

MINUTES OF THE 7th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 12th -13th DECEMBER, 2013 IN NEW DELHI.

The 7th meeting of the Expert Appraisal Committee (EAC) (Thermal & Coal Mining) was held on 12th - 13th December, 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.

Confirmation of Minutes: The Committee confirmed the minutes of the 5th EAC meeting held on 25th - 26th November, 2013.

7.1 Tawa –III Underground Coal Mine Project (0.48 MTPA normative and 0.60 MTPA peak in an ML area is 205.56 ha) of M/s Western Coalfields Ltd. Dist. Betul, Madhya Pradesh (EC Based on TOR dated 23.12.2010) - Further Consideration

7.1.1 The proposal is for Tawa –III Underground Coal Mine Project (0.48 MTPA normative and 0.60 MTPA peak in an ML area is 205.56 ha) of M/s Western Coalfields Ltd. Dist. Betul, Madhya Pradesh.

7.1.2 The proponent made the presentation and informed that:

- i. It is the project of M/s WCL to which Ministry accorded TOR vide letter no. J-11015/309/2010-IA.II (M) dated 23.12.2010.
- ii. The latitude and longitude of the project are 22°08' to 22°10' N and 78°10' to 78°12' E respectively.
- iii. The land usage of the project will be as follows:

Pre-Mining: The total land area is 205.56 ha of which Forest Land 139.49 ha and Non – Forest Land 66.07 ha.

Post-Mining: Out of total land area of 205.56 ha the Mine Infrastructure including approach road etc will be 7.65 ha and undisturbed area will be 197.91 ha.

- iv. The total geological reserve is 17.602 MT. The mineable reserve 12.599 MT, extractable reserve is 12.599 MT. The per cent of extraction would be 71.57 %.
- v. The coal grade is G-6 (GHV). The average Gradient is 1 in 7.5 to 1 in 10. There will be total three seams with thickness ranging from 1.8 m to 2.9 m.
- vi. The total estimated water requirement is 560 m³/day. The level of ground water ranges from 2.5 m to 14 m.
- vii. The Method of mining would be underground by bord & pillar method.
- viii. There are no external nor internal dump. There are 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 16 Years.
- xi. **Transportation:** Coal transportation in pit by Belt Conveyors up to surface, Surface to Siding i.e. to TPS, Sarni by Trucks
- xii. There are no R & R involved. There are no PAFs.
- xiii. **Cost:** Total capital cost of the project is Rs. 105.6926 Crores. CSR Cost (Rs. 5.00 per tonne). No R&R Cost involved. Environmental Management Cost is Rs. 50.00 lakhs. Recurring cost Rs. @ Rs. 6.00 per tonne.

- xiv. **Water body:** There are only seasonal nulla flowing adjacent to mines..
 - xv. **Approvals:** Ground water clearance is not applicable as the area is not falling in the critical area notified by CGWA. Board's approval obtained on 22.10.2010. Mining plan has been approved in 227th Meeting of WCL Board held on 22.10.2010. Mine Closure Plan was a part of Mining Plan which has also has been approved on 22.10.2010.
 - 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 139.49 ha. Extent of forest land in the project is 139.49 Ha.
 - xviii. There are no court cases/violation pending with the project proponent.
 - xix. **Public Hearing** was held on 15.12.2011. The issues raised in the PH include providing compensation, employment, prevention and control of water and air pollution etc.
- 7.1.3 The proposal was last considered in 67th EAC meeting held on 4th & 5th February 2013. The Committee sought additional information on w.r.t. a copy of application made for forest clearance; tiger corridor certified by CWLW and NTCA; transportation of coal; continuous monitoring of subsidence; study of the Ground Water balance in the closed mines; joint Project to work out in diligent fashion clearly trying to correlate ground water data at the depth of 40-60 mt with mining activity at 100-500 mt; mitigative measures to handle impact of subsidence on surrounding penumbra region ; alternatives for dependent on Minor Forests Produce (MFP) for their livelihood; Method and Technology below 1.5 mt thick seam as coal conservation measures; no coal seams below seam-IA; minimum nos. of trees to be felled; issue of compensation of Kharif& Rabi crop; Appropriate compensation to the standing crop losers due to subsidence etc.
- 7.1.4 Project proponent further presented and informed that :
- i. Application dated 21.12.2011 has been submitted for forestry clearance. The certified plan with regard to. is awaited from the State Govt..
 - ii. All mitigative measures are being taken during road transportation for arresting fugitive emission of dust. The proposed Tawa- II UG mine has also been planned with adequate control measures to be taken for arresting fugitive emission of dust during road transportation.
 - iii. The proposed coal field for mining has only underground mines which are being worked by caving method only. The lay and disposition of seams in the coalfield is such that stowing is technically ruled out. Moreover there is no source of sand in the near vicinity because of hilly terrain. The subsidence prediction report prepared by CMPDI (Dec' 12) has observed that only 20% area is affected by a subsidence amount of 1.2 m and more. . Maximum subsidence is 2.7 m at few points only. The subsidence movement monitoring starts only during depillaring. As per the Statute, permission from DGMS will be obtained.
 - iv. Subsidence monitoring --will be continuously monitored and records will be maintained.
 - v. The proposal for installation of peizometers has already been initiated and the same will be implemented during operation..
 - vi. Ground water level monitoring in the villages falling within 10 km radius of the project will be continuously monitored at every quarter.
 - vii. A detailed subsidence Prediction Study(Numerical Model) has been carried out based on Influence Function method and the to assess the impact beyond the limit of working area, "Angle of Draw" has been considered as 30 Degrees for single seam extraction and 35 Degrees for multi seam extraction. The subsidence has been calculated over 43,600 points. Subsidence Prediction has been done for three Stages of depillaring.

- viii. There is no direct impact on the livelihood of the people living in the buffer zone. The project will help them in sustaining their livelihood.
- ix. Four coal horizons have been established viz. Upper Workable Seam, Lower Workable Seam, Bagdona Seam & Seam – IA. Mine closure plan has been incorporated in the PR.
- x. The compensation will be paid in case there is any damage to standing crop. 80% area will have subsidence less than 1.2 m and subsidence of 2.7 m will be in pockets. Hence It is expected that there will be hardly any loss of Rabi or Kharif crops.

7.1.5 The Committee after deliberation recommended the project for granting Environmental Clearance with the following specific conditions:

- i. The Forest Clearance be obtained before the EC is issued.
- ii. The area is possibly in the Tiger Corridor or in the fringe of Tiger Corridor, this needs to be properly demarcated and certified both by Chief Wild Life Warden of the area and National Tiger Conservation Authority(NTCA).
- iii. A certificate from the Chief Wild Life Warden be submitted on the distance of mine from the buffer zone of the Pench Satpura Tiger corridor.
- iv. No fly ash shall be dumped into the mine voids.
- v. Transport of coal by road is permitted until 3 years. Thereafter coal shall be transported by belt conveyor/aerial rope way.
- vi. Transport of coal by road shall be by mechanically covered trucks
- vii. The proponent shall examine, in consultation with the upcoming mining projects, the possibility of laying of railway siding in its own mine.
- viii. Continuous monitoring of subsidence be carried out and mitigative measures taken.
- ix. There shall be no belt conveyor over the water reservoir.
- x. The proponent shall examine the feasibility of underground mining of less than 1.5 meter strams and a report submitted to the EAC for future usage.

7.2 Ukni Deep Opencast Coalmine Project (Expn. in prodn. from 2.20 MTPA to 3.50 MTPA and expn. in ML area from 940 ha to 1285.12 ha) of M/s Western Coalfields Ltd., located in dist. Yavatmal, Maharashtra - EC based on TOR granted on 28.10.2010- Reconsideration.

7.2.1 The proposal is for Ukni Deep Opencast Coalmine Project (Expn. in prodn. from 2.20 MTPA to 3.50 MTPA and expn. in ML area from 940 ha to 1285.12 ha) of M/s Western Coalfields Ltd., located in dist. Yavatmal, Maharashtra.

7.2.2 The proponent made the presentation and informed that:

- i. The project was accorded TOR vide letter no. J-11015/237/2010-IA.II (M) dated 28.10.2010.
- ii. The latitude and longitude of the project are 20°1' to 20°2' N and 79°2'03'' to 79°4' 30''E respectively.
- iii. The land usage of the project will be as follows:
 - Pre-Mining:** The Total land area is 1285.12 ha. Land already in possession 929.59 ha, Land to be acquired 355.53 ha, Agricultural Land 350.53 ha, Govt. Land – 5.00 ha
 - Post-Mining:** Out of The Total land area is 1285.12 ha the Plantation 779.00 ha; Void/Water Body 153.00 ha; Public Use 96.00 ha and Undisturbed 257.12 ha.
- iv. The total geological reserve is 33.32 MT. The mineable reserve 24.37 MT, extractable reserve is 24.37 MT. The per cent of extraction would be 73 %.
- v. The coal grade is 4835 (GCV). The average Gradient is 1in 3 to 1 in 6. There will be one

- vi. composite seams with thickness ranging from upto 9.50 m.
- vii. The total estimated water requirement is 970 m³/day. The level of ground water ranges from 2.73 m to 19.2 m.
- viii. The Method of mining would be Opencast with Shovel – Dumper Combination method.
- ix. There are four external OB Dumps covering an area 446.00 ha. With the height upto 90 m. The quantity will be 117.52 Mm³. There is one internal dumps covering an area 180 ha. With the height upto ground level. The quantity will be 104.14 Mm³. There is 117.52 ha of quarry area.
- x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xi. The life of mine is 16 Years.
- xii. Transportation: Coal transportation in pit by dumper, Surface to Siding by tipper and loading at siding by pay loaders
- xiii. There is R & R involved.
- xiv. **Cost:** Total capital cost of the project is Rs. 319.9694 Crores (Additional). CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 15.87 Crores. Environmental Management Cost is Rs. 81.19 Lakhs . Additional Provision would be Rs. 30.00 Lakhs. Revenue Expenditure – Rs. 246.29 Lakhs . Additional Revenue Provision- @ Rs. 3.30 per tone.
- xv. **Water body:** There are only only seasonal nulla are flowing adjacent to the mine.
- xvi. **Approvals:** Ground water clearance is under process. Board’s approval obtained on 29.04.2010. Mining and mine closer plans have been approved in 224th Meeting of WCL Board held on 29.04.2010 . Final Mine Closure Plan as per MOC guidelines with a provision of @ Rs. 6.00 lakh per ha will be prepared 5 years before the actual closure of the mine.
- xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** No forest land involved for mining.
- xix. Total afforestation plan shall be implemented covering an area of 621 ha at the end of mining. Green Belt over an area of 120 ha. Density of tree plantation 2500 trees/ ha of plants.
- xx. There are no court cases/violation pending with the project proponent.
- xx. **Public Hearing** was held on 10.08.2011. The issues raised in the PH include Pollution control measures, Construction of roads, Health, Electricity & drinking water facilities, Plantation, Social Development works, Employment etc. The proponent made commitments to address the issues raised during the PH.

7.2.3 Certificate of compliance of earlier EC from MoEF, Regional office, Bhopal has been received vide their letter no. 3-45/2005(ENV)/1588 dated 01.10.2013. The EAC deliberated on the compliance report. 2nd EAC meeting held on 3rd - 4th October, 2013. The compliance report indicated that several conditions are either partly complied or not complied. However, the proponent submitted that it has undertaken several steps and prepared Action Plan in order to comply with the stipulated conditions. The Committee has asked the Proponent to submit the Action Plan duly vetted by the RO, MoEF for further consideration.

The EAC deliberated on the revised compliance report and noted, inter alia, the following:

- i. The mine water after it is pumped out and treated in sedimentation tank on surface is used within the mine premises for watering the mine area, roads, green belt development etc. The average pumping is 11500 kld. from that 430 kld is used within the mine premises and remaining 11070 kld is led into local nulla.
- ii. Water meter in Surface Sedimentation tank will be installed by December, 2013 for recording of actual storage for recording of actual & its utilization.

- iii. Regarding the fugitive dust monitoring it is submitted that the SPM & PM -10 are regularly monitored at two locations every fortnight at Weighbridge & CHP. The observations are within the limit.
- iv. Centralized Environmental Laboratory has been established by CMPDIL, RI- IV (Regional Institute of CMPDIL a subsidiary of CIL and ISO certified Consultant for giving total support to all the coal producing subsidiary of CIL) at Nagpur. The Laboratory is housed in WCL Building for which rent is paid by CMPDIL. The pollution monitoring and analyzing equipments have been reimbursed to CMPDIL. The schedule of monitoring every fortnight is communicated to State Pollution Control Board.

7.2.3 The Committee after deliberation recommended the project for granting Environmental Clearance with the following specific conditions:

- i. The mine water after it is pumped out and treated in sedimentation tank on surface could be used within the mine premises for watering the mine area, roads, green belt development etc.
- ii. Mine discharge after proper settling should be made available for agricultural purpose through a properly developed distribution network. The project authorities should meet the water requirement of nearby villages in case the village wells go dry due to dewatering of the mine.
- iii. Water meter in Surface Sedimentation tank will be installed by December, 2013.
- iv. All the conditions made by DGMS should be adhered to.
- v. Toe wall as well as garland drain be constructed as per DGMS.
- vi. The external OB dumps are to be constructed in benches keeping the individual bench slopes at natural angle of repose conforming to the DGMS Permission.
- vii. Garland drains all along the periphery of external OB dumps be constructed before onset of every monsoon and all silt and sediments along with water may be allowed to accumulate in the said garland drains which be cleaned again before onset of next monsoon.
- viii. The biological reclamation of external OB Dumps be taken up once the dumps get inactive.

7.3 Chhinda OCP Expansion (from 0.18 MTPA to 0.65 MTPA in the existing ML area of 106.68 ha) of M/s Western Coalfields Ltd., Tehsil Parasia, dist. Chindwara, Madhya Pradesh - EC based on TOR granted on 15.07.2011 - Reconsideration.

7.3.1 The proposal is for Chhinda OCP Expansion (0.18 MTPA to 0.65 MTPA in the existing ML area of 106.68 ha) of **M/s Western Coalfields Ltd.**, Tehsil Parasia, dist. Chindwara, Madhya Pradesh - EC based on TOR granted on 15.07.2011.

