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No. J-11015/423 /2008-IA.II (M)  
Government of India  
Ministry of Environment & Forests

Paryavaran Bhawan,  
CGO Complex,  
New Delhi-110003.  
Dated: 12 March, 2013

To

The Chief General Manager (CP&P)  
Mahanadi Coalfields Ltd.  
At/PO.: Jagruti Vihar, Burla  
Distt: Sambalpur  
Orissa – 768020

**Subject: Lajkura OCP Expn. (Expn. from 1 MTPA to 2.5 MTPA normative and a peak capacity 3 MTPA in ML area of 252.29 ha) of M/s Mahanadi Coalfields Ltd., located in dist. Jharsuguda, Orissa (EC based on TOR granted on 29.012.2008)**

Sir:

This is with reference to the Ministry of Coal letter no.43011/104/2008 CPAM dated 23.07.2008 along with the application for Terms of Reference (TOR) and this Ministry's letter dated 29.12.2008 granting TOR. Attention is invited to the letters no. CIL/DLI/EMP-TOR/2011/10 dated 26.12.2011 and MCL/HQ/Env/F-73/2013/2379 dated 25.1.2013; dated 4.2.2013 and e-mail dated 25<sup>th</sup> February, 2013 for environmental clearance for the above-mentioned project.

2. The Ministry of Environment & Forests has considered the application. It is noted that the proposal is for grant of Environmental Clearance for Lajkura OCP Expn. (Expn. from 1 MTPA to 2.5 MTPA normative and a peak capacity 3 MTPA in ML area of 641.36 ha) of M/s Mahanadi Coalfields Ltd., located in dist. Jharsuguda, Orissa. The proponent has informed that:
- The proposal is for expansion from 252.29 ha to 721.29 ha and expansion in production from 1 MTPA to 2.5 MTPA normative and a peak capacity 3 MTPA.
  - It was informed that the project is presently working within the existing ML area of 252.29 ha within 1 MTPA production capacity. It was further informed that since forestry clearance is still awaited for the 156.67 ha of forestland involved in the expansion project, EC may be accorded for expansion in production from 1 MTPA to 3 MTPA within the existing ML area of 252.29 ha. EC could be granted for the expansion in ML area of 721.29 ha upon receipt of the FC.
  - One mechanical sweeper is used for the 3 km approach road. It was informed that 125 additional mist type sprinklers have been put up.
  - It was stated that the 3 MTPA has been already reached within the existing ML area.
  - There would be no external OB dump at end of life and the ext. OB dump of 40m created during the life of the project would be re-handled (no blasting required) and backfilled into the mine voids. A final mine void of 100m would be left at the post-mining stage.

