

MINUTES OF THE 5th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 25th - 26th NOVEMBER, 2013 IN NEW DELHI

COAL MINING PROJECTS

A. The 5th meeting of the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) was held on 25-26 November, 2013 in, New Delhi to consider the proposals in coal mining sector. The list of participants of EAC and the proponents are given at Annexure-1 and 2 respectively.

B. Conformation of Minutes: The Committee confirmed the minutes of the 2nd EAC meeting held on 3rd -4th October, 2013 with the following amendments:

Item no. 2.1: Gevra OCP project:

Total ML area of the project is 4058.146 ha out of which 904.027 ha is forest area. The corrected title shall be: “Gevra OCP project [Expansion from 35 MTPA (normative) to 37.00 MTPA (peak) in ML area of 4058.146 ha] of M/s South Eastern Coalfields Limited, dist. Korba, Chhattisgarh - EC under 7(ii) of EIA Notification 2006” and total area and forest lands be corrected accordingly wherever applicable. .

Item no. 2.2: Chhatrasal Opencast Coalmine Project:

para 2.2.1 : Tehsil Waidhani shall be corrected to Tehsil Waidhan.

para 2.2.4: Sub-para (x) & (xi) be clubbed together.

Item no. 2.5: Kapurdi Lignite Open Cast Mine project:

para 2.5.4.(v): The excess production capacity be corrected to 0.5 MTPA in place 0.05 MTPA in 2012-13.

C. The following proposals were considered:

5.1 Expansion (under 7(ii) of EIA Notification 2006) of Tarmi opencast project of (1.25 MTPA to 1.70 MTPA in an ML area 258.70 ha) of M/s Central Coalfield Limited, dist. Bokaro, Jharkhand – Environment Clearance - Further consideration.

5.1.1 The proposal is for environment clearance for expansion, under 7(ii) of EIA Notification 2006, of Tarmi opencast expansion project of M/s Central Coalfield Limited, dist. Bokaro, Jharkhand from 1.25 MTPA to 1.70 MTPA in an ML area 258.70 ha.

5.1.2 The proposal was last considered in the 75th EAC meeting held on 3rd - 4th June, 2013 wherein the Committee sought additional information w.r.t. certificate of compliance of earlier EC.

5.1.3 MoEF Regional office, Bhubaneswar has submitted the certificate of compliance to the EC dated (20.04.2010) vide their letter no. 106-102/EPE dated 08.07.2013. The EAC deliberated on the compliance report of the MoEF's Regional Office and noted, inter alia, the following:

- i. Coal production during 2011-12, was 1.16 MMT and during 2012-13 was 1.69 MMT against the approved capacity of 1.0 MTPA with peak capacity of 1.25 MTPA. This is a violation case.
- ii. Project should utilize top soil for reclamation of back filled areas and in development of greenbelt.
- iii. Project should construct two stage sedimentation pond.
- iv. The slope should be properly terraced and stabilised and plantation should be developed
- v. No retaining wall has been constructed.
- vi. Drills are not wet operated. Suitable arrangement should be made to contain fugitive emission.
- vii. The Slopes of the old OB dumps should be planted after proper leveling and dressing. Project has stated that progressive mine closure plan will be implemented
- viii. Project should carry out ground water level monitoring. The seasonal changes in the ground water level along with water quality analysis should be sent to the Regional office.
- ix. Workshop has not been provided with ETP. Immediate action should be taken to setup ETP
- x. Details of works undertaken under CSR scheme and the expenditure incurred during 2011-12 & 2012-13 should be provided to the Regional office alongwith a copy of the report of TISS with recommendations on CSR activities to the Regional office.
- xi. As per the data for the quarter ending Dec. 2012, the PM₁₀ exceeded the standards at Karipani colony. The project should identify the causes for higher PM₁₀ and take necessary measures to comply with the prescribed standards
- xii. Project should monitor PM_{2.5} and heavy metals in the ambient air quality as per the national ambient air quality standards of CPCB 2009 and data submitted to the Regional Office.
- xiii. Project should ensure that all vehicle possess pollution control certificate from the authorized pollution testing centre SPCB.
- xiv. It has been noticed that both the Environment Officer at project level and area level are in additional charge. It is necessary that the Nodal environmental Officer at project as well as Area Environment Officer should not be given additional duties.
- xv. For effective implementation of the environmental stipulations and environmental management, the cell should have financial and executive power.
- xvi. Project should submit the details of year-wise expenditure incurred for implementation of environmental conditions for the years 2010-11, 2011-12 and 2012-13.
- xvii. Copy of the EC letter has not been plodded on the company's Website. The condition is to be complied with.
- xviii. Project should install Oil and grease trap at the workshop.

5.1.4 The Committee after deliberation sought the following information for further consideration:

- i. The Committee has noted that the proponent has exceeded the production 2010 to 2013. This constitutes a violation case and need to be dealt by the Ministry as per the existing OMs. The proponent was advised not to exceed the production.
- ii. The Committee also noted that the demand for peak is incorrect under 7(ii). Therefore, the Committee considered the project only for 1.25 MTPA.

- iii. The proponent shall develop and implement a top soil management plan and furnish a copy of the plan.
- iv. Mine closure plan as approved need to be to be implemented.
- v. The proponent must clarify on the issue of reclamation.
- vi. The Committee has noted that the Project Proponent has not complied with several EC conditions viz: ETP has not been installed; green belt has not been provided in the ML area.
- vii. Proponent should submit a copy of the report of TISS with recommendations on CSR activities.
- viii. It was noted that the air quality standards including PM₁₀ has exceeded the permissible limit and the fixed sprinklers are yet to be installed at Railway Siding. An Action Plan alongwith the road map be submitted in this regard.
- ix. Comparative satellite image with analysis w.r.t deviation if any, be presented.
- x. An action plan with regard to the compliance report from the Regional Office of the MoEF be submitted.
- xi. The Committee noted that the Proponent has not taken adequate steps for controlling pollution and was advised to implement the conditions stipulated in the EC with letter and spirit.

5.2 Expansion, under 7(ii) of EIA Notification 2006, of Piparwar Opencast project (Normative capacity 10 MTPA to 12.50 MTPA and Peak capacity 11.5 MTPA to 14.5 MTPA in an ML area 1120.25 ha) of M/s Central Coalfield Ltd., Dist. Chatra, Jharkhand – Environment Clearance - Further consideration.

- 5.2.1 The proposal is for environmental clearance for expansion, under 7(ii) of EIA Notification 2006, of Piparwar Opencast project of M/s Central Coalfield Ltd., Dist. Chatra, Jharkhand from 10 MTPA to 12.50 MTPA (normative) and 11.5 MTPA to 14.5 MTPA (peak) in an ML area 1120.25 ha.
- 5.2.2 The proposal was last considered in the 75th EAC meeting held on 3rd - 4th June, 2013 wherein the Committee sought additional information on certificate of compliance from the Regional Office of the MoEF.
- 5.2.3 The EAC deliberated on the compliance report of the MoEF's Regional Office (vide their letter no, 106-102/EPE dated 08.07.2013) and noted, inter alia, the following:
 - i. Gap plantation need to be developed at certain portions along the bund for which Action Plan be submitted.
 - ii. Proper sloping and benches should be made on the OB dumps located along the conveyer system and plantation should be developed.
 - iii. Black topping of remaining portion of about 15 km of coal transportation road is yet to be complete. All the vehicles engaged in the mining activity including contract vehicles should obtain "Pollution under Control Certificate".
 - iv. Project is yet to obtain prior approval of CGWA/CGWB Regional Office for use of groundwater for which immediate action be taken.
 - v. Monitoring of ground water to assess the seasonal changes in ground water level has not been carried out. No Piezometers have been constructed for monitoring ground water level and quality.
 - vi. Efforts should be made for ground water recharging in the villages.

- vii. Project authorities should obtain 'Consent to operate' from Jharkhand State Pollution Control Board and apply for renewal subsequently within the time.
- viii. The cause(s) for higher value of PM₁₀ be ascertained and necessary measures be taken to comply with the prescribed standards. PM_{2.5} should also be monitored as per the national ambient air quality standards.
- ix. Overloading of the trucks should be avoided in order to stop spilling of coal.
- x. It has been noticed that both the Environment Officer at Project and area level are in additional charge. It is necessary that the Nodal Environment Officer at Project as well as Area Environmental Officer should be employed on full time basis and should not be given additional duties.

5.2.4 The Committee after deliberation sought the following information for further consideration:

- i. The time frame and an action plan by which the Railway Siding is to be completed
- ii. Number of vehicles that have no Pollution Under Control Certificate (PUC).
- iii. Piezometers are yet to be installed and water quality was not monitored. Action Taken in this regard be submitted.
- iv. An action plan with regard to the observations/findings of the compliance report from the Regional Office of the MoEF be submitted.

5.3 Selected Dhori Group of Mines of (normative capacity 8.25 MTPA and peak capacity 11 MTPA in an ML area 315.05 ha) of M/s Central Coalfield Ltd., Dist. Bokaro, Jharkhand – TOR - Further Consideration

5.3.1 The proposal is of Selected Dhori Group of Mines of M/s Central Coalfield Ltd., Dist. Bokaro, Jharkhand has applied for TOR for normative capacity 8.25 MTPA and peak capacity 11 MTPA in an ML area 315.05 ha.

5.3.2 The proposal was last considered in the 75th EAC meeting held on 3rd - 4th June, 2013 wherein the committee after a detailed deliberation, recommended the project for granting TOR subject to submission Board's resolution and certified compliance report from the Regional Office of the MoEF

5.3.3 Certificate of compliance of earlier EC from MoEF, Regional office, Bhubaneswar has been received. The EAC deliberated on the compliance report of the MoEF's Regional Office (**vide** their letter no. 106-102/EPE dated 04.09.2013) and noted, inter alia, the following:

- i. The Committee noted the Board's Resolution for not repeating the violation submitted by the Proponent vide dated 06.07.2013.
- ii. Monitoring of PM_{2.5} yet to be initiated.
- iii. Action plan for improvement in house-keeping at the workshop, prevention of mixing of rainwater drains with the effluent from workshop washing drains; functioning of Oil and grease trap; desilting of ETP;
- iv. Post-mining land use plan will be ready within 3 months.
- v. Proper leveling of top soil should be done before undertaking plantation.
- vi. Project also should submit a detailed plan of greenbelt development, list of plants to be planted along with a map indicating year wise schedule of plantation & area to be covered.

- vii. Project should submit details of employment of 604 persons as partial fulfillment of rehabilitation package.
- viii. Analysis data of noise quality should be submitted by the project for 2010-13.
- ix. There is no permanent Environment Officer at the Project. One dedicated Environment Officer, who is qualified to look after environmental functions at project level on fulltime basis should be appointed and should not be entrusted with additional duties. Laboratory facility should also be set up.

5.3.4 The Committee after deliberation has recommended for ToR with the following conditions:

- 1. The ETP should be properly operated and maintained so as to clean up the slit periodically.
- 2. Details of the number of the PAFs and their rehabilitation plan be submitted.
- 3. Certified Compliance report of the RO of the MOEF along with action taken and the future action plan be submitted for discussion during the consideration for EC.

5.4 Expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, tehsil Jharia, dist. Dhanbad, Jharkhand - EC based on TOR granted on 09.02.2011

5.4.1 The proposal is for expansion of 6 & 7 Pits colliery (from 0.28 MTPA to 0.6 MTPA in an ML area 168.12 ha) of M/s Tata Steel Ltd., Village Jamadoba, Tehsil Jharia, Dist. Dhanbad, Jharkhand.

5.4.2 The proposal was last considered in the 73rd EAC meeting held on 6th -7th May, 2013 wherein the Committee sought following additional information:

- i. Complaints during the Public Hearing about the decline of water table of the area.
- ii. Detailed hydrology of the area and the likely impacts on the water table in the area. The watershed map and sources of drinking water (including details of hand pumps).
- iii. The root cause of high incidence of health disorders be identified and an action plan for preventive health programmes be submitted.
- iv. The local population do not appear to have reaped much benefit from the coal mining activities.
- v. The issue of spillage of fly ash, pollution due to ash dumps and sand spillage during transportation as well as suitable mitigative measures be submitted.

5.4.3 The proponent made the presentation and informed that:

- i. Jharia coal field is the only coking coal field of the country wherein mining started way back in 1896. There are total 18 seams which are coupled with number of geological distribution in the coal field and were operated by different companies.
- ii. As per CGWB, the stage of ground water depletion in the Dhanbad district is around 30%. The highest stage of development is in Dhanbad city (58%) and Jharia (53%) blocks and hence it is in the "safe" category. The water table in the wells of the study area varied from 3.99 m to 9.89 m during month of May and 2.11 m to 3.98 m in November, However, depth of water level rises in monsoon season to a minimum level. Detailed hydrological study has been carried out by CIMFR, Dhanbad The Net annual ground water recharge is 30.49

- MCM/annum. Ground water net irrigation use 0.26 MCM/annum. And Community use 6.46 MCM/annum. Net Mines discharge 0.02 MCM/annum. Therefore balance available annual ground water recharge 23.75 MCM/annum.
- iii. As part of CSR, Tata Steel is providing huge quantity of drinking water through water pipeline as well as water tankers to the villagers. The proponent has plan to connect all the villages in the leasehold area with water pipeline connection.
 - iv. A pilot plant to convert mine water into drinking/ domestic water to supply the same to the population of Dhanbad and surrounding areas has been aunched at Moonidih Coal Mining area by National Mission Project by CSIR In order to increase ground water recharge. Tanks/ponds are regularly cleaned and maintained, under CSR, Plantation activities in the mine areas contain the surface runoff help to increase the ground water recharge.
 - v. Occupational Health Department, of the Proponent conducts health check up every year for the workers in the colliery. Major occupational health concern are hypertension and CVS diseases. Water-borne diseases are non-existent in the community.
 - vi. TSRDS undertakes various CSR activities in over 30 villages in the leasehold area over 15000 households covering a population of about 1.4 lakh. The benefits have reached the people directly in the form of skill development, better infrastructure, improved standard of living, medical facilities, etc. The PP has incurred expenditure with respect to CSR activities in 2009-10 Rs. 91.17 lakhs, 2010-11 Rs. 86.79 lakhs, 2011-12 Rs. 100.43 lakhs, 2012-13 Rs. 503.00 lakhs and 2013-14 Rs. 271.75 lakhs (till September, 2013).
 - vii. The trucks used for the transportation of fly ash and sand are properly covered using tarpaulin sheets. Larger trucks are engaged for reducing no of cycles. The reclamation of the ash dumps has been completed.
 - viii. The PP has assured to explore the possibility of using mechanically covered trucks for the transportation of ash. Until then, the existing system of transporting via tarpaulin-covered trucks will continue.
 - ix. About 10-12% of ash will be utilized for making bricks, tiles and it will be used in pavements, embankments and as road-filling material. Rest 88-90 % of ash has been earmarked for filling abandoned open cast mines.
 - x. As desired by the EAC, no use of fly ash with sand will take place for stowing in underground mines.

5.4.4 The Committee after deliberation has recommended for EC with the following conditions:

1. Adequate green belt shall be provided around coal handling and other areas
2. Transportation of coal shall be by mechanically covered trucks
3. No dumping of flyash in low lying areas and in mine voids are permitted.
4. Utmost care be taken to prevent spillage of sand during transportation of sand.
5. No use of fly ash with sand will take place for stowing in underground mines.

5.5 Expansion of Jamadoba Coal washery (1 MTPA to 2 MTPA in 7 ha area) of M/s Tata Steel Ltd. Tehsil Jharia, dist. Dhanbad, Jharkhand - EC based on TOR granted on 30.11.2011 – Further Consideration

- 5.5.1 The proposal is for expansion of Jamadoba Coal washery (from 1 MTPA to 2 MTPA in 7 ha Area) of M/s Tata Steel Ltd. Tehsil: Jharia, dist. Dhanbad, Jharkhand.

5.5.2 The proposal was last considered in the 73rd EAC meeting held on 6th -7th May, 2013 wherein the committee sought following additional information:

- i. There are discrepancy in the information in the checklist and desired it be suitably revised and submitted with accurate information.
- ii. Though the project is for expansion from 1 MTPA to 2 MTPA, it appeared, that the project is not for up gradation of existing 1 MTPA washery to 2 MTPA washery but construction of a new 2 MTPA washery in the same premises. The proponent has informed that after the new washery is constructed, the existing washery will be dismantled retaining/upgrading some common facilities
- iii. Although the washery is 60 yrs old, there appears to be no green belt around the facility.
- iv. It appears from the Public Hearing that flyash is polluting the area and no sufficient mitigative measures appear to have been taken.
- v. During the discussion, the proponent informed that the fly ash is also being dumped into the low lying area which could be wetland/water body. There have been complains about spillage of flyash during transportation of flyash.

