

No. J-11015/1140/2007-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi-110003  
Dated: 03<sup>rd</sup> March, 2014

To,

The General Manager (Eng. Services)  
M/s National Thermal Power Corp.,  
Engineering office Complex,  
Plot No, A-8A, Sector 24,  
Post Box No. 13,  
NOIDA – 201301  
Uttar Pradesh.

**Sub. : Dulanga Opencast Coal Mining Project (7 MTPA in an area of 785.37 ha = (803.71 ha – 18.34 ha=785.37 ha); Latitude 21° 50'40"N to 22° 01'30' N and Longitude 83°42'06" E to 83° 53'43" E) of M/s National Thermal Power Corporation Ltd (NTPC), Ib valley coalfields, Dist. Sundergarh, Orissa – Environment Clearance - reg.**

Sir:

This is with reference to letter No. CC/ESE/7015/2007/GEN/ dated 31.10.2007 with the application for Terms of Reference (TOR) and this Ministry's letter dated 17.01.2008 granting TOR. Reference is also invited to the letter no CC:ESC:7015:2010:GEN:11A dated 08.09.2010, and subsequent letters dated 08.12.2011, 29.02.2012, 21.02.2013, 02.09.2013, 10.01.2014 and 17.01.2014 for Environmental Clearance on the above-mentioned subject.

2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for grant of Environmental Clearance for Dulanga Opencast Coal Mining Project (7 MTPA in an area of 785.37 ha = (803.71 ha – 18.34 ha = 785.37 ha); Latitude 21° 50'40"N to 22° 01'30' N and Longitude 83°42'06" E to 83° 53'43" E) of M/s National Thermal Power Corporation Ltd (NTPC), Ib valley coalfields, Dist. Sundergarh, Orissa. The proposal was considered in the EAC meeting held on 17<sup>th</sup> -18<sup>th</sup> October 2011; 21<sup>st</sup> -22<sup>nd</sup> February 2012 and reconsidered in the 9<sup>th</sup> EAC meeting held on 20<sup>th</sup> - 21<sup>st</sup> January, 2014. The proponent has informed that:

- i. The project is linked to the proposed Darlipali Power Plant of M/s NTPC to be located at a distance of 8 km. The mine is at a distance of about 60-70km from the existing operating mines of Ib Valley Coalfields.
- ii. The project was accorded TOR vide letter no. J-11015/1140/2007-IA.II(M) dated 17.01.2008.
- iii. The latitude and of the project are 21° 50'40"N to 22° 01'30' N and 83°42'06" E to 83° 53'43" E respectively.
- iv. The land usage of the project will be as follows:

Dulanga\_EC





S.N.	Parameter	Original Mining Plan	Revised Mining Plan
1.	Mine lease area	657	567.19
2.	Outside ML area	373.66	236.52
	TOTAL	1030.66	803.71
1.	Mineable reserves (MT)	194.97	152
2.	OB generation (MT)	518	394
3.	Top Soil (MT)	3.75	3.65
4.	Production Capacity (MTPA)	7	7
5.	Mine Life (years)	31	26

