

No. J-11015/60/2016-IA-II(M)
Government of India
Ministry of Environment, Forest & Climate Change
IA-II (Coal Mining) Division

Indira Paryavaran Bhawan,
Jorbagh Road, N Delhi-3

Dated: 29th April, 2016

To,

The General Manager (W B P & Environment)
M/s South Eastern Coalfields Ltd,
W B P & Environment Department,
Seepat Road, P B. No.60

Bilaspur - 495 006 (**Chhattisgarh**) Email: gmenvtsecl@gmail.com;

Sub: Jagannathpur Opencast project for production capacity of 3.00 MTPA (Normative) and 3.50 MTPA (Peak) in ML area of 686.151 ha in Tehsil Surajpur District Surajpur (Chhattisgarh) of M/s South Eastern Coalfields Limited - TOR - reg.

Sir,

This is with reference to your application No.SECL/BSP/ENV/Jagannathpur OC/2016/6234 dated 14th January, 2016 online proposal No.IA/CG/CMIN/40053/2016 and subsequent letters dated 5.3.2016, 9.3.2016, 10.3.2016, & 18.3.2016 on the above subject.

2. The proposal is for TOR for Jagannathpur Opencast project for production capacity of 3.00 MTPA (Normative) and 3.50 MTPA (Peak) in an ML area of 686.151ha in Tehsil Surajpur District Surajpur (Chhattisgarh) of M/s South Eastern Coalfields Limited.

3. The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Projects, in its 53rd meeting held on 17-18 March, 2016. The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting, are reported to be as under:

- (i) Jagannathpur Opencast is a green field project situated in Jagannathpur Sub-Block of Bistrampur Coalfields. The project falls in Bhatgaon Area of SECL.
- (ii) It is a green field project for TOR.
- (iii) The latitude and longitude of the project are 23° 21' 22" to 23° 23' 05" N and 83° 11' 44" to 83° 14' 04" E respectively.
- (iv) Joint Venture: there is no joint venture.
- (v) Coal Linkage: Various thermal power plants.
- (vi) Employment generated / to be generated: 232 persons
- (vii) Benefits of the project: Project will considerably improve the socio-economic status of the adjoining areas. This will result in following benefits:
 - Improvements in Physical Infrastructure
 - Improvements in Social Infrastructure
 - Increase in Employment Potential
 - Meet energy requirement
 - Post-mining Enhancement of Green Cover



(viii) The land usage of the project will be as follows:

Pre-Mining:

Sr. No	Land use	Within ML Area(ha)	Outside ML Area(ha)	Total (Ha)
1	Agriculture land	497.659	24.00	521.659
2	Forest land	126.431	0	126.431
3	Waste land	0	0	0
4	Grazing land	0	0	0
5	Surface water bodies	29.760	0	29.760
6	Settlements	8.301	0	8.301
7	Others(specify)	0	0	0
	Total	662.151	24.00	686.151

Post- Mining:

S No	Pattern of utilization	Area (ha)
1.	Reclaimed External and Internal dumps	541.030
2.	Green belt	10.000
3.	Final void /Water body	20.000
4.	Built up area (Infrastructure, colony, roads, R & R site)	22.200
5.	Safety zone: Undisturbed area	92.921
	Total	686.151

Core area :

S N	Particulars	Forest Land	Tenancy Land	Government Land					Grand Total
				Grazing land	Waste land	Water body	others	Total	
1	*Quarry Area	96.512	400.782	-	-	15.435	8.301	23.736	521.030
2	External OB Dump	5.479	34.521						40.00
3	Infrastructure, roads	-	8.200						8.200
4	Safety Zone	24.44	54.156			14.325		14.325	92.921
Total land to be Acquired		126.431	497.659	-	-	29.760	8.301	38.061	662.151

- (ix) The total geological reserve is 73.18 MT. The mineable reserve 55.89 MT, extractable reserve is 55.89 MT. The per cent of extraction would be 100%.
- (x) The coal grade is E/G10. The stripping ratio is 6.31 cum/tonne. The average Gradient is 2 degree. There will be 09 seams with thickness ranging 0.32- 5.00 m.
- (xi) The total estimated water requirement is 420 m³/day. The level of ground water ranges 1.90 m to 10.25 m.
- (xii) The Method of mining will be Opencast.
- (xiii) There is one external OB dump with Quantity of 21 Mbcm in an area of 40 ha with height of 60 meter above the surface level and two internal dump with Quantity of 331.58 Mbcm in an area of 501.03 ha.
- (xiv) The final mine void would be in 20 ha with depth 60m. and the Total quarry area is 521.03

ha.