5.5.3 The proponent made the presentation and informed that:

- i. The Project cost is Rs. 135 crores. It is a three product washery namely: Clean coal, Rejects and Tailings.
- ii. This is a 60 year old washery and the proposal is is for the expansion of the Jamadoba coal washery from 1.0 MTPA to 2.0 MTPA within its existing premises of 7 Ha. The old washery that cannot be stretched to achieve the targeted production with the existing machinery.
- iii. Maximum use of existing infrastructure for the proposed expansion such as-
 - Clean coal bunker (4000 Tonnes); Loading circuit including existing conveyor belt; Rail-yard infrastructure including loco garage; Reject and Tailing stockyard; Road Weighbridge; Loading Platform; Existing Roads; Tailing Pond; Office Building etc.
 - Relocation of scattered and outdated washing processes will be upgraded with facilities under one compact roof along with ancillary facilities viz. Beneficiation facility (Dense Media Cyclone, Froth Flotation Cell, TBS); Other ancillary facilities (Sizers, Thickener, MCC room, Transformer room)
- iv. The expansion is proposed to be done without hampering the operation of the washery.
- v. Steps towards better environment management:

EXISTING (1 MTPA WASHERY)	PROPOSED (2 MTPA WASHERY)
Less recovery of fine clean coal (<0.5 mm) and more generation of waste (tailings).	Installation of Teetered Bed Separator for recovering more fines clean coal and generation of less waste.
No pressure filter for dewatering of fines coal.	Installation of pressure filter for this purpose.
No pressure filter in tailing management system and use of tailings ponds.	Installation of pressure filter for mechanical dewatering of tailings and hence reduction in number of tailing ponds. Only 2 emergency

	ponds (100 m ²) out of 17 ponds (750 m ²) will be retained.
No Dust Extraction system at crushing plant.	Installation of DE system (Bag Filters) to improve the air quality around the washery.
Impactor and Rotary Breaker used for crushing of coal.	Installation of primary and secondary sizer which is more environmental friendly.
Sp. power cons.= 9.88 KWh/T of raw coal Sp. water cons.= 0.25 KL/T of raw coal	Sp. power consumption= 8.5 KWh/T of raw coal: Sp. water consumption= 0.18 KL/T of raw coal
Washery facilities are spread around the whole 7 Ha area.	Land required for infrastructural facilities will reduce.

- vi. The ROM from underground mines will continue to be sent via existing underground belt conveyor network to the washery. Three new belt conveyors (Capacity-400 TPH) will be added to enable the coal to reach the new hopper. The external coal will reach the washery via trucks and dumped into an over ground dump hopper (Capacity-65 T surge) from one side. The existing rotary breaker, picking belt, associated equipment and structure will be replaced by new facilities like heavy duty Apron feeder for feeding raw coal from hopper to a Primary Sizer using belt conveyors .A new Magnetic Separator will be provided to capture the iron material.
- vii. Material from the secondary sizer will be conveyed into storage bins by replacing the existing system of raw coal bunkers and reciprocating feeder.
- viii. Dense Media Cyclone will be installed for washing coal of size 15-0.5 mm along with new coarse coal centrifuge and reject coal centrifuge. Teetered Bed Separator will be installed for washing coal of size 0.5-0.25 mm along with fine clean coal centrifuge and high frequency screen for rejects. Froth Flotation Cell (Capacity-34 TPH) will be installed for washing coal of size <0.25mm along with a thickener, Filter Press for tailings and Filter Press for froth concentrate.
- ix. Clean coal will be conveyed from washery building by new conveyor belts in series and an existing conveyor (tripper conveyor of capacity 200 TPH which requires no up gradation). The tripper conveyor will convey the clean coal to the existing bunker.
- x. Fly ash is not being dumped in the wetlands or water bodies. It is rather being dumped in the abandoned open cast mines as described above. Proper reclamation of the area is being done to ensure that the fly ash does not pollute the surrounding areas. Trucks utilized for the transportation of fly ash are properly covered using tarpaulin sheets. The total area of washery is about 7 Ha. Green belt of about 10 mtrs thickness will be developed around the washery. The proposed green belt will comprise of 4 rows. 1st row will be located on the boundary followed by 2nd, 3rd and 4th row at a distance of 3 mtr. 1st Row plant species will be Sisam, Neem, Siris, etc. 2nd Row plant species will be Ashok, Mango, Karanj, etc. 3th and 4th Row plant species will be Alastromia, Gulmohar, Chatwan, etc
- xi. At present, total 17 nos of ponds exist covering an area of 28000 sq mtr. Gradually, after installation of mechanical tailing dewatering system, these ponds will be eliminated except 2-3 ponds for emergency purpose only having an area of 8000 sq mtr. The tailing ponds will

be filled up with good-earth and plantation be done over it by planting fruit plant species i.e. the area will be afforested.

5.5.4. The Committee after deliberation has recommended for EC with the following conditions:

1. Adequate green belt shall be provided around coal handling and other areas
2. Action plan be developed with details of the abandoned tailing ponds and for their restoration to the original land use
3. Flyash generated from the captive power plant of the washery be utilised for house construction, roads and such uses, strictly complying to the timeline in the EIA Notification, 2006 and maintaining proper records .
4. Transportation of fly ash to be done properly by mechanically covered trucks.

5.6 Expansion under 7(ii) of EIA Notification 2006 of Block –B Opencast Project from 4.375 MTPA to 5.50 MTPA on an ML area of 1339 ha of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh – Further Consideration

5.6.1 The proposal is for Expansion under 7(ii) of EIA Notification 2006 of Block–B Opencast Project of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh from 4.375 MTPA to 5.50 MTPA on an ML area of 1339 ha.

5.6.2 The proposal was last considered in the 75th EAC meeting held on 3rd -4th June, 2013 wherein the committee sought the certified compliance report from the Regional Office of the MoEF for further consideration of the proposal. The Proponent had presented the compliance report from the RO, MoEF (MoEF, Regional office, Bhopal has been received vide their letter no. 3-23/2005/(ENV)/1315 dated 20.08.2013)

5.6.3 The Committee deliberated on the compliance report from the RO of the MoEF and noted that the proponent has not complied with several conditions of the earlier EC which include reclamation of Gorbi Mine; measures for addressing Acid Mine Drainage (AMD) occurring in the Gorbi mine; progressive afforestation plan; Construction of the retaining wall at the toe of the dumps and OB benches within the mine to check run of and siltation shall be based on the rainfall data etc.

5.6.4 The Committee after deliberation recommended for granting environment clearance with the following specific conditions:

1. Details of water recharge plan be developed within next six months for implementation.
2. Rs. 2.75 Cr shall be provided as CSR cost which was agreed by the Proponent as against the proposed Rs. 1.635 Cr.
3. Plantation be carried out in around the mine.
4. Long term studies of impact of Gorbi acid mine on the surrounding surface and ground water need to be carried out. Detailed remedial management plan of the acid mine void be submitted
5. External OBD to be fully rehandled into the mine void and mine void brought to the near surface level.
6. Road transport from mine to siding (13 Km) away is to be stopped within two years and coal dispatch through CHP under construction through Railway wagons with silo loading.

7. Clarification from State Pollution Control Board with regard to the re-imposition of moratorium in the Singrauli area be submitted.
8. Screening of local population for health disorders was inadequate. This need to be conducted by a competent Institute.
9. Comparative analysis of land use based on satellite images and deviations, if any, be presented.

5.7 Expansion (EC under 7(ii) of EIA Notification 2006) of Lakhanpur OCP (expansion from 15 MTPA to 18.75 MTPA in the existing ML area of 2697 ha) of M/s Mahanadi Coalfields Ltd, Jharsuguda, Orissa – Further Consideration

5.7.1 The proposal is for expansion (under 7(ii) of EIA Notification 2006) of Lakhanpur OCP of M/s Mahanadi Coalfields Ltd, Jharsuguda, Orissa for environment clearance from 15 MTPA to 18.75 MTPA in the existing ML area of 2697 ha.

5.7.2 The proposal was last considered in the 63rd EAC meeting held on 17th -18th December, 2012, wherein the Committee sought following additional information:

- i. Expansion case need to be considered as per the recent OM of the MoEF dated 19 December, 2012.
- ii. Production plan increase over 15 MTPA to 20 MTPA is taking place after 16 yrs. reflecting no urgency and Committee advised them to come with revised production plan
- iii. Mitigative measures should be taken to reduce dust pollution load (as one of the conditions).
- iv. If the production increases, the OB dump areas will be increased. Therefore, these areas need to be minimized.
- v. Avenue plantation, grassing and reclamation of OB dump should be done.
- vi. The proponent should prepare action plans e.g. long term and short term, for improvement of environment. Assurance for environment improvement in time bound manner should be submitted/provided
- vii. Sprinkler should be provided near OB dump and before blasting to suppress dust.
- viii. Black top roads should be provided to prevent fugitive dust emission.
- ix. Revised mining plan of Lakhanpur OCP should be submitted.
- x. Sand stone should be used as construction material and be given to local people.
- xi. OB dumping schedule seems to be very critical and should be presented before the Committee.
- xii. The area and depth of void should be re-examined and be reduced.

5.7.3 The proponent presented the compliance report from the RO, MoEF (vide their letter no. 06-10/EPE dated 14.12.2012). EAC deliberated to compliance report which includes the following:

- i. Top soil and sub-soil are not separately kept but used for back filling of the mine voids. The top soil as well as the sub-soil should be kept separately and used for spreading after the completion of the back filling of mine voids and before taking up plantation.
- ii. No hydrological study on the impact of diversion of Pullizore Nullah has been conducted. PP stated that a study is being initiated by M/s.CMPDI.

- iii. Slopes of External OB has gaps and which need to be planted. Over 162 ha of back filled area still remain to be planted
- iv. Garland drains are filled up with silt and have heavy grass & weeds growth. Corrective action on this are required to be taken.
- v. Details of changes in the water level and water quality parameters were not submitted to the Regional Office
- vi. The capacity of the ETP should be increased to meet the requirement of the expansion project of the 15 MTPA.
- vii. Detailed Final Mine Closure Plan along with details of Corpus Fund are yet to be submitted.
- viii. Project should identify the causes for higher value of RPM and take up appropriate measures accordingly.
- ix. Fugitive emission should be monitored.
- x. People working in the dusty areas need to wear the PPE.
- xi. For effective implementation of the environmental stipulations and environmental management, Environmental Cell should be established with financial and executive powers. The officer concerned should be made responsible & accountable for implementation of environmental safeguard measures.
- xii. Six monthly compliance reports on the environmental stipulations do not provide detailed information on the status of compliance to the conditions.
- xiii. Project has been operating without 'NOC' from OSPCB. This is a violation case. SPCB be informed about this to take appropriate action.

5.7.4 The Committee after deliberation sought following information for further consideration:

- 1. Compliance was unsatisfactory which suggests that the MCL is indifferent towards the EC conditions stipulated in the EC. EAC recommends that MoEF may bring this to the notice of the CMD, MCL and Coal India Ltd.
- 2. The Committee noted that the Proponent has not taken adequate steps for controlling pollution and was advised to implement the conditions stipulated in the EC with letter and spirit.
- 3. The Compliance report of the RO, MoEF mentioned that Certifying Officer has recommended that until an independent Environment Officer is appointed with adequate powers, it may not be possible to comply with the stipulated conditions.
- 4. Management of OBD is totally unscientific and need to be reworked.
- 5. The Committee has noted that the proponent has exceeded the production in 2007-2008. This construes a violation case and need to be dealt by the Ministry as per the existing OMs. The proponent was advised to stick to the capacity of production given stipulated in the EC.
- 6. The Committee will make a visit to the MCL mines so as to appraise itself the ground realities.
- 7. Wagon loading through silo shall be completed within 2 years.

5.8 Gopal Prasad OCP (15 MTPA in a project area of 1289 ha) of M/s MJSJ Coal Ltd., located in Talcher Coalfields, dist. Angul, Orissa. (EC based on TOR granted on 31.12.2008) - Further Consideration

- 5.8.1 The proposal is for Gopal Prasad OCP of M/s MJSJ Coal Ltd., located in Talcher Coalfields, dist. Angul, Orissa has applied for environment clearance 15 MTPA in a project area of

1289 ha.

5.8.2 The proposal was last considered in the on 29.03.2011 and 65th EAC meeting held on 8th - 9th January, 2013 wherein the Committee sought following additional information:

- i. Valuable agriculture land 668.08ha would be converted into irreversible change by Mining. Therefore, the underground mining option should be examined.
- ii. If the agriculture land would be acquired for mining purposed, an equal area /land should be provided by the Company in terms of mined out area.
- iii. Social Impact Assessment study of the project should be carried out.
- iv. Totally backfilled area should be restored as agriculture land simultaneously upto ground level. This land be converted to agriculture field and be handed over to the stakeholders.
- v. It was observed that there will be major impact on water table due to mining, as the entire area has low water level. Dumping of toxic material is not permitted so as to prevent contamination of the whole area.
- vi. Central Ground Water Board should be contacted and following information should be collected and analysed vis-à-vis the impact of mining. The EAC be apprised accordingly :
 - a. Hydro geological map of the area.
 - b. Water shed map
 - c. Atlas
- vii. The peizometer should be installed in large area and regular monitoring of ground water level be carried out
- viii. Since, earlier the area is under CEPI, Cumulative Impact Assessment study should be carried out for air pollution.
- ix. The reports and recommendations of SPCB and Action plan approved by CPCB should be implemented. This may be put as environment conditions in the EC. The Impact Assessment study should be carried out as there are large numbers of mines operating in the area.
- x. Submission of the Wild Life Conservation Plan prepared the approval of the Principal Chief Conservator of Forests & CWLW.
- xi. The mode of mining should be re-examined and sequential mining should be carried out. The proponent need to relook into the backfilling process and the detail of area refill and reclaim as agriculture land should be provided.
- xii. Mode and distances of Coal transport from mine to the end use Plant be provided.

5.8.3 The proponent made the presentation and informed that

- i. The issue of underground mining has been re-examined by CMPDI in detail and found technically and economically not feasible and against the conservation of reserves. The top seam (No. IX) having a coal thickness of 12 m-15 m occurs at a depth of 6 m- 30 m. With such a shallow cover, underground mining option is not practical. It would be highly unsafe.
- ii. The requisite land is acquired by the Govt. of India (GOI) under CBA (A & D) Act, 1957. The Mining Rights are vested with MJSJ by the GOI. PAPs shall be given compensation and employment as per the policy of Government of Odisha. After the end-of-life of the mine, the reclaimed land, as per the Mine Closure Plan approved by the MOC, shall be returned to the Government.
- ii. In compliance with TOR stipulation no. xxxiii dated 31-12-2008 of the MOEF, MJSJ had engaged Institute of Rural Development and management Studies (IRDMS), Bhubaneswar

to carry out a detailed Social Impact Assessment study. A copy of the study report was submitted to the MOEF. The salient points of the R&R Report include that: total no. of villages to be affected is 10, whereas the total Project Affected Persons are 1157. An area of 36.45 ha has been provided as rehabilitation site with all civic amenities such as roads, street lighting, dug well, tube well, playground, Upper Primary School, Community Centre, dispensary, veterinary stock centre, bus stop etc. The R&R package cost is of Rs. 101.43 Cr.

- iii. As regards restoring of totally backfilled area as agricultural land and handing over to the stakeholders, the project proponent drew the attention of the Committee to the Notification no.55011-01-2009-CPAM of MOC, Govt. of India dtd.11-01-2012, which states that: *“After the closure of the mine, the reclaimed leasehold area and any structure thereon, which is not be utilised by the mine owner shall be surrendered to the State Govt. concerned following a laid down procedure as in vogue at that point of time”*
- iv. It was also mentioned that as per the Approved Mine Closure Plan by the MOC, an area of 650.70 ha of quarry excavation would be backfilled for plantation. The extent of area so proposed is approximately equal to the pre-mining agricultural land of 668.08 ha. The State Govt. which takes possession of the backfilled area at the end of the life of the Mine, can accordingly use it for either plantation or agriculture as it deems fit.
- v. The proponent submitted an undertaking committing not to dump any toxic materials on unsecured / unprotected land or water body so as to prevent any possible contamination in view of the low water table in the area.
- vi. Central Ground Water Board was contacted and information was obtained on Hydro geological map of the area viz. Water shed map, Atlas. The proponent concluded that the analysis of hydrograph with reference to rainfall of nearby stations is normal and response of water level is a reflection on rainfall in spite of mining activities in the area inferred that the mining on water level is limited to mine boundary and nearby area within radius of influence.
- vii. The project proponent submitted an undertaking committing to install adequate number (not less than four) of Piezometers in the Mine Lease area allotted to it and to carry our regular monitoring of ground water levels.
- viii. The project proponent submitted that considering the presence of various private mines operating in the region, it would not be feasible for a single mine allottee like MJSJ to carry out the cumulative assessment study by itself. However, it would be appropriate and workable, if the MOEF organizes the Cumulative Impact Study. Further, the project proponent submitted an undertaking committing to bear the proportionate cost of cumulative impact study on Air pollution from all operating mines in the area, if the MOEF proposed to get such a study conducted under its aegis.
- ix. The project proponent submitted an undertaking committing to accept the recommendations of SPCB and to implement the Action Plans approved by the CPCB, in connection with lifting of moratorium based on Comprehensive Environmental Pollution Index (CEPI) in respect of Angul- Talcher area.
- x. DFO Angul after the site inspection has submitted a report on 19-11-2013 to the RCCF with a copy to PCCF (Wildlife) cum Chief Wildlife Warden.
- xi. Sequential method of mining was re-examined by CMPDI and found not feasible. Also during the life of mine cultivation of the land is violation of the Coal Mine Regulations
- xii. Mode of transport of coal from mine to the MCL customers and end-user plants shall be by rail and distances involved would be upto 1400 km.
- xiii. FC is yet to be obtained for which application has been submitted.