EC\_Lajkura

- vi. MCL has now begun the process of entering into an MOU with all the GMs of the various projects for Final Mine Closure and Habitat Restoration.
- vii. The study related to taxonomic enumeration of flora and fauna of core and buffer zone has been carried out by the Department of Environmental Sciences and Life Sciences, Sambalpur University, Orissa. The Study report shows of existence of Schedule-I fauna in the core and buffer zone of the project. The list of fauna under different schedules of the Wildlife (Protection) Act, 1972, found in the core and buffer zone of the project. This has been authenticated by Department of Environmental Sciences and Life Sciences Sambalpur University, Orissa and the list has been provided. A Broad plan for conservation of the fauna has also been included in the report which shall be implemented. The Schedule-I fauna are Monitor lizard (*Varanus salvator*), Python (*Python molurus*), Common Peafowl (*Pavocristatus*) and Schedule II fauna found in core and buffer area.
- viii. The Final Mine Closure Plan for reducing the final mine void to 35-40m have been prepared and details of same was presented.
- ix. In pre-mining land use, of the total 778.24 ha land, 156.67 ha is forest land, 621.57 ha is non-forest land (including 56.95 ha outside ML area).
- x. In post-mining land use of the total area 778.24 ha, 561.07 ha would be under plantation, 17.17 ha is water body, 55.17 ha is dip side haul road, and 72.39 ha is undisturbed area. In the final Mine Closure Plan, the break-up of excavation or quarry area was presented.
- xi. Total excavation area of 398.34 ha, 326 ha area of void would be backfilled with 106 Mm<sup>3</sup> OB with 159 m maximum depth to 16 m minimum depth and water body will be in 17.17 ha area and dip side slope in 55.17 ha area accommodated 43.17 Mm<sup>3</sup> OB. The depth ranges from 159 maximum to 124 m minimum. The details of overburden is total volume of OB removed from inception of the mine would be 293.01 Mm<sup>3</sup> (volume of OB removed from inception of the mine as on 1.04.09 is 57.29 Mm<sup>3</sup> and OB to be removed 235.72 Mm<sup>3</sup> for propose expansion).
- xii. Similarly the volume of total Coal is removed from inception of the mine would be 58.50 Mm<sup>3</sup> (volume of coal removed as on 1.04.09 is 16.44 Mm<sup>3</sup> and coal to be removed as on 1.4.09 (42.06 Mm<sup>3</sup>). Volume of OB in the external dumps for the existing projects is 10.02 Mm<sup>3</sup> and Volume of OB in the external dumps for expansion projects 47.50 Mm<sup>3</sup>. Volume of excess OB in different tiers (with reference to 247.0 m) would be 54.07 Mm<sup>3</sup>. It was informed that the break-up of excavation or Quarry area in the post-mine closure period would be Backfilled area 398.34 ha with 293.01 Mm<sup>3</sup> OB backfilled with 159 m maximum depth. Left out void would be in 325.16 ha area with 37.65 Mm<sup>3</sup> volume of OB with 18 m maximum depth. There will be no external OB dump; all OB in external dump will be rehandled in the mine void.
- xiii. Sufficient air control measures have been taken by providing addition measures for control of air pollution e.g. 02 nos of Electric drill with dust extractor, 01 nos Electric drill with wet drilling, 2 fixed sprinklers near crusher and transfer point trips of mobile tankers increase from 3-6 trips/day, 221 KL/day additional water provided for sprinkling and dust control measures Green cover development etc., mechanical sweeper proposed, 50% coal transportation of coal directly from CHP.
- xiv. Maintenance of road etc. additional water requirement 190 m<sup>3</sup>/day-potable and 280 m<sup>3</sup>/day and industrial would be provided, 47 kld addition waste water treatment in ETP etc. for control of noise, 26.28 ha has to be planted for expansion project. Additional avenue plantation in 2.0 ha of land has to be provided along road side for expansion project.
- xv. Proper Land use management would be done in expansion project. In Biological reclamation of the expansion area about 371.31 ha of land will be biologically reclaimed.

- The remaining land will be converted into agricultural land. 26.28 ha area covered in block plantation and greenbelt, 2 ha under avenue plantation.
- xvi. The Wild life Conservation revenue budget (@20,000/- per ha for mine lease area of 721.29 ha and an amount 144.26 Lakh has been kept for Wild life Conservation.
- xvii. Mine closure cost is Rs. 8675.12 lakhs with compound interest.
- xviii. R&R of existing project has been completed. In the expansion project two villages namely Chhauliberna village (near Chingriguda siding), Chhauliberna village (Baghachhapa nallah side) consisting of additional 96 families require R&R. 228 Project affected persons have been provided employment. R&R of expansion project likely to be completed by 2016-17. R& R policy of Govt. of Odisha would be followed. Expenditure incurred and works executed at present rehabilitation colony Madhuban Nagar is Rs.20, 97,414 Lakh.
- xix. One central hospital having 150 beds is located in Ib Valley area taking care medical facilities both for MCL surrounding area. A dispensary is working for the employee in Lajkura OCP. Educational facilities have also been provided. Drinking water facilities provided to nearby villages at the cost of Rs. 1,41,120 Lakh during 2012-13. Action Plan for CSR activities in the year 2012-13 has been prepared at the as per CIL policy @ Rs 5/Tonne of coal produce would be spent on CSR activity. Total cost of Rs.3043.50 Lakhs.
- xx. Application for diversion of 156.67 ha submitted to CCF (nodal) / PCCF, Bhubaneswar vide letter No.1036 dated 11/14.09.2010 and allotted State Sl.No. is 426/2010 dated 17.09.2010.
- xxi. Third Party evaluation of the environment quality data for the project was done through M/s. Richardson & Cruddas (1972) Ltd., Chennai, a Govt. of India U/T (it has an MOU with M/s Chennai Testing Laboratories Pvt. Ltd whose lab is accredited by NABL, and is valid from 08/12/10 to 07/12/12) for pre-monsoon season from March 2012 to May 2012.
- xxii. **Public Hearing:** The **Public Hearing** was conducted on 22.01.2011 for ML area of 721.29 ha and total area is 778.24 ha.
- xxiii. **Transportation of coal:** It was informed that transportation of coal (expn. from 3300 TPD to 8300 TPD) to CHP would be by trucks to 3 Railway Sidings located at varying distances of 1 to 3 km. A Silo Loading facility of a capacity of 10 MTPA would be established at Lajkura in 3 years' time to take care of the loading of coal from Lajkura and Samleswari OCPs and thereafter transport 55% of the coal production by rail using existing line. The remaining 45% would continue to be transported to nearby consumers by road using about 200 trucks/day.
- xxiv. **Forestry clearance:** Since forestry clearance is still awaited for the 156.67 ha of forestland involved in the expansion project, EC may be given for expansion in production from 1 MTPA to 3 MTPA within the existing ML area of 252.29 ha. The EC could be granted for the expansion in ML area of 721.29 ha upon receipt of the FC. The proponent has submitted a written request vide letter no. MCL/HQ/Env/F-73/2012/3163 dated 22.11.2012 reiterating that the request that EC may be given for expansion for production from 1 MTPA to 3 MTPA within the existing ML area of 252.29 ha. After the receipt of the FC, EC could be granted for the expansion in ML area of 721.29 ha.
- xxv. **Legal issues:** There are cases pending before the lower Courts and the High Court. The proponent has through the e-mail dated 25<sup>th</sup> February, 2013 and has informed that the State Govt. has filed a case against the proponent under section 15 and 16 of the E(P)Act, 1986 in the Court of the Chief Judicial Magistrate vide case no. 288/2013 dated 23.2.2013.