- v. The total geological reserve is 197.20 MT (as per revised mining plan). The mineable reserve 156.03 MT, extractable reserve is 152.03 MT. The per cent of extraction would be 77.09 %.
- vi. The coal grade is B to G with max concentration of F & G Grades. The stripping ratio is 2.59 m<sup>3</sup>/t. The average Gradient is 5-11 degree.
- vii. There will be fifteen seams with thickness ranging from 40 – 45 m (total coal).
- viii. The total estimated water requirement is 1500 m<sup>3</sup>/day at peak production. The level of ground water ranges from 5m - 20m.
- ix. The Method of mining would be Mechanized Open cast mining with shovel-dumper combination & CSM for two seams. There will be one external OB dump and one internal dump. Internal Dump: 365.50 Mm<sup>3</sup> in 413.17 Ha. External Dump: 28.5 Mm<sup>3</sup> in 82.3 Ha
- 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 24 years (excluding construction period of 2 years).
- xii. **Transportation:** Coal transportation in pit: Rear Dumper, Surface to Siding through Conveyor belts and loading at siding by rail.
- xiii. There is R & R involved. There are no PAFs. However there are 1036 PAPs.
- xiv. **Cost:** Total capital cost of the project is Rs. 644.00 Crores. CSR & R&R Cost Rs. 339.33 Crore. Environmental Management Cost 10.46 Crore.
- xv. **Water body:** Garia Nallah flowing through the middle of the property almost along the strikes line of the seams. It is a tributary to Basundhara nalla which joins in Ib river. Ib river is a tributary to Mahanadi over which mighty Hirakud Dam is built. Two subsidiary nallas – Baidhara Nala and Nala B entering the property in the south-western boundary of the property which also join Garia Nala before exiting the block.
- xvi. **Approvals:** Applied for Ground water clearance. Board's approval obtained on 06.03.2013. Mine plan/mine Closure plan was approved on 14.08.2012.
- xvii. **Wildlife issues:** Site Specific Wildlife Conservation Plan prepared and duly approved by PCCF (Wildlife) & CLWL, Odisha vide letter no. 9597/1WL(C)SSP-270/2012 dated 30.12.2013.
- xviii. Sambalpur Elephant Reserve is at distance of 25km from the ML and Debrigarh Sanctuary is at a distance of 33 km. There are a number of reserved forests (RFs) and Protected Forests (PFs) such as the Barghumra RF, Makarchata RF, Kantodungri RF, Hundrakhhol RF, Chhengapahar RF, Gariyapahar RF, Teliya PF, Hathikhhol RF, Kadarha PF, Balimoa RF, Rajpura RF, Kalmegha RF, Giripahar RF and Salparliya RF in the 10km study area. The 15 km radius of the study area does not form a part of the elephant migratory corridor, however, elephants are found and occasionally visit the area.



- xix. **Forestry issues:** Total forest area involved is 323.09 ha. FC was granted for 304.75 ha (274.68 ha within the Dulanga Coal Block and 31.07 ha of forest land outside the Coal Block including 4.94 ha of forest land coming within the safety zone in Dulanga Coal Mining project) vide letter no. 8-23/2013-FC dated 10.1.2014. FC for balance 18.34 ha has not been granted.
- xx. Dulanga Coal Mining Project: Stage-I Forest Clearance: Accorded vide letter dated 10.01.2014.  
Darlipali STPP: Stage-I Forest Clearance: Accorded vide letter dated 14.08.2013. MoEF categorized this block under "No-Go" for mining, in May 2010 - Cleared from "No-Go" by MoEF on 29.06.2011 after reduction of (87 Ha) forest area from the block. Revised Mining Plan, based on reduced mine area, approved by MoC on 14.08.2012. EAC recommended EC for Dulanga Project on 21.03.2012 and for Darlipali STPP on 09.01.2012.
- xxi. Total afforestation plan shall be implemented covering an area of 466.46 ha at the end of mining. Green belt will be developed over 9.91 ha.
- xxii. There are no court cases pending with the project proponent.
- xxiii. There is no violation case pending for this proposal.
- xxiv. Public Hearing was held on 02.07.2010.

3. The project proponent further informed on the Report of the RO MOEF vis-a-vis the commitments made by the proponent which are as follows.

- i. The Source Apportionment Study for which the works order has been placed to ARAI, Pune. The Report will be submitted within 4 months i.e., 27/03/2014.
- ii. Tender for construction of Washery-Conveyor-Silo is under process and award of work and completion of construction will take at least 3 years' time. Completion of the above work is not possible within 18 months and if at all any short-cut arrangement is made, the expenditure will become infructuous after setting up the main infrastructure. It is committed to implement the Action Plan by 01/01/2017. Land has been acquired and fencing is under construction, NIT ready and to be floated.
- iii. Planning, Design & Engineering, erection/ installation along with all associated civil and structural works, testing, successful commissioning of coal washing plant including PGT with two years critical spares, operation and maintenance for supply of washed coal of requisite quality at the designated delivery places and disposal of washery rejects on BOM is ready. There will not be any tipper for feeding of coal to washery. Coal will come through belt conveyor from the receiving pit.
- iv. EC has been granted for 20 MTPA in Nov.2012 and production achieved during 2013-13 was 17.93 MT. This year 20 MT will be achieved and there is further scope for additional production from this mine and therefore EC has been sought for 25 MTPA..
- v. The additional 5 MTPA of coal production in Bhubaneswari OCP will be transported to the power plant consumers only through Rail Mode.
- vi. The proposed additional 5 MTPA of coal production in Bhubaneswari OCP will be transported to the power plant consumers only through Rail Mode.
- vii. MCL will establish conveyor system from mine to siding, without considering the intermediate washery arrangement, within 24 months' time, and thus our earlier commitment in this regard stands revised.
- viii. MCL will ensure that only native species are planted by the Forest Department in the plantation programme of this project.