7.3.2 The proponent made the presentation and informed that:

- i. The project was accorded TOR vide letter no. J-11015/119/2011-IA.II (M) dated 15.07.2011.
- ii. The latitude and longitude of the project are 22°12' to 22°13' N and 78°50' to 78°51' E respectively.
- iii. The land usage of the project will be as follows:

Pre-Mining: The total land area is 106.68 ha of which agricultural land 103.876 ha and Govt. Land is 2.804 ha

Post-Mining: Out of total land area i.e. 106.68 ha the Plantation will be developed over 45.80 ha; Void/Water Body over 37.20 ha; area for Public Use 1.92 ha and Undisturbed area 21.76 ha.

- iv. The total geological reserve is 6.083 MT. The mineable reserve 4.90 MT, extractable reserve is 4.90 MT. The per cent of extraction would be 74 %.
- v. The coal grade is E. The stripping ratio is 1: 5.60. The average Gradient is 1 in 6 to 1 in 12. There will be three composite seams with thickness ranging upto 11.76 m.
- vi. The total estimated water requirement is 970 m³/day. The level of ground water ranges from 1.2 m to 15.4 m.
- vii. The Method of mining would be by opencast with Shovel – Dumper Combination method.
- viii. There are two external OB Dumps covering an area 16.80 ha. With the height upto 30 m. The quantity will be 7.28 Mm³. There is one internal dumps covering an area 15.00 ha. with the height upto ground level. The quantity will be 20.10 Mm³. There is total 52.20 ha 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 10 Years.
- xi. Transportation: Coal transportation in pit by dumper, Surface to Siding by tipper and loading at siding by pay loaders
- xii. There is no R & R involved. There are no PAFs.
- xiii. **Cost:** Total capital cost of the project is Rs. 17.7942 Crores. CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 87.00 Crores. Environmental Management Cost (Capital Expenditure shall be Rs.41.13 Lakhs, Revenue Expenditure shall be Rs. 28.67 Lakhs).
- xiv. **Water body :** The only water body available is Pench River
- xv. **Approvals:** Ground water clearance is not required as project do not falls in critical area notified by CGWA. Board's approval obtained on 20.10.2011. Mining plan has been approved in 233rd Meeting of WCL Board held on 20.10.2011. Mine Closure Plan approval on 28.01.2013
- xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xvii. **Forestry issues:** No forest land involved for mining.
- xviii. Total afforestation plan shall be implemented covering an area of 26.80 ha at the end of mining. Green Belt over an area of nil 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** was held on 04.02.2012. The issues raised in the PH include the impacts of heavy blasting, provision of facilities of health, education, road, electricity and drinking water, Social development works, Pollution control measures, water distribution system, transportation etc. The proponent has made commitments to address the issues raised during the PH.

7.3.3 The certificate of compliance of earlier EC from MoEF, Regional office, Bhopal has been received vide their letter no. 3-45/2005(ENV)/1583 dated 30.09.2013 was deliberated in the 2nd EAC meeting held on 3rd - 4th October, 2013 . The compliance report indicated that several conditions are either partly complied or not complied. However, the proponent submitted that it has undertaken several steps and prepared Action Plan in order to comply with the stipulated conditions. The Committee has asked the Proponent to submit the Action Plan duly vetted by the RO, MoEF for further consideration The EAC deliberated on the revised compliance report duly vetted by RO, MOEF, noted, inter alia, the following:

- i. For assessment of usage of water, water meter will be installed by December, 2013. The sump capacity of UG Working is 87.56 million gallon. Toe wall along the dump on the river side will be constructed by June, 2014.
- ii. The existing embankment & dump on the river side are not active and plantation have been made.

- Since no water is presently being drawn from Pench river nor it is envisaged in future, the permission from Ground Water Board is not required for drawl of water from Pench river
- iii. There is no discharge of mine water into Pench River. The water accumulated in the UG workings is pumped out based on requirement of the mine and for proper record of usage a Water Meter is proposed to be installed by December, 2013. However to ensure no adverse impact on Pench River, two sampling points have been fixed on the upstream and downstream w.r.t. Dump and seasonal monitoring will be undertaken.
 - iv. As per the condition the fugitive emission in respect of SPM & PM – 10 are monitored regularly at Railway Siding and data is also recorded properly. Two additional points are fixed considering the upstream & downstream of the route of transportation for fugitive monitoring. The control measures as per condition is provided and maintained and shall be continued.

7.3.4. A representation from an NGO was received which raised certain issues with regard to this project that include Impact of existing Chhinda coal mine on landscape; Physico-Chemical characteristics of ground water; impact of waste water discharge on the Pench river; and impact of noise and air pollution on wildlife and human being.

The proponent responded to these issues which are as follows:

- i. Chhinda OC mine is an existing mine and was mined as UG mine. The open – pit activities in the mine are carried out with due care to environment protection. There is no forest land involved in the project area. The proposed expansion of the mine is envisaged in terms of production capacity only and there is no change in the total project area. The additional impact due to enhanced production will be effectively controlled so as to maintain the levels of pollutants within the permissible limits. About 67000 plantations have been carried out over the OB dumps.
- ii. The location of the project is about 25 km from the proposed viable corridor vis-à-vis . tiger corridor, it is submitted that the site. The project is located 58.75 km from Satpura Tiger Reserve and 53.75 km from Pench Tiger Reserve.
- iii. Physico-Chemical characteristics of ground water are well within the permissible limits of IS:10500. The proposed expansion in projects is only in terms of production capacity without any change in the total project area. Since no new area is being added the existing water quality will not be changed. The ground water quality shows the prevalent scenario only w.r.t. the rock quality and geological formation.
- iv. There are no high pressure aquifers in the mine area. In the core zone, Moturs comprising mostly clay/shale with thin bands of sandstone are not recognized as aquifers and they act as separating media thereby considerably reducing the scope of Barakars as potential aquifers though they are mostly arenaceous in nature.
- v. Coal mining is the only industrial activity in the area. Besides this, ground water utilisation is mainly for domestic and irrigation use. The stage of development computation in the present study is 48.7 % which can be categorized as "Safe" with less than 70% value. As per CGWB report on Chindwara district MP, the stage of development in Parasia block in which Chhinda OCM is located is 54.93 % and classified as "Safe" category. The strata water gets accumulated in the mine sump which is guided to erstwhile UG workings and the quantity that is required for usage in mine premises like water spraying, plantation etc., is only pumped out on surface. Therefore, there is no discharge in Pench river. The analytical results of quality of mine pumped out water is placed below and it may be seen that the quality parameters are well within the permissible limits
- vi. There are 26 monitoring wells already established and which are being monitored for water level, quarterly and groundwater quality once a year since 2005 in and around (10 kms radius) of Chhinda OC mine. Two piezometers are also installed in the above area. The long term trend

analysis indicates that there is no significant change in water levels over 8 years period. All monitoring wells of the above area show steady trend during pre-mining as well as during mining period.

- vii. In the present proposal, only internal dumping i.e. in the decoaled void is envisaged and as such no pollution to river will take place due to waste stock piles/OB dumps. This proposal is for expansion in the existing mine in terms of production capacity only without any change in the total project area. There is no forest land involved in the project area. The impact of enhanced production on ambient air quality will be adequately controlled so as to maintain the levels within the permissible limits.

7.3.5. Committee after deliberation recommended the project for granting Environmental Clearance with the following specific conditions:

- i. Everybody in the core area should be provided with mask for protection against fugitive dust emissions.
- ii. The supervisory staff should be held personally responsible for ensuring compulsory regarding wearing of dust mask in the core area.
- iii. People working in the core area should periodically be tested for the lung burden cost on account of working in the coal mine area.
- iv. The mining area should be grounded by green belt having thick closed thick canopy of the tree cover.
- v. Catch drains and siltation ponds of appropriate size should be constructed to arrest all silt and sedimentation flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly. Garland drain (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall and maximum discharge in the area adjoining the mine site. The sump capacity should also provide adequate retention period to allow proper settling of silt materials.
- vi. Dimension of retaining wall at the toe of dumps and OB benches within the mine to check run off and siltation should be based on the rainfall data.
- vii. Desiltation of existing pond in the affected village be carried out.
- viii. Excavation of new pond if needed be carried out.
- ix. Roof – top rain water harvesting in selected buildings in consultation with Village Panchayat like Village School/Panchayat Bhawan be also be carried out.
- x. Permission from the Competent Authority should be obtained for drawl of water from Pench River
- xi. Regular monitoring of impact of noise and air pollution on wildlife and humanbeing be carried out and report be submitted to the SPCB.
- xii. Regular monitoring of wells for water level be carried out quarterly and for groundwater quality
- xiii. As open cast mine is worked on existing underground workings, necessary safety arrangement be made for safety of men m/c.

7.4 Padmapur Extn. Deep Opencast Mine (2.50 MTPA normative and 3.25 MTPA peak in an area of 837.19 ha) of M/s Western Coalfield Ltd. Dist. Chandrapur, Maharashtra – TOR - Further Consideration

- 7.4.1 The proposal is for Padmapur Extn. Deep Opencast Mine (2.50 MTPA normative and 3.25 MTPA peak in an area of 837.19 ha) of M/s Western Coalfield Ltd. Dist. Chandrapur, Maharashtra – TOR.

- 7.4.2 The proponent made the presentation and informed that:
- i. The latitude and longitude of the project are N 20°59' to N 20° 01' and E 79°20' to E 79°21' respectively.
 - ii. The land usage of the project will be as follows:

Pre-Mining: The total land area is 837.19 ha. Land already in possession 816.21 ha; Land to be acquired 20.98 ha; Agricultural Land 681.31ha; Forest Land 64.20 ha; Govt. Land – 70.70ha; Settlements- 20.98 ha

Post-Mining: Out of total land area i.e. 837.19ha. The Plantation will be developed over 471.64 ha; Excavation 231.22 ha; External OB 175.17 ha; Roads 3.96 ha; undisturbed 400.80 ha; Built up area 26.04 ha.
 - iii. The total geological reserve is 26.45 MT. The mineable reserve 10.85 MT, extractable reserve is 10.85 MT. The per cent of extraction would be 41 %.
 - iv. The coal grade is 4717 GCV. The stripping ratio is 1: 5.79. The average Gradient is 1in 3.8 to 1 in 6. There will be one composite seams with thickness ranging from 16.45m to 21.96m.
 - v. The total estimated water requirement is 500 m³/day. The level of ground water ranges from 0.80 m to 12.80 m.
 - vi. The Method of mining would be Opencast with Shovel – Dumper Combination method
 - vii. There are two external OB Dumps covering an area 186.35 ha. With the height upto 60 m. The quantity will be 79.46 Mm³. There are two internal dumps covering an area 129 ha. with the height upto ground level. The quantity will be 30.30 Mm³. There is total 191 ha quarry area.
 - viii. The life of mine is 8 Years.
 - ix. Transportation: Coal transportation in pit by dumper, Surface to Siding by tipper and loading at siding by pay loaders
 - x. There is R & R involved. Resettlement of 521 house oustees belonging to Kitadi village and will be finalized after detailed Socio- economic Survey.
 - xi. **Cost:** Total capital cost of the project is Rs. 66.2822 (Additional). CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 20.91 Crores. Environmental Management Cost is Rs. 50 lakhs.
 - xii. Water body: The only water body available is Erai river/Motaghat Nulla.
 - xiii. **Approvals:** Ground water clearance is under process. Board's approval obtained on January, 2012. Mining plan has been approved on January, 2012. Mine closure plan Progressive Mine Closure Plan is an integral part of the approved project Report.
 - xiv. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xv. **Forestry issues:** Total forest land involved for mining is 64.20 ha. Proposal submitted for forest clearance vide No 8-39/85-FC Dt 08.01.1998 for 58.54 Ha and No 8-7/91-FC Dt 16.10.1998 for 5.66 Ha
 - xvi. Total afforestation plan shall be implemented covering an area of 471.64 ha at the end of mining. Green Belt will be developed 471.64 ha where 1475000 Nos of tree shall be planted.
 - xvii. There are no court cases/violation pending with the project proponent.
- 7.4.3 The proposal was last considered in the 63rd EAC meeting held on 17th -18th December, 2012. wherein the committee sought following additional information:
- i. The land after mining should be reclaimed and bring back to agriculture land; There are large numbers of OB dumps, voids, abandoned mines. An integrated plan for all the closed mines and

active mine, voids, OB dumps should be provided; Contour map /Plan for OB is required to be submitted; Land use break-up for pre-mining should be provided clearly; Master Plan is required for last 50 years as the acquisition of new mines are being taken up and old mines with reserve abandoned. The closed and abandoned mine should be reclaimed and land should be used for Agriculture; Mine & Mineral Development regulation Act should also be applied to coal mining as well. The mine cannot be abandoned if Heco AI is still available and no new mines should be acquired; Master Plan should be prepared for entire area providing detail of first mined out the area completely for its resources and then move into new area. Restoration of the area be made for agriculture use; The OD dump is near the nala but the proponent proposed to construct 50 mt. embankments Tadoba –Andheri Tiger Reserve is 3-4 km from ML area because of that the area has large number of water bodies; Impact of Mining on Tadoba – Andheri Tiger Sanctuary should be assessed. The Chief Wild Life Warden be consulted for presence of Mine in Tadoba-Andheri Tiger Reserve Buffer area. A letter is required from CWLW; Compliance of earlier EC accorded to the project should be provided; Copy of Stage-I forest clearance applied to State Forest Dept. is required as 44.70 ha is forest land; The assessment of the river basin also be carried out.

