

No. J-11015/216/2012-IA.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi-110003.
Dated: 14 December, 2012

To,

The Director,
(Planning & Projects)
M/s Singareni Collieries Company Ltd. (SCCL),
Bhadrachalam Road Railway Station,
Khammam District,
Kothagudam Collieries – 507 101,
Andhra Pradesh.

Subject: Cluster of GDK 1&3, GDK 2&2A and GDK 5 Inclines Underground Coal Mining Projects of M/s Singareni Collieries Comp. Ltd., Tehsil Ramagunda, Dist. Karimnagar, Andhra Pradesh. (TOR)

Sir,

This is with reference to your letter No. CRP/ENV/A/438/306 dated 08.6.2012 on the aforesaid subject and its consideration in the Expert Appraisal Committee (Thermal & Coal Mining) held on 27th -28th August 2012. It was informed that the proposal is for Cluster of GDK 1&3, GDK 2 & 2A and GDK 5 Inclines **Underground Coal Mining Projects of M/s Singareni Collieries Comp. Ltd.,** The Underground Coal Mining Projects is an expansion project for a production capacity from 1.54 MTPA to 2.274 MTPA in an expansion in an area of 1272.44 ha to 1356.85 ha. These mines are adjacent to each other and fall in South Godavari Mining Lease which is due for renewal of Mining Lease in December 2014. The production capacity is proposed to increase by introduction of semi-mechanization through Side Discharge Loaders (SDLs) and Universal Drilling Machines (UDMs). The mining method is by Board Pillar only by underground. Depillaring by hydraulic sand stowing has been proposed to protect the surface feature. The proposed balance reserved to be extracted by this mining for GDK-1 & 3 is 12.77 MT, GDK-2 & 2A 8.95 MT and GDK-5 19.74 MT. The seam present 1, 2, 3A, 3 & 4 seams. Average Grade of Coal G2 & G9, G7 and G9, G7. No R&R involved. No addition land is required. No R&R involved. The balance life of mines GDK 1&3, GDK 2&2A and GDK 5 Inclines would be 17 years, 13 years and 34 years.

Details of the mining activities are as follows:

SI. No.	Mine Name	Production Capacity (MTPY)				Lease Hold Area (Ha)	
		Existing		Proposed		Existing	Proposed
		Normative	Peak	Normative	Peak		
1.	GDK 1 & 3 Inclines	0.344	-	0.810	0.810	457.25	541.66
2.	GDK 2 & 2 A Inclines	0.450	-	0.864	0.860	282.76	282.76
3.	GDK 5 Incline	0.360	-	0.600	0.600	532.43	532.43
	Total	1.154	-	2.274	-	1272.44	1356.85

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The land use of lease area is as follows:

Sl. No.	Land Use of Lease Area(in ha)	GDK - 1 & 3 Incline	GDK - 2 & 2A. Incline	GDK - 5 Incline
1.	Forest Land	Nil	Nil	Nil
2.	Agriculture land	232.12	61.08	59.21
3.	Grazing land	58.27	76.67	325.82
4.	Waste land	165.65	111.27	135.67
5.	Built up area	40.38	6.95	6.73
6.	Water Bodies	45.24	26.80	5.00
7.	Total	541.66	282.76	532.43

The land use of acquired Land is as follows:

Sl. No.	Land Use details of Acquired Land (in ha)	GDK - 1 & 3 Incline	GDK - 2 & 2A Incline	GDK - 5 Incline
1.	Pit head infrastructure	4.32	4.87	6.05
2.	Infrastructure for area administration(workshop) MVTC, Stores, CHP, etc.)	5.60	6.27	0.67
3.	Approach Roads	12.24	5.88	18.34
4.	Township/ colony	6.00	0.00	0.00
5.	Sand Stock Yard and stowing bunker	22.60	20.50	47.43
6.	Existing Plantation	62.71	107.45	128.60
7.	Plantation proposed	27.20	14.75	205.12
8.	Any other (pl.specify)			
	Area vacant in patches	44.23	42.24	34.68
	Grave yard (s)	2.00	-	3.00
	Sammakka jathara yard /idga yard	8.64	-	2.00
	Land use SCCL Acquired Land	195.54	201.97	445.9

The Post mining land use (in ha) pattern of the acquired area is as follows:

Sl. No.	Land Use details of Acquired Land(in ha)	GDK - 1 & 3 Incline	GDK - 2 & 2A Incline	GDK - 5 Incline
1.	Plantation Area	195.53	201.97	445.89
2.	Built up area	Nil	Nil	Nil
3.	Total	195.53	201.97	445.89

1. The Committee recommended a TOR with the following conditions as given below:

- Safety of mine related impacts and issues e.g. roof safety, Subsidence etc. should be suitably addressed in TOR;
- Since NTPC provides the fly ash to the mine, the same need to be mixed with OB and used for stowing.