4. The proposal was reconsidered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) in its 9<sup>th</sup> EAC meeting held on 20<sup>th</sup> - 21<sup>st</sup> January, 2014 and recommended





Environmental Clearance. The Ministry of Environment & Forests hereby accords Environmental Clearance for the above-mentioned **Dulanga Opencast Coal Mining Project (7 MTPA in an area of 785.37 ha = (803.71 ha – 18.34 ha= 785.37 ha) of ; Latitude 21° 50'40"N to 22° 01'30' N and Longitude 83°42'06" E to 83° 53'43" E) of M/s National Thermal Power Corporation Ltd (NTPC), Ib valley coalfields, Dist. Sundergarh, 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:

**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 Forest Clearance has been granted for 304.75 ha (274.68 ha within the Dulanga Coal Block and 31.07 ha of forest land outside the Coal Block including 4.94 ha of forest land coming within the safety zone in Dulanga Coal Mining project) vide letter no. 8-23/2013-FC dated 10.1.2014. FC for balance 18.34 ha has not been granted. No mining activity shall be carried out in forest land for which FC has not been granted.
- iii. OB dump along the western side of an area of 244 ha would be brought to almost ground level for post-mining land use by rehandling of an estimated 112 Mm<sup>3</sup> of OB during 5 years after end of mine life (EOL). However, the dump along the east would be about 30m above ground level.
- iv. An estimated 112 Mm<sup>3</sup> of OB is proposed to be re-handled from the eastern and western OB dumps.
- v. It was stated that an area of 286.74 ha within the ML (which includes an area of 226.23 ha of quarry area) and an area of 179.72 ha outside the ML would be developed with plantation.
- vi. No fly ash from the linked TPPs shall be used in backfilling of the void without undertaking an environmental feasibility study and without prior approval of this Ministry under EIA Notification, 2006.
- vii. Option-3 be adopted, as committed by the proponent, as the most feasible option for diversion of Garia Nala, Baidhara Nala and Nala B and its realignment, whereby the plan for their diversion to be taken up during the 8<sup>th</sup> and 10<sup>th</sup> year.
- viii. The fluoride in the groundwater both in dug wells and by installing peizometers in the study area at appropriate locations be monitored.
- ix. Transport of coal to Darlipalli TPS located at a distance of about 10km shall be by MGR.
- x. An integrated calendar plan of production including the details re-handling separately in external and internal dumps should be furnished to MOEF for record.
- xi. Temporary OB dumps which require re-handling should be stabilised with grass and shrubs.
- xii. Data available with the Rajiv Gandhi National Drinking Water Mission, Department of Rural Development be studied and recommendations therein for removal/treatment of fluorides, TDS, etc, in drinking water be followed for providing safe drinking water to R&R colony and to the nearby villages.
- xiii. Mining shall be carried out as per statuette at a safe distance from Garia Nala and its diversion canal and the diverted Baidhara nala and Nala 'B' Nala flowing within the lease boundary. The bund/embankment to be constructed along diverted canal of Garia nala shall be designed taking into account the highest flood level, based on past data, so as to guard against mine inundation.
- xiv. Topsoil shall be stacked properly within the ML with proper slope at earmarked site of 3.84 ha and shall be concurrently used for reclamation and development of green belt within a year of its generation.
- xv. A temporary external OB dump in an area of 106.62 ha and of 60m height for the initial period of 2.5 years shall be created for dumping 38.5 Mm<sup>3</sup> of OB, which would be reclaimed with



plantation and after 2.5 to 3 years. There would be no external OB dumping from 5th year onwards. The temporary OB dumps which require re-handling shall be stabilised with grass and shrubs.

