

**NORTH EASTERN COALFIELDS
COAL INDIA LIMITED
MARGHERITA:ASSAM**

**SUBMISSION OF SIX MONTHLY STATUS REPORT ON ENVIRONMENTAL PROTECTION
MEASURES ADOPTED AT LEDO OPEN CAST PROJECT**

(PERIOD: JULY 2010 TO DECEMBER 2010)

Ref:-Ministry's letter No. J-11015/226/200/-IA-II(M)

Dated: 10.12.2008.

Specific Condition

Status Report

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| <p>i)Mining in three pits shall be carried as per statuette from the Ledopani Nallah flowing within the lease and railway track and NH-38 passing through the ML</p> | <p>: Mining operation is being carried out only in pit No. II as per statute from Ledopani Nallah flowing within the lease, Railway track and NH-38 passing through the ML.</p> |
| <p>ii)There should be no diversion of the Ledopani nallah without prior approval of this Ministry</p> | <p>: No diversion has been done.</p> |
| <p>iii)An embankment shall be constructed along the bank of the Ledo Pani Nallah along Quarry NO. 3. The slope of the embankment shall at least 2:1 towards the ML. The height of the embankment shall be at least 3 m higher than the HFL.</p> | <p>: Mining operation has not yet been commenced in Quarry no.3.Same will be undertaken in due course.</p> |
| <p>iv)A thick 3-tier green belt shall be developed along the side of the ML facing the Ledo Town ship, colony within the mine and along the 2.5 km. main approach roads to the mine.</p> | <p>: <i>Action has been taken for preparation of the site such as top soil spreading for plantation as per requirement.5000 nos. of sapling has already been planted along the rail track and in the slopes of the present dumping site towards western side of the mine.</i></p> |
| <p>v)Top soil shall be stacked properly with proper slope at earmarked site(s) and shall not be kept active and shall be used for reclamation and development of green belt.</p> | <p>: <i>Top soil recovered from the quarry has been properly stacked at suitable place as advised.</i></p> |
| <p>Vi)Of the total 8.8.1 Mm³ of OB generated would be backfilled into the mined out voids through sequential backfilling and the balance 17% of the OB would be stored in one external OB dump. Dumping of OB in the external OB dump shall cease from the</p> | <p>: <i>Mining operation is in the initial stage. Sequential back filling shall be done in due course to comply with the provisions.At present one area has been selected in the western side of the project for dumping of OB and care has</i></p> |

5th year of mining operation. Monitoring and management of reclaimed of existing dump site shall continue until the vegetation becomes self-sustaining and to be rehandled back into the decoaled void and thereafter there shall be no external OB dump. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Shillong 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 provided 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) The existing road network shall be augmented by constructing an approach road of 2.5 km. service road of 1 km and a colony road of 4.2 km length all of which shall be black topped. Thick green belt shall be developed on both sides of the roads.

x) Major haul roads shall be fitted with high efficiency water Sprinkling system to check fugitive emission at the transfer points haulage roads, etc. Dry fogging System/mist spray arrangements shall be provided for crushing/loading operations for dust control

been taken for development of vegetation over the Dump.

Catch drains and siltation ponds of appropriate size have been provided and water so collected is being utilized for watering the mining area, roads, green belt development etc. Drains are regularly desilted and maintained properly.

Garland drains of adequate dimension has been provided. Sump capacity has been properly designed as directed.

Since the operation in the mine is in a very preliminary stage, the said requirement shall be taken up whenever necessity arises.

Action has been taken to augment existing road network. Work will be completed in due course.

Moreover, action has been taken for construction of a new colony for shifting of employees from the nearby project site. Construction of 32 Nos. qtrs. at Peru field is already on progress and will be completed within March 2011. Plantation has been carried out for green belt development on both sides of the roads.

Water sprinkling is done as routine work constantly round the clock at all the haul roads and other strategic points. CHP is not required and hence, has not been installed.

at the CHP.

xi) Drills shall be wet operated only.

Wet operated drills are used.

xii) Controlled blasting for OB shall be practiced for removal of OB only with use of delay detonators and a minimum statutory safe distance from the habitation shall be maintained. The mitigative measures for control of ground vibrations and to arrest the fly rocks and boulders shall be implemented.

Fully complied with.

xiii) The total area that shall be brought under afforestation shall include reclaimed backfilled area, green belt along ML boundary, safety zone and undisturbed area, along roads area, along roads and infrastructure and in township within the lease by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees shall be around 2500 plants per ha.

Necessary action has been taken for sufficient plantation along the roads and infrastructure and in township area.

xiv) A progressive Mine Closure Plan shall be implemented by reclamation of the three quarries, which shall be sequentially mined and backfilled and afforested 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 entire decoaled void shall be completely backfilled and there shall be no void left at the post mining stage.