5.8.4 The Committee after detailed deliberations recommended for grant of Environmental Clearance (EC) subject to following specific conditions:

- i. The project proponent shall implement the undertakings submitted by them and keep a record of the readings/observations wherever so required and upload in to its web site.
- ii. MoEF, in consultation with the CMPDI and the mining operators in the area would identify an appropriate agency to carry out the cumulative study. The project proponent and other proponents in the area shall bear proportionate cost of cumulative impact study on Air pollution from all operating mines in the area.
- iii. The recommendations of SPCB and implementation of the Action Plans as approved by the CPCB, in connection with lifting of moratorium based on Comprehensive Environmental Pollution Index (CEPI) in respect of Angul- Talcher area be implemented in consultation with the SPCB.
- iv. A wildlife management plan be prepared and approved by the State Govt for its implementation.
- v. There shall be no dumping of flyash in mine voids and in low lying areas.
- vi. Action plan be prepared and implemented for CSR activities as presented for Rs. 50.15 cr.
- vii. The Proponent will utilize the siding no. 9 and no pay loaders is permitted till the siding comes up.
- viii. Transportation of coal from mine to Rly siding shall be by a 3 km long belt conveyor and wagon loading through silos be provided.
- ix. Transportation of coal shall be by mechanically covered trucks
- x. The scheme for employment to 1650 affected persons be implemented as committed by the Proponent.

5.9 Urtan North Underground Coal Mine Project (0.6 MTPA in 475 ha) and Coal Washery (0.6 MTPA) of M/s Urtan North Mining Company Limited, District Anuppur, Madhya Pradesh - EC based on TOR granted on 11.01.2012. - Further Consideration

5.9.1 The project is for Urtan North Underground Coal Mine Project of M/s Urtan North Mining Company Limited District Anuppur, Madhya Pradesh for environment clearance for 0.6 MTPA in 475 ha and coal washery 0.6 MTPA. It is a Joint venture between Jindal Steel & Power Ltd & Monet Ispat & Energy Ltd.

5.9.2 The proposal was last considered in the 73rd EAC meeting held on 6th -7th May, 2013 wherein the Committee sought following additional information:

- i. Additional details on the water shed of Kewai river basin and the rate of recharge of the ground water system and cumulative impact of mining on water table of both confined and unconfined aquifer system.
- ii. Preparation of a conservation action plan for enriching the neighboring forest area in collaboration with the Forest deptt. One time corpus grant of Rs. 50 lakhs should be earmarked, as agreed.
- iii. Details of the resources according to UNFC pattern and define the minable resources.
- iv. Keeping in view the coal conservation and to optimise the percentage of extraction from underground mining extraction, the PP should examine the method of extraction.
- v. As the life of the mine is 46 yrs, the Railway siding is required to be brought to the

- mine. It was noted that the Railway track passes at a distance of approx. 3.9 km from the mine.
- vii. The road transport to the siding, which is about at 20 km away, is achieved with mechanically covered trucks and this method of transport is allowed for a period not more than five years or the railway siding to the mining site whichever is earlier.
 - viii. It was noted that the mining plan and mine closure plan have not yet been approved.
 - ix. The proponent needs to furnish the proximate and total analysis of coal.
 - x. The Committee suggested for examining technology for fines recovery from the slurry to increase the clean coal production.
 - xi. The use of mine waste and rejects from the washery need to be examined.
 - xii. The rejects from the washery should not be dumped into the low lying areas.
 - xiii. At no stage, the surface drainage pattern should be altered.
 - xiv. The quality of ground and surface waters should be re-examined as the values presented appear to be erroneous.
 - xv. The proponent will only use the clean coal for the steel making at Raigarh by both the Parties (Jindal and Monnet). The change of end use plan, as per the coal block allotment which was for sponge iron plant at Raigarh, Pttratu and Angul to Steel Plant at Raigarh only.
 - xvi. Whereas the total annual recurring cost of Rs. 35.75 lakhs is to be increased as per the annual inflation rates. Every year thereafter, in the capital cost at items F (capacity building,) and item G (vulnerable) a sum of Rs 30 lakhs each should be earmarked as a corpus fund as has been agreed by the PP.

5.9.3 The proponent made the presentation and informed that:

- i. There are no major industries in the study area. Its impact is localised and reflected in the baseline study since it is already in operation. There are seven collieries within 10 km radius. Being underground mines, the impact on air is minimum and mostly due to the dumping of waste during development of underground workings. The mines are in operation for 15 years in the area. The impact of these already reflected in baseline data.
- ii. The study of the Hydrology report covers area of watershed, hydrometeorology, geology, mining, morphometric analysis, hydrogeology, rate of recharge to ground water system, surface water resource estimation by various methods, Hydrogeology, regional impact of radius of influence of deep mining, water quality, ground water resources and rain water harvesting. The report indicates that there will not be any significant change in surface run off of Kewai river. The impact on groundwater shall be limited to the mine lease area. The watershed falls under safe/white as per field study and CGWB computations. Impact on confined aquifer will be limited as the mine water discharge will behave as the constant source of recharge.
- iii. A conservation action plan for enriching the neighboring forest are in collaboration with the forest department and shall be prepared. Also, one time corpus grant of Rs. 50 lakhs shall be earmarked, as agreed.
- iv. Geological Report has been prepared by Mineral Exploration Corporation limited in March 1998, much prior to the UNFC 2004 classification. The Report has indicated reserves which are equivalent to UNFC 111 and 121&122, respectively as per the definitions.

- v. Bord and pillar method was chosen over the long wall method in view of undulating as well as changing dips of coal seams and shape of the coal block, Bord & pillar method is best fitted as desired length of long wall panels cannot be designed for techno-economically viable extraction of coal.
- vi. The possibility of construction of siding nearby the mine/Kotma or use of existing siding of SECL (CIL) has been examined. Six options were studied. The railway siding near Harad Railway Station (Option 6) has been chosen
- vii. UNMCL is committed to transport through covered trucks upto the railway siding at Harad at 20 km for transport to end user plants at Raigarhat a distance about 309 KM. Mining plan with mine closure plan had been submitted for approval vide letter dated 24.10.2011. Final revised mining plan incorporating compliance of all suggestions of the Standing Committee was submitted on 15.05.2013. the Standing Committee in its meeting held on 20-05-2013 considered the Mining Plan and Mine Closure plan. The approval letter is awaited.
- viii. The proximate and ultimate analysis of the coal has been carried out seam wise in the Geological Report. The possibility of recovery of fines was studied. Since coal washing by floatation method was suggested in Mining Plan, fines are proposed for to be collected along with washed coal. It is proposed to recover (-) 0.3 mm size fines through settling pond. Thus, maximum fines recovery will be done.
- ix. A total of 70000 cu. m, waste rock is generated during drivage of inclines and ventilation shaft. Further, 50000 TPA (20000 Cu. M) will be generated as washery reject during operation. The mine waste comprising mostly of stone will be available for use in crusher units for making aggregate for roads or construction. Unutilised waste stone shall be dumped in the solid waste dump site. A provision of 1.5 ha of solid waste dump has been made within ML with an approximate capacity of 1.5 lakhs cu. M. It is also envisaged that unutilised washery reject which is inert will be sent to exhausted open cast mines/quarries.
- x. The rejects from washery will not be dumped in low lying area.
- xi. Surface drainage will not be altered at any stage of operation.
- xii. The quality of ground and surface water was re-examined through anion – cation balance. It is found to conform to prescribed standards. The quality of groundwater in the district is generally suitable for both drinking and irrigation and is within the permissible limits as per Indian Standard.
- xiii. The application for coking coal block allocation was made to Ministry of Coal vide letter dated 20.01.2007 by JSPL and separately by MIEL. The application was for existing 1.5 MTPA and 3.2 MTPA proposed blast furnace in Raigarh Plant, Proposed 0.25 MTPA blast furnace in Angul and proposed 6 MTPA blast furnace in Patratu by JSPL and for proposed 1.0 MTPA pig iron by MIEL. The proponent has committed that the total annual recurring cost for CSR shall be increased as per the annual inflation rates. For the purpose of capacity building and addressing the matters of vulnerable persons, a corpus fund of Rs. 30 lakhs for each sub-group will be established (as part of capital cost) to meet additional annual expenditures.

5.9.4 The EAC had deliberated the issues raised by the NGO in its meeting held on 6-7 May, 2013. The proponent also apprised the EAC on these issues. **The Committee after deliberation sought following information for further consideration:**

- i. Approved mine plan and mine closure plan be submitted to the EAC.

- ii. An affidavit be submitted that there are no litigation pending against the project.
- iii. The dispatch of coal through the railway siding situated at 22 km away and transport of coal by road was proposed by the proponent. The EAC suggested that siding should be brought closer to mine premises so as to reduce road transportation of coal. An Action Plan in this regard be submitted.
- iv. The proponent has committed that the total annual recurring cost for CSR shall be increased as per the annual inflation rates. For the purpose of capacity building and addressing the matters of vulnerable persons, a corpus fund of Rs. 30 lakhs for each sub-group will be established (as part of capital cost) to meet additional annual expenditures.

5.10 Kiloni, Manora Deep, Baranj I-IV Captive Coal Blocks (Integrated Baraj OCP) (Expansion in Prod. Capacity from 2.5 to 5.0 MTY and expansion in area from 1075 ha to 1533.20 ha.) of M/s Karnataka EMTA Coal Mines Ltd. Vill. Chakbaranj, Dist. Chandrapur, Maharashtra– TOR - Further Consideration

5.10.1 The proposal is of Kiloni, Manora Deep, Baranj I-IV Captive Coal Blocks (Integrated Baraj OCP) of M/s Karnataka EMTA Coal Mines Ltd. Vill. Chakbaranj, Dist. Chandrapur, Maharashtra for TOR for expansion in production capacity from 2.5 to 5.0 MTY and expansion in area from 1075 ha to 1533.20 ha.

5.10.2 The proposal was last considered in the 63rd EAC meeting held on 17th -18th December, 2012. The Committee after detailed deliberations sought further clarifications:

- i. Committee informed that the subsequent post CAG report stated that Coal block allotted to Govt. dispensation route cannot form Joint Venture Company with Private parties. If there is change in policy Karnataka Power Plant to check up from Ministry of Coal
- ii. The paper of deallocation of EMTA Block of Gaurangdih should be provided. Power should be sold at regulated tariff. 1000MW long term PPA with Karnataka .Details of long term PPA should be provided to MoEF.
- iii. CIL allocation cancelled by MOC on 12.07.2012 and life of mine also reduced to 27 years.
- iv. As the mine is in close vicinity of ordinance factory, permission of Ministry of Defense is required.
- v. Phase –I project is without Forest land but Phase –II project with Forest land.
- vi. Detailed R&R Plan is required. Copy of same should be submitted to MoEF.
- vii. The mine is 10 km away from Tadoba-Andheri Tiger Reserve. A certificate is required from CWLW for the distance to Tadoba-Andheri Tiger Reserve from the mine.
- viii. There are three nallas which going to join Wardha River. Topo sheet of nala diversion with contour map is required.
- ix. Permission from State Flood and Irrigation Dept. is required .Drainage map of Wardha river should be provided as nala which join Konda which ultimately joins Wardha River.
- x. Detailed Action Plan of Hydrogeology detail of nala to be diverted should be provided in consultation with Flood & Irrigation Department. Diversion Plan of nala is to be submitted.
- xi. The OB would be rehandled and backfilled in void/water body and entire area would be leveled upto ground level. There would be no OB dump at the end of mining.
- xii. The Committee desired that separate proposal should be submitted for washery in Phase –I
- xiii. An Action Plan of CSR and R&R are required.
- xiv. Phase–wise Plan for resettling of PAF should be prepared and submitted.

5.10.3 The proponent made the presentation and informed that:

- i. EC for 2.5 MTY capacity granted by MOEF vide No.J-11015/400/2005-IA.II (M) dated 18/05/2006. Mining operations started in 2008-2009.
- ii. In June 2012, Coal India communicated the decision of Ministry of Coal to cancel the FSA for Bellary TPP Unit-II. KPCL proposes to use coal from the existing captive coal blocks for BTPS UNIT-II in addition to present arrangement of supply of coal to BTPS Unit-I.
- iii. Additional requirement of coal is proposed to be met from the captive mine by increasing the production capacity to 5 MTY.
- iv. Revised Mining Plan for 5.0 MTY capacity approved by Ministry of Coal vide no. 13016/18/2004-CA-I (Part) dated 24.8.2011
- v. The expansion proposed to be achieved in two phases viz. Phase-I- By extending the excavation in Manora Deep and Baranj-II coal blocks into the restricted area within the 3 Km zone from Ordnance factory and Phase-II- By annexing 76 Ha forest land which was earlier left out of the mining lease
- vi. No change in the area of the captive block and net geological reserve of coal.
- vii. In Phase-I, there will be no change in the leasehold area, forest land, displacement of people/villages, diversion of roads/power lines/water channels etc.
- viii. Extractable reserve increased from 103.64 MT in the earlier Mining Plan, to 126.50 MT in the Revised Mining Plan.
- ix. Baranj blocks were allotted in 2003 to KPCL under Captive dispensation route. Referred guidelines not applicable to the coal blocks allotted under captive dispensation. The proponent has submitted a copy of the letter from Ministry of Coal, vide no.. 13016/79/2008-CA-I, dated 23rd November 2012 communicating de-allocation of Gourangdih ABC block was submitted to the Committee on 9th January 2013.
- x. KPCL has entered into PPAs with State Electricity Supply Companies as: BTPS Unit I: Executed on 18.12.2010 with approval of KERC; BTPS Unit II: Executed on 18.12.2010. KERC approval requested and is under consideration of KERC; BTPS Unit III: Executed on 18.12.2010. KERC approval requested and is under consideration of KERC.
- xi. Course of action decided by CIL vide their letter dated 21.06.2012: FSA already signed by MCL with Bellary TPP II requires to be cancelled. Supplies are to be effected under Short Term Memorandum of Understanding (MOU) between MCL and the TPP for a quantity of 0.99 Million Tonnes for 2012-13, i.e. 0.0825 Million Tonnes per month till March 2013, as recommended by MOC. An add-on price of 40% over and above the applicable price for such supplies under Short Term MOU will be charged by MCL. MOU signed with MCL for supply of coal to BTPS Unit II on tapering linkage basis. BTPS Unit II commissioned in March 2012, is in regular operation since August 2012. KPCL proposes to use coal from the Baranj captive coal blocks for BTPS II in addition to the supply of coal to BTPS I. KPCL has requested KECML to enhance the production at the earliest.
- xii. The chronology of events are: KPCL applied to Ministry of Coal, Govt. of India vide letter dated 16.1.2002 for allocation of Captive coal block for proposed 1000 MW (2X500 MW) TPS at Bellary, Karnataka preferably in WCL command area. Further correspondence were made vide letters dated 15.2.2002, 19.6.2002, 16.7.2002, 30.11.2002, 6.5.2003, 6.10.2003 and 23.10.2003. Allocation of the captive blocks was considered in the 21st Screening Committee held on 19.8.2003. Baranj I-IV, Kiloni & Manoradeep coal blocks were allocated to M/s KPCL under Captive Dispensation for 1000 MW Bellary thermal power plants vide letter dated 10.11.2003 with following main conditions:

- Coal mined from these blocks shall be exclusively used by the company to meet the requirement of coal in their proposed TPS.
 - Existing coal linkage from CIL/SCCL would not be disturbed in any way with the coal mined from the allocated blocks. The coal linkage of 2.5mtpa provided for the TPS from MCL shall continue.
- xiii. Consent / Clearance of the Ordnance Factory authorities will be obtained before starting work within the restricted area.
- xiv. In Phase-I: No additional land is required for the proposed expansion to 5MTY. In Phase-II: Additional 76 Ha forest land is required. The expansion of the lease area of the mine is required only in Phase-II. This area of 76 Ha forest land already forming part of the allocated coal blocks was excluded in the existing lease for 2.5 MTY Mining Plan.
- xv. Detailed R & R Plan has been prepared.
- xvi. Tadoba – Andheri Tiger Reserve is situated beyond 20 Km from the mine.
- xvii. There are three nullas which joins Wardha river. These ‘Nallas’ remain dry for most part of the year and serve as rain water channels discharging into Konda Nalla during the rains . Konda Nalla joins Wardha River which is more than 7 km to the south west of the mine. Plan showing contour lines at two meter interval, and the nullas / proposed diversion routes is enclosed.
- xviii. Hydro geological Investigations of integrated Baranj Open Pit Coal Project prepared by Environmental Group, CMRI was submitted to Ministry of Environment & Forest, GOI at the time of seeking EC 2.5 MTY project, which was approved by the Ministry. Nallas will be diverted as per EC approved for 2.5 MTY.
- xix. OB in Dump A will be re-handled fully and back filled in the void. The entire quarry area will be filled up to almost original ground level and no void will be left for lagoon. There will be no OB dump within the excavation area at the end of mining operation. However, there will be one external OB Dump as per the approved Mining Plan.
- xx. The proposed expansion (Phase – I & II) does not involve any additional displacement of PAPs/PAFs. Existing approved R & R action plan for 2.5 MTY will be applicable. Action plan of CSR is submit. There is no addition to the PAFs or PAPs in the proposed expansion. The award of compensation for land and houses has been approved by the Govt. of Maharashtra and communicated to the Project management recently. Disbursement of compensation is going on. R&R site with facilities like schools, market, post office, community center, overhead water tank, electricity, roads and drains etc. is ready. Phase wise plan for resettlement of PAF will be drawn in consultation with the District Authorities & PAFs and submitted with final EIA/EMP.