- xvi. Area brought under afforestation shall be not less than 466.46 ha which includes 286.74 ha within the ML and 179.72 ha outside the ML would be reclaimed with plantation, which includes 351.23 ha of reclaimed quarry, 106.50 ha of reclaimed external OB dump, 3.84 ha of topsoil dump, 2.75 ha of coal stockyard, 2.14 ha of surface water reservoir and an area of 83.74 ha undisturbed shall be developed into green belt within the first 3 years.
- xvii. 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.
- xviii. The entire transportation of 21,210 TPD of coal from the mine to the linked Darlipalli Super Thermal Power Plant shall be by MGR only with wagon loading by Silo. Transportation of coal by road is not permitted.
- xix. An STP shall be provided for the township/colony to treat the domestic effluents to prescribed standards and for their reuse in project activities.
- xx. Area brought under afforestation shall be not less than 466.46 ha which includes 286.74 ha within the ML and 179.72 ha outside the ML would be reclaimed with plantation, which includes 351.23 ha of reclaimed quarry, 106.50 ha of reclaimed external OB dump, 3.84 ha of topsoil dump, 2.75 ha of coal stockyard, 2.14 ha of surface water reservoir and an area of 83.74 ha undisturbed shall be developed into green belt within the first 3 years.
- xxi. A Project specific Wildlife Conservation Plan prepared for Rs 73 lakhs as capital costs and Rs 61 lakhs (annual) for the project for conservation of wild fauna including Elephant, Sloth Bear and a number of Schedule-II fauna found in the study area and for conservation of their habitat shall be implemented in consultation with the Forest and Wildlife Departments of the State Government. The Plan shall include creation of a passageway (undisturbed area through the block as a passage for the free movement of the elephants and for wild animals which may venture into the coal mine areas) at all stages of the mine operation in conjunction with the neighbouring mines which come up in the area to allow movement of these fauna through the project area. The passageway shall be forested with species from the natural habitat to provide connectivity to enable them to reach the neighbouring forests unhindered. Solar fencing would be done along the quarry which would be shifted as the mine develops. Grasslands shall be developed as part of Habitat Restoration in the study area and tree and plant species such as bamboo which constitute the natural diet of the elephants and plant species suitable for bears shall be developed as part of mine reclamation and eco-regeneration of the study area regularly visited by the elephants. At the post mining stage, the mine shall be restored as a habitat for the wildlife found in the pre-mining stage. The WL Plan shall include the use of sirens to alert the animals during MGR movement, sensitising the rail drivers and minimising speed during such crossings shall also be implemented.
- xxii. The project authorities shall also participate in a Regional Conservation Plan as and when prepared in the future by the State Govt. for the conservation of flora-fauna found in the region as a whole.
- xxiii. The progress made on the implementation of the Wildlife Conservation Plan shall be monitored by creation of a Committee which includes experts in ecology and wildlife. The status of budgetary provision of capital and revenue expenditure on the various activities under the Project specific and Regional WL Conservation Plan and the status of the Plans shall be regularly reported to the MOEF RO, Bhubaneswar and also uploaded on the company website.
- xxiv. Third Party monitoring of implementation of WL Conservation Plan shall be carried out and for monitoring the utilisation of funds earmarked for implementation of the WL Plan.