3. This is a violation case. There are cases pending before the lower Courts and the High Court. As per the Office Memorandum dated 12.12.2012, issued by the Ministry of Environment

and Forests, with regard to the consideration of proposals for ToR/Environment clearance/CRZ clearance involving violation of the Environment (Protection) Act, 1986/EIA notification, 2006/CRZ notification, 2011, the Environmental Clearance will be granted after the written commitment in the form of a formal resolution by the Board of Directors submitted to the MoEF to ensure that violations will not be repeated and the State Government concerned initiates credible action on the violation by invoking powers under Section 19 of the Environment (Protection) Act, 1986 for taking legal action under section 15 of the Act for the period for which the violation has taken place and evidence provided to the MoEF of the action taken. In this case, the Board's resolution has been received. As regards credible action, the proponent has, through the e-mail dated 25th February, 2013, has informed that the State Govt has filed a case against the proponent under section 15 and 16 of the E(P)Act, 1986 in the Court of the Chief Judicial Magistrate vide case no. 288/2013 dated 23.2.2013.

4. The proposal was considered in the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) and recommended in its 63<sup>rd</sup> meeting held on 17-18 December, 2012 for granting Environmental Clearance. The Ministry of Environment & Forests has examined the application in accordance with the EIA Notification 2006 and under the provisions thereof, hereby accords environmental clearance for the above-mentioned **Lajkura OCP Expn. (Expn. from 1 MTPA to 2.5 MTPA normative and a peak capacity 3 MTPA in ML area of 252.29 ha) of M/s Mahanadi Coalfields Ltd., located in dist. Jharsuguda, Orissa** 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. Full EC with forest land shall be granted once the stage - I Forest Clearance is obtained

**A. Specific Conditions:**

- (i) The Proponent shall not operate in the forest area without Forestry Clearance.
- (ii) The expansion of production shall be from 1 MT to 3 MT within the same Mining Lease area.
- (iii) The proponent shall obtain FC for 156.67 ha of forest land which falls within the expanded area for mining.
- (iv) A 30 meter width should be provided to green belt;
- (v) Social audit should also be done through an Institute of repute and details of the report be submitted to Ministry;
- (vi) A plan be made urgently for mechanized loading of railway wagon at the railway siding to reduce dust generation from loading by pay loader.
- (vii) Full EC with forest land could be granted once the stage – I Forest Clearance is obtained.
- (viii) Topsoil, if any, created during the balance life of the mine, shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used within a year of its generation for mine reclamation and development of green belt.
- (ix) OB generated during the balance life of the mine shall be simultaneously backfilled into the decoaled quarry area. No new external 06 dumps shall be created for the 06 generated in the balance life of mine.
- (x) Monitoring and management of existing reclaimed dumpsites of an area of 326.00 ha shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis.
- (xi) 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.