7.4.4 The proponent made the presentation and informed that:

- i. The reclamation of mined out land will be carried during implementation of the project as per the plan given in the Project Report. Proper closure activities will also be done as per the Mine Closure plan prepared in accordance with the guidelines of Ministry of Coal.
- ii. The existing voids in the operating mines are being planned for filling up with the excavated OB of the extension projects based on the geo – mining conditions. Similarly, parts of existing OB dumps have also been reclaimed biologically and the same will be done during implementation of extension projects also. Further during closure period also the remaining reclamation will be done.
- iii. The land use break up for pre – mining is shown as below:-

Sl.No.	Land Use	Within ML area (ha)	Outside ML area (ha)	Total in ha
1	Agricultural Land	681.31	Nil	681.31
2	Forest Land	64.20	Nil	64.20
3	Waste Land/ Govt. Land	70.70	Nil	70.70
4	Settlements	Nil	20.98	20.98
		816.21	20.98	837.19

- iv. In Chandrapur Area HLC and CRC have been stopped because of safety restrictions from DGMS. Regarding new mines it is submitted that, once the reserves upto the approved project limit is exhausted, new mine in terms of the extension of the mine under consideration is planned till the reserves can be extracted by opencast method. Thereafter, reserves are planned for extraction by underground method.
- v. WCL is not moving into new area without full extraction. Dump No. 10, near nala is actually acting as an embankment in continuation with the proposed embankment.
- vi. Necessary permission has been taken from State Irrigation Department of Govt. of Maharashtra. The final alignment of nala diversion is as per design of Central Design

- Organization(CDO),Nasik , an approved agency of Govt. of Maharashtra with due approval from Irrigation Department, Govt. of Maharashtra.
- vii. The hydrology of the entire area will be investigated and will be incorporated in the EIA/EMP. The void is to filled by OB of nearby mines. Hence it is clear that no external OB dump would be left after the end of mining.
 - viii. After demarcation by the State Forest Department (considering minimum requirement of forest area), the area for diversion of Forest land under Padmapur Extn. Deep OC is 38.87 ha for which application has already been submitted to Dy. Conservator of Forest, Chandrapur Division, Chandrapur by Chandrapur Area vide its letter no. WCL/CHA/AGM/PLG/REV/7050 dated 15.03.2013. A copy of the said letter is enclosed herewith for ready reference.

7.4.5. The Committee after deliberation recommended the project for granting ToR in addition with standard ToRs with the following specific conditions:

- i. Gram Sabha permission be obtained for the land acquisition
- ii. Clearance Certificate from NBW if the site is falling within 10 km radius from Tadoba
- iii. The Committee also decided that a sub-Committee shall make site visit.

7.5 Visapur Opencast Mine of (1.00 MTPA normative and 1.25 MTPA peak in an ML area of 1057.97 ha) of M/s Western Coalfield Ltd. Dist. Chandrapur, Maharashtra – TOR - Further Consideration

7.5.1 The proposal is for Visapur Opencast Mine of (1.00 MTPA normative and 1.25 MTPA peak in an ML area of 1057.97 ha) of M/s Western Coalfield Ltd. Dist. Chandrapur, Maharashtra for TOR.

7.5.2 The proponent made the presentation and informed that:

- i. The latitude and longitude of the project are N 19°53'38" to N 19°55'09" and E 79°17'53" to E 79°18'14" respectively.
- ii. The land usage of the project will be as follows:

Pre-mining: The total land 1057.97 ha of which agricultural land 930.44 ha; Govt. Land 123.99 ha & Settlements over 0.54 ha of land.

Post-Mining: Out of total land area i.e. 1057.97 ha. Void 165.5 ha; External OB 282.51ha; Infrastructure 42 ha; Embankment 43.2 ha; Backfilling 54.80 ha; Rehabilitation 8.00 ha; Undisturbed 461.96 ha. Out of Total Area, Plantation will be done at 552.69 ha Area

- iii. The total geological reserve is 30.83 MT. The mineable reserve 20.98 MT, extractable reserve is 20.98 MT. The per cent of extraction would be 67.83 %.
- iv. The coal grade is GCV -4614Kcal/kg. The stripping ratio is 1: 6.84. The average Gradient is 1 in 5 to 1 in 10. There will be two composite seams with thickness ranging from 1.75 m to 13.75 m.
- v. The total estimated water requirement is 300 m³/day. The level of ground water ranges from 0.70 m to 14.10 m.
- vi. The Method of mining would be Opencast with Shovel – Dumper Combination.
- vii. There are two external OB Dumps covering an area 653.00 ha. With the height upto 20m, 60 m. The quantity will be 143.49 Mm³. There are one internal dumps covering an area 54.80 ha. with the height upto ground level. The quantity will be 31.13 Mm³. There is total 220 ha quarry area.
- viii. The life of mine is 26 Years.

- ix. Transportation: Coal transportation in pit by dumper, Surface to Siding by tipper and loading at siding by pay loaders.
- x. There is R & R involved. Resettlement of 379 houses oustees belonging to Arwat, Charwat & Mana villages and will be finalized after detailed Socio- economic Survey.
- xi. Cost: Total capital cost of the project is Rs. 287.9237 Crore (Additional). CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 30.938 Crores. Environmental Management Cost Rs. 50 lakhs.
- xii. Water body: The only water body available is Erai river/Zorpat Nullah.
- xiii. Approvals: Ground water clearance is under process. Board's approval obtained on March, 2012. Mining plan has been approved on March, 2012. Mine closure plan Progressive Mine Closure Plan is an integral part of the approved project Report.
- xiv. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xv. Forestry issues: No forest land involved for mining area.
- xvi. Total afforestation plan shall be implemented covering an area of 552.69 ha at the end of mining. Green Belt will be developed 552.69 ha where 1381725 Nos of tree shall be planted.
- xvii. There is no court cases/violation pending with the project proponent.

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

- i. Effect of mining on Era River be assessed; Design expert from Water Resource Department should be consulted for diversion of river as it is a very critical issue; Justification should be provided for 4 MT coal productions in 4-5 years of mine operation only; Reasons for abandoned the old mines; Separate sheets, detail of abandoned mines should be provided. Proposed mine details should be provided on separate sheet simultaneously; Impact of Mining on Tadoba –Andheri Tiger Sanctuary should be assessed. Consult the Chief Wild Life Warden for presence of Mine in Tadoba- Andheri Tiger Reserve Buffer area. A letter is required from CWLW.

7.5.4 The proponent made the presentation and informed that:

- i. The project involves diversion of Erai river. A provision of Rs. 15.00 lakhs has been earmarked for the study of impact river diversion. The diversion of surface water courses is done as per the design given by Central Design Organization (CDO), Nasik, an approved agency under Govt. of Maharashtra. Subsequently approval from Irrigation Department, Govt. of Maharashtra. The project has a total reserve of 20.98 Mt with life of 26 years at a normative capacity of 1.00 MTPA with peak a capacity of 1.275 MTPA. The optimum capacity has been planned considering the geo – mining characteristics viz. Avg. Strike Length (700 m to 1100 m), Stripping ratio (1:6.84), Depth (final – 144 m), Width on surface (800 – 1300 m). In case the capacity is enhanced to 4 Mt per annum, the amount of OB would be about 28 Mm³ (instead of 7 Mm³ as planned) and as such the handling of such huge quantity of OB will require very large fleet of Heavy Earth Moving Machinery (HEMM) and its deployment within the available quarry limits as indicated above will not be technically feasible. Therefore mine capacity cannot be enhanced to 4 Mt per annum.
- ii. The mine which has been planned up to 100 m is taken for further extension up to 150-200m before the closure of the old mine because the extension portion will be approached from the existing entries only. Therefore, the existing mines cannot be abandoned and simultaneously restored completely on as is where is basis. The mine can be taken up for final abandonment & reclamation/restoration when the final opencast limit is reached say up to 300 m.

- iii. The project does not fall in the buffer zone of Tadoba- Andhari Tiger Reserve.

7.5.5 The Committee after deliberation recommended the project for granting ToR in addition with standard ToRs with the following specific conditions:

- i. Approval for diversion of rivers and nallahs be obtained from State Flood and Irrigation Dept.
- 7.6 Chinchala-Chikalgaon Amalgamated OC Mine Project (3 MTPA normative and 3.9 MTPA peak in an area of 2344.88 ha) of M/s Western Coalfields Ltd. Located at Dist. Yavatmal, Maharashtra – TOR**
- 7.6.1 The proposal is for Chinchala - Chikalgaon Amalgamated OC Mine Project (3 MTPA normative and 3.9 MTPA peak in an area of 2344.88 ha) of M/s Western Coalfields Ltd. Located at Dist. Yavatmal, Maharashtra.
 - 7.6.2 The proponent made the presentation and informed that:
 - i. The latitude and longitude of the project are N 20° 02'40" to N 20° 08'00" and E 78°55'02" to E 78°51'16" respectively.
 - ii. The land usage of the project will be as follows:
 - Pre-mining:** The total land area is 2344.88 ha of which Land already in possession 14.88 ha; Land to be acquired 2330.00 ha; Agricultural Land 2130.00 ha; Forest Land 90.00 ha; Govt. Land 73.33 ha; Grazing Land 15.67 ha; Surface Water Bodies 17.00; Settlements 4.00 ha & Others 14.88 ha.
 - Post-mining :** Out of total land area i.e. 2344.88 ha. Excavation / Quarry 803.00 ha; Roads, Nala Diversion 120.00 ha; External OB (including backfill area) 653.00 ha; Infrastructure 140.00 ha; Rehabilitation 15.00 ha; Colony 5 ha; Undisturbed 608.88 ha. Out of Total Area, Plantation will be done at 1313.00 ha Area
 - iii. The total geological reserve is 77.12 MT. The mineable reserve 61.84 MT, extractable reserve is 61.84 MT. The per cent of extraction would be 80 %.
 - iv. The coal grade is E/F. The stripping ratio is 1:10.90. The average Gradient is 1 in 3.5 to 1 in 6. There will be one composite seams with thickness ranging from 1.00 m to 10.50 m.
 - v. The total estimated water requirement is 495 m³/day. The level of ground water ranges from 1.45 m to 20.4 m.
 - vi. The Method of mining would be Opencast with Shovel – Dumper Combination method.
 - vii. There are two external OB Dumps covering an area 653.00 ha. With the height upto 90m. The quantity will be 420.77 Mm³. There are four internal dumps covering an area 460 ha. with the height upto ground level. The quantity will be 253.12 Mm³. There is total 307 ha quarry area.
 - viii. The life of mine is 24 Years.
 - ix. **Transportation:** Coal transportation in pit by dumper, Surface to Siding by tipper and siding to loading by pay loaders.
 - x. There is R & R involved. Resettlement of 152 houses with population 752 belonging to Chinchala shall be done.
 - xi. **Cost:** Total capital cost of the project is Rs. 1171.3002 crore (Additional). CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 14.92 Crores. Environmental Management Cost Rs. 90 lakhs.
 - xii. **Water body:** The only water body available is seasonal Nullah.
 - xiii. **Approvals:** Ground water clearance is under process. Board's approval obtained on November 2010. Mining plan has been approved 292nd Meeting held on 12.12.2012. Mine closure plan

- Progressive Mine Closure Plan is an integral part of the approved project Report.
- xiv. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xv. **Forestry issues:** Total forest land involved for mining is 90 ha. Application has been made for the FC.
 - xvi. Total afforestation plan shall be implemented covering an area of 2344.88 ha at the end of mining. Green Belt will be developed 1313 ha where 328250 Nos of tree shall be planted.
 - xvii. There is no court cases/violation pending with the project proponent.

7.6.3 Committee after deliberation sought the following information for further consideration of the proposal:

- i. Cost Benefit Analysis be carried out the report be submitted for further consideration.
- ii. The proponent may explore the possibility of underground mining method.
- iii. Examine as per the new Land Acquisition Rule, whether land having double crop/multiple crop can be used for mining purpose.
- iv. The proponent may examine the cost benefit of the double/multiple crop vis-à-vis the single crop in the proposed mine area.

7.7 Bikram Coalmine Project (OC and UG for max. 0.36 MTPA in an ML area of 239 ha) of M/s Birla Corp. Ltd., dist. Shahdol, Madhya Pradesh (EC based on TOR granted on 28.10.2010) - Further Consideration

7.7.1 The proposal is for Bikram Coalmine Project (OC and UG for max. 0.36 MTPA in an ML area of 239 ha) of M/s Birla Corp. Ltd., dist. Shahdol, Madhya Pradesh.

7.7.2 The proponent made the presentation and informed that:

- i. It is the project of M/s Birla Corp. Ltd to which Ministry accorded TOR vide letter no. J-11015/255/2009-IA.II (M) dated 28.10.2010.
- ii. The latitude and longitude of the project are 23°11'5.6" N to 23°11'29.9" N and 81°28'44.12" E to 81°31'6.12" E respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Land use (Hectares)	Gopalpur	Bartara	RF	Total
Agriculture	20.570	56.271		76.841
Barren	2.549	1.618		4.167
Judpi Jungle (Revenue Forest)	3.514	5.506		9.020
Pond, Road, School etc (Govt. Land)	0.822	5.699		6.521
Boundary (Merh)	0.376	-		0.376
Total	27.831	69.094		96.925
Reserve Forest	91.240	50.835	142.075	142.075
Grand Total				239.000

Post-Mining:

Sl. No.	Description of area	Land use (Ha.)				Total
		Plantation	Water body	Public use	Undisturbed	
1.	Excavation	118.60	0.00	0.00	0.00	118.60

2.	Surface dump (after excavation)	0.00	0.00	0.00	0.00	0.00
3.	Top soil dump (after rehandling)	0.00	0.00	0.00	0.00	0.00
4.	Magazine (after dismantling)	0.20	0.00	0.00	0.00	0.20
5.	Roads	0.00	0.00	3.00	0.00	3.00
6.	Surface water reservoir	0.00	1.60	0.00	0.00	1.60
7.	Facilities	2.00	0.00	0.00	0.00	2.00
8.	Green belt	6.89	0.00	0.00	0.00	6.89
9.	Undisturbed area by OC	0.00	0.00	0.00	106.71	106.71
Total		127.69	1.6	3.00	106.71	239.00