5.10.4 The Committee has noted that this is an expansion of the existing mine and after deliberation recommended the proposal for ToR for the first phase of the project with the following specific ToRs:

- i. The total expenditure for the CSR activities were stated to be Rs. 1151.25 lakhs. The award of compensation for land and houses as approved by the Govt. of Maharashtra be expedited.
- ii. Certificate from State Competent Authorities be submitted during discussion on EC on the distance from the Tadoba tiger reserve to the boundary of the mining lease.
- iii. An action plan of CSR and R & R be submitted.
- iv. Permission from State Flood and Irrigation Dept. be obtained. Drainage map of Wardha River should be provided as nala which join Konda which ultimately joins Wardha River.
- v. Wild life conservation plan be prepared and submitted

- vi. Details on the CAG reports and Action Taken Report be submitted during the discussion for EC

5.11 Pachwara (North) Block Opencast Project (15 MTPA) of M/s Bengal Emta Coal Mines Ltd. located in village Pachwara, Tehsil Amrapara, in Rajmahal Coalfields, District Pakur, Jharkhand – Reconsideration

5.11.1 The proposal was granted EC vide Ministry's letter no. J-11015/236/2008.IA-II(M) dated 23.09.2009. The mining of this block is entrusted to Bengal EMTA coal block which is entrusted to Bengal EMTA Coal Mines Limited (BECML), a JV company between WBPDCCL, DPL and EM TA, the total area of the block is 1265 ha. of which 881.93 ha is non forest land and 383.07 ha is forest land. While according the consent to Establish, the Jharkhand State pollution Control Board (JSPCB), has put a condition referring to Para 4.4 of Chapter 4 of the Forest Clearance (Conservation) Act, 1980 that no activities will be allowed to be taken up in the non-forest area unless the forest clearance is granted by the Central Government. Stage-I FC has been granted to the proposal and Stage –II FC is awaited.

5.11.2 The proponent informed that the Jharkhand State Pollution Control Board, after the mining lease has been executed for the non-forest land, has informed that lessee shall not carry out any activity within the forest area as specified in the approved plan till the clearance of Stage II is obtained in compliance of Para 4.4 of the guideline of Forest (Conservation) Act, 1980. Although NOC for Consent to Establish has already has been received from JSPCB, NOC for issuance of consent to operate for the non-forest area is still pending with JSPCB.

5.11.3 The proponent has requested to allow mining operations only in non-forest area and also requested to make an amendment to the EC dated 23.09.2009.

5.11.4 The EAC took into account the submissions of the Proponent to carry out mining activities on non-forest area in phase –I for which it has a separate lease deed. In the Phase – II, the proponent will come to EAC separately for the clearance for the forest land with a separate lease deed. While the EAC has recommend for granting permission for mining in non-forest area for which it has separate lease deed, the EAC was of the view that the proponent should have a revised mine plan for the non-forest area for mining clearly bringing out that this is feasible to execute the project without forest land.

5.12 Rohne opencast coal mine project (8 MTPA) of M/s Rohne Coal Company Ltd., located in North karanpura Coalfields, Dist. Hazaribagh, Jharkhand - EC based on TOR granted on 25.08.2008 – Reconsideration

5.12.1 The proposal is of Rohne opencast coal mine project (8 MTPA) of M/s Rohne Coal Company Ltd., located in North Karanpura Coalfields, Dist. Hazaribagh, Jharkhand. The proposal was considered in the EAC (T&C) meeting held on 23rd –24th June 2009 and recommended the project in its 63rd EAC meeting held on 28-29 January, 2010.. As per the OM dated 9th September, 2011 of the MoEF, where the Competent Authority has approved the grant of Environmental Clearance, the proponent will submit the Stage -1 Forest Clearance within 12 months, which may be extended to 18 months in exceptional circumstances. The EC will be issued only after the Stage -1 FC submitted by the proponent. As per the OM of 18th May, 2012, in the eventuality that the Stage-1 FC is not submitted by the PP within the prescribed time limit, as and when the Stage-1 FC is

submitted thereafter such projects would be referred to the EAC for having a relook on the proposal on case by case basis depending on the environmental merits of the project and the site. FC has been granted vide letter no. 8-36/2010-FC dated 23.01.2013 (for 567 ha) and dated 07.11.2013 (for 211.23 ha). Keeping these OMs view, the proposal was referred to the EAC for taking a view.

5.12.2 The proponent made the presentation and informed that:

- i. RCCPL is a joint venture project between M/s JSW Steel Ltd., M/s Bhushan Power & Steel Ltd. & M/s Jai Balaji Industries Ltd.
- ii. Ministry accorded TOR vide letter no. J-11015/266/2008-IA.II (M) dated 25.08.2008.
- iii. The latitude and longitude of the project are 23° 44' 30" to 23° 47' 45" N and 85° 16' 00" to 85° 19' 45" E respectively.
- iv. The land usage of the project will be as follows:

Pre-mining:

- Pre- mining land use pattern of the total coal block area of 1245.00 Ha is as below:

S. No.	Land Break Up	Area (Ha)
1	Forest Land	1185.79
2	Non-forest land	59.21
	Total	1245.00

- Pre- mining land use pattern of the approved mining plan (Detailed Explored) area of 825.00 Ha is as below:

S. No.	Land Break Up	Area (Ha)
1	Forest Land	782.88
2	Non-forest land	42.12
	Total	825.00

- Pre- mining land use pattern of the PL (Regionally Explored) area of 420.00 Ha is as below:

S. No.	Land Break Up	Area (Ha)
1	Forest Land	402.91
2	Non-forest land	17.09
	Total	420.00

Post-Mining:

Post- mining land use pattern of core zone within approved mining plan area of 825.00 Ha is as below;

Project Component	POST MINING LAND USE				Total post mining Land to be generated (in Ha)
	Plantation/ Forestry growth	Water Bodies	Agricultural land	Infrastructure for public use	
1	2	3	4	5	2+3+4+5
	Area in Ha	Area in Ha	Area in Ha	Area in Ha	Area in Ha
Mines	618.00	42.00	Nil	Nil	660.00

External Dump	30.00	Nil	Nil	Nil	30.00
Mining and allied activities	18.62	Nil	1.38	15.00	35.00
Safety zone	14.00	Nil	Nil	Nil	14.00
Road	3.00	Nil	Nil	Nil	3.00
Area to be mined on dip side	36.00	Nil	Nil	Nil	36.00
Raw coal stockyard	45.25	Nil	1.75	Nil	47.00
Total:	764.87	42.00	3.13	15.00 *	825.00

a) Balance **420.00 Ha** is granted for Prospecting License (PL).

Core area:

S. No.	Particular	Area in Ha
(a)	Agricultural	13.25
(b)	Forest	1185.79
(c)	Waste land	33.79
(d)	Grazing	Nil
(e)	Surface water bodies	Nil
(f)	Other (Specify) Non forest land (GM Land)	12.17
	Total	1245.00

- v. The project outside leasehold area has been estimated as 63 ha. Breakup of this area are: Township : 35.00 Ha; Resettlement Colony : 10.00 Ha; Conveyor and approach road: 9.00 Ha (Forest: 7.00 Ha + Non-forest: 2.00 Ha); Railway Siding: 9.00 Ha . Therefore the total: 63.00 Ha
- vi. The total geological reserve is 241 MT. The mineable reserve 201.390 MT, extractable reserve is 191 MT. The per cent of extraction would be 79.25 %.
- vii. The coal grade is washery grade – IV to ungraded coal. The average Gradient is 9 to 10 degree. There will be fifteen seams with thickness ranging from 0.04 m to 43.45 m.
- viii. The total estimated water requirement is 1010 m3/day. The level of ground water ranges from 2.98 m TO 8.54 mbgl.
- ix. The Method of mining would be Opencast with Shovel – Dumper Combination.
- x. There are two external OB Dumps covering an area 30 ha. With the height upto 15 m. The quantity will be 55 Mm3. There is one internal dumps covering an area 618 ha. With the height upto 30 m. The quantity will be 581 Mm3. There is 660 Mm3 quarry area.
- xi. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xii. The life of mine is 28 Years.
- xiii. R & R is involved with 109 PAFs.
- xiv. **Cost:** Total capital cost of the project is Rs. 572.10 Crore. CSR Cost (Capital: Rs. 22.50 Cr. & annual Revenue Expenditure @ Rs. 5.00 per tonne of coal produced every year. R&R Rs.

- 9.25 Crore. & Annual Revenue. Environmental Management Cost is 9.24 Crore & Annual Recurring Cost: Rs. 2.75 Crore/Annum.
- xv. **Water body:** No river / Nallha flowing near or adjacent to the proposed mine.
 - xvi. **Approvals:** Ground water clearance is not required. Board's approval obtained on 15.04.2010. Mining plan has been approved on 04.03.2009. Mine Closure Plan approved on 16.11.2011.
 - xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xviii. It was clarified that the forest density was in the range of 0.1-0.4. It was informed that the various options of coal evacuation have been studied. An option of conveyor entirely through non-forestland was disregarded, as it would involve a displacement of 150 houses. Also, keeping in view the steep gradient of the area, the most feasible option was found to be conveyor system of a length of 8km, a part of which would require passing through a fringe of forestland of 7ha and an application has been made to the State Govt.
 - xix. It was informed that it is proposed to undertake CSR for 68 villages in the nearby areas
 - xx. No legal cases are pending against the Company.
 - xxi. **Transportation of coal:** The transportation of coal in pit will be by dumper; from surface to siding would be by overhead conveyor corridor and from siding to loading would be by rail to the associated EUPs site. The mineral transportation from the mine would be by closed overhead conveyors (6m over surface) for a distance of 8km upto the railway siding.
 - xxii. **Forestry issues:** Out of the total required forest area of 782.88 ha of the detailed explored area, FC has been granted for diversion of 560.00 ha (vide FC letter no. F. no. 8-36/2010-FC dated 23rd January, 2013) and dated 07.11.2013 (for 211.23 ha).
 - xxiii. **Wildlife issues:** It was clarified that there are no WL Sanctuaries, National Parks or other ecologically sensitive areas found within 15 km of the core zone. As per the report received from CWLW, Govt. of Jharkhand, elephants move about in the area. CWLW has recommend grant of EC to the project subject to the proponent's participation in a Regional WL Conservation Plan, which is under preparation.
 - xxiv. A number of endangered flora-fauna are found in the core zone and buffer zone of the project (study area). Schedule-I fauna found include Indian Elephant Sloth Bear, Leopard, Pangolin, Lepoard cat, Hyeana, etc and their prey species. A number of Schedule-II fauna are also found. Mining Plan approved is for opencast operations only in an area of 825 ha on the eastern side and for the remaining area, exploration is still on and report is awaited.
 - xxv. There are no WL Sanctuaries, National Parks or other ecologically sensitive areas found within 15 km of the core zone. CWLW, Govt. of Jharkhand has recommended the project for EC subject to the proponent's participation in a Regional WL Conservation Plan, which is under preparation.
 - xxvi. **Public Hearing:** The public Hearing was done on 21.3.2009.
 - xxvii. **Integrated Wildlife Management Plan (IWLMP):** The proponent has submitted that:
 - a. Chief Wild Life Warden, Jharkhand recommended on 16.10.2009: the project for grant of EC subject to participation of the proponent in an Integrated Wildlife Management Plan for the region. RCCPL gave an undertaking to CWLW, Jharkhand vide letter No. RCCPL/2009/63 that it will bear the proportionate cost of the Integrated Wildlife Conservation Plan prepared for implementation in the North Karanpura area, Hazaribagh District, Jharkhand.
 - b. Department of Forests and Environment, Government of Jharkhand, constituted an Expert Committee 27.08.2011, vide Notification No. Wildlife-09/2010-3296/WL Ranchi

for preparing an Integrated Wildlife Management Plan (IWLMP) for West Singbhum and North Karanpura area.

- c. The Expert Committee prepared the IWLMP for West Singbhum District and submitted the report to the Govt. of Jharkhand. The Expert Committee signed an MOU with NTPC for preparation of IWLMP for North Karanpura Coal Block. RCCPL gave an undertaking to the MOEF vide letter No. RCCPL/2012/50 that it will bear the proportionate cost of the IWLMP being prepared for implementation in the North Karanpura area, Hazaribagh District, Jharkhand. The Expert Committee prepared the IWLMP for North Karanpura Coal Block (NKCB) and submitted the same to the Govt. of Jharkhand. The IWLMP for NKCB is under active consideration of the Govt. of Jharkhand for approval and implementation. As committed, RCCPL shall bare the proportionate cost of the implementation of the Plan.

5.12.3 The Committee after deliberation recommended the proposal for granting EC with following specific conditions:

- i. The Committee desired that mine water be treated before discharge outside the main premises.
- ii. Quarrying shall be undertaken only on the eastern side for the initial 28 years allowing free movement of wild animals to pass through the lease area to nearby forests. After completion of mining and reclamation and habitat restoration of the mined out pit, mining shall be carried out in the remaining area of 425 ha on the western side.
- iii. A provision of Rs 22.5 crores be made towards capital cost for CSR and details of villages identified for undertaking various socio-economic activities over the life of the project and an annual (revenue) expenditure of Rs 4 crores or Rs 5 per tonne of coal subject to annual inflation, whatever is higher.
- iv. Before the start of mining operations, the Regional WL Conservation Plan should be in place for implementation.
- v. R&R Plan should be developed and submitted to the MoEF for record and same be implemented.
- vi. In addition to the budget for R&R of Rs 895 lakhs, an additional amount for establishment of two schools for Rs 30 lakhs should be provided.
- vii. Details of status of expenditure on the various activities under the R&R Action Plan for the total budget of R&R of Rs 1025 lakhs should be uploaded on the company website.
- viii. An amount of Rs 1 core per annum should be earmarked for the R&R Colony for life of the project.
- ix. Implementation of R&R should be completed within 18 months.
- x. Keeping in view the steep gradient of the area, a conveyor system of a length of 8 km be installed.

5.13. Baitarni (West) Opencast Coalmine Project (15 MTPA peak capacity in a Project area of 1567 ha)–cum Coal Washery (15 MTPA) of M/s Baitarni West Coal Company Ltd., located in Talcher Coalfields, Tehsil Chhendipeda, dist. Angul, Orissa – TOR Validity

5.13.1 M/s Baitarni West Coal Company Limited vide their letter BWCCCL/Tech-30/2012-13/1579 dated 01.06.2013 requested Ministry for TOR validity extension.

5.13.2 The Project Proponent did not attend the meeting. The proposal was deferred.

5.14 Pachwara South Coal Mine project (10 MTPA peak capacity in a total project area of 1050 ha) of M/s Neyveli Uttar Pradesh Power Ltd. located in Dumka Dist., Jharkhand – TOR

5.14.1 Pachwara South Coal Mine project of M/s Neyveli Uttar Pradesh Power Ltd. located in villages Kundapahari, Kharikasal and Part of Chirudih villages of Gopikander Block, Tehsil Bangla / Silangi, District Dumka, Jharkhand for TOR for 10 MTPA peak capacity in an ML area of 1050 ha.

5.14.2 The proponent made the presentation and informed that:

- i. It is the project of M/s Neyveli Uttar Pradesh Power Limited (NUPPL) which is a joint venture between M/s Neyveli Lignite Corporation Ltd (NLC) and M/s Uttar Pradesh Rajya Vidyut Utpadan Nigam Limited (UPRVUNL). NLC and UPRVUNL has been formed in the ratio of 51:49 for implementing a 1980 MW coal based super critical thermal power station (GTPS) in Ghatampur Tehsil of Kanpur Nagar District of Uttar Pradesh.
- ii. Ministry of Coal on 25.07.2013 has allocated Pachwara South coal block having a geological reserve of 279 MT spread over an area of 6.5 Sq.km to NUPPL for meeting the coal requirement of GTPS.
- iii. The latitude and longitude of the project are 24° 29' 10.7" N to 24° 31' 37.4" N and 87° 26' 30.1" E to 87° 26' 57.4" E respectively.
- iv. The land usage of the project will be as follows:

Particulars	Forest (ha)	Non-Forest (ha)	Total (ha)
Mine area (excavation area)	306	344	650
External Dump	120*	180	300
Infrastructure area workshop / stores / offices, substation, coal handling plant, town ship / site for out sourcing agency	40*	60	100
Total	466	584	1050

- v. The total geological reserve is 279 MT (Indicative based on regional exploration). The mineable reserve 212 extractable reserve is 212 MT. The per cent of extraction would be 75 %.
- vi. The coal grades is B-G B-G grade, predominantly C-E Grade (Average) 4000 kcal/kg. The average Gradient is 4° dip. There will be total nine seams with thickness ranging from 0.9 to 47.6 m.
- vii. The total estimated water requirement is 1000 m3/day (Industrial 975 m3/day and Domestic 25 m3 / day). Source of water initially from borehole pumps and thereafter from mine pit water.
- viii. The Method of mining would be Opencast deploying Shovel/Backhoe-Dumper Technology.
- ix. The OB dump will cover an area of 300 ha having a height upto 60 m agl
- x. The life of mine is 25 Years.
- xi. Transportation: Coal transportation from pit to surface through Dumpers, from surface, the coal will be transported by Rail to Ghatampur Thermal Power Station and siding to loading Rail transport facility is already available from Pakur station to Ghatampur Thermal Power Station from Mines surface to Pakur Railway Staion it is proposed to lay railway line for 50 KMs.

- xii. Cost: Total capital cost of the project is Rs. 750 Crore.
- xiii. Forestry issues: Total forest area involved for mining is 306 ha in excavation area and 160 ha in external dump & Infrastructure.
- xiv. There are no court cases/violation pending with the project proponent.