- (xv) The life of mine is 22 Years.
- (xvi) Transportation: By Trucks from in pit to pit head coal handling plant, Surface to Siding by Trucks and Siding to Consumer by Rail.
- (xvii) There is R & R involved. There are 390 PAFs.
- (xviii) Cost: Total capital cost of the project is Rs. 152.43 Crores. CSR Cost Rs. 2.00/- per Tonne of coal production. R&R Cost Rs.3056.80 Lakhs. Environmental Management Rs. 1272.98 Lakhs.
- (xix) Water body: There is a reservoir situated just outside the North-Western part of the Block. A seasonal Nallah flows along the eastern boundary of the project and discharges its water into the Mahan River. Gohargar nallah flows in the Southern part of the leasehold area.
- (xx) Approvals: Board's approval obtained on 09.09.2008. Mining plan has been approved on 09.09.2008. Mine closure plan is an integral part of mining plan.
- (xxi) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone. However, Wild life Conservation Plan is under preparation at State Forest Research Institute (SFRI) Jabalpur.
- (xxii) Forestry issues: Total forest area involved 126.431 Ha in the project area. Forest clearance in process. FC Application registration No. is 2014/036
- (xxiii) Total afforestation plan shall be implemented progressively and completed at the end of mining. Green Belt over an area of 10 ha. Density of tree plantation 2500 trees/ ha of plants.
- (xxiv) There is no court cases/violation pending with the project proponent.

4. The EAC in its 53rd meeting on 17-18 March, 2016, after detailed deliberation has recommended the project for grant of TOR for preparation of the Environmental Impact Assessment/Environment Management Plan along with Public Hearing. Based on the recommendations of the EAC, the Ministry hereby accords TOR for **Jagannathpur Opencast project for production capacity of 3.00 MTPA (Normative) and 3.50 MTPA (Peak) in ML area of 686.151 ha in Tehsil Surajpur District Surajpur (Chhattisgarh) of M/s South Eastern Coalfields Limited** with the specific terms of reference, in addition to the generic TORs applicable for Opencast Coal Mines as under:-

(i) For ensuring the flow of water in Mahan river, it is essential to protect the water sheds of Gohargar and Jagannath nallas, both of which receive water from their respective catchments and discharge their contents into Mahan river. The Gohargar nala passes through the mine lease area; and the downstream of Jagannath nala from the reservoir, which is located next to mine lease area, also passes through the mine lease area. Both the nallas join before meeting the Mahan river. To ensure the protection of hydrology of the area, particularly the flow of water in Mahan river, the Committee advised the PP to examine the following options, which should be examined in detail in the EIA:

- (a) Underground mining instead of open cast mining.
- (b) In case of open cast mining, to exclude from mining, the areas through which the nallas pass.
- (c) In case options (a) and (b) are not feasible because of technical problems and loss of substantial amount of coal, the nallas may be diverted in a way that the natural contours and flows are maintained.

(ii) It was noted that railway siding work has been allotted to M/s RITES. The Committee desires that it should be expedited for completion within 5 years.

(iii) The average value of PM10 at different locations from the area is on the higher side. A cumulative study is necessary to ascertain the various sources contributing to such levels.

A. Generic TOR for an opencast coalmine project:

- (i) An EIA-EMP Report shall be prepared for..... **MTPA** rated capacity in an ML/project area of.....ha based on the generic structure specified in **Appendix III of the EIA Notification, 2006**.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... **MTPA** of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A toposheet specifying locations of the State, District and Project site should be provided.
- (iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of **ecologically sensitive areas** such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
- (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

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- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiii) **One-season (other than 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** coinciding with the same season for AAQ collection period should be provided.
- (xiv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xv) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a **Comprehensive Conservation Plan** along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and 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 scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xvii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xviii) Impact of mining on hydrology, modification of natural drainage, diversion and channelling 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.
- (xix) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xx) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
- (xxi) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

- (xxii) Impact of blasting, noise and vibrations should be given.
- (xxiii) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxiv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxiv) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxv) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvi) Efforts be made for maximising progressive internal dumping of O.B., sequential mining , external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- (xxvii) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxviii) Progressive Green belt and ecological restoration /afforestation plan and selection of species (native) based on original survey/land-use should be given.
- (xxix) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
- (xxx) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxi) 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 in the mine should be given.
- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxiii) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxiv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxv) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/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 should be given.
- (xxxvi) CSR Plan along with details of villages and specific budgetary provisions (capital and

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recurring) for specific activities over the life of the project should be given.

(xxxvii) Corporate Environment Responsibility:

- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
- b) 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 EC 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.

(xxxviii) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details 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.

(xxxix) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xl) Status of any litigations/ court cases filed/pending on the project should be provided.

(xli) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xlii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

B. General Conditions:

- (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) 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.
- (ix) Grant of TOR does not necessarily mean grant of EC.
- (x) Grant of TOR/EC to the present project does not necessarily mean grant of TOR/EC to the captive/linked project.
- (xi) 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.



- (xii) 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

5. You are required to submit the final EIA/EMP prepared as per TORs to the Ministry within 3 years as per this Ministry's O.M. No. J-11013/41/2006-IA. II (I) dated 22nd August, 2014 for considering the proposal for environmental clearance

6. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India / National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc. vide Notification of the MoEF dated 19th July, 2013.


29/4/2016
(S K Srivastava)
Scientist E

Copy to:

The Member Secretary, Chhattisgarh Environment Conservation Board, Commercial Complex,
C.G. Housing Board Colony, Kabir Nagar, District Raipur (**Chhattisgarh**) – 492 099