- iv. The total geological reserve is 20.975 MT (20.072 MT proved). The mineable reserve 18.078 MT (3.874 MT OC + 14.204 MT UG), extractable reserve is 9.44 MT (3.758 MT by OC & 5.682 MT by UG). The per cent of extraction would be 45 %.
- v. The coal grades are 26.5% C, 34.7% D, 24.5% F and rest A, B, E & G. The stripping ratio is 9.8:1. The average Gradient is 0 deg to 6 deg. There will be nine seams with thickness ranging from 0.05 m to 64.93 m.
- vi. The total estimated water requirement is 444 m³/day (potable 244 cu.m/day and 200 cu.m/day industrial). The level of ground water ranges from 5.0 m to 10.0 m.
- vii. The Method of mining would be Opencast with Shovel – Dumper Combination. Underground Mining with Bord and Pillar system.
- viii. There are two external OB Dumps (OB – One, Top soil- one) covering an area (OB - 15.00 Ha, Top soil - 3 ha) with the height upto (OB - 50 m , top soil - 3 m). The quantity will be (Ob - 1.78 m³m top soil - 0.14 m³m). There are one internal dumps covering an area (Backfill - 118.60 ha ; Crown dump - 18.0 ha). with the height (Backfill- upto ground level; Crown dump - 20 m). The quantity will be Backfill - 36.09 m³m; Crown dump - 3.17 m³m (part of backfill volume). There is total 118.60 ha 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 31 years (23 years by OC & 31 years by UG).
- xi. **Transportation:** Coal transportation in pit Coal from UG mine will be brought out by conveyors and from OC pit to the pit head stockpile by Coal Tippers, Surface to Siding by road and siding to loading by Rail.
- xii. There is R & R involved with resettlement of 706 PAFs.
- xiii. **Cost:** Total capital cost of the project is Rs. 60 Crore. CSR Cost Rs. 25.00 lakhs Recurring cost 76.13 lakhs/annum. R&R Cost Rs 1627.49 lakhs. Environmental Management Cost (Capital cost – Rs. 469.88 lakh; Recurring – Rs. 76.13 lakh per year).
- xiv. **Water body:** No stream drains are in core zone. three ponds fall within the boundary, Baisaha nala flowing through the western part and Nargara nala from the east constitute the main drainage channels of the buffer zone. These two along with a number of seasonal streamlets drain the area and finally discharge their water into the river Son.. Various water bodies present in the study area are Baisaha nala, Nargara nadi, Jamumba nala, Suspha nala, Utalla nala, Bagalha nala, Barua nala, Kashaha nala, Belha nala, Kasai nala, Gahiradhara nala and Son river.
- xv. **Approvals:** Ground water clearance has been obtained vide 21-4(139)/NCR/CGWA/2012-598 dated 17.04.2013. Board’s approval obtained on 30.10.2008. Mining plan has been approved vide letter no. 13016-60-2008-CA-I dated 16.07.2010 and revised (March 2011 version) on 18.04.2011 Mine closure is part of Mining plan which been approved vide letter no. 13016-60-2008-CA-I dated 18.04.2011.
- xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10

- km buffer zone.
- xvii. **Forestry issues:** The forest land involved for mining is Reserved Forest - 142.075 (59.45%); Revenue Forest – 9.02 (3.77%) ha. Compensatory land arranged, project report of afforestation prepared and submitted in CCF, Office. The proposal is likely to be forwarded to Bhopal by 15.12.13.
 - xviii. **Total afforestation** plan shall be implemented covering an area of 127.69 ha at the end of mining. Green Belt will be developed 6.89 ha where 2500 trees /ha shall be planted.
 - xix. There is no court cases/violation pending with the project proponent.
 - xx. **The public hearing** for the project was held on 16.02.2012 at Primary school of village Gopalpur, district Shahdol Madhya Pradesh. The issues raised during the public hearing were reg. water problem, transportation, employment, noise pollution etc.

7.7.3 The proposal was last considered in the 55th EAC meeting held on 27th -28th August 2013 wherein the Committee sought additional information on social cost-benefit analysis vis-à-vis choice of underground mining ; correctness of thickness of seam ; mode of coal transportation by Rail; plantation of native plant species for the benefit of the tribals; rehandling of crown dump and OB dump in void and reduction of depth of final void depth to 40-60 mt; preparation of Mine closure Plan and stress on progressive & time bound rehabilitation; presentation on mining closure activity; reclamation of abandoned mines; presentation on Mine Closure; Change in Post-mining stage by reducing the depth of mine void; underground mining option; mode of road Transportation of coal by mechanically covered trucks; intercept the water table in the first year; study by Indian Institute of Forest Management, Bhopal for sal forest; Ecological Restoration of the area; approved R&R Plan from State Govt; provision of the fund for the CSR; share to local people in the company; Social Scientist in CSR Committee; issues raised during Public Hearing in tabular form and each issue along with budgetary provision; Forest Clearance etc.,

7.7.4 The proponent further presented that:

- i. Department of Mining Engineering, Indian Institute of Technology, Banaras Hindu University carried out study titled “Evaluation of Alternative Mining method for Bikram Coal Block and M/s Udyog Services Cooperative Society Ltd. carried out the study on Social Cost Benefit Analysis.
- ii. As per geological report and mining plan, the seam thicknesses ranges between 0.90m to 6.0 m.
- iii. Initially, the coal will be transported by road to Satna cement plant.220 km away. Subsequently, the company intends to transport coal by railways by taking a siding space about 3 km from Burhar railway station (in Anuppur-Katni line). The land has been identified for the purpose. The proposal of siding line is under preparation for submission to Railway Authorities
- iv. Native plant species will be planted for the benefit of the tribals.
- v. The surface dump created during the 1st year is only 1.78 mcum (B) and will be rehandled during 6th to 10th year. At the end of last year (23rd year), the excavated area will be left in the form of crown dumps {(9.52 mcum(B) or 10.87 mcum(L)} and a void (final cavity of about 7.7 mcum). During the post mine closure period (24th to 26th year), 7.7 mcum (L) OB from crown dump will be backfilled into the void to fill it fully upto the general ground level. However, 3.17 mcum (L) OB will still remain back in the crown dump having 18 ha area with 20m height. Total OB waste generated from the pit will be 36.81 mcum (B) or 42.33 mcum (L) whereas the overall volume of cavity will be only 39.16 mcum (36.81 mcum OB+2.35 mcum coal) hence, the OB waste will still remain surplus in the form of a crown dump as explained above.
- vi. The Revised Mining Plan (March, 2011 version) of the proposed project was approved on 18.04.2011.

- vii. The reclamation of the abandoned mines shall be done as per the time bound programme for rehabilitation of the area. The total excavated area will be 118.60 Ha till conceptual phase. All the disturbed areas will be reclaimed before abandoning the mine including the void.
- viii. The R&R plan was forwarded to the State Govt. by the Collector through the Commissioner vide letter no.1420 dated 07.03.13 for approval. The same is under process at state level and likely to be approved shortly.
- ix. The total cost of the project is Rs 60 crores in place of Rs 35 crores CSR cost will be enhanced to Rs.25 lacs. A social scientist will be included in the CSR committee of the project.
- x. The coal produced shall be for captive use of company's cement plant at Satna and it is not possible to provide share to local persons. The main issues raised during the public hearing were regarding facilities for education, Construction/ maintenance of roads, Provision of potable drinking water supply in nearby villages through wells, tube wells, hand pumps, tankers, canal repair, etc., Training, Health facilities, subsidized treatment in hospital. In response, the proponent had made commitment that they have Targeted programmes for primary education for specially girl child, Augmentation of infrastructure and equipments, furniture, blackboard, toilets etc in villages schools, Scholarships to meritorious students, Adult education, Partnerships in state sponsored education programmes, School wall boundary maintenance, Existing govt. school strengthening by boundary wall construction, construction of toilets, roof repair, drinking water taps, etc, Monetary contribution for expansion of govt. school from 6th to 10th class (construction of classrooms, field, toilets, taps, etc); Construction of roads, drainage, Small Canal community halls, school buildings, health centres, street lighting, equipments to educational institutions, public utilities, sanitation facilities, etc in nearby area; Provision of potable drinking water supply in near by villages through wells, tubewells, hand pumps, tankers, canal repair, etc., Awareness campaigns for water borne diseases, sanitation and hygiene; Scholarship for ITI training outside for 10 persons, Sponsorship of land losers' wards for full term courses, Short term courses for skill up gradation, Vocational training centre (dairy, poultry, bee keeping, sericulture), Specific Programmes for Ladies at centre (stitching, embroidery, tailoring etc); Mobile Clinic with testing and diagnostic facilities, Upgradation of local PHC with equipment & medicines, Partnership with Govt. for National Health Programmes like Polio, TB, Malaria etc, Health Camps for Family Planning, HIV/AIDS & other communicable diseases, Addressing local health related issues through audio visuals and group meetings, Subsidized treatment in hospital with which tie-up will be there, Specific Programmes for hygiene and sanitation;
- xi. The forest clearance is under process at CCF level in the State. Compensatory land for afforestation has been purchased. Project report for afforestation has been prepared for compensatory land and submitted to CCF.

7.7.5 The Committee after deliberation sought the following information for further consideration of the proposal:

- i. Clarification on the amount of coal present in the upper seams in A1-A4 blocks and the area comes under A2-A4.
- ii. Report of the proponent relating to the underground mining option in the proposed opencast area be referred to ISM, Dhanbad for their observation as the proposed OC area harbours good forest.
- iii. Social cost benefit analysis be examined for underground mining versus opencast mining option and not separately for a preferred mining option as has been done by the proponent.
- iv. Details of Rail siding be provided.
- v. Coal transportation by road shall be initially for 3 years by mechanically covered trucks. Thereafter, the proponent is required to expedite the siding near the mine on priority basis.

7.8 Expansion (under 7(ii) of EIA Notification, 2006) of Khairagura Opencast Expansion Coal Mining Project (from 3.0 MTPA to 3.75 MTPA in an ML area of 1217.50 ha) of M/s The Singareni Collieries co. Ltd., Dist. Adilabad, Andhra Pradesh.

7.8.1 The proposal is for Expansion (under 7(ii) of EIA Notification, 2006) of Khairagura Opencast Expansion Coal Mining Project of M/s The Singareni Collieries co. Ltd., Dist. Adilabad, Andhra Pradesh for (from 3.0 MTPA to 3.75 MTPA in an ML area of 1217.50 ha).

7.8.2 The proponent made the presentation and informed that:

- i. Earlier EC was issued for 3.00 MTPA (peak) capacity vide J-11015/689/2007-IA-II(M) dated 22.10.2007.
- ii. The latitude and longitude of the project are 19° 14' 10" to 19° 15' 20" (North) and 79° 16' 00" to 79° 18' 15" (East) respectively.
- iii. The land usage of the project:

Pre-mining: Total land area of the project is 1217.50 Ha out of which forest land is 296.86 ha and non-forest land is 920.64 ha.

Post Mining:

Sl. No	Description	LAND USE DETAILS (Ha.)				
		Plantation	Water body	Public Use	Other Uses	Total
1	Excavation Area					
2	(a) Backfilled area	261.93	--	--	--	261.93
3	(b) Void area left	--	280.98	--	--	280.98
4	External waste dump	388.57	---	---	---	388.57
5	Vattivagu Diversion		11.56			11.56
6	Approach road to Khairagura OCP			29.85		29.85
7	Road to Dorli OCP			12.82		12.82
8	Service Buildings & CHP	9.80				9.80
9	Protective bund around quarry	15.53				15.53
10	Protective bund around dump yard	16.93				16.93
11	Safety distance, bund, drains etc.	189.53				189.53
	TOTAL	882.29	292.54	42.67		1217.5

Core area:

S. No	Particulars	Forest Land	Non-forest Land	Total
1	Quarry, excavation area.	217.14	325.77	542.91
2	External OB dumps(including top soil storage)		388.57	388.57
3	Approach road to Khairagura OCP	29.85		29.85
4	Road to Dorli OCP	4.58	8.24	12.82
5	Vattivagu Diversion		11.56	11.56
6	Service Buildings & CHP	9.80		9.80
7	Protective bund around quarry	1.74	13.79	15.53
8	Protective bund around dump yard		16.93	16.93
9	Safety distance, bund, drains etc.	33.75	155.78	189.53
10	Total Land Requirement	296.86	920.64	1217.50

MoM_December_2013 EAC (Coal)

- iv. The total geological reserve is 74.31 MT. The mineable reserve 66.87 MT, extractable reserve is 66.87MT. The per cent of extraction would be 90 %.
- v. The coal grade is G-9 / G-11. The stripping ratio is 9.86 Cum/ton (Average). The average Gradient is 1 in 6.5. There will be three composite seams with thickness ranging from 0.30 m to 8.00 m.
- vi. The total estimated water requirement is 2250 m³/day. The level of ground water ranges from 1.2 m to 15.4 m.
- vii. The Method of mining would be Opencast with Shovel – Dumper Combination.
- viii. There are three external OB Dumps covering an area 388.57 ha. With the height upto 120 m. The quantity will be 184.58 Mm³. There is one internal dumps covering an area 371.00 ha. with the height upto 90 agl. The quantity will be 395.91 Mm³. The final void area 292.54 ha with a depth of 222 m.
- 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 14 Years (From 1.4.2013)s.
- xi. **Transportation:** Coal transportation in pit Crusher to surface CHP through belt conveyor (1.5 Km length)., Surface to Siding by trucks 14 Km and siding to loading by wagon.
- xii. There is **R & R** involved. There are 538 PAFs for these production.
- xiii. **Cost:** Total capital cost of the project is Rs. 50.46 Crores. CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 17.83 Crores. Environmental Management Cost (Additional environmental capital expenditure shall be Rs. 4.10 Lakhs, Revenue Expenditure shall be Rs. 18.72 per Tonne).
- xiv. **Water body :** Vatti vagu (Diversion of Phase-I completed and Ph-II yet to be carried out)
- xv. **Approvals:** Ground water clearance has been obtained on 02.07.2007. Board's approval obtained for 3.00 MTPA vide letter No CRP/CS/054/899 Dt. 13-09-2006. Board's approval for 3.75 MTPA is under preparation. Mining plan for 3.75 MTPA is under preparation. 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:** Total forest area involved for mining is 296.86 ha.
- xviii. Total afforestation plan shall be implemented covering an area of 882.29 ha at the end of mining. Green Belt over an area of 231.79 ha. Density of tree plantation 2500 trees/ ha of plants.
- xix.** There are no court cases/violation pending with the project proponent.
- xx. The proponent also mentioned that total 556 families were already displaced. 18 families were displaced as a part of Khairagura OC in of Rs 17.83 Crs has already paid under R&R package 2005 before R&R policy. Another 49 families who are near Vattivagu are also proposed for rehabilitation on their request. An amount of Rs. 365.21 Lakhs provided and R&R will be carried through State Government.
- xxi. The mining plan has been approved for 3.0 MTPA vide MOC letter no 13016/20/2005-CA-II, dated 21.05.2007 and mining plan for 3.75 MTPA is under preparation.
- xxii. Certificate of compliance of earlier EC from MoEF, Regional office, Bangalore has been received vide their letter no. EP/12.1/660 dated 06.08.2013 which was deliberated in the Committee which noted that the proponent has largely complied with the conditions of the earlier EC and other conditions are in the process of compliance which include the following:
 - i. Crushers at the CHP be operated with system to check fugitive emissions; Drills should be wet operated; Controlled blasting should be practiced only during day time; Afforestation

