mining operations.
  - xlvi. Of the total quarry area of 1441.64 ha, the backfilled quarry area of 1285.64 ha (Afforestation – 328.83 Ha & Agriculture – 956.81 Ha) shall be reclaimed with plantation and a void of 156 ha at a depth of 30-40 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.
  - xlvii. Regular monitoring of groundwater level and quality shall be carried out by establishing a network of existing wells and construction of new piezometers. The monitoring for quantity shall be done four times a year in pre-monsoon (May), monsoon (August), post-monsoon (November) and winter (January) seasons and for quality in May. Data thus collected shall be submitted to the Ministry of Environment & Forests and to the Central Pollution Control Board quarterly within one month of monitoring.
  - xlviii. 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.
  - xlix. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
    - i. 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 specialised agency /institution within the District/State and the results reported to this Ministry and to DGMS.
    - ii. There are 1279 PAFs. 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.
    - iii. 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
    - liii. A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests within 6 months of grant of Environmental Clearance.
    - liv. 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.
    - lv. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
    - lvi. 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> 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 (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, 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 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.
- 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 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (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 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 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 commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent

9. 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.

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

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

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

13. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter. The proponent shall ensure to undertake and provide for the costs incurred for taking up remedial measures in case of soil contamination, contamination of groundwater and surface water, and occupational and other diseases due to the mining operations.

14. 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.

15. This EC supersedes the earlier EC, vide letter no. J-11015/638/2007-IA.II (M) dated 02.07.2008, for an expansion in production from 10 MTPA to 15 MTPA in a Mining lease area of 2485 ha

  
(Dr. Manoranjan Hota)  
Director

**Copy to:**

1. Secretary, Ministry of Coal, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Orissa, Secretariat, Bhubaneswar, Orissa.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar - 751023, Orissa.
4. Member Secretary, Orissa State Pollution Control Board, Parivesh Bhawan, A/118, Nilkanthanagar, Unit VIII, Bhubaneswar - 751012, Orissa.
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, Carzon 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, Jharsuguda, Government of Orissa
9. IG (Wild life), Ministry of Environment and Forests, New Delhi
10. Monitoring File    11. Guard File    12. Record File.    13. Notice Board

  
(Dr. Manoranjan Hota)  
Director