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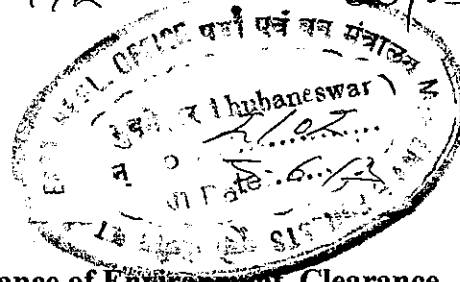
Office of the PROJECT OFFICER Belpahar Opencast Mine PO:BANDHBAHAL Dist:Jharsuguda(Orissa) PIN:768211, Phone No.:06645- Off-233403,Res-233201	कार्यालय परियोजना अधिकारी बेलपाहाड खुलि खादान पिओ-बन्धवाहाल जिल्ला-झारसुगुडा (ओडिशा) फोन नं.: 06645- ऑफ-233403, रेस-233201	 <b>Lakhanadi Coalfields Limited</b> (A Subsidiary of Coal India Limited) A Mini Open Cast Company 	HEAD OFFICE MCL COMPLEX Jagriti Vihar, PO:U.C.E., Burla SAMBALPUR-768018(ORISSA) Gram:SAMBCOAL Telex:0634-219,Fax:0663-2542770, 2542880 Phone:PBX:2542461 to 2542470
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Ref no. : MCL/LKPA/BOCM/CVL/2013-14/ 172

Dt. 25/05/13

To,

The Chief Conservator of Forest (C)  
Ministry of Environment & Forest (E-Z)  
A-3, Chandrasekharpur, Bhubaneswar-13.




**Sub :- Submission of Half Yearly Compliance of Environment Clearance condition in respect of Belpahar Opencast Mine, Lakhanpur Area.(Period : October 2012 –March 2013)**

Dear Sir,

Enclosed please find herewith the Half Yearly Compliance along with Monitoring report of Air, Water, Noise & Effluent quality in respect of Belpahar Opencast Mine, Lakhanpur Area for the period **from October 2012 to March 2013.**

This is for your kind information and necessary perusal.

Yours faithfully

  
(Project Officer) 23/5/13

Copy to ;

1. The Additional Director(s) MOEF, Paryawaran Bhawan CGO complex, Lodhi Road, New Delhi
2. The Chairman, Orissa Pollution Control Board, Nilkhanth Bhawan, Unit-VIII, Bhubaneswar)
3. The Regional Officer, Orissa State Pollution Control Board, Shivam Colony, Near Income Tax Office, Ainthapali, Budharaja, Sambalpur)
4. The Chief General Manager, LKPA
5. The G.M.(Envt.), MCL Hq.
6. Area Evt. Officer, LKPA
7. N.O.(Envt.), BOCM

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**(A) Specific Conditions:**

Sl.No	Specification	Compliance
(i)	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.	The top soil ( 9621 cu.mt. from April 12 to Sep.12) has been filled up concurrently over back filled area. Subsequently, it is biologically reclaimed and planted suitably as per standard provisions ( 2500 no./Hec.) Top soil generated in recent times ( 14568 cu.mt. from Oct.12 to Feb. 13.) is being stored at a specific place & will be used for reclamation purpose in future.
(ii)	The modification of the natural drainage of Lilari Nala flowing through the ML by its proposed diversion shall be done so that it is realigned to its natural course at the mine boundary and ensure that the downstream users of the water from Lilari Nala are not affected by the proposed diversion. Any embankment constructed along the Lilari Nala shall be stabilised by vegetation.	The diversion of the Lilari nala will be taken up after competent approval from the concerned authority. The diversion will be done keeping in mind the interest of the down stream users. Further, the embankment, if any, along the diverted route will be suitably planted.
(iii)	OB generated during the balance life of the mine shall be simultaneously backfilled into the decoated quarry area. No new external OB dumps shall be created for the OB generated in the balance life of mine.	The old OB dump ( External) has already been reclaimed technically and biologically. No new OB dump is being made in expansion phase. The OB is concurrently backfilled in de-coaled area. External OB dump of 55.33 ha. has already been technically and biologically reclaimed and total 1,38,250 no. plants has been planted over it.
(iv)	Monitoring and management of existing reclaimed dump sites of an area of 55.33 ha shall continue until the vegetation becomes self- sustaining. Compliance status shall be submitted to the Ministry of Environment & Forest and its Regional Office located at Bhubaneswar on yearly basis.	It is being monitored regularly. The plantation growth is satisfactory and already self sustained. Compliance Status is already being submitted in half yearly report.
(v)	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 collected shall be utilised for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted and maintained properly.	It is constructed in the mine. There are 4 no. of mine sump of capacity a.1,80,000 cu.mt., b.4,50,000 cu.mt., c.2,00,000 cu.mt. and d.1,60,000 cu.mt. The total runoff generated over the OB dump is collected in the mine sump inside the mine. This runoff is allowed to settle down for sufficient time for sedimentation of the suspended particles.. water so collected is being reused for dust suppression of mine, road, and greenbelt. The drains are being regularly de- silted and maintained.
(vi)	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 provided adequate retention period to allow proper settling of silt material.	Garland drain ( Size- 3m x 3m),gradient- 1 in 20, length-1935 mt.,) and sump (4 no.s, total sump Capacity is 990000 cu.mt.) of adequate capacity, keeping in view of sudden peak rainfall, has already been provided to retain the setting of the silt materials. The retention period for the water is also sufficient for siltation purpose.
(vii)	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.	The retaining wall of the OB material and of proper dimension is provided at the dumps to check surface runoff and siltation. The maximum rain fall observed in one day is 150mm. Further, the OB dumps are provided with drains which connects to the sump. The runoff water is not allowed to go outside directly.