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- (iii) Toxicity study for Fly ash and presence of hazardous material /heavy metals in the water should be carried out before using the same for stowing;
- (iv) The proponent should address the safety related issues eg. Ventilation in the mines and depillaring;
- (v) A copy of the Subsidence studies carried out by the BHU, Varanasi should be circulated to all the members of committee for comments;
- (vi) Restoration of land should be done simultaneously by putting back the OBD;
- (vii) Mine closure plan should also be submitted;
- (viii) The issue of Fly ash, low grade ore should also be addressed.
- (ix) An EIA-EMP Report should be prepared for incremental impacts for expansion in production from 1.154 MTPA to 2.274 MTPA and expansion in ML area from 1272.44 ha to 1356.85 ha addressing the incremental impacts of the underground coalmine project including changes in land use, water use, energy use, aspects of mineral transportation and issues of impacts on hydrogeology, plantation programme based on the generic structure specified in Appendix III of the EIA Notification 2006.. Baseline data collection can be for any season except monsoon.
- (x) The EIA-EMP report should also cover the incremental impacts and management plan for the project specific activities on the environment of the region, and the environmental quality – air, water, land, biotic community, etc. through collection of baseline data and information, generation of baseline data on impacts for expansion in production from 1.154 MTPA to 2.274 MTPA and expansion in ML area from 1272.44 ha to 1356.85 ha of coal production based on approval of project/Mining Plan.
- (xi) A Study area map of the core zone and 10km area of the buffer zone (15 km of the buffer zone in case of ecologically sensitive areas) delineating the major topographical features such as the land use, drainage, locations of habitats, major construction including railways, roads, pipelines, major industries/mines and other polluting sources, which shall also indicate the migratory corridors of fauna, if any and the areas where endangered fauna and plants of medicinal and economic importance are found in the area.
- (xii) Map showing the core zone along with 3-5 km of the buffer zone) delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records) and grazing land and wasteland and water bodies.
- (xiii) Contour map at 3m interval along with Site plan of the mine (lease/project area with about 3-5 km of the buffer zone) showing the various surface structures such as buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within/adjacent to the ML), green belt and undisturbed area and if any existing roads, drains/natural water bodies are to be left undisturbed along with details of natural drainage adjoining the lease/project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., highways, passing through the lease/project area.
- (xiv) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area. Impacts of project, if any on the landuse, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations. Extent of area under surface rights and under mining rights.

S.N.	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			



Area Under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

- (xv) Study on the existing flora and fauna in the study area carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. The flora and fauna details should be furnished separately for the core zone and buffer zone. The report and the list should be authenticated by the concerned institution carrying out the study and the names of the species scientific and common names) along with the classification under the Wild Life Protection Act, 1972 should be furnished.
- (xvi) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working plan/scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps should also be included.
- (xvii) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xviii) Collection of one-season (non-monsoon) primary baseline data on environmental quality air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, AS, etc), noise, water (surface and groundwater), soil along with one-season met data.
- (xix) Map of the study area (core and buffer zone) clearly delineating the location of various monitoring stations (air/water/soil and noise ? each shown separately) superimposed with location of habitats, wind roses, other industries/mines, polluting sources. The number and location of the stations should be selected on the basis of the proposed impacts in the downwind/downstream/groundwater regime. One station should be in the upwind/upstream/non-impact non-polluting area as a control station. Wind roses to determine air pollutant dispersion and impacts thereof shall be determined. Monitoring should be as per CPCB guidelines and standards for air, water, noise notified under Environment Protection Rules. Parameters for water testing for both ground and surface water should be as per ISI standards and CPCB classification of surface water wherever applicable.
- (xx) Impact of mining and water abstraction and mine water discharge in mine on the hydrogeology and groundwater regime within the core zone and 10km buffer zone including long term modelling studies on the impact of mining on the groundwater regime. Details of rainwater harvesting and measures for recharge of groundwater should be reflected wherever the areas are declared dark/grey from groundwater development.
- (xxi) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues. The Safety of mine related impacts and issues e.g. roof safety, Subsidence etc. should be suitably addressed. The proponent should address the safety related issues eg. Ventilation in the mines and depillaring etc.
- (xxii) Since NTPC provides the fly ash to the mine, the same need to be mixed with OB and used for stowing. Toxicity study for Fly ash and presence of hazardous material /heavy metals in the water should be carried out before using the same for stowing
- (xxiii) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given

separately. Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users should be provided.