- xxv. A detailed R&R Plan shall be formulated for the 417 PAPs and 309 homestead losers as per R&R Policy of the State Govt. and shall be completed within December 2014. R&R shall include specific income generation schemes, skill development and capacity building, etc. The details of status of implementation and expenditure on the various activities under the R&R Action Plan for the total budget of R&R shall be uploaded on the company website.
- xxvi. CSR Plan with a total budgetary provision of Rs 15.92 crores (capital) and 7.34 crore/annum (recurring cost) shall be implemented for the life of the project. The details of village-wise activities undertaken for the amount of Rs 67.69 lakhs already spent on CSR shall be uploaded on the company website and further, details of village-wise activities for provision of Rs 30-40 crores for CSR for the first 5 years and Rs 5/T of coal as recurring expenditure shall also be provided in the annual report and the compliance report furnished to MOEF RO, Bhubaneswar.
- xxvii. A detailed R&R Plan shall be formulated in consultation with the various stakeholders as per prevalent R&R Policies and would cover R&R for individuals and for the displaced community as a whole.
- xxviii. Various activities under R&R Plan should be completed within time-schedule. The detailed R&R and CSR Action Plans be prepared and implemented.
- xxix. An amount of Rs 67.69 lakhs has been already spent on CSR and further, a provision of Rs 30-40 crores shall be earmarked for CSR for the first 5 years and Rs 5/T of coal as recurring expenditure adjusted to the annual inflation rate.
- xxx. An amount of Rs 1592 lakhs (capital costs) and Rs 734 lakhs (recurring) costs earmarked for EMP shall be implemented and details thereof furnished as part of the compliance report and also uploaded on the company website.
- xxxi. Coal transportation in pit: Rear Dumper, Surface to Siding through Conveyor belts and loading at siding by rail.
- xxxii. The production shall be within the same Mining Lease area.
- xxxiii. The OB shall be completely re-handled at the end of the mining.
- xxxiv. Final mine void depth will not be more than 40 m. 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.
- xxxv. Garland drains be provided.
- xxxvi. The land after mining shall be brought back for agriculture purpose.
- xxxvii. Mine water should be treated for discharge into the lagoon. The quality of lagoon water shall be regularly monitored and mitigation measures taken.
- xxxviii. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- xxxix. Dust mask to be provided to everyone working in the mining area.
- xl. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- xli. 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.
- xlii. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- xliii. 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.
- xliv. 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.
- xl. OB shall be stacked at one 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.
- xlvi. 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.
  - xlvii. 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.
  - xlviii. 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.
  - xliv. Drills shall be wet operated.
    - i. 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,
    - ii. 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.
    - iii. A Progressive Mine Closure Plan shall be implemented by reclamation and afforestation of 351.23 ha of the total quarry area of 567.19 ha 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. The balance 159.55 ha decoladed area being converted into a water reservoir of 45-50m depth at the post mining stage shall be gently sloped along the upper benches and stabilised and reclaimed with plantation.
    - liii. A temporary external OB dump in an area of 106.62 ha and of 60m height for the initial period of 2.5 years shall be created for dumping 38.5 Mm<sup>3</sup> of OB, which would be reclaimed with plantation and after 2.5 to 3 years. There would be no external OB dumping from 5<sup>th</sup> year onwards. The temporary OB dumps which require re-handling shall be stabilised with grass and shrubs.
    - liv. The proponent should prepare restoration and reclamation plan for the degraded area. The land be used in a productive and sustainable manner.
    - lv. Compensatory Ecological & Restoration of waste land, other degraded land and OB dumps in lieu of breaking open the land be carried out.
    - lvi. The mining should be phased out in sustainable manner. No extra over burden dumps are permitted.
    - lvii. No groundwater shall be used for mining operations.
    - lviii. 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.
    - lix. 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.
    - lx. Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
    - lxi. 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.
- lxii. 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
  - lxiii. 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.
  - lxiv. 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.
  - lxv. The commitment made by the Proponent to the issue raised during Public Hearing shall be implemented by the Proponent.
  - lxvi. 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





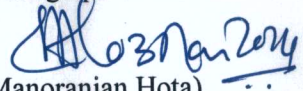
- and 31<sup>st</sup> December 1993 or as amended from time to time before discharge. Oil and grease trap shall be installed before discharge of workshop effluents.
- vii. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered 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 For -V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall





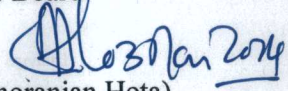
also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF by e-mail.

5. The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.
6. The proponent is required to obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
7. The Proponent shall setup an Environment Audit cell with responsibility and accountability to ensure implementation of all the EC Conditions.
8. The Ministry or any other competent authority may stipulate any further condition for environmental protection.
9. 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.
10. The above conditions will be enforced *inter-alia*, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules. 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.

  
(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, 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, 4t Floor, Vikas Marg, Laxmi Nagar, New Delhi.
8. District Collector, Sundergarh, 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