- shall be done in a phased manner up to total area of 819.65 Ha; Progressive mine closure plan be implemented by reclaiming quarry area; Regular monitoring of ground water and quality shall be carried out; artificial ground water recharge measures; 10% of workmen should be subjected to occupational health checkup; Establishment of four ambient air quality monitoring stations; Control of fugitive dust emissions from all the sources; regular submission of data on ambient air quality; Adequate measures control noise levels
- ii. Proper collection and treatment of industrial waste water;
 - iii. Regular monitoring and control of vehicular emissions; Provision of personal safety devices and occupational health surveillance

7.8.3 The Committee after deliberation recommended the project for granting Environmental Clearance for the expansion in production without any additional ML area with the following specific conditions:

- i. All the conditions in the last EC no. J-1105/689/2007-IA.II (M) dated 22.10.2007 will be adhered to.
- ii. The Committee has recommended for expansion of production up to 3.75 MTPA (peak). (3.12 MTPA IS 25% OF 2.5 MTPA NORMATIVE)
- iii. The Voids shall be filled upto the near ground level by the OB from the new Ullipetta Dorli mine. This mine should be approved within two years of time.
- iv. The coal transportation on road by mechanically covered trucks.
- v. The coal loading at siding shall be by conveyer belt.
- vi. The revised mine plan and mine closure plan have not yet been approved by the MOC. The EC for the expansion be given after the approval of Mining plan for the expansion project.
- vii. The social audit report of the CSR be submitted to the MOEF for record and be uploaded on to the Company's website.
- viii. Revised calendar plan for production be submitted.
- ix. Instead of provision of bag filters, effective sensor operated water sprinkling system be provided for dust suppression at crusher house and transfer points at pit head coal handling arrangement.
- x. The proponent shall utilize the final void for dumping of overburden generated from the proposed "Ullipetta Block" (Relay project) which is adjacent to the Khairagura OC project.
- xi. The final mine closure plan will be submitted to MOEF 5 year in advance of final mine closure for approval.
- xii. The proponent shall submit the mine plan for 3.75 MTPA to the MoEF for record.

7.9 Expansion (Under 7(ii) of EIA Notification, 2006) of Nigahi Opencast Expansion Coal Mining Project of (15 MTPA to 18.75 MTPA in an ML area of 3036.40 ha) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh.

7.9.1 Expansion (Under 7(ii) of EIA Notification, 2006) of Nigahi Opencast Expansion Coal Mining Project of (15 MTPA to 18.75 MTPA in an ML area of 3036.40 ha) of M/s Northern Coalfields Ltd., Dist. Singrauli, Madhya Pradesh

7.9.2 The proponent made the presentation and informed that:

- i. Environment clearance for 15 MTPA OCP was granted vide letter No. J-11015/235/2006-IA.II (M) dated 08.05.2007.

- ii. Project is linked with Vindhyachal Super Thermal Power Station (NTPC). The existing Nigahi mine (15 MTY) is supplying coal to Vindhyachal STPS having a generation capacity of 3260 MW (6*210+4*500 MW units). The proposed expansion from 15 MTY to 18.75 MTY is to meet the demand of Vindhyachal STPS having proposed generation capacity upto 4260 MW (additional 2*500 MW units).
- iii. The latitude and longitude of the project are 24°07'30" to 24°10'58" N and 82°36'24" to 82° 39' 28"E respectively.
- iv. The land usage of the project:

Pre-mining:

i.	Forest land	1260.00 Ha
ii.	Tenancy Land	1567.40 Ha
iii.	Govt. Land	209.00 Ha
	Total	3036.40 Ha

Post Mining:

Land Use	Total Area in Ha	Post Mining Land Use (Area in Ha)			
		Forest/ Green Area	Water Body	Public Use	Others
Top Soil	1.5	Included in OB			
Undisturbed Land	165	165			
Mine Void	60		60		
Reclaimed O.B dump	1823	1823			
Infra-Structure	74			10	64
Colony	265			265	
Green Belt		335			
Road, Rail	74			74	
ETP, CHP	40.4				40.4
Others	200				200
Total	3036.4	2323	60	349	304.4

Core area:

1	Backfilled Area	1405 ha
2	Void /Water body	60.0 ha
	Total Excavation Area:	1665.0 ha

- v. The total geological reserve is 561.71 MT. The mineable reserve 483.01 MT, extractable reserve is 483.01 MT. The per cent of extraction would be 86 %.
- vi. The coal grade is G7, G11 and G14. The stripping ratio is 3.68 m³/tone. The average Gradient is 2° to 3°. There will be four composite seams with thickness ranging from 4.0 m to 27.50 m.
- vii. The total estimated water requirement is 13620 m³/day. The level of ground water ranges from 1.12 m to 14.45 m bgl. A void of area 60 ha at a depth of average 40 m is proposed to be

- converted into a water body.
- viii. The Method of mining would be Opencast with Shovel-dumper combination with Dragline.
- ix. There are two external OB Dumps covering an area 418 ha with the height upto 150 m. The quantity will be 231 Mm³. There are four internal dumps covering an area 1405 ha. with the height upto 150 m (maximum from ground level). The quantity will be 1138 m³.
- x. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xi. The life of mine is 24 Years.
- xii. **Transportation:** Coal transportation in pit by dumper, Surface to Siding by CHP and siding to loading through SILO and MGR.
- xiii. There is no R & R involved. There are no PAFs for these production.
- xiv. **Cost:** Total capital cost of the project is Rs. 2078 Crores. CSR Cost Rs. 5.00 per tonne. No R&R Cost. Environmental Management Cost Rs. 4492.45 Lakhs.
- xv. **Water body:** No river/nalla flowing adjacent to the proposed mine.
- xvi. **Approvals:** Ground water clearance has not been obtained. Board's approval on 04.06.2005. Mining plan approval obtained for 15.0 MTPA approved on Oct.'2007. Mine Closure Plan obtained on 05.11.2011.
- xvii. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** Total forest area involved for mining is 1260 ha. FC has been granted for 874 ha. Land. Balance forest land 386 ha for which Stage-1 FC is not available.
- xix. Total afforestation plan shall be implemented covering an area of 2158.0 ha at the end of mining. Green Belt over an area of 335 ha. Density of tree plantation 2500 trees/ ha of plants.
- xx. There are no court cases/violation pending with the project proponent.

7.9.3 MoEF Regional office, Bhubaneswar has submitted the certificate of compliance to the EC vide their letter no. 3-33/2008/(ENV)/1561 dated 23.0-9.2013. The EAC deliberated on the compliance report of the MoEF's Regional Office and noted the action plan submitted by the proponent which include the following:

- i. Mining is being carried out only in the acquired land. At present mining is going on in 874 Ha of Forest land, which has the FC. In Mine Lease Area of 3036.40 ha, forest land is 1260 Ha, out of which 874 Ha has been acquired. The proposal for forest clearance for remaining 386 Ha is in process, which will be required for mining during 2017-18.
- ii. 7 km. long retaining wall has been constructed till March 2012 and further 80 mt. long retaining wall has already been constructed by 15th November, 2013 and construction of additional 80 mtr of retaining wall is under process. All the AAQ parameters are within permissible limits at all the 5 stations of Nigahi OCP.
- iii. More than 30 Lakh plants have been planted in nearly 800 Ha of land till date. The land which becomes available after dumps are finalized & backfilling is completed, is taken up for technical & biological reclamation.
- iv. The ground water quality of 33 dug wells surrounding the mine area is already being monitored. No piezometer has been installed for which action has been taken. Tendering has been done in this regard.
- v. A pond of 100 m X 150 m X 40 m. is under process in the township of Nigahi OCP which will help in the recharging of ground water and surrounding village wells.
- vi. Mine water is stored in ponds for use during summer days for dust suppression. Two Tanks each of size 138 cum is under construction for treated water of ETP, which will help in meeting the EC condition of the zero-discharge.

- vii. 119 employees against the annual target of 616, have been medically examined for occupational disease and hearing impairment. No occupational disease patient was found till date at Nigahi Project. However a team from NIOH, Ahmadabad is expected in January 2014 for the study.
- viii. Water sprinkling arrangements on haul road with 13 water tanker (28 KL capacity) and water springing arrangements at receiving pit, transfer point, wagon loading etc. is done for fugitive dust control, which is also reflected in one year AAQ data. The no. of water tankers has been increased from 11 to 14 in the last four years.

7.9.4 The project is in the CEPI area of Singrauli, on which the moratorium has been reimposed vide OM dated 17.09.2013

7.9.4 The Committee after deliberation sought the following information for further consideration of the proposal:

- i. The project is within the CEPI area of Singrauli on which the moratorium has been re-imposed from 17.09.2013.
- ii. As per the Compliance Report of Regional Office many conditions stipulated in earlier EC have not been complied with. The Project Proponent shall submit the detailed action plan along with the budgetary provision duly certified by Regional Office of the MOEF.
- iii. The Committee noted with concern that the EC was granted on 08.05.2007 and even after six years many conditions have not been complied with. For example, the project authorities are supposed to carry out a study for zero discharge from NCL mines by considering various options for using excess treated effluents including artificial recharge and the report on the same shall be submitted to this Ministry within six months of issue of this clearance letter. The proponent has informed that the study has been assign to CMPDI and is under progress. The Committee has observed that the proponent has not made any serious efforts for compliance to the conditions. The Committee further suggested that MOEF may write to the CMD and the Coal India in this regard.
- iv. The information provided in the checklist with regards to details of internal dumps be checked for its correctness.
- v. The satellite image of the land use pattern be submitted along with analytical report & deviations from approved plan, if any.
- vi. Detailed report on compliance on Forest Clearance in respect of 874 ha. and status of FC application in respect of the remaining area.
- vii. Revised calendar plan for production be submitted.

7.10 Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of (from 1.5 MTPA to 2.0 MTPA in an ML area of 274.95 ha) of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand.

7.10.1 The proposal is for Expansion (Under 7(ii) of EIA Notification, 2006) of Govindpur Ph-II OC Coal Mining Project of M/s Central Coalfields Ltd. dist. Hazaribag, Jharkhand for environment clearance from 1.5 MTPA to 2.0 MTPA in an ML area of 274.95 ha.

7.10.2 The proponent made the presentation and informed that:

- i. Govindpur Ph-II Opencast Project is an operating coal mine under Kathara Area of CCL, which was started after obtaining Environmental Clearance vide letter no J-11015/490/2008-IA.II(M) dated 18.01.2011 for a normative capacity of 1.20 MTPA & peak capacity of 1.50 MTPA within

lease area of 274.95 Ha.

- ii. The latitude and longitude of the project are 23° 48' 30'' to 23° 49' 30'' N and 85° 51' 15'' to 85° 52' 45'' E respectively.
- iii. The land usage of the project:

Pre-mining:

Sl.No.	Particulars	Total land (in Ha)
1	GMK Land	45.00
2	Tenancy land	101.67
3	Forest Land to be diverted for mining purpose	58.52
4	Forest Land in safety zone (undisturbed) to be diverted	1.95
	GMK & Tenancy Land acquired earlier but not to be disturbed now	67.81
	TOTAL	274.95

Post Mining:

S No.	Description	Land-use (Ha)				
		Plantation	Water Body (Lagoon)	Public use	Landscaped Quarry Batter	Total
1	External OB Dump	87.00	0.00	0.00	0.00	87.00
2	Internal OB Dump	12.03	4.50	0.00	0.00	16.53
3	Backfilled Excavation	6.00	35.21	0.00	18.68	59.89
4	Roads	0.00	0.00	19.30	0.00	19.30
5	Built-up(Infrastructure)	3.12	0.00	0.00	0.00	3.12
6	Unworked Area & Safety Zone	89.11	0.00	0.00	0.00	89.11
Total		197.26	39.71	19.30	18.68	274.95

Core area:

S No.	Land use category	15th Year	20th Year
1	Quarry & Internal Dump	76.42	Mine Lagoon 35.21
			Plantation On Internal Dump 12.03
			Lagoon at Internal Dump Lower Benches 4.50
			Plantation 6.0
			Batter 18.68
2	OB Dump	87.00	Plantation
3	Infrastructure/ Workshop/ CHP	3.12	Plantation after dismantling
4	Road	19.30	Public Use
5	Unworked Area & Safety Zone	89.11	Plantation
Total		274.95	-

- iv. The total geological reserve is 29.62 MT. The mineable reserve 19.53 MT, extractable reserve is 19.53 MT. The per cent of extraction would be 65.93 %.
- v. The coal grade is E grade. The stripping ratio is 1.47 m³/tone. The average Gradient is 16° – 23°.
- There will be seven composite seams with thickness ranging from 1.0 m to 23.00 m.
- vi. The total estimated water requirement is 910 m³/day. The level of ground water ranges from 3.77 m to 6.00 m. A void of area 39.71 ha at a depth of average 60-70 m (maximum 100 m) is proposed

- to be converted into a water body.
- vii. The Method of mining would be Opencast with Shovel – Dumper Combination.
- viii. There are one external OB Dumps covering an area 87 ha. With the height upto 60 m. The quantity will be 24.00 Mm³ out of total OB of 28.66 million m³. There is one internal dumps covering an area 16.53 ha. with the height upto 1.0 agl. The quantity will be 4.66 m³. The final void area 35.21 ha with a depth of 100 m.
- 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 12 Years.
- xi. **Transportation:** Coal transportation in pit by dumper, Surface to Siding by trucks and siding to loading by wagon.
- xii. There is no R & R involved. There are no PAFs for these production.
- xiii. **Cost:** Total capital cost of the project is Rs. 142.11 Crores. CSR Cost Rs. 5.00 per tonne. R&R Cost Rs 252.52 Crores. Environmental Management Cost (Rs. 43.33 Crore; Revenue expenditure Rs. 19.15 per tonne of coal produced).
- xiv. **Water body:** River: The south-easterly flowing Konar river marks the western limit of mining area and also forms the main drainage of the area. It lies more than 400m away from mine edge. Nallah: Montico nallah flowing from north to south marks the eastern limit of mine and joins Konar River towards South of the Project. It is 60-70 m away from mine edge.
- xv. **Approvals:** Ground water clearance has not been obtained. Board's approval obtained on 23.12.2009. Mining plan approval obtained on 23.12.2009. Mine Closure Plan obtained on 23.12.2009.
- 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 is 148.167 ha.
- xviii. Total afforestation plan shall be implemented covering an area of 197.26 ha at the end of mining. Green Belt over an area of 89.11 ha. Density of tree plantation 2500 trees/ ha of plants.
- xix. There are no court cases/violation pending with the project proponent.