- (xxiv) Impact of choice of mining method, technology, selected use of machinery - and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations.
- (xxv) Impacts of mineral transportation ? within and outside the lease/project. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place. Examine the adequacy of roads existing in the area and if new roads are proposed, the impact of their construction and use particularly if forestland is used.
- (xxvi) Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral and their impacts.
- (xxvii) Examine the number and efficiency of mobile/static water sprinkling system along the main mineral transportation road within the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality.
- (xxviii) Impacts of CHP, if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.
- (xxix) Conceptual Final Mine Closure Plan along with the fund requirement for the detailed activities proposed there under. Impacts of change in land use for mining operations and whether the land can be restored for agricultural use post mining. Restoration of land should be done simultaneously by putting back the OBD Mine closure plan should also be submitted.

Table 1 Stage-wise Cumulative Plantation

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1 st year										
2.	3 rd year										
3.	5 th year										
4.	10 th year										
5.	15 th year										
6.	20 th year										
7.	25 th year										
8.	30 th year										
9.	34 th year (end of mine life)										
10.	34-37 th Year (Post-mining)									85 *	2,12,500

*As a representative example



- (xxx) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be furnished.
- (xxxi) Details of cost of EMP (capital and recurring) in the project cost and for final mine closure plan. The specific costs (capital and recurring) of each pollution control/mitigative measures proposed in the project until end of mine life and a statement that this is included in the project cost.
- (xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, raw materials/mineral, etc.
- (xxxiii) Employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.
- (xxxiv) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxv) Public Hearing should cover the details as specified in the EIA Notification 2006, and include notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments by the proponent made should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxxvi) Status of any litigations/ court cases filed/pending in any Court/Tribunal on the project should be furnished.
- (xxxvii) Submission of sample test analysis of characteristics of coal - this includes grade of coal and other characteristics ash, S and heavy metals including levels of Hg, As, Pb, Cr etc. and the issue of Fly ash, low grade ore should also be addressed.
- (xxxviii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.

(A) FORESTRY CLEARANCE

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl. for diversion of forestland
		If more than one, provide details of each FC			

(B) MINING PLAN /PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:

Copy of Letter of Approval of Mining Plan/Project Approval

(xxxi) **Corporate Environment Responsibility:**

- The Company must have a well laid down Environment Policy approved by the Board of Directors.
- The Environment Policy must 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 must be furnished.
- d) To have proper checks and balances, the company should 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.

GENERAL CONDITIONS AND ADDITIONAL POINTS OF TOR


The following general points should be noted:

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) After the preparation of the draft EIA-EMP Report as per the aforesaid TOR, the proponent shall get the Public Hearing conducted as prescribed in the EIA Notification 2006 and take necessary action for obtaining environmental clearance under the provisions of the EIA Notification 2006.
- (v) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter prescribing the TOR.
- (vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.
- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Mining Questionnaire (posted on MOEF website) with all sections duly filled in shall also be submitted at the time of applying for EC.
- (viii) General Instructions for the preparation and presentation before the EAC of TOR/EC projects of Coal Sector should be incorporated/followed.
- (viii) The aforesaid TOR has a validity of two years only.

The following additional points are also to be noted:

- (i) Grant of TOR does not necessarily mean grant of EC.
- (ii) Grant of TOR/EC to the present project does not necessarily mean grant of TOR/EC to the captive/linked project.
- (iii) Grant of TOR/EC to the present project does not necessarily mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.
- (iv) Grant of EC is also subject to Circulars issued under the EIA Notification 2006, which are available on the MOEF website: www.envfor.nic.in

Yours faithfully,


 (Dr. Manoranjan Hota)
 Director

Copy to: Chairman, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanatnagar, Hyderabad – 500038.

ToR Singreni