- (xii) 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.
- (xiii) 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.
- (xiv) 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, haulage roads, transfer points, etc.
- (xv) Drills shall be wet operated. Roads shall be metal topped and mechanical sweepers shall be regularly deployed to clear the dust off the main approach and mineral transportation roads. Water sprinkling (fixed and mist type, mobile) shall be regularly done along the main haul roads.
- (xvi) At the post mining stage, an area of 575.57 ha shall be afforested which includes 60.44 ha for green belt area, 189.13 ha for outside dump, 326.00 ha for inside dump by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xvii) A Progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled in an area of 326.00 ha so as to backfill and reclaim 27.03 ha of decoaled quarry area and stabilised with plantation.
- (xviii) No fly ash shall be dumped into the decoaled void without feasibility studies on long-term impacts on the aquifers and life systems and without prior approval of the Ministry.
- (xix) 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.
- (xx) The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- (xxi) Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.
- (xxii) Besides carrying out regular periodic health checkup of their workers, 10% of the workers identified from workforce engaged in active mining operations shall be subjected to health checkup for occupational diseases and hearing impairment, if any, through an agency within the district/State and the results reported to this Ministry and to DGMS.
- (xxiii) 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 Bhubaneswar.
- (xxiv) 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 this letter for approval, in case expansion in ML area is not implemented.

(xxv) R&R of existing project has been completed. In the expansion project, Brajarajnagar unit 1, two villages namely Chhaulibera village (near Chingriguda siding), Chhaulibera village (Baghachhapa nallah side) consisting of additional 96 families require R&R and the total R&R would be 263 for the total 3.00MTPA. 228 Project affected persons have been provided employment. R&R of expansion project likely to be completed by 2016-17. R& R policy of Govt. of Odisha would be followed. Expenditure incurred and works executed at present rehabilitation colony Madhuban Nagar is Rs.20, 97,414 Lakh. R&R norms shall be not less that of the National R&R Policy.

(xxvi) 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 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 quantum of mineral coal and waste being produced 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 particulates shall be 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, Cr, etc) and other monitoring data shall be regularly submitted to the Ministry including its Regional Office at Bhubaneswar and to the State Pollution Control Board and the Central Pollution Control Board once in six months. Random verification of samples through analysis from independent laboratories recognized under the EP Rules, 1986 shall be furnished as part of the 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, and treated so as to conform to the standards including for heavy metals before discharge 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. 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 transportation of 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 analyzed through a laboratory recognized under EP 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. 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.
- (x) 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.
- (xi) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its Regional Office at Bhubaneswar.
- (xii) 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>
- (xiii) A copy of the environmental clearance letter shall be marked to concerned 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 the company's website.
- (xiv) A copy of the clearance letter shall 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 Centre and Collector's Office/Tehsildar's Office for 30 days.
- (xv) The clearance letter shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in the public domain. The monitoring data of environmental quality parameters (air, water, noise and soil) and critical pollutants such as PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> (ambient and stack if any) and critical sectoral parameters shall also be displayed at the entrance of the project premises and mines office and in corporate office and on the company's website.
- (xvi) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions (both in hard copy and in e-mail) to the respective Regional Office of the MOEF, the respective Zonal offices of CPCB and the SPCB.
- (xvii) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.
- (xviii) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional

Offices of the MOEF by E-mail.

5. The Ministry or any other competent authority may stipulate any further condition 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 complaint filed by the District Collectors concerned against the coal mine of Mahanadi Coalfields Ltd in the Court of S.D.J.M., Jharsuguda for trial under relevant provisions of E (P), Act, 1986 and also cases pending in other Courts.

  
(Dr. Manoranjan Hota)  
Director

Copy to:

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Secretary, Department of Environment & Forests, Government of Jharkhand, Secretariat, Ranchi.
3. Chief Conservator of Forests, Regional office (EZ), Ministry of Environment & Forests, A-31, Chandrashekarapur, Bhubaneswar – 751023.
4. Member Secretary, Orissa State Pollution Control Board, Neelakanth Nagar, Unit-VIII, Bhubaneswar.
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, Chatra, Government of Jharkhand.
8. Monitoring File 9. Guard File 10. Record File

  
(Dr. Manoranjan Hota)  
Director