5.14.3 The Committee after deliberation recommended the proposal for ToR with the following specific ToRs, in addition to standard ToRs:

1. The mining area has more than 60% dense forest and rivers, springs and streams. Therefore, the EAC is of the opinion that the proponent should seriously consider mining coal reserve through underground mining.
2. Details of the location of wild life sanctuaries, National parks within 10 KM radius be submitted.
3. Details land use planning also be furnished while discussing for EC.

5.15 Warora Underground Coal Mining Project (0.5 MTPA in 743 ha) of M/s Maharashtra State Mining Corporation Limited., near Warora Town, Tehsil Warora, dist. Chandrapur, Maharashtra - EC based on TOR granted on 10.11.2010

5.15.1 The proposal is of Warora Underground Coal Mining Project of M/s Maharashtra State Mining Corporation Limited., near Warora Town, Tehsil Warora, dist. Chandrapur, Maharashtra has applied for environment clearance 0.5 MTPA in 743 ha. It is a Joint venture between M/s Maharashtra State Mining Corporation Limited (MSMC) and M/s Gupta Coal India Limited (GCIL). The proponent made the presentation and informed that:

- i. It is the project of M/s Maharashtra State Mining Corporation Limited to which Ministry accorded TOR vide letter no. J-11015/62/2010-IA.II (M) dated 10.11.2010.
- ii. The latitude and longitude of the project are 20°, 12'-11"N to 20°-16'-43"N and 70°-00'-5" E to 79°-02'-03" E respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Forest Land	Nil
Tenancy Land	617.87 ha
Government Land	125.13 ha
Total	743.00 ha

Post-mining: Mining and allied related activities: 41.47 ha for both Mine 1 & Mine 2. The land use after completion of Mining life period will be same as of pre-mining stage.

Core area: 41.47 ha for both Mine 1 & Mine 2.

- iv. The total geological reserve is 73.74 MT. The mineable reserve 64.0 MT, extractable reserve is 23.74 MT. The per cent of extraction would be 32.20 %.
- v. The coal grades is C/E. The average Gradient is from 1 in 5 in to 1 in 8 in general. There will be total one seams with two working section with thickness ranging from 2.5 to 7.5 m.
- vi. The total estimated water requirement is 3.80 MLD. The level of ground water ranges from 4.63 m to 9.05 m
- vii. The Method of mining would be underground with Bord and Piller with Hydraulic Stowing

- of de-coaled voids.
- viii. There is neither external OB dump nor internal dumps as it is underground mine. No quarry area.
 - ix. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
 - x. **Life of mine:** Mine 1 is 55 years and Mine 2 is 50 years.
 - xi. **Transportation:** Coal transportation in pit Mine No. 1: by Belt conveyor, Mine No. 2 by Winding, Surface to Siding & Loading is not applicable as coal will be directly dispatched to consumer by road.
 - xii. There is no R & R involved. There are no PAFs for these production.
 - xiii. **Cost:** Total capital cost of the project is Rs. 100 Crore. CSR Cost (Rs. 10 crore/year (capital) & Rs 35.0 lakhs (Revenue) after the project goes under revenue account. Environmental Management Cost is Capital cost – Rs. 5.0crore Recurring – Rs. 55.0 lakhs per year.
 - xiv. **Water body:** Nearest river/streams/ Nallah are Shirnal Nallah (1.5 km, E) and Wardha River (7 km, W).
 - xv. **Approvals:** Application for clearance for abstraction of ground water will be submitted to CGWA after receipt of approval of Mining Plan from MOC. Boards approval obtained on 04.11.2011. Mining plan Mining plan and Mine closure plan has been submitted to MOC on 17.10.2011. Approval of Mining plan is awaited.
 - xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xvii. **Forestry issues:** No forest area involved for mining.
 - xviii. Green Belt over an area of 8.0 ha. Density of tree plantation 1500 trees/ ha of plants.
 - xix. There are no court cases/violation pending with the project proponent.
 - xx. **Public Hearing:** The Public Hearing was held on 18.02.2012 at village Barda, Tehsil Warora, District Chandrapur Maharashtra. The issues raised in the PH were regarding compensation of land, employment to locals and land outstees, no extraction below cultivated land etc.

5.15.2 The committee after deliberations sought following additional information for reconsideration the project:

- i. The proponent shall submit the conformation from the Maharashtra SPCB whether the project is under moratorium.
- ii. Action Plan for conservation for great Indian bustard be submitted
- iii. Detailed Action Plan for all the questions raised in the Public Hearing be submitted in a tabular form.
- iv. Response to the commitment given by the Chairman of the meeting during the PH be submitted.
- v. Details of transportation of coal including mode and route be submitted.
- vi. Plan to minimize cutting of trees along with details of tree which are to be cut be submitted.
- vii. Approved mine plan and mine closure plan be submitted
- viii. Budgetary provision of Rs. 100 Lakhs as capital cost and Rs. 35 Lakhs as revenue cost per annum has been made and committed by the proponent for implementation of CSR activities.
- ix. The Committee suggested that the crushed OB dumped be utilized for mine stowing and details be worked out and submitted.
- x. CSR action plan be submitted.

- xi. The impact of the project on the Baba Amte Ashram, which is at 3 km from the project, be determined & Action Taken Plan be submitted
- xii. Details of fluoride content in underground water and action plan for de-fluoridation for mitigation be submitted.

5.16 Marki-Barka Underground Coalmine Project (1.0 MTPA in an ML area of 700 ha) of M/s Madhya Pradesh State Mining Corporation Ltd., located in Singrauli Coalfields, Tehsil Deosar, Dist. Singrauli, Madhya Pradesh - EC based on TOR granted on 23.03.2012

5.16.1 The proposal is of Marki-Barka Underground Coalmine Project by M/s Madhya Pradesh State Mining Corporation Ltd., located in Singrauli Coalfields, Tehsil Deosar, Dist. Singrauli, Madhya Pradesh for Environment Clearance for 1.0 MTPA in an ML area of 700 ha.

5.16.2 The proponent made the presentation and informed that:

- i. It is the Underground coal mining project of M/s Madhya Pradesh State Mining Corporation Ltd to which Ministry accorded TOR vide letter no. J-11015/288/2012-IA.II (M) dated 22.03.2012.
- ii. The latitude and longitude of the project are 24°-10'-22"N to 24°-12'-13"N and 82°-12'-44" E to 82°-14'-42" E respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Type of Land use	Area in ha.
Private Agricultural Land	304.90
Govt. Revenue Non Forest Land	101.10
Protected Forest	294.00
Total	700.00

Post-mining:

No extraction of coal below village land, forest land and surface water bodies –Out of Balance 584.50 ha. only 155.0 ha. land is expected to be affected by subsidence. Agricultural use of land will continue after subsidence, with some reclamation. 15.50 ha. of

Core area agricultural land will be be reclaimed after 38 years

- iv. The total geological reserve is 70.22 MT. The mineable reserve 35.13 MT, extractable reserve is 35.13 MT. The per cent of extraction would be 50 %.
- v. The coal grades are Grade B to F, Gross calorific value – 3620 kcal/ kg. to 6210 Kcal/ kg. The average Gradient is both dip and dip direction varies, Dip varies from 5°-8° to 15°-20°. There will be total eight seams with thickness ranging from 1.2 m to 5.0 m.
- vi. The total estimated water requirement is 240 m³/d excluding colony, 300 m³/d for colony. The level of ground water ranges from 5.70 m to 12.35 m Core Zone, 3.0 m to 18.0 m Buffer Zone.
- vii. The Method of mining would be by underground and by mechanized Bord & Pillar methods.
- viii. There is neither external OB dump nor internal dumps as it is underground mine. There will be no quarry area.
- ix. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

- x. The **life of mine** is 35 Years.
- xi. **Transportation:** Coal transportation in pit to surface by Underground by conveyors, Surface to Siding by road over distance of 15 km, **Siding to loading** wagons will be loaded through mechanical means.
- xii. There is R & R involved. There are 53 PAFs for these production.
- xiii. **Cost:** Total capital cost of the project is Rs. 350 Crore. CSR Cost (Rs. 6.5 crore on capital account plus Rs. 2.5 crore on Revenue account, Total Rs. 9 crores during first five years after start of mine. R&R Cost 8.05 crores. Environmental Management Cost is Rs.1.58 crore on Capital Account and Rs. 24 lakhs per annum on revenue account.
- xiv. **Water body :** Five seasonal nallas / watercourses within the proposed lease area, each having a few tributary seasonal courses Buffer Zone has two perennial rivers, Dhamar river on South side and Mahan Nadi on North -East side. Dhamar river is tributary of Mahan river.
- xv. **Approvals:** Mining Plan was approved vide Ministry of Coal letter no. 13016/34/2011-CA1, dated 22nd February 2013. Mine Closure Plan is part of approved Mining Plan which was approved on 22nd February 2013
- xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xvii. **Forestry issues:** Total forest area involved for mining 294.00 ha. Extent of forest land in the project is 294.00 Ha. State Govt. has forwarded the case to the MoEF in July 2012. The Advisory Committee has considered the proposal on 10th June 2013. Stage I Forest Clearance awaited.
- xviii. Total afforestation plan shall be implemented covering an area of 15.5 ha at the end of mining. Green Belt over an area of 1.5 ha. Density of tree plantation 2500 trees/ ha of plants.
- xix. There are no court cases/violation pending with the project proponent..
- xx. **Public Hearing:** Public hearing was held on 11.01.2013 at Village Purail, Tahsil Sarai (Devsar), Dist. Singrauli. The issues raised in the PH were regarding compensation for land acquired and jobs for land outstees, education, roads, electricity, health etc.

5.16.3 The committee after deliberations recommended the project for EC with following specific conditions:

- i There shall be mechanized loading into the railway wagon.
- ii The project proponent is advised to work alongwith other stakeholders in the area for getting their siding near the mine.
- iii Project proponent have proposed to lay a long conveyor belt of 15 km from mine to the railway siding for dispatch of coal; and alternatively to bring the railway siding closure to the mine with mechanized loading. This be implemented.
- iv Road transport shall be mechanically covered trucks is permitted for 5 years only. The loading of coal shall be by covered mechanized loading.
- v Since the area is pre-dominantly populated by tribals and there are extensive degraded forest patches in and around the tribal settlements and in the project area, the proponent should provide a one-time grant of 3 crores for plantation of trees which would provide livelihood to the tribles. This may be carried out through the Forest Department in a time bound manner.
- vi Continuous monitoring of subsidence shall be carried out and mitigation measures are taken on the subsided areas by a special team.
- vii Training be imparted to local inhabitants for skilled and semi-skilled jobs.

- viii Development of Dairy and poultry and other lively hood measures be provided for employment /job creation for local families.
- ix The treated mine water be utilized for cultivation.
- x FC be obtained.

5.17 Andal East underground Coalmines project (2 MTPA in an ML area of 1266 ha) of M/s Andal East Coal Company Pvt. Ltd. Located in Raniganj coalfields, Andal, West Bengal – TOR – Correction of Minutes

5.17.1 The proposal of Andal East underground Coalmines project (2 MTPA in an ML area of 1266 ha) of M/s Andal East Coal Company Pvt. Ltd. located in Raniganj coalfields, Andal, West Bengal was considered for Terms of reference in 47th EAC meeting held during 19-20th March, 2012 and 73rd EAC meeting held during 6-7th May, 2013.

5.17.2 The project proponent informed, vide their letter AECCPL/12-13/95 dated 05.07.2013, that this was a fresh project for the ToR and not for the validity of ToR. There is an inadvertent mistake in the Minutes of the 73th EAC meeting held during 6-7 May, 2013 which is to be corrected.

5.17.3 The Committee noted the request and recommended for corrections.

5.18 Proposed Gare Pelma –II Coal Block (1.6 MTPA from UG and 22 MTPA from OCP in an area of 2583.486 ha of M/s MahaTamil Collieries Ltd., Tehsil Tamnar Dist. Raigarh, Chhattisgarh – Correction of TOR

5.18.1 The project proponent had applied for correction vide letter no MTCL/admin/2013-14/1078 dated 3rd April, 2013 in the TOR. The proposal was discussed in the 59th EAC meeting held on 6-7 November, 2012. The Terms of Reference (TOR) was awarded to Gare Pelma –II Coal Block (1.6 MTPA from UG and 22 MTPA from OCP in an area of 2583.486 ha of M/s MahaTamil Collieries Ltd., Tehsil Tamnar Dist. Raigarh, Chhattisgarh on 19th March, 2013. The proponent has requested for correction in factual data mentioned in the Minutes and also in the ToR letter dated 19th March, 2013. .

5.18.2 While the Committee noted and recommended for factual corrections, has urged the Proponent that they should have approached the MoEF/EAC soon after the Minutes were uploaded into the website and communicated to them.

- i. Para no. 2(V): The extent of Government land shall be 398.71 ha in place of 98.71 ha. .
- ii. Para no. 2(xiii). There are 9 RFs in place of 23 and 15 Protected Forests in place of one.
- iii. Para no. 2 (xiv). 9598 are PAPs (not PAFs).
- iv. Para no. 2(xv): Life of the mine shall be 29 years in place of 28 years.

5.18.3 The Committee noted the issues raised by the proponent and recommended for corrections.

5.19 Gare Pelma Sector III Opencast-cum-Underground Coal Mine Project (5 MTPA normative and 6.5 MTPA peak in a total project area of 714.35ha) with Pit-head Coal Washery of 5 MTPA of M/s Goa Industrial Development Corp. located in dist. Raigarh, Chhattisgarh – Correction of EC

5.19.1 The Environmental Clearance was accorded to the above project on 23.05.2013 based on the recommendations of the EAC meeting held in 17-18 December, 2012. The Project Proponent vide letter no GIDC/MD/Coal Block/Vol. XXVIII/Link File-1/1733 dated 26.07.2013 has submitted that there are some discrepancies on facts in some parts of the Environment Clearance letter and requested for corrections. .

5.19.2 While the Committee noted and recommended for factual corrections, has urged the Proponent that they should have approached the MoEF/EAC soon after the Minutes were uploaded into the website and communicated to them. The discrepancies and typographical corrections made in the Environment Clearance no. J-11015/168/2009-IA-II (M) dated 23.05.2013 at the following places;

- i. Para 2 point no. ii.** M/s Goa Industrial Development Corp. (a Govt. of Goa undertaking) has selected KSK Energy Venture Ltd as Power Developer by floating EOI. Therefore, this is not a “Public-Private Partnership” and this be deleted. The corrected version shall be “The coalmine project is allocated to M/s Goa Industrial Development Corp.- a Govt. undertaking and KSK Energy Ventures Ltd., is the Power Developer appointed by the Goa-IDC (Govt. of Goa Undertaking).
- ii. Para 2 point no. iii:** “37.5 %” be substituted by “37.5 MW”. The corrected version shall be: 37.5 % share of power generated is proposed for Govt. of Chhattisgarh, as the coal block is located in Chhattisgarh. The rated capacity of the mine is 5 MTPA (normative), of which 4 MTPA is opencast and 1 MTPA is underground and 6.5 MTPA (peak).
- iii. Para 2 point no. xiv** The Mining Right is 562 Ha for underground mines, out of which 442 Ha is beneath the opencast mines and remaining 120 Ha is exclusively underground. The corrected version shall be made accordingly.
- iv. Para 2 point no. xvii & Para 4 A (ix).** The total water requirement for the project is 2050 m³/d (not 4050 m³/d), 915 m³/d for mine operations. The corrected version shall be: The total water requirement for the project is 2050 m³/d, 915 m³/d for mine operations, 1000m³/d for coal washery, 135 m³/d is for drinking.
- v. Para 2 point no. xxv.** Cost of EMP is Rs 12.6 crores and Rs 3.15 crores (not Rs 13.15 crores) is recurring cost.
- vi. Para 4 A point no. (xviii).** The para (Fixed sprinkler shall be installed at pit-top truck loading hoppers in all the three mines, Ramgarh siding for dust control during coal loading.

Adequate numbers sprinklers should be provided on both the sides of road to minimize dust pollution) be deleted as this is not related to the project.

- vii. **Para 4 A point no. (xx).** The para (An Action Plan for mine closure with details of area, depth, voids and the details of abandoned mines should be submitted to the Ministry. This may also be provided as mentioned in Kuju area) be deleted as this is not related to the project.
- viii. **Para 4 A point no. (xxiii)** The para (Area brought under afforestation from the three mines shall not be less than 245.41 ha by planting native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.) be deleted as this is not related to the project..
- ix. **Para 4 A point no. (xliv)** The mine void should be in 92 ha (not 13.53 ha) area with 30 mt depth (not 20 m). The corrected version shall be: The mine void should be in 92 ha area with 30 mt depth after refilling the OB in quarry.

5.20 Expansion (under 7(ii) of EIA Notification 2006) of Manuguru Opencast – II Coal Mining Project (from 5.0 MTPA to 6.25 MTPA in an ML area of 3205.76 ha) M/s The Singareni Collieries Company Ltd., Dist. Khammam, Andhra Pradesh.

5.20.1 The proposal is for expansion (under 7(ii) of EIA Notification 2006) of Manuguru Opencast – II Coal Mining Project M/s The Singareni Collieries Company Ltd., Dist. Khammam, Andhra Pradesh for Environment Clearance from 5.0 MTPA to 6.25 MTPA in an ML area of 3205.76 ha.

