

COMPLIANCE TO EC CONDITIONS

TALABIRA COAL PROJECT (3.0 MTPA)

STATUS AS ON 30th September 2014, ON COMPLIANCE OF EC CONDITIONS OF TALABIRA-I OPENCAST COAL MINE PROJECT (1.5 MTPA TO 3.0 MTPA) LAID DOWN BY MINISTRY OF ENVIRONMENT OF FORESTS, GOVT. OF INDIA, VIDE MEMORANDUM NO : J-11015/58/2009 – IA. II (M) OF 8th NOVEMBER, 2011

Sl.	CONDITIONS	STATUS AS ON 30th September 2014
A.		
(i)	Production of Coal shall not exceed 3 MTPA. The project proponent shall obtain prior EC for expansion in production beyond 3 MTPA.	: Prior EC will be obtained in case of expansion in production beyond 3 MTPA.
(ii)	No coal washery shall be established without prior EC from this MOEF.	: In case of Establishment of coal washery prior EC from MOEF will be obtained.
(iii)	No fly ash shall be dumped into the decoaled voids without prior approval of the MOEF.	: We will not dump fly ash into the decoaled voids without prior approval of the MOEF.
(iv)	The embankment shall be stabilised with stone pitching on the reservoir side and compacted and plantation using a mix of native species shall be developed. Additional safety and protection measures including continued operation of high capacity pumps shall be in operation to prevent mine Inundation. Prior approval of Disaster Management Plan shall be obtained.	: The embankment is already stabilized with stone pitching on the reservoir side and compacted and plantation using a mix of native species is being developed. Adequate pumping arrangement to deal with increased seepage of water is in the process of installation. One No. Of 310 Hp and Two Nos. of 200 HP pumps are installed inside the mines during monsoon to prevent mine Inundation. One additional 72 HP pump is kept as standby pump in the mines during monsoon.
(v)	Top soil, if generated, should be properly stacked with proper slope at earmarked dump site(S) with adequate measures and shall be used for reclamation and development of green belt and for reclamation of backfilled quarry should be used for reclamation and rehabilitation of mined out areas within a year of generation.	: Top soil is properly stacked with proper slope at earmarked dump site which will be used for reclamation and development of green belt and for reclamation of backfilled quarry. At present topsoil is being used for covering sides of OB dump.
(vi)	The entire OB generated in the expansion project shall be backfilled and reclaimed and stabilized with plantation using a mix of species found in the reserve forests in the buffer zone. Monitoring and management of the existing reclaimed dumpsite shall continue	: The entire OB generated in the expansion project shall be backfilled and reclaimed and stabilized with plantation using a mix of species found in the reserve forests in the buffer zone. Monitoring and management of the existing reclaimed dumpsite will continue until the vegetation becomes self-sustaining and no dumping of OB on reclaimed dumps

- until the vegetation becomes self-sustaining and no dumping of OB on reclaimed dumps shall be permitted. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis.
- (vii) 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 utilized 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.
- (viii) 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.
- (ix) Mist type water sprinkling system shall be provided to check fugitive emissions from conveyor system, haulage roads, transfer points, etc. Water sprinkling (fixed and mist type, mobile) shall be regularly carried out along the main haul roads.
- (x) No blasting shall be carried out.
- (xi) A feasibility plan for transportation of coal to the railway siding by closed overhead conveyors shall be prepared and furnished to the MOEF within 6 months.
- (xii) Area brought under afforestation shall not be less than 137.905 ha which includes reclaimed external OB dump area (45ha), backfilled area (60 ha), along ML boundary, green belt (28.905 ha) and topsoil dump area (6.0 ha) by using a mix of species found in the natural forests in the buffer zone in consultation with the local DFO Agriculture Department. The density of the trees shall be around 2500 plants per ha.
- (xiii) A Progressive Mine closure Plan shall be implemented and OB generated during the balance life of
- will be permitted. Compliance status will be submitted to the Ministry of Environment & Forests and its Regional office located at Bhubaneswar on yearly basis.
- Complied.
- Check dams and siltation ponds have been constructed to arrest silt and flows from mineral dumps. Catch drains have been made around OB Dumps, top soil and the mine site, connected to the garland drain. The garland drain is connected to settling tanks to arrest silt/fine particles. The water so collected is being reused for various in-house activities such as, watering the mine area, roads, green belt development etc. The drains are also regularly de-silted and maintained properly.
- : Complied.
- Toe drains of appropriate dimension is maintained all along the toe of the dumps
- : Presently we do not have any conveyor systems in the Mine. We have mobile sprinklers to arrest fugitive emissions. Further, Mobile Sprinklers are also used in transportation roads to control fugitive emissions.
- : Being complied.
- Talabira coal project is the first operating coal mines in the private sectors to adopt blast free operation by using Ripper dozer and Continuous Surface Miner.
- : It is in the process of study.
- : Being complied.
- During 2014-15 we have planted 21029 plants in and around mine area.
- About 1,01029 Nos. of plants have been planted so far with the local species. Nursery has been developed in the mines area with local species. Vacant land will be developed with green forest along with R & R Colony sites and both road side.
- : Mine closure plan of Talabira-I Coal Mine is approved by Ministry of coal, Government of India vide letter No.34011/29/2011-CPAM,