(viii)	Crushers at the CHP shall be operated with high efficiency bag filters, water sprinkling system shall be provided to check fugitive emission from crushing operations, conveyor system, haulage roads, transfer point etc.	Proper care is being taken at the CHP to control the dust. Nos of misters has already been provided at the unloading point. 04 Nos of canopies have been provided to arrest the fugitive dust generated during the process. 09 nos of sprinklers have been provided all along the conveyor belt to control the dust, with additional pumping arrangement. Perforated pipes are provided at all the transfer points. The conveyor is covered all along the way. 2 no. 28 KL and 4 no. 12 KL mobile tankers are in operation on the haulage road/ coal transportation roads to control fugitive dust emission. Regular monitoring is also done.
(ix)	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.	All drills are wet operated and also provided with NVE dust extractor. Roads are already metal topped. 4 no. 28 KL and 2 no. 12 KL mobile tankers are in operation on the haulage road/ coal transportation roads to control fugitive dust emission. Regular monitoring is also done.
(x)	At the post mining stage, an area of 720.495 ha shall be afforested which includes 473 ha of backfilled area, 70 ha of safety zone, 55.33 ha of ext. OB dumps, 76.502 ha of infrastructure area, 35 ha of area after rationalisation, and 10 ha outside the ML in colony, by planting native species in consultation with the local DFO/ Agriculture Department. The density of the trees shall be around 2500 plants per ha.	Plantation has already been done in total 392.73 Ha ( Refer- Form III/ Half Yearly Report) area around the OB dump site, backfield area, project boundary etc.. Plantation is being done by Chattisgarh Rajya Van Vikas Nigam Ltd. Density is kept at 2500 plants/ha.
(xi)	A progressive Mine Closure Plan shall be implemented and OB generated shall be simultaneously backfilled in an area of 379.803 ha so as to backfill and reclaim 473 ha of decoaled quarry area and stabilised with plantation.	In respect of progressive mine closure plan, presently the OB excavated is concurrently backfilled in the de coaled area. Subsequently, it will be reclaimed.
(xii)	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.	This will be taken care off. At present, there is no such plan of using fly ash for dumping in de coaled area
(xiii)	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 & Forest and to the Central Pollution Control Board quarterly within one month of monitoring.	It is being done regularly by the CMPDIL at at required interval. The ground water level is being measured at three dug wells at the required frequency. Further, the qualities of the underground water is also monitored every month by CMPDI. The detail report about the ground water level and its quality is being submitted in this report itself.
(xiv)	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.	The 4 no. sump ( Capacity, 180000 cu.mt., 450000 cu.mt., 200000 cu.mt., 160000 cu.mt.) inside the mine is also acting as underground water recharging units. Water is stored for sufficient period in these sumps which recharges the U/G water strata. In addition to that roof top rain water harvesting system has been made at three establishments. 54 no. of nearby villages are supplied drinking water as per requirement by the project.



	Sewage treatment plant shall be installed in the existing colony. ETP shall also be provided for workshop and CHP wastewater.	Sewage treatment Plant of capacity 1.70 MLD has already been provided in the colony which treats the domestic sewage. The effluent generated in the workshop is being treated in three stages i.e. first in primary settling tank, then in oil and grease trap and lastly in secondary settling tank before discharge out side. Similarly mine water effluent is also treated in two stages. First, in sedimentation pond in mine quarry then in secondary settling tank before discharge out side. The final effluent quality is monitored regularly ( twice per month).
(xvi)	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 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.	All the work person engage in mine is being examined once in five year to observe any contraction due to exposure to coal dust and if needed corrective measure are taken. Frequency reduced to 3 yrs. For those who are more than 45 yrs. 149 no.s of employees has been medically examined in 2012. Periodical Medical Examination (PME) is being done by expert doctors at our well established Central Hospital which is fully equipped with all modern health check up facility.
(xvii)	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 Regional Office at Bhubaneswar.	Digital process of entire lease area using remote sensing technique was already submitted to MOEF vide MCL/Hq./Envt./F-61/2011/1520, Dt. 2.12.11. for the year 2010. This work is being undertaken in three years interval. The report for this year, 2013 has been submitted to MOEF/BBSR on 22.4.13. vide -MCL/Hq./Envt./F-61/2013/3453, 22.4.13. by G.M.(Envt.)
(xviii)	A detailed Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forest within 6 months of grant of this letter for approval, in case expansion of ML area is not implemented.	The final mine closure plan will be submitted one year in advance before mine closure, depending upon the condition prevailing at that time.
(xix)	R&R for the balance 367 PAFs from the villages of Chharla (154), Darlipali (231), Jurabaga (88), Kirarama (05) and Kusuraloi (31) shall be resettled within an agreed time-frame, R&R norms shall be not less than that of the National R&R Policy.	It is being complied as per the approved plan/guidelines of CIL and State Government. Details has been already provided in Form- II/ Half yearly Compliance Report for April 12 – Sep. 12. Further PAFs of the five villages are being resettled as per the standard guidelines. Attempts are being made to shorten the time frame for it.