5.20.2 The proponent made the presentation and informed that:

- i. It is the expansion project of M/s SCCL to which Ministry accorded EC vide letter no. J-11015/144/2007-IA.II (M) dated 31.07.2008
- ii. The latitude and longitude of the project are 17° 55' 34" to 17° 59' 11" (North) and 80° 43' 57" to 80° 47' 27" (East) respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Class	Area in ha	Area in %
Forest Land	2673.70	83.40
Agricultural land	277.99	8.68
Water bodies	26.00	0.81
Grazing land	111.76	3.49
Waste land	8.71	0.27
Government Land	77.60	2.42
Habitat	30.00	0.93
Total Area	3205.76	100.00

Post-mining:

Sl. No	Description	Land Use Details (ha.)				
		Plantation	Water body	Public Use	Other Uses	Total
1	Excavation Area					
	(a) Backfilled area	616.80	--	--	--	616.80
	(b) Void area left	--	809.90	--	--	809.90
2	External waste dump	1070.10	---	---	---	1070.10
3	Nallah Diversion & Bund	136.46	230.67			367.13
4	Diversion of Road			2.04		2.04
5	Service Buildings & CHP				106.03	106.03
6	Protective bund around quarry & dump area	138.42			95.34	233.76
	TOTAL	1961.78	1040.57	2.04	201.37	3205.76

Core area:

Particulars	Total Land Requirement (ha.)			Land Under Possession of SCCL (ha.)			Land to be Acquired (ha.)		
	Non-Forest	Forest	Total	Non-Forest	Forest	Total	Non-Forest	Forest	Total
Quarry Area	121.54	1305.2	1426.74	16.30	662.69	678.99	105.24	642.51	747.75
OB Dumps	262.23	807.83	1070.06	56.06	219.74	257.8	206.17	588.09	794.26
Safe Barrier, Drainage, etc.	59.01	174.75	233.76	3.07	36.71	39.78	55.94	138.04	193.98
Road Diversion	1.79	0.25	2.04	0	0	0	1.79	0.25	2.04
Vagu Diversion	85.32	281.81	367.13	0	0	0	85.32	281.81	367.13
Service Buildings	2.17	103.86	106.03	2.17	75.00	77.17	0	28.86	28.86
Total Land Requirement	532.06	2673.7	3205.76	77.60	994.14	1071.74	454.46	1679.56	2134.02

- iv. The total geological reserve is 344.88 MT. The mineable reserve are 264.20 MT, extractable reserve are 244.78 MT. The extraction would be 71 %.
- v. The coal grades is G-9. The average Gradient is 1 in 5.5 to 1 in 7.0. There will be total twelve seams with thickness ranging from 0.78 to 21.23 m.
- vi. The total estimated water requirement is 3500 m³/day. The level of ground water ranges from [Winter (2012): 0.89 m to 6.75 m; Pre monsoon (2012): 1.00 m to 8.45 m ; Monsoon (2012) :0.55 m to 4.75 m; Post Monsoon (2012): 0.45 m to 4.65 m]. Void of 8.9.90 ha at a depth of 45 m proposed to be converted into water body.
- vii. The Method of mining would be opencast deploying Shovel/Backhoe-Dumper Technology.
- viii. There is one external OB dump covering an area of 1070 ha having a height upto 120 m with

- the quantity of 695.296 m³(B). There is one internal dump covering an area of 973.51 ha having a height of 120 m with a quantity of 1235.05 m³.
- ix. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
 - x. The life of mine is 40 Years (balance).
 - xi. Certificate of compliance of earlier EC from MoEF, Regional office, Bangalore has been received vide letter no. EP/12.1/715/AP dated 20thJuly 2013.
 - xii. **Transportation:** Coal transportation in pit to surface CHP by Belt Conveyors and Siding to Loading by wagon.
 - xiii. There is R & R involved. There are 330 PAFs.
 - xiv. **Cost:** Total capital cost of the project is Rs. 992.96 Crore. CSR Cost and the amount contributed is around Rs. 5/- per tonne of coal. R&R Cost Rs. 12. 37 Crore (total), in which spent so far is Rs.2.13 Crore. Environmental Management Cost is Capital cost – Rs. 14.50 Crore. Recurring cost – Rs. 25.54 per Tonne.. CSR Policy is under finalization, presently SCCL is carrying CSR works under the programme called Surrounding Habitat Assistance Programme” (SHAPE). Rs .796.55 lakhs has been earmarked for CSR activities which include de-siltation of Kattavagu irrigation tank & bund strengthening; Laying of pumping main to elevated service reservoir, Bhagath Singh Nagar; Special repairs and BT Road from Government Junior College to Railway Gate, Kunavaram; Construction of BT Road from PK-1 Incline Centre to Government School, Manugurur; Providing shed and approach road for proposed barrial ground at PV Colony; Construction of side drains and lying of CC road in Manuguru; Construction of side drains and lying of CC road in Samithisingaram Grampanchayat; Widening of Road leading to Government Junior
 - xv. **Water body:** Gorripeta vagu - 16.68 Km diversion (No objection certificate from I& CAD department was obtained Vide-I&CAD, GoAP Lr. No. 12219/M.I.II(2)/2008-1, dated 17.5.2008.
 - xvi. **Approvals:** Clearance for abstraction of ground water has been obtained vide letter no. 483/T/SCCL/2007 dated 20.10.2007. Board’s approval obtained vide letter no. CRP/CS/054/469 dated 02.07.2007. Mining plan has been approved on 18.03.2008. Mine Closure Plan Mine closure plan is integral part of Mining Plan.
 - xvii. **Wildlife issues:** The project is at a distance of 7.5 Km from the Kinnerasani Wild Life Sanctuary.
 - xviii. **Forestry issues:** Total forest area involved for mining 2673.70 ha. Extent of forest land in the project is 2673.70 ha. Out of 2673.70 ha, an extent of 994.14 ha was already diverted under the provisions of Forest (Conservation) Act 1980. Stage-I FC for balance forest land of 1679.56 ha is not available at present. The proponent has moved application which are at different approving bodies such as State Government and MOEF.
 - xix. Total afforestation plan shall be implemented covering an area of 1967.78 ha at the end of mining. Green Belt over an area of 173.95 ha. Density of tree plantation 2500 trees/ ha of plants.
 - xx. There are no court cases/violation pending with the project proponent.

5.20.3 The Committee deliberated upon the compliance report received from MoEF, Regional office, Bangalore vide letter no. EP/12.1/715/AP dated 20thJuly 2013. The Committee noted that while large number of EC conditions have been complied, some other EC conditions are in the process of compliance. These includes: separate account of funds for environmental protection , fugitive control of dust emissions from all the sources, regular submission of data on ambient air

quality ,adequate measures for control of noise levels , proper collection of industrial wastewater , treated , regular monitoring of vehicular emissions personnel safety devices & occupational health surveillance, establishment of four ambient air quality monitoring stations .

5.20.4 The Committee after deliberation recommended the proposal for expansion under 7(ii) of EIA Notification, 2006 with the following specific conditions:

- i. The barren OBD shall be handled so as to have minimum void.
- ii. Project Authority should obtain clearance from National Board for Wild Life (NBWL), as applicable.
- iii. Rs. 796.55 lakhs as has been earmarked for CSR activities be spent and the progress be uploaded in the company’s website.
- iv. Detailed soil management plan should be in place.

5.21 Expansion (under 7(ii) of EIA Notification 2006) of Jawahar Khani-5 Opencast Coal Mine (from 2.00 MPTA to 2.50 MTPA in an ML area of 514.95 ha) of M/s The Singareni Collieries Company Ltd., Dist. Khammam, Andhra Pradesh.

5.21.1 The proposal is of Expansion (under 7(ii) of EIA Notification 2006) of Jawahar Khani-5 Opencast Coal Mine of M/s The Singareni Collieries Company Ltd., Dist. Khammam, Andhra Pradesh for Environment Clearance from 2.00 MPTA to 2.50 MTPA in an ML area of 514.95 ha.

5.21.2 The proponent made the presentation and informed that:

- i. It is the expansion project of M/s SCCL to which Ministry accorded TOR vide letter no. J-11015/358/2006-IA.II (M) dated 18.05.2009.
- ii. The latitude and longitude of the project are 17⁰ 33’ 59” to 17⁰ 35’ 25” (North) and 80⁰ 18’ 51” to 80⁰ 19’ 51” (East) respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Land Use Land Cover Class		Area of Sub Class	
		Area in Ha	% of Usage
Agriculture			
	Crop Land	0.68	0.13
	Fallow Land	11.75	2.28
	Plantations	5.80	1.17
Waste Land			
	Land with/ without scrub	208.62	40.58
Others			
	Built Up Land	26.55	5.17
	Mine Pit	87.44	17.04
	Dump	54.71	10.37
	Dump with plantation	75.20	14.65
	Coal Dump	12.14	2.36
	Haul Roads	21.07	4.11

	Other Roads	7.57	1.48
	Surface Water	3.42	0.67
Total Area		514.95	100.00

Post-mining:

Sl. No.	Description	LAND USE DETAILS (Ha.)				
		Plantation	water body	Public use	Other uses	Total
1	Top Soil Rehandled area	16.69	-	-		16.69
2	External waste dump	247.04				247.04
3(a)	Excavation (Backfill)	94.31	--	--	--	94.31
(b)	Excavation (Voids only)	-	55.64	--	--	55.64
4	Road	-	-	7.41	-	7.41
5	Built up area / Infrastructure	-	-		4.46	4.46
6	Safe barrier, Roads, Drainage around Quarry & Dumpyard.	89.40				89.4
7	Other uses	-	-	-	--	0
	TOTAL	447.44	55.64	7.41	4.46	514.95

Core area:

Particulars	Total Land Required	Land Under Possession	Land To be acquired		
			Govt.	Private (Agriculture)	Total
Quarry Area	149.95	142.29	7.66	0.00	7.66
Safe barrier, Roads, Drainage around Quarry & Dumpyard.	106.09	87.56	8.35	10.18	18.53
External dump yard	247.04	223.55	0.00	23.49	23.49
Mine Service Facilities	4.46	4.46	0.00	0.00	0.00
Diversion of Road	7.41	4.86	2.55	0.00	2.55
Total	514.95	462.72	18.56	33.67	52.23

- iv. The total geological reserve is 26.30 MT. The mineable reserve are 23.67 MT, extractable reserve is 19.97 MT. The extraction would be 90 %.
- v. The coal grades is G-13. The average Gradient is from 1 in 6.5 to 1 in 7.5. There will be total five seams with thickness ranging from 0.10 to 20.23 m.
- vi. The total estimated water requirement is 1415 m³/day. The level of ground water ranges from Pre monsoon (2012): 1.90 m to 11.90 m ; Post Monsoon (2012): 0.10 m to 9.70 m
- vii. The Method of mining would be opencast deploying Shovel/Backhoe-Dumper Technology.
- viii. There is one external OB dump covering an area of 247.04 ha having a height upto 60 m with the quantity of 57.858 m³ (B). There is one internal dump covering an area of 94.31 ha

- having a height upto 30 m with the quantity of 46.242 m³. There is a quarry area of 149.94 ha.
- ix. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
 - x. The life of mine is 8 Years.
 - xi. **Transportation:** Coal transportation in pit to surface CHP by dumper for 1 km. Surface to Siding by Trucks 3.5 km and Siding to loading by wagon.
 - xii. There is R & R involved. There are 1429 PAFs for these production.
 - xiii. **Cost:** Total capital cost of the project is Rs. 116.99 Crore. CSR Cost (Rs. 5/- per tonne of coal.). R&R Cost Rs. 65.38 Crore. Environmental Management Cost is Capital cost – Rs. 4.23 Crore Recurring – Rs. 16.94 per Tonne.
 - xiv. **Water body:** Streamlet (Bugga Vagu) flowing adjacent to the mining block on northwesterly is proposed for realignment. (Earlier Proposal only).
 - xv. **Approvals:** Clearance for abstraction of ground water has been obtained vide letter No. 1088/T/SCCL/2006-07 dt 04.08.2007. Boards approval: **Revised Feasibility report is under circulation with technical committee and is yet to be submitted to Board for approval.** Mining Plan was approved vide No.13016/2007-CA-II dt 23.07.2009. Revised mining plan is to be submitted to MoC. Mine Closure Plan Mine closure plan is integral part of Mining Plan
 - xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xvii. **Forestry issues:** No forest area involved for mining area.
 - xviii. Total afforestation plan shall be implemented covering an area of 447.44 ha at the end of mining. Green Belt over an area of 106.09 ha. Density of tree plantation 2500 trees/ ha of plants. Void in 55.64 ha at a depth of 35 m which is proposed to be converted into water body.
 - xix. There are no court cases/violation pending with the project proponent.
 - xx. The revised feasibility report of Mine Plans is under circulation with technical committee. This will be sent to Company's Board for approval.

5.21.3 The Committee deliberated upon the compliance report received from MoEF, Regional office, Bangalore vide letter dated 21.6.2013.. The Committee noted that while large number of EC conditions have been complied, some other EC conditions are in the process of compliance. These includes: Adequate safety be implemented for mining in underground areas ; Topsoil be stacked properly with proper slope at earmarked site (s) ; No external dump shall be created for the project ; Catch drains and siltation ponds of appropriate size be constructed ; Dimension of the retaining wall should be based on the rainfall data Crushers at the CHP be operated with water sprinkling arrangement ; Drills should be wet operated only Controlled blasting should be practiced only during day time ; Afforestation shall cover a total area of not less than 393.13 ha ; Progressive Mine Closure Plan be implemented by reclaiming quarry; Regular monitoring of groundwater level and quality be carried out; Company shall put up artificial groundwater recharge measures Periodic health check up of their workers & other health check ups; ETP should be provided for Work shop and CHP waste water; R&R of Yellandu be not less than norms of National R&R Policy; Pre-mining survey of the socio economic status shall be carried out; Monitoring land use pattern and for post mining land use; A Final Mine Closure plan with details of Funds should be submitted

5.21.4 The Committee after deliberation recommended the proposal for expansion under 7(ii) of EIA Notification, 2006 with following specific conditions:

- i. The revised feasibility report of Mine Plan be submitted for MOEF's record.

5.22 Expansion of Juna-Kunada Open Cast Coal Mine project (from 0.6 MTPA to 1.20 MTPA production capacity and Expansion in ML area from 184.87 ha to 325.87 ha) of M/s Western Coalfields Ltd. Dist. Yavatmal, Maharashtra- EC Based on TOR dated 23.03.2012 - Further Consideration

5.22.1 The proposal is for expansion of the operating Juna-Kunada OC mine in the mine lease area from 184.87 ha to 325.87 ha along with enhancement of production capacity from 0.60 MTPA to 1.20 MTPA. The project was accorded Environment Clearance for 0.60 MTPA vide letter dated. 10/01/2005. The main consumer of its coal is MAHAGENCO.

5.22.2 The proposal was last considered in the 65th EAC meeting held on 8th -9th January, 2013. Wherein the committee recommended the project for grant of Environment Clearance with the following specific conditions:

- i. The area of Chargaon should be reclaimed with plantation of native species, as the Proponent has proposed to acquire 60 ha area of Chargaon which will be backfilled and reclaimed with OB of Jund-Kunda OCP.
- ii. The Chargaon area after reclamation should be given back to original land owners. However, the proponent informed that in the State Policy of Ministry of Coal, the land should be handed over to the State Govt. after reclamation. The proponent further informed that they will take necessary measure after consultation with Authority concerned.
- iii. Remaining void of all the OCP should be backfilled upto the ground level over the period of life. The details of total land proposed to be backfilled and reclaimed to be given to the Ministry.
- iv. All previous EC conditions will continue with no external OB dump and no void in the mine. The proponents informed that O.B. from adjacent mines will be filled into this mine void.
- v. Coal transport will be by covered trucks/tippers till the railway siding .
- vi. The CSR Action Plan be prepared in tabular form by providing details of CSR activities along with budgetary provision from CSR fund.
- vii. The details of R&R and CSR should be provided in a booklet form.

5.22.3 However, in pursuance to the circular of the MOEF No. J-11011/618/2010–IA-II(I) dated 30th May, 2012 the proponent is required to submit the certified report of the status of compliance of the conditions stipulated in the Environmental Clearance for the ongoing/existing operation of the project by the Regional Offices of the MoEF.

5.22.4 Certificate of compliance of earlier EC from MoEF, Regional office, Bhopal has been received vide their letter no. 3-3/2005/(ENV)/1342 dated 22.08.2013. The Committee deliberated upon the compliance report received from MoEF, Regional Office, Bhopal. The Committee noted that while large number of EC conditions has been complied, some other EC conditions are in the process of compliance. These include: management of top soil; reclamation and development of green; Monitoring and management of rehabilitated dump sites until the vegetation becomes self –

sustaining; construction of catch drains and siltation ponds of appropriate size to arrest silt and sediment flows from soil, OB and mineral dumps. Utilization of water for watering of mine area, roads, green belt development etc. regular desilting of drains Garland drains (size, gradient & length) and sump capacity should 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 should also provide adequate retention period to allow proper settling of silt material. Plantation should be taken up for soil stabilization along the slopes of the dump. Sedimentation pits should be constructed at the corners of the garland drains.; The total area that shall be brought under green belt development is 109.87 ha which includes 15.60 ha of external OB dump, 30.50 ha area of embankment, areas along roads, along ML boundary and undisturbed land covering an area of 63.77 ha by planting the native species in consultation with the local DFO and Agriculture Department. The density of the trees should be around 2500 plants per ha; Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and construction of new piezometers during the mining operations. The proponent has presented an action plan and Action Taken Report so as to complete compliance of the earlier EC conditions.