the mine shall be concurrently backfilled and the area reclaimed with a mix of native species and at the end of mine life the balance area 24.4 ha of decoaled void shall also be reclaimed with OB and the entire worked out area shall be backfilled up to ground level. There shall be no water body created at the post-mining stage.

dated 6th February 2012.

The plan will be fully implemented.

Concurrent back-filling will be practiced once matured pits are created and will be followed by top soil cover and will be afforested after landscaping. The entire worked out area shall be backfilled up to ground level. There shall be no water body created at the post mining stage.

- (xiv) A Conservation Plan comprising for in-situ and ex-situ conservation of Schedule-I and II fauna found within the core and buffer zone shall be implemented In consultation with the State Government for the balance life of the Project and Include a Plan for habitat restoration at the post mining stage and which also includes a Plan for development of 150 ha of grasslands for the elephants visiting the area. The activities there under along with status of Implementation (including expenditure) shall be regularly reported as part of the Compliance Report furnished to MOEF RO, Bhubaneshwar and also uploaded on the company website. : Being complied.
- A Conservation Plan including a plan for habitat restoration at the Post Mining stage has been prepared, which is duly approved by CWLW. An approved amount of Rs. 257 lakhs has been deposited with PCCS Orissa for implementation of above conservation plan.
- (xv) 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. Monitoring of heavy metals including mercury shall be carried out and data furnished as part of the compliance report. Data thus collected shall be submitted to the Ministry of environment & Forests and to the Central Pollution Control Board quarterly and also regularly uploaded on the company website. : Being complied.
- Regular monitoring of ground water level at six and quality of Ground water as well as surface water is being monitored as per the frequency mentioned. The monitoring data is regularly submitted to the regional office of the MOEF, Bhubaneswar and SPCB, Orissa.
- (xvi) The extent of use of water In the mining operations shall be reduced by recycling and reuse. The Company shall put up artificial groundwater recharge measures for augmentation of groundwater resource if the water table shows a declining trend. The project authorities shall meet water requirement of nearby vllage(s) in case the village wells go dry due to dewatering of mine. Mine water to be discharged into the Hirakud Reservoir shall be treated to prescribed standards before discharge. : Being Complied.
- No fresh water is being used in the mining operations. The water collected from the Mine pit is reused for mining operations. Pits have been created to store the ground water collected from the decoaled area for groundwater recharge. The project authority has made arrangement for distribution of drinking water to near by villages through mobile tankers.
- Mine water to be discharged into the Hirakud Reservoir will be treated to meet the prescribed standards before discharge.