7.10.3 MoEF Regional office, Bhubaneswar has submitted the certificate of compliance to the EC dated (18.01.2011) vide their letter no. 106-102/EPE dated 15.07.2013. The EAC deliberated on the compliance report of the MoEF's Regional Office and noted, inter alia, the following:

- i. As per approved mine plan the height of individual OB bench is 30m. Mine has started during 2011 and present height of the OB dump is about 10-15 m. As the mine progresses with time and dumping attains adequate height and width, benches will be formed and plantation will be raised. The density of plantation is 2500 plants per Ha in the vicinity. Total no. of saplings planted in Project & nearby area is 7.86 Lakh.
- ii. At present there are two mobile sprinklers in operation. 4 additional mobile sprinklers have been proposed. The indent has been sanctioned and supply order will be placed by Jan 2014 so that machines are delivered by March 2014. Additionally, fixed sprinkling system along the coal transport road and stock-yard has been proposed to be constructed during 2014-15.
- iii. Water level monitored in 3 village wells. Peizometers will be constructed during 2014-15 for monitoring of ground water level. .
- iv. There is no separate colony for the project. The domestic sewage are being treated in soak pits and septic tank.
- v. Monitoring of land use pattern based upon satellite imagery has started in the year 2011. The same has been uploaded in CMPDI website also. The higher PM10 values were due to fugitive

emission from nearby road. Addition of 4 new sprinklers will help in reduction of fugitive dust emission. CMPDIL Ranchi undertakes the work of environmental monitoring of project.

- vi. The treated water is monitored on quarterly basis and the report is submitted regularly along with half-yearly compliance report.
- vii. Overloading of vehicles has been stopped by observing strict control measures at project level. Vehicle owners are maintaining Pollution-under-Control Certificate (PUC) from authorized Pollution Testing Centre of State Pollution Control Board.

7.10.4 Nodal environment officer at project as well as area Environment Officer should have been employed on full time basis. **The Committee after deliberation sought the following information for further consideration of the proposal:**

- i. The Committee noted that the EC was granted on 18.01.2011 and the Compliance report submitted by the RO of MOEF that there are many conditions which have not been complied so far. While the Committee expressed its dis-satisfaction over the level of compliance of the stipulation has urged the proponent to prepare the presentation professionally with facts and figures.
- ii. As per the Compliance Report of Regional Office many conditions stipulated in earlier EC have not been complied with. The Project Proponent shall submit the detailed action plan along with the budgetary provision duly certified by Regional Office of the MOEF.
- iii. Independent environment officers be appointed/engaged for monitoring environmental activities.
- iv. The details of the environmental laboratory be submitted along with its NABL accreditation status.

7.11 Argada Sirka Group Mixed Mines (Argada UG, Sirka OC & Sirka UG) for (1.125 MTPA normative and 1.293 MTPA peak in a total ML area 907.04 ha) of M/s Central Coalfields Ltd. Dist. Ramgarh Jharkhand - EC based on TOR granted on 11.12.2008 - Further Consideration

7.11.1 The proposal is for Argada Sirka Group Mixed Mines (Argada UG, Sirka OC & Sirka UG) for (1.125 MTPA normative and 1.293 MTPA peak in a total ML area 907.04 ha) of M/s Central Coalfields Ltd. Dist. Ramgarh Jharkhand.

7.11.2 The proponent made the presentation and informed that:

- i. It is the project of M/s CCL to which Ministry accorded TOR vide letter no. J-11015/162/2008-IA.II (M) dated 11.12.2008.
- ii. Existing Project with 1.125 MTPA Normative and 1.293 MTPA Peak Capacity. EC required for lease renewal for Sirka OC.
- iii. The latitude and longitude of the project are 23° 30' 00" N to 23° 45' 00" N and 85° 25' 00" E to 85° 29' 00" E respectively.
- iv. The land usage of the project:

Pre-mining:

Sl.No.	Particulars	Total land (in Ha)
1	GMK Land	212.27
2	Tenancy land	564.06
3	Forest Land to be diverted for mining purpose	130.71
4	Forest Land in safety zone (undisturbed) to be diverted	-
	GMK & Tenancy Land acquired earlier but not to be disturbed now	-
	TOTAL	907.04

Post Mining:

Sl no	Details of land use	Area in Ha.			
		Sirka OCP	Sirka UGP	Argada UGP	Total
1	Reclaimed area	147.00	-	38.11	185.11
2	Green belt	97.07	33.49	127.27	257.83
3	Colony	21.13	-	65.62	86.75
4	Road	3.15	0.70	2.50	6.35
5	River/ nala	7.24	15.22	13.13	35.59
6	Utility Buildings	1.50	11.16	20.44	33.10
7	Agricultural land	-	18.50	198.00	216.50
8	Village	-	6.40	-	6.40
9	Forest	-	-	79.41	79.41
	TOTAL	277.09	85.47	544.48	907.04

Core area:

SL NO.	DESCRIPTION	SIRKA OCP	SIRKA UGP	ARGADA UGP	TOTAL
1	Quarry	92.52	-	38.11	130.63
2	External O B Dump	36.00	-	-	36.00
3	Colony	21.13	-	65.62	86.75
4	Road	3.15	0.70	2.50	6.35
5	Infrastructures (W/S, Store etc.)	1.50	11.16	20.44	33.10
6	Agricultural land	80.00	27.00	261.90	368.90
7	Village	-	6.40	-	6.40
8	Forest	-	-	79.41	79.41
9	Water body	7.24	15.22	13.13	35.59
10	Safety Zone/vacant land	35.55	24.99	63.37	123.91
	Total Lease Hold Area	277.09	85.47	544.48	907.04

- v. The total geological reserve is 41.34 MT. The mineable reserve 8.71 MT, extractable reserve is 8.71 MT. The per cent of extraction would be 60%.
- vi. The details of coal grade, stripping ratio, average gradient, and seam thickness are;

		Sirka OCP	Sirka UGP	Argada UGP
i.	Grade of coal	'C' LF	A & B	C & F
ii.	Stripping ratio	3.70	Not applicable	Not applicable
iii.	Category of gassiness	Not applicable for OC	Deg II	Deg II
iv.	Average gradient	1 in 2.5	1 in 2.5	1 in 2.75
v.	Maximum thickness of seams (m)	33.0	6.0	12.91

vii. The details of seams;

	Sirka OCP	
i.	No of seams	1
ii.	Thickness of seams to be worked on (m)	
	Argada 'A' Seam	7.56 – 33.00

	Sirka UGP	
A	No of seams	6
B	Thickness of seams to be worked on (m)	
	Kurse, Nakari, Upper Semana, Lower Semana, Hathidari, Bansgarha seam	3.30 – 6.00

	Argada UGP	
A	No of seams	6
B	Thickness of seams to be worked on (m)	
	Seam J, K, L, M, N, O, P, R, S & T	1.62 – 12.91

- viii. The total estimated water requirement is 4255 m³/day. The level of ground water ranges from 0.90 m to 12.38 m. No void will be left.
- ix. The Method of mining would be Opencast with Shovel-dumper combination.
- x. There are six external OB Dumps covering an area 23.07 ha with the height upto 34 m agl. The quantity will be 6.45 Mm³. There are four internal dumps covering an area 12.14 ha. with the height upto 34 m agl. The quantity will be 4.01 m³.
- 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 for Sirka OCP 4 years; Sirka UGP > 30 years and Argada UGP > 30 Years.
- xiii. Transportation: Coal transportation in pit by dumper, Surface to Siding by trucks and siding to loading by pay loaders.
- xiv. There is no R & R involved. There are no PAFs.
- xv. **Cost:** Total capital cost of the project is Rs. 74.85 Crores. CSR Cost Rs. 5.00 per tonne. No R&R Cost. Environmental Management Cost Rs. 2716.63 lakhs.
- xvi. **Water body:** River: Damodar river flowing along south western boundary of this project at a distance of 60m. Nala: Pararu nala flows in between boundaries of Sirka & Argada mines.
- xvii. **Approvals:** Ground water clearance has not been obtained. Board's and mine approval: Feasibility Report of Sirka OCP approved by CCL Board in Oct, 1978. Sirka UGP & Argada UGP are pre-nationalization taken over mines. Mine Closure Plan obtained on 23.03.2013.
- xviii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xix. **Forestry issues:** Total forest area involved for mining is **130.71** ha. Stage –II FC issued as follows:

Area (in ha)	Stage-II FC issued vide letter no. & date	Validity period of FC
50.80 Ha (Sirka OCP)	No- 8-78/2003-FC dated 08/08/2008	20 years
90.10 Ha (Argada UG)	No- 8-53/2003-FC dated 7.8.2008	20 years

xx. Total afforestation plan shall be implemented covering an area of 185.11 ha at the end of mining.

- xxi. There are no court cases/violation pending with the project proponent.
- xxii. Public hearing for the project was held on 04.10.2012 . The issues raised during the public hearing were regarding pollution due to sponge iron plants, medical facilities, tree plantation/ green belt, cleaning of drains and garbage etc.

7.11.3 The proposal was last considered in 63rd EAC meeting held on 28th -29th January, 2010. The Committee sought additional information such as waste management and dump plan; Mine Closure and mine reclamation of old abandoned mines be integrated in the project Report; existing status of the project – location, status of dumps, proximity to River, etc; Conceptual post-mining land use details should be furnished in MOEF tables especially for Argada OCP, which is to close in 2011-12; Sirka OCP is adjoining River Damodar and has been operating for many decades much before environmental regulations came into effect and as result, OB has been dumped very near to the River. The Committee desired that details of HFL of River Damodar and distance from the quarry and external OB dump should be furnished; mining in the mineralised area left out between Sirka OC and Sirka UG; The Committee desired that an amount of Rs 5/tonne of coal would be spent on CSR for the adjoining villages.

7.11.4. The proponent made the presentation and informed that:

- i. EIA/EMP report based on TOR issued in Dec. 2008. TOR gave exemption from public hearing (PH).
- ii. MOEF directed CCL in April 2011 to conduct PH. PH scheduled in November 2011 deferred due to non-availability of ADM. PH finally held in October 2012. The basis of cluster approach is that Sirka OC, Sirka UG and Argada UG are adjacent to each other's forming cluster of mines. These three mines are located on the northern side of Damodar River. Projects of Argada - Sirka Group of Mines are expansion projects and presently there is no plan / program for increasing the production. The mines are old with low production and are requiring EC only for lease renewal of Sirka leasehold area (for both UG & OC).
- iii. The OB/waste management and post mining land use has been re-examined and the reclamation has been integrated in the environment management plan inclusive of old dumps.
- iv. Mine closure plans of all the three mines have been approved by the CCL Board on 23.03.2013 in its 394th Meeting.
- v. Damodar River skirts the property on the western and southern sides. HFL of Damodar River as recorded on 17.09.1976 was 328m. Distance of quarry and OB dump from Damodar River is more than 25m.
- vi. Upper seams viz. Nakari, Kurse, Bansgarha, Hathidhari, Lower Semana, & Upper Semana seams are being developed through Sirka UG mine. Lower seams viz. Sirka Top, Sirka Bottom, Argada and Argada A seams are being worked through Sirka OC in the incrop zone only.
- vii. Sirka Block exhibits complex geological structure with number of faults and folds with dip varying from 200 to 250. Due to difficult geo-mining conditions, the mineralized area left out between Sirka OC & Sirka UG is presently not under consideration for mining.
- viii. Rs 5.00 per tonne of coal will be spent in CSR. The Public hearing was held on 04.10.2012. The commitment and action taken in this regard include the following:
 - i. Water sprinkling, plantation, mine water treatment are some of the major anti-pollution measures undertaken in colliery. Plantation of 48666 saplings done over 26 Ha area. Additionally, plantation done at two sites (3 Ha & 7 Ha) in 2011-12& 2013-14 respectively for Rs 18.52 Lakh.
 - ii. Treated mine water is supplied to households of Tilaiya Tand & Budh Bazar Colonies

- (non CCL)
- iii. 1944 persons treated under CSR medical program. A mobile medical van with doctors & para-medics is provided.
 - iv. Drinking water pipeline provided to Paradise School at cost of Rs 0.97 Lakhs during 2010-11. Two wells constructed at Parsabera & Kahuabera at a cost of Rs 3.3 Lakh. Wells repaired during 2011-12:at Mahuatand & Jamnatand at a cost of Rs 1.13. One well constructed at Bumri at Rs 1.05 Lakh. Construction of check dam at Dhunkudah nalla at Rs. 8.0 Lakh. Construction of hand pump at Padariya village at Rs 0.64 Lakh. Plantation of 48666 saplings done over 26 Ha area during 2012-13.
 - v. Plantation will be done over all closed mines as part of mine closure activity. For this purpose, mine closure corpus has been sanctioned by CCL Board on 23.03.2013

7.11.6 The Committee after deliberation recommended the project for the EC for the expansion of the project with the following specific conditions:

- i. Details of mine closure plan be submitted.
- ii. An amount of Rs 5/tonne of coal with the adjusted inflation rate be spent on CSR activities for the adjoining villages.
- iii. The report of the TISS be submitted to the Committee for future use.
- iv. The OB/waste management and post mining land use has been re-examined and the reclamation has been integrated in the environment management plan inclusive of old dumps.
- v. The proponent shall abide by the commitment made during the Public Hearing.