### 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.	No change in technology and scope of work from current one will be made without approval of MOEF.
(ii)	No change in the calendar plan including quantum of mineral coal and waste being produced shall be made	No change in the calendar plan including quantum of mineral coal and waste being produced will 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 PM10, PM25, SO2 and NO1. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically and 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.	Three Nos of air monitoring station viz. Bandbahal Township, near MDTP and near Quarry no.5 has already been made based on environmentally & ecologically sensitive location criteria in consultation with State Pollution Control Board. One additional station is being setup soon. SPM, RPM, SO2 and NOX level in the ambient air is monitored. As suggested, the monitoring of PM 10 and PM 2.5 will be taken up soon. Further, monitoring of heavy metals such as Hg., As, Ni., Cd., Cr. in particulate matter will also be taken up shortly and will be done at least once in six months.
(iv)	Data on ambient air quality (PM10, PM25, SO2 & NOx 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.	At present, the monitoring data of SPM, RPM, SO2 and NOx is regularly sent, once in six months to the desired places, as suggested. Further, the monitoring report of PM10, PM2.5 and heavy metals will also be sent regularly. Action is being taken get it monitored at the mine. CMPDI is monitoring the samples & their laboratories are duly recognised. The report is submitted in the half yearly 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.	Adequate measure are being taken to control the noise level within the prescribe limits. Ears plugs/ muffs are being provided to the worker engaged in blasting, drills and HEMM operation at regular interval. No. of ear plugs/muffs provided in 2012 is 85 no.
(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 19th May 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	The effluent generated in the workshop is being treated in three stages i.e. first in primary settling tank, then in oil and grease trap and lastly in secondary settling tank before discharge out side. Similarly mine water effluent is also treated in two stages. First, in sedimentation pond in mine quarry then in secondary settling tank before discharge out side. The final effluent quality is monitored regularly ( twice per month). The monitoring for heavy metals will be now taken up, as suggested.
(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.	This is under control and regularly monitored. PUC certificates of the vehicles used for transportation of coal is regularly monitored. Further, these coal loaded vehicles are always covered with tarpaulins and they are loaded to the optimum quantity only.
(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	Presently the CMPDIL (A subsidiary of CIL) is doing the environmental quality parameter's monitoring work. The laboratory of CMPDIL is recognized by the CPCB

(ix)	Personnel working in duty 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.	In 2012-13, 382 no.s of protective respiratory devices have been provided to the work person engaged in dusty area. They are being trained and informed on use of protective respiratory devices. All the work person engaged in mine is being examined once in five year to observe any contraction due to exposure to coal dust and if needed corrective measure are taken. Frequency reduced to 3 yrs. For those who are more than 45 yrs. 149 no.s of employees has been examined in 2012.
(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.	Environment management cell has been established in project as well as area and head quarter level. One Sr. Manager ( E-6) level officer is heading the project environment cell and reporting to the Project Officer directly. At Hq. level, one G.M.(Env.) is heading the company's environment dept. and reporting to Director(T, P&P)
(xi)	The funds earmarked for environmental protection measures shall be kept 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.	Separate account is being maintained for environmental protection measures. The year wise expenditure is being reported to the Regional officer BBSR and to the ministry through Form V.
(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 & Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a>	It has been already done. Advertisement has been made in two news paper namely The New Indian Express & Samvad on Dt. 3.3.13.(Both)
(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.	Copy of EC has been sent to three local panchayat's Sarpanch office namely Bandbahal, Sarandamal and Kusrailoi on 1.3.13.(all three). Further, it has also been placed on M.C.L.'s website under Environment/Environmental Clearance link.
(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.	To be complied by the respective authorities.
(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 PM10, PM25, SO2 & NO (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.	The Environmental Clearance copy has been posted at MCL web site under Environment/Environmental Clearance link.

(vi)	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 Officers of CPCB and the SPCB.	It is being sent regularly at an interval of six months.
(vii)	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities shall extended full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/ monitoring reports.	We are providing full cooperation to the visiting officials of Regional office and all necessary datas etc. are provided to them, as desired.
(viii)	The environmental statement for each financial year ending 31st March in Form-V is mandated to be submitted by the project proponent to the concerned State Pollutin 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.	The annual Environmental Statement for each financial year is regularly submitted to the Member Secretary, SPCB, Odisha. Further, it is being uploaded on MCL's website under Envt./Annual Report/Ib Valley CF link. Further it is also being sent to the Regional Office of MOEF at BBSR.

  

**PROJECT OFFICER**  
 Belpahar OCM  
 Lakhanpur Area, MCL

25/5/13