(xvii)	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 local/regional health institution and the results reported to this Ministry and to DGMS.	:	Complied
(xviii)	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.	:	We will comply as per your stipulated directives.
xix)	A detailed Final Mine Closure Plan along with details of Corpus Fund submitted to the Ministry of Environment & Forests which shall be implemented from 2017-18. The time period for reclamation shall be completed within a year of completion of project. The Plan for Habitat Restoration Plan for a minimum period of five years (under the MMDR Act) shall be undertaken after completion of reclamation in consultation with and a Joint Inspection carried with the State Forest Department.	:	Will be Complied. The detailed Final Mine Closure Plan along with details of Corpus Fund submitted to Ministry of Environment and Forests shall be implemented from 2017-18 at the end of mine life. The time frame stipulated will be followed.
xx)	CSR would be implemented in 8 villages - Talabla,. Nua Khinda, Purana Khinda, lapanga, Budhiapali, Matul Camp, and Beheramunda and Mundapara. Budgetary provisions at @Rs 10 per tonne of coal should be made for CSRactivities. The socio-economic development of the villages shall be monitored over the life of the project using UNDP. Human Development Indices and reported as part of the Report submitted to MOEF RO, Bhubaneshwar.	:	CSR is implemented in 8 villages - Talabla,. Nua Khinda, Purana Khinda, lapanga, Budhiapali, Matul Camp, and Beheramunda and Mundapara. Budgetary provisions at @Rs 10 per tonne of coal has been made for CSRactivities. The socio-economic development of the villages shall be monitored over the life of the project using UNDP. Human Development Indices. CSR activities done and the expenditure done in this regard in the last six months is attached in Annexure-VII
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.	:	No change in mining technology and scope of working is planned so far. If there will be any change, it will be complied with prior approval of the Ministry of Environment and Forests.
ii)	No change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.	:	No change in the calendar plan including excavation, quantum of mineral coal and waste is planned so far.
iii)	Four ambient air quality monitoring stations shall be established in the	:	Ambient air quality monitoring results have been attached with this compliance report.

core zone as well as in the buffer zone for monitoring PM10, PM2.5, SO2 and NOx and heavy metals such as Hg, Pb, Cr, As, etc. 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.

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| iv) | Data on ambient air quality (PM10, PM2.5, SO2, NOx and heavy metals such as Hg, Pb, Cr, As, etc) 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. | : | Being Complied.
Ambient air quality monitoring results have been attached with this compliance report. The same is 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 |
| v) | Fugitive dust emissions quality (PM10, PM2.5, and heavy metals such as Hg, Pb, Cr, As, etc) from all the sources shall be controlled regularly monitored and data recorded properly. Water spraying arrangement on haul roads, wagon loading, and dump trucks (loading and unloading) points shall be provided and properly maintained. | : | Being Complied.
Six water tankers are deployed for water spraying on haul roads, coal faces, dump yard and Coal stock round the clock. |
| vi) | Adequate measures shall be taken for control of noise levels below 85 dBA in the work environment Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with ear plugs/muffs. | : | Being Complied.

Noise level below 85 dBA is maintained in the work environment and operation of HEMM. Persons engaged in the area are being provided necessary PPEs. |
| vii) | Industrial wastewater (workshop and wastewater from the mine) shall be properly collected, treated so as to conform to the standards prescribed under GSR422 (E) dated 19th May 1993 and 31st December 1993 or as amended from time to time before discharge. Oil and grease trap shall be Installed before discharge of workshop effluents. | : | Being Complied.

The water quality meets the prescribed standard before discharge after treatment in ETP.

Oil and grease trap has been installed in the workshop area to take care of oils and grease. |
| viii) | Vehicular emissions shall be kept under control and regularly monitored. | : | Being Complied.
Vehicles used for coal transportations are Euro- III Complied.
All the Transport vehicles possess pollution certificate. |
| ix) | Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board. | : | Being Complied.
We have full phased Environment Laboratory at Hirakud Complex, Hirakud with adequate no. and type of Pollution monitoring and analysis equipments. |
| x) | Personnel working in dusty areas shall wear protective respiratory devices and they shall also be | : | Being Complied.

All the personnel have been provided suitable |

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. 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.

PPEs and necessary training and information are being provided on Safety, health and environmental aspects. Occupational health surveillance programme of the workers are being done periodically.

- 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. : We will strictly follow.
- xii) A copy of the environmental clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion /representation has been received while processing the proposal. : A copy of the environmental clearance letter has been marked to the Sarpanch of Khinda Panchyat.
- xiii) State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and collector's office/Tehsil office for 30 days. Complied.
- xiv) The Project authorities shall advertise at least in two local newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality concerned within seven days of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution control Board and may also be seen at the website of the ministry of Environment & Forests at <http://envfor.nic.in>. The compliance status including data on monitoring of environmental quality (air, water and noise) shall also be uploaded by the project authorities in their website and also at their main gate of the project premises and office so as to bring the same In the public domain Complied.
We have advertised in two local newspapers that are widely circulated around the Project namely :
(1) The Samaya, Dated 15th Nov, 2011
(2) Prabhat Khabar,dated 15th Nov.,2011.