5.22.5 The Committee after detailed deliberations recommended the project for grant of Environment Clearance with following specific conditions:

- i. The area of Chargaon should be reclaimed with plantation of native species, as the Proponent has proposed to acquire 60 ha area of Chargaon which will be backfilled and reclaimed with OB of Juna-Kunada OCP.
- ii. A detailed soil management plan should be in place for implementation.
- iii. The Chargaon area after reclamation should be given back to original land owners. However, the proponent informed that in the State Policy of Ministry of Coal, the land should be handed over to the State Govt. after reclamation. The proponent further informed that they will take necessary measure after consultation with Authorities concerned.
- iv. Remaining void of all the OCP should be backfilled upto the ground level over the period of life. The details of total land proposed to be backfilled and reclaimed to be given to the Ministry.
- v. All previous EC conditions will continue with no external OB dump and there shall be no void in the mine. The proponents informed that O.B. from adjacent mines will be filled into this mine void.
- vi. Coal transport will be by mechanically covered trucks/tippers till the railway siding has to come up.
- vii. The CSR Action Plan be prepared in tabular form by providing details of CSR activities along with budgetary provision from CSR fund.
- viii. The details of R&R and CSR should be provided in a booklet form.

5.23 Parsoda Opencast Coal Mine Project of (0.80 MTPA normative, 1.04 MTPA peak over 611.83 ha) of M/s Western Coalfields Ltd., Dist. Yavatmal, Maharashtra –TOR - Further Consideration

5.23.1 The proposal is for Parsoda Opencast Coal Mine Project of (0.80 MTPA normative, 1.04 MTPA peak over 611.83 ha) of M/s Western Coalfields Ltd., Dist. Yavatmal, Maharashtra.

5.23.2 The proposal was last considered in the 73rd EAC meeting held on 6th -7th May, 2013 wherein the committee sought following additional information:

- i. The diversion of Vidharvariver should be done as per the direction provided by the Irrigation Dept. A detailed map of the route of diversion should be submitted.
- ii. The approval of pre-diversion of the Vidharva river be submitted.
- iii. Topo sheet be furnished alongwith the details of hydrolog and ground water data be furnished
- iv. Responses to the views of the NGO be submitted.
- v. Secondary data be submitted which are available with the Ground Water Board and the State Dept. of Water Resources.
- vi. The presence or absence of kampti formation and the aquifer condition should be provided to the Committee.

5.22.3 The proponent made the presentation and informed that:

- i. The proposed alignment of diversion of Vidarbha river as shown in Quarry & Surface Layout Plan presented during the EAC meeting is tentative. The exact alignment of proposed diversion will be as per the design to be given by Central Design Organization (CDO), Nasik, a Government of Maharashtra Agency. The implementation of the diversion will be taken up only after the approval of Irrigation Department of Government of Maharashtra.
- ii. The Project Report has been prepared by Central Mine Planning & Design Institute Limited (A mini Ratna Cat- I PSU under Ministry of Coal & a subsidiary of Coal India Limited) which contains the proposed alignment of diversion of Vidarbha river as shown in Quarry & Surface Layout Plan enclosed herewith. Necessary approval from the concerned State Authority will be taken before the actual implementation. The Project Report has been approved by WCL Board under the delegated powers.
- iii. The permeable formations i.e. sand and sandstone within Gondwanas behave as aquifer units. The coal seams and shales and clays act as impermeable beds i.e. aquiclude. Parsoda OC mine area is covered by Kamthi formation with recent soil, alluvium capping. Based on the sub-surface geological data generated from the exploratory boreholes and nearby existing mines, the disposition of aquifers has been worked out up to the floor of the mine i.e. bottom section of composite seam. The total sequence in turn over-lained by thick alluvium possessing high to moderate primary porosity and moderate infiltration factor (15 % to 20 %) thereby creating congenial hydro-geological environment. It is inferred that the aquifers in alluvium and Kamthi formations in general possess moderate/high groundwater potential in the study area due to an added advantage of physical setting with respect to Vidharbha river.
- iv. CMPDI, has established a monitoring network with 22 dug wells (hydrograph stations) spread over the buffer zone (10 km radius from the Parsoda OC mine). Out of which 2 dug-wells (WN-68 and WN-79) are located in the core zone of the project area. Water level monitoring in these hydrograph stations is being done as per MoEF guidelines (four times in a year) from May'06. The average water levels measured from the area in and around Parsoda OC area has been submitted. Rainfall is the main recharge source for groundwater. The study area receives an average annual rainfall of 1250 mm. The groundwater balance computation for this study area of 314 sq. km has been done as per GEC -1997 norms The dynamic and static reserves for the core and buffer zones are estimated by utilising the aquifer parameter mentioned at the head of 3.4. The opencast mine acts as large diameter well/ sink wherein all the aquifers overlying the working seam would be converted into unconfined state and the inflow to the mine is contributed from the saturated overburden

formation i.e. multiple aquifer system. However the unconfined aquifer is the most affected in opencast mining area. The average mine depth of 60.00 m has been considered as exploitable depth for static reserve estimation in core zone with an area of 5.20 sq.km. The pre-monsoon water level is around 14.00 m. bgl with an average fluctuation of 2.50 m. For the buffer zone with an area of 308.80 Sq.km. (314.00-5.20), the floor of unconfined aquifer (20.0 m) has been considered as extractable depth. The pre-monsoon water level (average) is about 10.00 m. bgl, 11 m. bgl, 13.00 m bgl in the area covered by Alluvium/Kamthi, Vindhyan/Basalt and Lameta formations respectively. The water table fluctuations is around 3.25 m, 2.50 m, 3.00 m and 4.5 m in the area occupied by Basalt, Kamthi, Vindhyan and Lameta formations respectively.

- v. The radius of mine influence area has been estimated for the proposed Parsoda OCM based on the above mentioned aquifer and mine parameters and works out to about 300 m at final mine depth of 85 m. Mine induced effect would be distinctly noticed within a distance of 300 m from the mine edge in the down-dip side and becomes milder/ insignificant thereafter.
- vi. The Vidarbha river at present is flowing across the coal bearing area. Now to open the mine, the existing course of river is proposed to be diverted, rather shifted without changing the direction of flow. The portion of river falling in the coal bearing area is only to be diverted and as the land will be used for coal mining purposes, the activities presently being carried out in this land, will not be carried out once mining starts. The downstream activities will not be affected at all. Moreover, the alignment shown in the enclosed plan is tentative and the final design will be drawn only through Central Design Organization (CDO), Nasik and will be implemented after due approval from Irrigation Department of Govt. of Maharashtra. All precautionary measures as will be stipulated, shall be implemented to avoid any adverse impacts on environment & ecology of the surrounding. The pollution Control Measures to be taken in the subject opencast coal mine for control of Water Pollution are:
 - i) Industrial Effluent: Four important parameter of ETP waste discharge shall be monitored on fortnightly basis as per EP Act, 1986 once in a year. The system shall be operated and maintained to keep the levels of pollutants within permissible limits.
 - ii) Mine Water: Mine water discharge shall be monitored on fortnightly basis as per EP Act, 1986. The system shall be operated and maintained to keep the levels of pollutants within permissible limits. Adequate numbers of vegetation will be grown on the top surface and slopes of the dumps in order to arrest the erosion of soil and it also reduces surface run-off, which helps averting siltation of natural watercourses. In order to arrest siltation from OB dump, catch drains and garland drains of adequate size (say 3.5 X 2.0 m) will be constructed around the periphery of external OB Dumps. Further, garland drains of adequate size (say 1.50 X 1.0 m) will also be provided around the quarry edges. These drains will be regularly desilted before onset of every monsoon.

5.23.4 The Committee after a detailed deliberation has recommended for granting ToR with following specific conditions in addition to the standard ToRs:

- i. The diversion of Vidharva river should be done as per the direction provided by the Irrigation Dept. A detailed map of the route of diversion should be submitted.
- ii. The approval of pre-diversion of the Vidharva river be submitted.
- iii. Topo sheet be furnished alongwith the details of hydrolog and ground water data be furnished.

- iv. Submission of chemical composition of the water from the mine operations specifically with regard to concentrations of sulphur, soluble salts and/or contact with oxidized pyretic materials, which can lead to increased acidity.
- v. Monitoring report of the water in the Vidarbha river due to leaching from overburden dumps, discharge of pumped out mine water, and other activities in the vicinity of the water bodies.
- vi. Impact of noise and air pollution on wildlife and human being removal of vegetation from the area designated for mining and other purposes produces dust which when air-borne causes an increase in the concentration of SPM in the surrounding air
- vii. Secondary data be submitted which are available with the Ground Water Board and the State Dept. of Water Resources.
- viii. The presence or absence of kampti formation and the aquifer condition should be provided while considering for EC.
- ix. Necessary approval from the concerned State Authority be taken before the actual implementation.

5.24 Expansion of New Sethia Opencast Coal Mine (from 0.20 MTPA to 0.50 MTPA with the expansion in mining lease area from 91.503 ha to 144.453 ha) of M/s Western Coalfields Ltd., Dist. Chindwara, Maharashtra - TOR - Further consideration

5.24.1 The proposal is for Expansion of New Sethia Opencast Coal Mine (from 0.20 MTPA to 0.50 MTPA along-with expansion in mining lease area from 91.503 ha to 144.453 ha) of M/s Western Coalfields Ltd., Dist. Chindwara, Maharashtra has applied for environment clearance.

5.24.2 **The proposal was considered last considered in 67th EAC meeting held on 4th -5th February, 2013.** The Committee desired that application be submitted in New FORM –I for further consideration of the Committee. The proponent made the presentation and informed that:

- i. It is the expansion project of M/s WCL.
- ii. The latitude and longitude of the project are 22° 12' 31'' to 22° 13' 19'' N and 78 °50' 15'' to 78 °51' 46'' E respectively.
- iii. The land usage of the project will be as follows:

Pre-Mining:

The total land ML area is 144.453 ha of which Agricultural Land – 50.579ha;
Govt. Land – 40.924 ha and already acquired land – 52.95 ha

Post-Mining:

Total ML area is 144.453 ha of which Backfilled Area in Adjacent Quarry – 14.00 ha; Backfilled area in current proposal – 7.60 ha; Void/Water Body – 66.73 ha; External OB Dump – 6.00 ha; Public Use – 5.88 ha; Rationalization – 44.443 ha;

Core area: are same as post mining.

- iv. The total geological reserve is 2.068 MT. The mineable reserve 1.88 MT. The per cent of extraction would be 90.90 %.
- v. Grade of coal is G7/G8. The average Gradient is 1 in 8 to 1 in 10. There will be total three seams with thickness ranging from 0.52 to 2.93 m.

- vi. **Life of mine** is 5 years. The main consumers are MPEB & Misc.
- vii. The Method of mining would be open cast with shovel dumper combination.
- viii. There is no external OB dump. There is two internal dumps covering an area of 31.00 ha having a height upto ground with the quantity of 9.88 mm³. Final void area 140 ha with a depth of 97.00 m.
- ix. **Approvals** : Mine plan approval : The Proposal/ Scheme for New – Sethia OC mine for extraction of 1.88 Mt of coal and for obtaining EC for enhancement of capacity from 0.20 MTPA to 0.50 MTPA was Approved by Competent Authority within delegated powers. Mine closure plan approval: Final Mine Closure Plan as per MOC guidelines with a provision of @ Rs. 6.00 lakh per ha is under preparation and will be processed subsequently for approval of WCL Board.
- x. **Transportation**: Coal transportation in pit by dumper, Surface to Siding by tippers and Siding to Loading by pay loaders..
- xi. **Cost**: Total capital cost of the project is Rs. 2.2193 Crore. CSR Cost 5.0 per tonne. No R&R Cost. Environmental Management Cost Rs. 6.00 per tonne.
- xii. **Water Body**: Pench River about 50 m away from core zone from aerial distance.
- xiii. **Wildlife issues**: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xiv. **Forestry issues**: No forest area involved for mining.
- xv. Total afforestation plan shall be implemented covering an area of 43.75 ha at the end of mining. Plantation of trees will be around 1,09375 trees.
- xvi. There are no court cases/violation pending with the project proponent.

5.24.3 Certificate of compliance of earlier EC from MoEF, Regional office, Bhopal vide letter no. 3-16/2008(ENV)/1199 dated 14.05.2009 was also deliberated. The Committee noted that while large numbers of EC conditions have been complied, some other EC conditions are in the process of compliance. These include provision of retaining wall, black topping of roads meant for coal transportation, digital processing of the entire lease area using remote sensing technology; funds for environment protection etc. The proponent had submitted that to avoid dimension siltation from OB dump as well as OB benches in mine working cross drainage has been provided. The sump capacity is adequate & provides sufficient retention time for settlement of silt. Drainage around OB dumped is also provided before onset of every monsoon to carry all the silt. Moreover plantation both on top & slopes also developed on external OB dumped to arrest flow of silt. As such construction of retaining wall separately is not required as the side slopes are inherently stable. Out of total coal transportation road length of 9.8 km about 9.5 km has been black topped. The digital processing of entire Pench area has been conducted by CMPDIL. The mine closure plan has been prepared and being processed for approval. There are no change in the mining technology has been made. The actual expenditure for environment protection measures is Rs. 347000/-

5.24.4 **The Committee after a detailed deliberation has recommended for granting ToR** with the standard ToRs with specify condition. The Committee also asked the proponent to submit the recent monitoring report of the Regional Office of the MoEF during the discussions for EC.

5.25 **Mahuda coal washery 0.63 MTPA in ML area of 14.2 ha of M/s Bharat Cooking Coal Limited in District Dhanbad, Jharkhand – TOR**

5.25.1 The proposal is of Mahuda coal washery of M/s Bharat Cooking Coal Limited in District Dhanbad, Jharkhand has applied for TOR for 0.63 MTPA capacity in ML area of 14.2 ha.

The proponent made the presentation and informed that:

- i. It is two product coal washery (Clean Coal & Washed Coal (Power) project of M/s BCCL. Existing Mahuda Coal Washery is located within the lease hold of Cluster XIII mines of BCCL. EC of Cluster XIII has been obtained vide letter no. J-11015/11/2010.IA.II (M) dated 06.06.2013.
- ii. The latitude and longitude of the project are 23°44'33.32" North and 86°16'51.39" East respectively.
- iii. The raw material will be raw coal having bunker capacity of 4700 MT.
- iv. Method of washing heavy medium cyclone
- v. The land usage of the project will be as follows:

Type of Land Use	Existing land use (Ha)	Post Closure land use (Ha)
Plant Facilities	7.23	0.00
Road	0.69	0.52
Railway	1.71	0.00
Barren land	3.73	0.00
Plantation	0.84	13.68
Total	14.2	14.2

- vi. **Washery Process:** Raw coal transported from mines at the rate of 700 to 1000 tones per day to Mahuda Washery dump hopper. Raw coal is carried from dump hopper to primary crusher by belt conveyor and crushed down to 100 mm size coal and stacked in the raw coal bunkers. For washing, coal is reclaimed from raw coal bunker and crushed in secondary crusher up to the size (-)25/30 mm coal. The (-)15 mm size of coal is dry separated mainly because of its low ash content, and directly mixed with the final product i.e. clean coal. The (+)15 mm to (-)25/30 mm fraction is them mixed with media and fed to dense mixed cycloids where coal is separated into two fraction viz. clean coal and washed coal (Power). Due to dry separation of (-)15 mm size as stated earlier, there is no generation of slurry. The plant is run under closed water circuit and discharge of effluent (i.e. slurry and slurry water during the washing process) is NIL. Clean coal is loaded by belt conveyor system, weighed and dispatched to different steel plant. Washed coal (Power) is dispatched to Thermal Power Plants.
- vii. **Water requirement:** The total estimated water requirement is 54 m³/day as make up water & air pollution control sprinkling, from mine water. The washery is based on zero discharge system. The quantity of makeup water required for the washery is about 31 KLD. The water is supplied from underground mine through submersible pump. The makeup water will compensate for the loss of moisture with product and meet the water demand for dust suppression and evaporation losses etc. The process water from HM cyclone will be clarified in radial thickeners and clear water will be re-circulated in the plant.
- viii. Rain water harvesting is being done. Rain water is collected in Tank no. 3, 4 and 5 and used as make up water as per requirement.
- ix. The life of washery is 20 Years.
- x. Cost: Total capital cost of the project is Rs. 14.83 Crore. CSR Cost (As per CIL's policy, the company will spend 5% of the retained earnings of the previous year subject to a minimum of Rs. 5/- per tonne of coal production.
- xi. The washery was commissioned in 1989 after Board's approval in 1978. It is an existing coal washery with mining plan. The approval of mine closure plan is in process.
- xii. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in

the 10 km buffer zone.

xiii. Forestry issues: No forest area involved in coal washery.

xiv. There are no court cases/violation pending with the project proponent.

5.25.2 The Committee after a detailed deliberation has recommended for granting ToR with standard ToRs:

5.26 Any other matters with the permission of the Chair: The EAC desired that the Committee may make site visit to the opencast mines at MCL & NCL so also the underground mines at Singareni mines so as to see the ground realities of compliance of EC conditions and the Action Plans submitted by the Proponents.

The meeting ended with a vote of thanks to the Chair.