7.12 Kedla Colliery, Kedla OCP and Kedla UGP (1.18 MTPA normative and 1.57 MTPA peak in a total ML area 1417.99 ha) of M/s Central Coalfields Ltd. of located at Dist. Ranchi, Jharkhand – TOR

7.12.1 The proposal is for Kedla Colliery, Kedla OCP and Kedla UGP (1.18 MTPA normative and 1.57 MTPA peak in a total ML area 1417.99 ha) of M/s Central Coalfields Ltd. of located at Dist. Ranchi, Jharkhand.

7.12.2 The proponent made the presentation and informed that:

- i. It is the project of M/s CCL requested for fresh TOR.
- ii. Total ML area is 1417.99 Ha. The latitude and longitude of the project 23°45'25" to 23°50'35" N and 85°34'20" to 85°37'50" E respectively.
- iii. The land usage of the project will be as follows:

Pre-Mining:

Type of land	Area of land (Ha)		
	Kedla OCP	Kedla UGP	total
Forest land	359.56	58.78	419.16
Government land	519.35	206.70	725.23
Tenancy land	201.58	68.02	269.60
Government land (nala diversion)	4.00	0.00	4.00
Total	1084.49	333.50	1417.99

Mine Lease Area-1080.49 Ha + 4.00 for Nala Diversion for Kedla OCP

Mine Lease Area- 333.50 Ha. For Kedla UGP

- iv. The total geological reserve is 175.84 MT. The mineable reserve 41.82 MT (Kadla OC) + 10.54 MT (UG)(Balance) ; extractable reserve is 23.60 MT in opencast mine & 3.02 MT in underground (3.02 in present scheme) mine. The per cent of extraction would be 29.03 % in Kedla UGP.
- v. The coal grade are W-III to W-IV. The stripping ratio is (2.59 (Cum/Tonne) in OCP.
- vi. The average Gradient :

Kedla OCP

Average Gradient	Sector-D	Sector-C	Sector-B
• Seam-IV	1 in 10	1 in 11	1 in 8
• Seam-V	1 in 10	1 in 9	1 in 7
• Seam-VI/VII	1 in 14	1 in 11	1 in 8

Kedla UGP

VIII	1 in 7.3
VA	1 in 8.4 - 9.7
V	-
IV	-

- vii. There will be seven seams (4 in Kedla UGP and 3 in Kedla OCP) with thickness ranging from 1.97 m - 16.00 m.
- viii. The total estimated water requirement is 2620 m3 per day in Kedla UGP.
- ix. The Method of mining would be Opencast method of mining with shovel-dumper combination and Under Ground Mining by Bord & Pillar with SDL
- x. There is one each external OB Dump covering an area of 21.41 ha having height of 60 m with a quantity of 18.7 Mm3. There are three internal dumps covering an area of 94.15 ha, 45.69 ha & 21.71 ha. Having height 60m, 30m & 30m respectively with a quantity of 89.15 m3. The project has total quarry area of 301.04 ha with a maximum Depth 60-90 m below ground level.
- xi. The life of mine of Kedla OCP 30 years as on April 2012 & Kedla UGP 18 years.
- xii. Transportation: Coal transportation in pit by dumper in Kedla OCP. Surface to Kedla washery by Tipping Trucks and washery to loading by Railway siding
- xiii. There is R & R involved. There are 224 (done) + 374 (to be done) PAFs involved.
- xiv. **Cost:** Total capital cost of the project is Rs 53.91 Crore in kedla UGP and Rs 17.20 crore for Kedla OCP. CSR Cost Rs.5 per tonne of coal produced. R&R cost Rs 16.47 Crores. Environmental Management Cost Rs 6 per tonne in Kedla UGP & Rs 15 per tonne in OCP.
- xv. Water body: Bokaro River forms the southern boundary. Chutua Nalla flows in the northern half of the block.
- xvi. **Approvals:** The application has been submitted for ground water clearance. Board's approval obtained for Kedla OCP 1.0 MTPA in September, 1979. Mining plan has been approved for Kedla OCP 1.0 MTPA in September, 1979. Mine closure approval obtained on 23.03.13.
- xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** Total forest area involved (in ha) for mining. 418.34 ha [359.56 ha (Kedla OC) + 58.78 ha (Kedla UG)]. 29.59 ha in Kedla UGP & 191.06 ha in Kedla OC.
- xix. Total afforestation plan shall be implemented covering an area of 418.34 ha at the end of mining.
- xx. There is no court cases/violation pending with the project proponent.

7.12.3 The Committee after deliberation recommended the project for the granting TOR with the following specific conditions in addition to the standard TORs:

- i. Details of lease renewal be submitted.
- ii. Prediction of impact on different components of environment: including air, noise, water, soil, flora, fauna, socio-economic scenario
- iii. Environmental management plan for mitigation of impacts
- iv. Rehabilitation Action Plan for PAFs be prepared for implementation

7.13 Rangamati – B (Tumni and Kanchanpur Sector) Underground Project (Normative 1.08 MTPA and Peak 1.35 MTPA in an ML area 1095 ha) of M/s Eastern Coalfields Limited located at dist. Burdwan, West Bengal – TOR

7.13.1 The proposal is for Rangamati – B (Tumni and Kanchanpur Sector) Underground Project (Normative 1.08 MTPA and Peak 1.35 MTPA in an ML area 1095 ha) of M/s Eastern Coalfields Limited located at dist. Burdwan, West Bengal.

7.13.2 The proponent made the presentation and informed that:

- i. It is the project of M/s Eastern Coalfields Limited for underground coal mining project.
- ii. Kedla Colliery consisting of Kedla OCP and Kedla UGP is in operation since pre-nationalisation period. The PR of Kedla OCP of 1.0 MTPA was sanctioned in Sept'79 by CCL Board incorporating reserves of seams VI/VII, V and IV. Kedla UGP is an existing mine. The pre-feasibility report of Kedla UGP has been prepared. Kedla OCP & UGP produced washery grade coal @ 0.41 MT & 0.12 MT respectively in 2012-13.
- iii. The latitude and longitude of the project are 92994.59 to 97592.00 (N) and 186646.56 to 193558.36 (E) respectively.
- iv. The land usage of the project will be as follows:

Pre-Mining: The total ML area is 1634.00 Ha (Area of Geological Block considered) 1095.00 Ha (Project Area).

Type of land	Land Use (Pre - Mining) Ha
Village/ Basti	53.09
Road	3.93
Tank	23.23
Tumni Nallah	12.60
Forest	7.36
Agricultural land	994.79
Mine Infrastructure	-
Subsided & Planted	-
TOTAL	1095.00

Post-Mining:

Type of land	Land Use (Post - Mining) Ha
Village/ Basti	53.09 (undisturbed)
Road	3.93 (undisturbed)
Tank	Subsided & Planted

Tumni Nallah	Diverted along mine boundary
Forest	7.36 (undisturbed)
Agricultural land	Subsided and Planted
Mine Infrastructure	28.20
Subsided & Planted	1002.42 (Including diverted course of nallah)
TOTAL	1095.00

- v. The total geological reserve is 131.02 MT; extractable reserve is 35.26 MT.
- vi. The coal grade is D-F. The average Gradient is 1 in 18 to 1 in 20. There will be twelve are present in the Integrated Rangamati-B geological Block, only 4 seam are workable up to 25 years with thickness ranging from 0.1 to 3.75 m.
- vii. The total estimated water requirement is 698 m³/day. The level of ground water ranges from 2.48 m to 11.20 m.
- viii. The Method of mining would be underground with Continuous Miner.
- ix. Proposed method of depillaring for seam VIII is B&P with caving. Amount of subsidence for seam-VIII estimated to be around 0.8 m. The tensile strain generated for maximum depth of 100 m will be around 12 mm/m. Estimated Impact on surface topography is cracks (50mm to 100mm wide) with depression over depillared panel. This may cause tilting of trees falling within the crack zone. This scheme does not envisage the depillaring of seam-VI & VA.
- x. No external or internal OB dumps as it is underground mining.
- xi. The life of mine is 25 years.
- xii. **Transportation:** Coal transportation in pit by belt conveyor, Surface to Siding Coal transported to Madhaipur railway Siding by trucks, 6 kms from mine and siding to loading Pay loaders will load coal directly into wagons
- xiii. There is R & R involved. R & R will be against land acquisition only since villages and habitations will be left undisturbed. Employment for about 1273 persons would be provided against total 1030.62 Ha (=2546 Acres) land to be acquired for the project @ one employment for every 2 acre of land.
- xiv. **Cost:** Total capital cost of the project is Rs. 672.45 Crore. CSR Cost (Rs 5.00 per tonne. R&R Cost: R & R will be against land acquisition only since villages and habitations will be left undisturbed. Employment for about 1273 persons would be provided against total 1030.62 Ha (=2546 Acres) land to be acquired for the project @ one employment for every 2 acre of land. Environmental Management Cost: Rs. 17.58 per tonne.
- xv. **Water body:** Adjoy river flows in the north of the block which also forms its northern boundary. Tumni Nallah, a seasonal nallah flows in south-eastern part of the block.
- xvi. **Approvals:** Applied shall be made for Ground water clearance. Board's approval is awaited. Mining plan: Project Report prepared in March, 2013 and awaiting approval of ECL Board. Mine closure Plan: Mine closure plan will be approved along with PR
- xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** Although there is 7.36 Ha Forest Land within project area, depillaring is not proposed to be carried out below this forest land and as such the forest land is not to be diverted for mining.
- xix. **Afforestation plan:** It is proposed to acquire the land, below which caving will be done (land without surface constraints) and the area would be fenced off during and after extraction. The subsidence cracks, which would reach the surface, will be packed tightly with soil, mud and non-carbonaceous debris and regularly dozed so that the topography does not change substantially and artificial water bodies are not created. Garland drains will be provided around the subsided areas to

drain off excess storm water. The subsided areas will be reclaimed after leveling by plantation or continue to be utilized for agriculture.

xx. There is no court cases/violation pending with the project proponent.

7.13.2 The Committee after deliberation recommended the project for the granting TOR with the following specific conditions in addition to the standard TORs:

- i. Proponent to examine for the feasibility of aerial rope way to siding instead the coal transportation by road
- ii. Details of the forest land be submitted.
- iii. 7.36 ha of forest land be excluded.

7.14 Manikpur Open Cast Mine Expansion. Project (from 2.0 MTPA to 3.5 MTPA in an ML area of 1,018.925 ha of M/s South Eastern Coalfield Limited, in dist. Korba, Chhattisgarh - EC based on TOR granted on 16.06. 2008.

7.14.1 The proposal is for Manikpur Open Cast Mine Expansion. Project (from 2.0 MTPA to 3.5 MTPA in an ML area of 1,018.925 ha of M/s South Eastern Coalfield Limited, in dist. Korba, Chhattisgarh.

7.14.2 The proponent made the presentation and informed that:

- i. ToR was accorded vide letter no. J-11015/1129/2007-IA.II (M) dated 16.06.2008.
- ii. Manikpur was under moratorium which has been lifted since 17.9.2013
- iii. Presently, the mining is being done with the Consent under the Water Act, 1974 and Air Act, 1981
- iv. The latitude and longitude of the project are 22°19'00"- 22°19'30" N and 82°42'30"-82°44' respectively.
- v. The land usage of the project will be as follows:

Pre-mining:

SL. NO.	LAND USE	AREA in Ha
1	Government Land	111.170
2	Tenancy Land	531.856
3	Forest Land	375.899
Total Land		1,018.925

Post-mining:

Infrastructure & Rehabilitation Site	88.510 Ha
Internal Ob Dump – Reclaimed	189.585 Ha
External Ob Dump – Reclaimed	187.700 Ha

Green Belt	5.000 Ha
Void / Water Body	321.350 Ha
Safety Zone	226.780 Ha
Total Land	1,018.925 Ha

Core area:

S.No.	purpose	Mining Lease in Ha				Total
		Govt.		Private		
		Forest	Other	Agriculture	Other	
1.	Area to be excavated	310.001	13.953	80.29	NIL	404.244
2.	Storage for top soil	NIL	NIL	10.00	NIL	10.00
3.	Over Burden / dump	4.12	97.217	361.736	NIL	463.073
4.	Mineral Storage	2.18	NIL	4.95	NIL	7.13
5.	Infrastructure (Work shop, Administrative Building)	NIL	NIL	6.4	NIL	6.4
6.	Road	NIL	NIL	1.09	NIL	1.09
7.	Railways	NIL	NIL	1.24	NIL	1.24
8.	Green Belt	NIL	NIL	NIL	NIL	NIL
9.	Tailing Pond	NIL	NIL	NIL	NIL	NIL
10.	Effluent Treatment Plant	NIL	NIL	0.4	NIL	0.4
11.	CHP	0.64	Nil	1.6	NIL	2.24
12.	Township Area	NIL	NIL	19.46	NIL	19.46
13.	Others (specify)	58.958	NIL	44.69	NIL	103.646
	Total	375.899	111.17	531.856	NIL	1018.925

- vi. The total geological reserve is 117.23 MT. The mineable reserve 101.50 MT; extractable reserve is 101.50 MT. The per cent of extraction would be 90 %.
- vii. The coal grade is G grade/ The stripping ratio is 2.68 cum / Te of coal. The average Gradient is 9-27 Degree. There will be three seams with thickness ranging from 4.44 to 32.70 m.
- viii. The total estimated water requirement is 1.212 MLD. The level of ground water ranges from 0.72m to 11.58m. A void of 321.350ha with depth of about 300mtrs, which is proposed to be converted into water body.
- ix. The Method of mining would be Opencast with Shovel – Dumper
- x. There are two external OB Dumps covering an area 187.70 ha with the height upto 90m and 120m. The quantity will be 103.20 Mm³. There are three internal dumps covering an area 189.585 Ha with the height 90 m and 120 m. The quantity will be 169.10 m. There The final mine void of 321.35 Ha with a depth of 300 m
- 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 30 years.
- xiii. **Transportation:** Coal transportation in pit by tippers, Surface to Siding by tippers and siding to loading.