Shall be complied.

xv) Prior approval of the CGWB/CGWA shall be obtained in case of use of groundwater for mining operations.

No ground water is being used for mining operation.

xiv) The Ledo pani Nallah and the mine water discharged out of the ML shall be monitored at the outlet points and treated before their discharge so as to conform to the standards prescribed particularly for PH under GSR 422 (E) dated 19th May 1993 and 31st December 1993 and further amendments.

At present workings are in top benches and generation of mine water is negligible which is monitored periodically. Construction work of one mechanized E.T.P. has already started. The work is on progress and will be completed within the F.Y. 2010-2011. At present mine water discharge is being monitored periodically and treated with lime and soda ash solution in the discharge point.

xv) Regular monitoring of ground water level and quality particularly for Acid Mine Drainage (AMD) shall be carried out by

Regular monitoring of ground water level and quality particularly for acid mine discharge is being conducted as per the

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 total Central Pollution Board quarterly within one month of monitoring.

xvi)The project authorities shall undertake rainwater-harvesting measures and shall also meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine or quality deteriorates due to mining operation.

xvii)Sewage treatment plant of adequate capacity shall be installed in the colony. ETP shall also be provided for workshop and CHP wastewater. Treated wastewater meeting prescribed norms only shall be permitted to be discharged in to the natural water courses.

xviii)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 agency such as NIOH, Ahmedabad within a period of one year and the results reported to this Ministry and to DGMS.

xix)A detailed socio-economic measures shall be implemented under CSR until end of mine life.

xix)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 Shillong.

frequency of monitoring suggested and action is being taken for construction of new peizometers.

An adverse effect of mining operations on the wells of villages has not yet been noticed.

All the exiting colonies have adequate sewage treatment arrangement. The matter of construction of an ETP is on tendering process.

Periodic medical examination of all the workers as per the norms of DGMS is being conducted(as per rule 29 A of mines rules 1955).

Socio-economic measures are being taken.

Time series of land use maps, based on satellite imagery (on a scale of 1:5000) of the core zone and buffer zone is under active consideration and will be prepared shortly.

xx) A final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

Final Mine Closure Plan along with details of Corpus Fund shall be submitted as per schedule.

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 Forest.

No change in mining technology has been made.

ii) No Change in the calendar plan including excavation, quantum of mineral coal and waste shall be made.

No change in calendar plan for excavation, quantum of coal and OB have been made.

iii) Four ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring SPM, RSPM, SO₂, NO_x 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.

Fully complied with.

iv) Data on ambient air quality (SPM, RSPM, SO₂, NO_x) and heavy metals such as Hg, Pb, Cr, As, etc) shall be regularly submitted to the Ministry including its Regional Office at Shillong and to the State Pollution Control Board and the Central Board and the central Pollution Central Board once in six months.

Being submitted as per statutory provision. Ambient air quality monitoring analysis reports are enclosed herewith for ready reference.

v) Fugitive dust emissions (SPM, RSPM, SO₂, NO_x 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, dump trucks (loading and unloading) points shall be provided and properly maintained.

Water spraying arrangement on haul roads, OB dumps, loading and unloading points have been provided and maintained.

vi) Adequate measures shall be taken for control of noise levels below 85 dBA in the

Adequate measures have been taken for control of noise levels. Machines are

work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with ear plugs/muffs.

vii) 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 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.

viii) vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transporting the mineral shall be covered with tarpaulins and optimally loaded.

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.

x) 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.

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 regional Office at Shillong.

maintained and regular checks are carried out to minimize noise production. Controlled blasting with delay detonator and less charge per hole is being done in proper sequence to reduce noise and ground vibration and are kept within limit. Workers have been provided with Ear Plugs/muffs.

Waste water from the mine are being treated with chemical dosing before discharge. Construction of a mechanized ETP is on progress.

Smoke emission test of all the vehicles are being carried out regularly through state Govt. agencies.

Work is being outsourced.

Dust respirators- are provided to all the personnel working in dusty areas. Adequate training on safety and health is imparted on regular intervals in VT centre.

Complied.

Funds has already been earmarked for environmental protection measures. Necessary accounts of which are separately maintained. Total fund earmarked for environmental measures for the year 2010-11 is Rs.50.00 lacs. Yearly expenditure shall be communicated at the end of the year.

xiii) 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.

Copy of the environmental clearance letter has been marked to concerned Panchayat/local NGO.

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 the ministry of Environment & Forests at <http://envfor.nic.in>. The compliance status shall also be uploaded by the project authorities in their website so as to bring the same in the public domain.

Complied.

Agent
Ledo Open Cast Project