ANNEXURE-1**PARTICIPANTS IN 5th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 25th – 26th NOVEMBER, 2013 IN NEW DELHI.**

Sl. No.	LIST OF PARTICIPANTS Expert Appraisal Committee (Coal Mining)	
1.	Shri A. S Lamba	Chairman
2.	Prof. C.R. Babu	Member
3.	Dr. T. K .Dhar	Member
4.	Shri Jawahar Lal Mehta	Member
5.	Shri N. K. Verma	Member
6.	Shri A. K. Bansal	Member
7.	Dr. G. R. Rathnavel	Member
8.	Shri G. S. Dang	Member
9.	Shri P.D. Siwal	Member
10.	Dr. Manoranjan Hota	Director & Member Secretary
11.	Shri P. R. Sakhare	Deputy Director

PARTICIPANTS IN 5th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 25th -26th NOVEMBER, 2013 IN NEW DELHI

5.1 Tarmi OCP by M/s CCL

1. Shri T.K. Nag
2. Dr. A. Sen
3. Shri J. Chakravarty
4. Shri A. Sinha
5. Shri. P. K. Sinha
6. Shri Alok Kumar
7. Shri Pushkar

5.2 Piparwar OCP by M/s CCL

1. Shri T.K. Nag
2. Dr. A. Sen
3. Shri J. Chakravarty
4. Shri A. Sinha
5. Shri. P. K. Sinha
6. Shri Alok Kumar
7. Shri Pushkar

5.3 Dhori Group OCP M/s CCL

1. Shri T.K. Nag
2. Dr. A. Sen
3. Shri J. Chakravarty
4. Shri A. Sinha
5. Shri. P. K. Sinha
6. Shri Alok Kumar
7. Shri Pushkar

5.4 Expansion of 6 & 7 Pits colliery M/s Tata Steel Ltd.,

1. Dr. M. Ahmed
2. Shri Ajay Sahai
3. Shri Chanakya Chaudhary
4. Dr. M. K. Gupta
5. Shri M. K. Prasad
6. Dr. M. K. Chakraborty
7. Mr. Sanjay Singh
8. Mr. Prabir Kr. Sarkar

5.5 Expansion of Jamadoba Coal washery M/s Tata Steel Ltd.,

1. Dr. M. Ahmed
2. Shri Ajay Sahai
3. Shri Chanakya Chaudhary
4. Dr. M. K. Gupta
5. Shri M. K. Prasad
6. Dr. M. K. Chakraborty
7. Mr. Sanjay Singh
8. Mr. Prabir Kr. Sarkar

5.6 Block –B Opencast Expansion Project M/s Northern Coalfields Ltd

1. Shri N. Das
2. Shri B. K. Sharma
3. Shri U. C. Dumka
4. Shri V. N. Dupattawala
5. Shri Rajinder Sahare
6. Shri S. Singh
7. Shri P. Prasad
8. Shri R. K. Meena

5.7 Expansion of Lakhanpur OCP of M/s Mahanadi Coalfields Ltd,

1. Shri B. C. Tripathi
2. Shri Debasis Roy
3. Shri D. Bhattacharjee
4. Dr. A. K. Samantaray
5. Shri K. S. Ganpathy
6. Shri S. J. Jen0
7. Shri C. Jayadev
8. Shri J. P. Singh

5.8 Gopal Prasad OCP of M/s MJSJ Coal Ltd.,

1. Shri B. C. Tripathi
2. Shri Debasis Roy
3. Shri D. Bhattacharjee
4. Dr. A. K. Samantaray
5. Shri K. S. Ganpathy
6. Shri S. J. Jen0
7. Shri C. Jayadev
8. Shri J. P. Singh

5.9 Urtan North Underground Coal Mine Project of M/S Urtan North Mining Co. Ltd.

1. Shri G. P. Choudhary
2. Shri N. C. Bagchi

3. Mr. Rajan Anand
4. Dr. M. Sharma
5. Shri B. D. Sharma
6. Dr. I. N. Rao
7. Shri N. K. Prasad

5.10 Kiloni, Manora Deep, Baranj I-IV of M/s Karnataka Emta Coal Mines Ltd.

1. Shri Purajit Roy
2. Shri A. K. Tooley
3. Shri Saughat Upadhaya
4. Shri M. R. Kamble
5. Shri T. Sannappa
6. Dr. B. K. Tewary
7. Shri Bikash Mukerjee
8. Shri A. R. Sharma

5.11 Pachwara (North) Opencast Project of M/s Bengal Emta Coal Mines Ltd.

1. Shri Purajit Roy
2. Shri A. K. Tooley
3. Shri Saughat Upadhaya
4. Shri Y. K. Singh
5. Shri A. R. Sharma

5.12 Rohne Opencast Coal Mine Project of M/s Rohne Coal Company Ltd.

1. Shri R. N. Choubey
2. Shri S. Ghosh
3. Shri R. N. Choudhry
4. Shri Shashir Kumar

5.13 Baitarni (West) Opencast Coalmine of M/s Baitarni West Coal Company Ltd.,

Absent

5.14 Pachwara South Coal Mine Project of M/s Neyveli Uttar Pradesh Power Ltd.

1. Shri Shakil Ahmed
2. Shri S. Shiv Prasad
3. Shri S. Karthikeyan
4. Shri M. Raghunathan
5. Shri P. K. Singh
6. Shri I. S. Roy
7. Shri S. Boopathy

5.15 Warora Underground of M/s Maharashtra Mining Corp. Ltd.,

1. Shri P. Y. Tembhune
2. Shri Ashok
3. Shri V. K. Jain
4. Mr. Goel
5. Mr. Mohit

5.16 Marki-Barka Underground Coalmine Project of M/s M.P. State Mining Corp. Ltd.,

1. Shri S. Y. Walkare
2. Shri H. K. Kar
3. Shri Vijay singh
4. Shri N. K. Prasad
5. Shri D. S. Bhagat
6. Shri S. P. Mishra
7. Shri Karni Singh Bham

5.17 Andal East underground Coalmines project of M/s Andal East Coal Company Pvt. Ltd.

1. Dr. M. K. Chakraborty
2. Shri M. J. Dhar
3. Shri J.S. Prasad

5.18 Gare Pelma –II Coal Block of M/s MahaTamil Collieries Ltd.,

1. Shri N. Rama Rao
2. Shri Chander Shekar
3. Shri M. K. Agarwal
4. Shri R. B. Mathur
5. Shri D. Chandarsekar
6. Shri Tarun Kumar

5.19 Gare Pelma Sector III Opencast-cum-Underground Coal Mine Project with Pit-head Coal Washery of M/s Goa Industrial Development Corporation

1. Shri H.S. Rane
2. Shri M. Shirodkar
3. Shri M. D'Souza
4. Shri Asim Tripathi

5.20 Proposed Manuguru Opencast – II M/s The Singareni Collieries Company Ltd.,

1. Shri A Manohar Rao
2. Shri Vasanth Kumar

5.21 Jawahar Khani-5 Opencast of of M/s The Singareni Collieries Company Ltd.,

1. Shri A Manohar Rao
2. Shri Vasanth Kumar

5.22 Juna-Kunada OC Expn project of M/s Western Coalfields Ltd.

1. Shri S. K. Jagnania
2. Shri Debabrata Das
3. Shri R. M. Wanare
4. Shri K. Chakraborty
5. Shri S. S. Malhi

5.23 Parsoda Opencast Coal Mine Project of M/s Western Coalfields Ltd.,

1. Shri S. K. Jagnania
2. Shri Debabrata Das
3. Shri R. M. Wanare
4. Shri K. Chakraborty
5. Shri S. S. Malhi

5.24 New Sethia Opencast Coal Mine of M/s Western Coalfields Ltd.,

1. Shri S. K. Jagnania
2. Shri Debabrata Das
3. Shri R. M. Wanare
4. Shri K. Chakraborty
5. Shri S. S. Malhi

5.25 Mahuda coal washery M/s Bharat Cooking Coal Limited

1. Shri V. K. Sharma
2. Shri D. C. Jha
3. Dr. EVR. Raju
4. Shri Kumar Ranjeev
5. Shri N.K. Sinha

GENERIC TOR FOR COAL WASHERY

- (i) A brief description of the plant, the technology used, the source of coal, the mode of transport of incoming unwashed coal and the outgoing washed coal. Specific pollution control and mitigative measures for the entire process.
- (ii) The EIA-EMP report should cover the impacts and management plan for the project of the capacity for EC is sought and the impacts of specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. If the washery is captive to a coal mine/TPP/Plant the cumulative impacts on the environment and usage of water should be brought out along with the EMP.
- (iii) A Study area map of the core zone and 10km area of the buffer showing 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. If there are any ecologically sensitive areas found within the 15km buffer zone, the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc should be shown and the comments of the Chief Wildlife Warden of the State Government should be furnished.
- (iv) Collection of one-season (non-monsoon) primary base-line data on environmental quality ?air (PM₁₀, PM_{2.5}, SO_x and NO_x), noise, water (surface and groundwater), soil.
- (iv) Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-à-vis washery should be given separately. Source of water for use in mine, sanction of the competent authority in the State Govt..and examine if the unit can be zero discharge including recycling and reuse of the wastewater for other uses such as green belt, etc.
- (vi) Impact of choice of the selected use of technology and impact on air quality and waste generation (emissions and effluents).
- (vii) Impacts of mineral transportation - the entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, 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.
- (viii) Details of various facilities to be provided for the personnel involved in mineral transportation 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 rejects] transportation, their impacts. Details of workshop, if any, and treatment of workshop effluents.
- (ix) 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.
- (x) Details of green belt development.
- (xi) Including cost of EMP (capital and recurring) in the project cost.
- (xiv) Public Hearing details of the coal washery to include details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made in a tabular form. If the Public Hearing is in the

regional language, an authenticated English Translation of the same should be provided.

(xv) Status of any litigations/ court cases filed/pending on the project.

(xvi) Submission of sample test analysis of:

I Characteristics of coal to be washed- this includes grade of coal and other characteristics ?ash, S and and heavy metals including levels of Hg, As, Pb, Cr etc.

II Characteristics and quantum of washed coal.

III Characteristics and quantum of coal waste rejects.

(xvii) Management/disposal/Use of coal waste rejects

(xviii) Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC has been sought.

(xxxvi) Submission of sample test analysis of:

Characteristics of coal to be washed- this includes grade of coal and other characteristics ? ash, S

(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 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.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT

- (i) An EIA-EMP Report would 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 cover the 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 data and information, generation of data on impacts including prediction modelling for **???. MTPA** of coal production based on approval of project/Mining Plan for **??MTPA**. Baseline data collection can be for any season except monsoon.
- (iii) A map specifying locations of the State, District and Project location.
- (iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/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 area of the buffer zone 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 of the land use. Satellite imagery per se is not required.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, 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 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.
- (viii) A detailed Site plan of the mine showing the various 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 and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project 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.
- (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.

- (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.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition.

LANDUSE DETAILS FOR OPENCASST PROJECT

S.N.	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

- (xii) Break-up of lease/project area as per mining operations.
- (xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.
- (xiv) 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 coinciding with the same season for AAQ collection period.
- (xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone 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. Values should be provided based on desirable limits.
- (xvi) Study on the existing flora and fauna in the study area (10km) 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. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I fauna, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a comprehensive Conservation Plan should be prepared and submitted with EIA-EMP Report and comments from the CWLW of the State Govt. also obtained and furnished.

- (xvii) 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 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 and sections should be included. The progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.
- (xix) 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.
- (xx) Detailed water balance should be provided. The breakup of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xxii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term modelling studies on. 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.
- (xxiii) Impact of blasting, noise and vibrations.
- (xxiv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.
- (xxv) Impacts of mineral transportation within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.
- (xxvi) Details of waste generation (OB, topsoil) as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OB dump heights and terracing should be based on slope stability studies with a max of 28° angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF) and selection of species (local) for the afforestation/plantation programme based on original survey/land use.

Table 1: Stage-wise Land use and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th year	24 th Year (end of Mine life)*
1.	Backfilled Area(Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					

4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL	110*	110*	110*	110*	110*

* As a representative example

Table 2: 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	

* As a representative example

(xxviii) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre- mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of rehandling (wherever applicable) and backfilling and progressive mine closure and reclamation.

Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)
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1.	External OB Dump	Plantation	Water Body	Public Use	Undisturbed	TOTAL
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	TOTAL	85				110

- (xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.
- (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.
- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan.
- (xxxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.
- (xxxiiii) Including cost of EMP (capital and recurring) 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.
- (xxxvi) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxvii) Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent 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.
- (xxxviii) In built mechanism of self-monitoring of compliance of environmental regulations.
- (xxxix) Status of any litigations/ court cases filed/pending on the project.
- (xxxx) 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.
- (xxxxi) Copy of clearances/approvals ? such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

(A) FORESTRY CLEARANCE

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance for 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			

ANNEXURE - 5

GENERIC TOR FOR AN UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report should be prepared for a peak capacity of **????.. MTPA** over an area of **????.. ha** addressing the impacts of the underground coalmine project including the aspects of mineral transportation and issues of impacts on hydrogeology, plan for conservation of flora/fauna and afforestation/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.
- (ii) The EIA-EMP report should also cover the 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 **??**. MTPA of coal production based on approval of project/Mining Plan.
- (iii) 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.
- (iv) 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.
- (v) 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.
- (vi) 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.	ForestLand			
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	

- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) Collection of one-season (non-monsoon) primary baseline data on environmental quality ? air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, AS, etc), noise, water (surface and groundwater), soil along with one-season met data.
- (xi) 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.
- (xii) 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.
- (xiii) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xiv) 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.

- (xv) 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.
- (xvi) 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.
- (xvii) 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.
- (xviii) 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.
- (xix) 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.
- (xx) 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.

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
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*As a representative example

- (xxi) 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.
- (xxii) 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.
- (xxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources ?water, land, energy, raw materials/mineral, etc.
- (xxiv) R&R: Detailed project specific R&R Plan with data on the existing socio-economic status (including tribals, SC/ST) of the population 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.
- (xxv) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxvi) 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.
- (xxvii) Status of any litigations/ court cases filed/pending in any Court/Tribunal on the project should be furnished.
- (xxxviii) Submission of sample test analysis of:
- (xxxvii) Characteristics of coal - this includes grade of coal and other characteristics ? ash, and heavy metals including levels of Hg, As, Pb, Cr etc.
- (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			

GENERIC TOR FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined rated capacity of??..MTPA for OC-cum-UG project which consists of ?? MTPA for OC and ??? MTPA for UG 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 cover the 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 data and information, generation of data on impacts including prediction modelling for ??? MTPA of coal production based on approval of project/Mining Plan for ??.. MTPA. Baseline data collection can be for any season except monsoon.
- (iii) A map specifying locations of the State, District and Project location.
- (iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/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 area of the buffer zone 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 of the land use. Satellite imagery per se is not required.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, 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 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.
- (viii) A detailed Site plan of the mine showing the various 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 and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any 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., approach roads, major haul roads, etc.

- (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.
- (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.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition.

LANDUSE DETAILS FOR OPENCAST PROJECT

S.N.	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL (ha)
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

LANDUSE DETAILS FOR UNDERGROUND PROJECT

S.N.	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
1.	Agricultural land			
2.	ForestLand			
3.	Grazing Land			
4.	Wasteland			
5.	Water Bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

Area under Surface Rights

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

- (xii) Break-up of lease/project area as per mining operations.

- (xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.
- (xiv) 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.
- (xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone 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. Values should be presented in comparison to desirable limits.
- (xvi) Study on the existing flora and fauna in the study area (10km) 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. If the study area has endangered flora and fauna, or if the project falls within 15 km of an ecologically sensitive area, then a comprehensive Conservation Plan should be prepared and furnished along with comments from the CWLW of the State Govt.
- (xvii) 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 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 and sections should be included. The progressive mine development and final mine closure plan should also be shown in figures.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.
- (xix) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xx) 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.
- (xxi) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.
- (xxii) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xxiii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long? Term modelling studies on. 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.
- (xxiv) Impact of blasting, noise and vibrations.
- (xxv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.

- (xxvi) Impacts of mineral transportation ?within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.
- (xxvii) Details of waste generation ? OB, topsoil ? as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OB dump heights and terracing should based on slope stability studies with a max of 28° angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Impact and management of wastes and issues of rehandling and backfilling and progressive mine closure and reclamation.
- (xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.
- (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.
- (xxxi) Risk Assessment and Disaster Preparedness and Management Plan.
- (xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.
- (xxxiii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF given below) and selection of species (local) for the afforestation/plantation programme based on original survey/landuse.

Table 1: Stage-wise Landuse and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th year	24 th Year (end of Mine life)*
1.	Backfilled Area (Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					

7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL	110	110	110	110	110

* Representative case as an example

Table 2: 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	

* Representative case as an example

(xxxiv) Conservation Plan for the endangered/endemic flora and fauna found in the study area and for safety of animals visiting/residing in the study area and also those using the study area as a migratory corridor.

(xxxv) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre- mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions.

Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	TOTAL	85				110

- (xxxvi) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.
- (xxxvii) 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.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxix) Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent 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.
- (xxxx) In built mechanism of self-monitoring of compliance of environmental regulations.
- (xxxxi) Status of any litigations/ court cases filed/pending on the project.
- (xxxxii) 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.
- (xxxxiii) 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 In the FC	Balance area for which FC is yet to be obtained	Status of appl. for diversion of Balance forestland
		If more than one, provide details of each FC			

Copies of forestry clearance letters (all, if there are more than one)

(B) MINING PLAN APPROVAL

(B) MINING PLAN/PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:

Copy of Letter of Approval of Mining Plan/Project Approval

(xxxxiv) 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 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