- xiv. There is no R & R involved. 100 PAFs may be required to rehabilitate in phase II, i.e. beyond 1018.925 Ha.
- xv. **Cost:** Total capital cost of the project is Rs. 321.5 Crore (Existing Rs.183.5 Crores, proposed Rs. 138.0 Crores). CSR Cost Rs 100 lakhs. R&R Cost Rs 132 lakhs. Environmental Management Cost 557.17 Lakhs.
- xvi. Water body: The Hasdeo River, is flowing from North to South in the Western side, Kachandi Nullah, other first order streamlets.
- xvii. **Approvals:** The Manikpur Opencast Expansion Project 3.5 MTY was approved by the SECL Board vide REF.NO.SECL/BSP/BD.SECY/185BM/09/284 Dated 18.12.09. Approval of mine closure was obtained on 18.05.2013.
- xviii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xix. **Forestry issues:** The forest land involved for mining is 375.899 ha. Stage-I FC was issued vide letter no. F. No. 8-9/2006- FC Dated 14.06.2006 for 181.177 ha and vide F.No.8-9/2006-FC-pt (vol.I) Dated 31.12.2009 for 194.728 ha.
- xx. Total afforestation plan shall be implemented covering an area of 382.285 ha at the end of mining. Green Belt will be developed 5.00 ha where 2500 trees /ha shall be planted.
- xxi. There is no court cases/violation pending with the project proponent.
- xxii. The **public Hearing** for the project was held on 27.08.2009 at Tehsil Office campus Korba, Distt.- Korba Chattisgarh. The issues raised during the public hearing include provision of employment, facilities such as electric, water, road, medical, education, land reclamation etc.

7.14.3 The Committee after deliberation sought the following information for further consideration of the proposal:

- i. The proponent has stated that the capacity expansion of the project is from 2.0 to 3.5 MTPA. Therefore the title in the agenda may be corrected accordingly.
- ii. The Committee has noted that the moratorium has been lifted with effect from 17.09.2013. The Committee, therefore, decided to make a field visit of the mine so as to see the status of mining activities vis-à-vis environmental impact issues before the project is further deliberated in the EAC. The Committee has constituted a sub-Committee consisting Mr. J. L. Mehta, Mr. T. K. Dhar and Shri N. K. Verma and the Member Secretary of the Committee.
- iii. Topo sheet showing the High Flood level of Hasdeo river be provided
- iv. Data given in the OB management and mine closure land use are not clearly depicted. The details of OB dumps, internal filling and final void be submitted to with reference to mine closure plan approved by the MoC.
- v. The OB be rehandled completely.
- vi. The height of OB dumps particularly dump along the river should be in the range 60 meter.
- vii. Details progressive backfilling be submitted.
- viii. Compliance of the NoC Of the SPCB be provided
- ix. The PP has stated that the electricity Gen. from NTPC and to the Chhattisgarh Electricity Board will be affected.
- x. Details of top soil management be submitted.
- xi. The details of date, units of the baseline data should be provided.
- xii. Mine void are to be filled by mine OBs and be brought down to near ground level.
- xiii. The Proponent shall submit the details of rehandling plan.
- xiv. The Proponent shall submit corrigendum w.r.t. AAQ data of 2006.
- xv. The detailed action plan for CSR activities be submitted.
- xvi. The project has exceeded the limit of production which may construe as violation case.

MoM_December_2013 EAC (Coal)

7.15 Gare IV/6 Coal Mine Project (OC and UG) (4 MTPA in an area of 381.42 ha) and Coal Washery (4 MTPA) in an ML area of 381.42 ha of M/s Jindal Steel & Power Ltd., Tehsil Tamnar, district Raigarh, Chhattisgarh - EC based on TOR granted on 19.10.2012

7.15.1 The proposal is for Gare IV/6 Coal Mine Project (OC and UG) (4 MTPA in an area of 381.42 ha) and Coal Washery (4 MTPA) in an ML area of 381.42 ha of M/s Jindal Steel & Power Ltd., Tehsil Tamnar, district Raigarh, Chhattisgarh. TOR was granted on 19.10.2012.

7.15.2 Environmental Clearance was granted to 4 MTPA Gare IV/6 with coal washery on 18.05.2009. The EC was challenged by Adivasi Majdoor Kisan Ekta Sangthan, Gare & Jan Chetna, Raigarh in 2009. National Green Tribunal (NGT) in its order, dtd. 20-04-2012 disposed of the appeal filed challenging the Environmental Clearance granted to Gare – IV/6 as under:

1. *The EC granted in file No. J-11015/110/2007-IA.II (M) dated 18th May, 2009 by the MoEF is set aside.*
2. *The MoEF is at liberty to direct the appropriate authority to re-conduct a Public Hearing by taking all steps as required under the law.*
3. *The public hearing may be directed to be conducted by an experienced ADM, other than the present one who conducted the public hearing on 05.01.2008, and special care may be directed to be taken while recording the statements of the people participates.*

ii. Based on Review petition filed by JSPL, NGT disposed of the petition on 05.07.2012 with the following orders:

- (1) The authority conducting Public Hearing shall take special assistance of the police for conducting the Public Hearing peacefully, whenever it is conducted.
- (2) The respondent/appellant undertakes to cooperate for the proper and smooth conduct of the Public Hearing, whenever and wherever takes place.
- (3) In so far as the objection of the applicant herein that there are certain observations made by the tribunal and they are not warranted in the facts and circumstances and may cause prejudice to the interest of the applicant in future, we clarify that any observations made by us in the judgment dated 20th April, 2012 shall not have any bearing in the future litigation.

iii. Second time Public Hearing was conducted on 25.09.2013 at village Tehlirampur, Tehsil Tamnar, Dist. Raigarh, Chhattisgarh.

7.15.3 The proponent made the presentation and informed that:

- i. In compliance with the Judgment of NGT, the proponent had submitted the fresh proposal for TOR. TOR was accorded vide letter no. J-11015/214/2012-IA.II (M) dated 19.10.2012.
- ii. The latitude and longitude of the project are Northern Corner: 22° 9' 47".4322 N 83° 29' 56".8635 E North-Eastern Corner: 22° 9' 14".2488 N 83° 30' 21".3609 E Southern Corner : 22° 7' 58".7109 N 83° 29' 49".4764 E Western Corner: 22° 9' 8".0051 N 83° 29' 4".3174 E respectively.
- iii. The land usage of the project will be as follows:

Pre-mining: The total ML area is 381.42 Ha

Post-mining : Excavation – 371.49 Ha; Green Belt - 3.64 Ha; Bund - 5.70 Ha; Explosive Magazine - 0.59 Ha

Core area: Forest Land 93.566 ha; Private Land 254.341 ha; Government revenue Land 33.513 ha

- iv. The total geological reserve is 158.0972 MT. The mineable reserve 93.862 MT; extractable reserve is 90.369 MT. The per cent of extraction would be 57 %.
- v. The coal grade are B-G. The stripping ratio is 2.338:1. The average Gradient is 1 in 20. There will be eight seams with thickness ranging from 2.5 to 5.5 m.
- vi. The total estimated water requirement is 1346 m³/day. The level of ground water ranges from 3.1 to 14.3 Meter (bgl) (Pre Monsoon Period) 1.6 to 6.0 Meter (bgl) (Post Monsoon Period).
- vii. The Method of mining would be Opencast with Shovel – Dumper Combination. Underground Mining with Bord and Pillar system.
- viii. There are two external OB Dumps (One for waste rocks & the other for top soil) covering an area (Waste Dump 63.22 ha ; Top Soil Dump 4.5 ha) with the height upto (Waste Rock Dump 70.00 m : Top Soil Dump 6.0 m). The quantity will be (Waste Rock Dump- 31.16 Mm³ : Top Soil Dump 1.86 Mm³ (Total 33.02 Mm³). There are one internal dumps covering an area (As per void created due to excavation (Progressive) with the height 70 m agl. The quantity will be 122.15 m. There is total 371.49 ha 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:** Overall capacity of mine is 4 MTPA (OC+UG) with 34 years life as per calendar programme, OC life is 23 years with max. 4 MTPA production, UG from 8th year and continue upto 34th year with max. 1 MTPA production.
 - xi. **Transportation:** Transportation of coal from the mine to the washery by dumpers/ tippers. Washed coal from the washery will be transported to the JSPL and NSIL plants by road (Lailunga – Tamnar - Raigarh) which will be realigned around the ML area.
 - xii. There is R & R involved with resettlement of 403 PAFs.
- xiii. **Cost:** Total capital cost of the project is Rs. 479 Crore. CSR Cost (Rs 2.30 Crore/ year - Revenue Expenditure Rs. 6.00 Crores for 3 years- Capital Expenditure). R&R Cost Rs 20 Crore. Environmental Management Cost (Capital cost Rs. 17.75 Crore; Recurring Rs. 5.78 Crores).
- xiv. **Water body:** One seasonal Nallah crosses the Mine Lease hold in the North-West side of block; Kelo river flows from North to South outside & adjacent to the Eastern lease hold boundary.
- xv. Water requirement would be 1346 m³/day (Mines 381 m³/day, Domestic 65.0 m³/day, Washery & Facilities 900 m³/day). Source of water will be Bore well (Domestic purpose), Mine sump and surface reservoir (Mining , Washery and allied activities)
- xvi. **Approvals:** Ground water clearance has been obtained vide letter no 21-4(112)/NCCR/CGWA/2011-1558 of CGWA dated 21.10.2011. Mining plan has been approved vide letter no. 47011/1(17)/2001- CPAM/CA-I of Ministry of Coal on 03.06.2008. Mine closure has been approved vide letter no. vide letter no.34011/11/2012-CPAM of Ministry of Coal on 21st November 2013
- xvii. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xviii. **Forestry issues:** The forest land involved for mining is 93.566 ha. Stage-I clearance obtained on 30th December 2010 vide letter no.F. No. 8-61/2009-FC, Ministry of Environment and Forest.
- xix. Total afforestation plan shall be implemented covering an area of 380.63 ha at the end of mining. Green Belt will be developed 3.64 ha where 2500 trees /ha shall be planted.
- xx. There is no court cases/violation pending with the project proponent.

7.15.4 The public hearing for the project was held on 25.09.2013 at Village - Rampur, Tehsil – Tamnar District – Raigarh. The issues raised during the public hearing were regarding Employment, education, development of area, plantation, health, gender, training programs. Committee deliberated on the public hearing issues, commitment made by the Proponent and vis-à-vis budgetary allocation. The issues include EIA report was not submitted in Hindi language and therefore is violation of EIA Notification

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2006; PH being conducted on old EIA; Accidents caused due to vehicular movement; Kelo River and water level of wells; Elephant movement in the area has not been mentioned; PESA is applicable here and without the permission of village panchayat, public hearing is illegal; Cumulative impact assessment or Cumulative impact analysis; CAG report; Regarding coal consumption of Raigarh plant: when coal requirement is being fulfilled from operating coal mine what is the need of the new mine; Existence of Ban Ganga has been hidden; PESA is applicable here and without the permission of village panchayat, public hearing is illegal.

The proponent, in response, submitted that project summary should be submitted in English and national language/ local language. This was followed and therefore is not a violation of EIA Notification 2006. Data was collected from 1st October to 31st December 2012. The old data of 2009 has also been included in the report so that the readers can experience the changes taken place with time. Various types of extra control measures including special training to drivers will be carried out. Eastern corridor, a railway line from Gharghoda to Gare block is under consideration by the Government of Chhattisgarh. Coal traffic will be diverted through rail after its commissioning. Hence vehicular movement on road will be reduced. There will not be any discharge from colony, washery and workshop. Water discharged from the coal mine will be treated in the surface water tank, where the suspended particles will be settled. Water quality will be checked before discharge in to any water channel. Pollution Control Board will keep an eye on us and in case of violation it has the power to stop the mine. Wild Life Conservation Plan has been prepared by group of experts and approved by the Chief Wild Life Warden. Habitat management and restoration plan has also been prepared for implementation. PESA is applicable but it is not related to Environmental public hearing. The CAG issues are being investigated by the Government of India and whatever decision is taken, will be followed. People have appreciated the social works and CSR activities.

7.15.5 A representation from an NGO was received which raised certain issues with regard to this project that include massive increase in traffic, impacts on Kelo River, the impact of decrease of ground water, impact on climate change and the backfilling by thermal power plant fly ash; The impact of rail corridor on crossing Hasdeo Arand forest landscape.

7.15.6 The Committee after deliberation sought the following information for further consideration of the proposal:

- i. The proponent has submitted that the land acquisition has partly done. The details of the land acquisition be submitted.
- ii. The issues raised and of the commitment of the proponent during Public Hearing along with the action plan and budgetary provision be submitted in a tabular form for further consideration.
- iii. The embankment wall shall be built 15 m from the HFL of nalla
- iv. The transportation of coal shall be by mechanically covered trucks.
- v. No fly ash shall be dumped into the mine void.
- vi. A comparative analysis of conditions of earlier EIA and the present EIA be submitted.
- vii. The action plan for depletion of Ground Water be submitted.
- viii. The analysis of water quality data be supplemented with no. date, time, unit.
- ix. The details of wildlife management plan particularly w.r.t. elephant movement be submitted.
- x. The details on the CAG report may be submitted in a form of an affidavit.
- xi. The details of CSR activities along with the budgetary provision be submitted.
- xii. A detailed reply along with action plan and the budgetary provision for addressing the issues of massive increase in traffic, impacts on Kelo River, the impact of decrease of ground water, impact on climate change and the backfilling by thermal power plant fly ash.

- xiii. The impact of rail corridor on crossing Hasdeo Arand forest landscape.
- xiv. A detailed reply along with action plan and the budgetary provision for addressing the issues of massive increase in traffic, impacts on Kelo River, the impact of decrease of ground water, impact on climate change and the backfilling by thermal power plant fly ash.
- xv. The impact of rail corridor on crossing Hasdeo Arand forest landscape.

7.16 Gondulpara Coalmine Opencast project (4.0 MTPA in an ML area of 520 ha) of M/s Tenughat Emta Coal Mines Ltd. Hazaribagh, Jharkhand (EC based on TOR granted on 18.02.2010) - Further Consideration

7.16.1 The proposal is for Gondulpara Coalmine opencast project (4 MTPA in an ML area of 520 ha) of M/s Tenughat Emta Coal Mines Ltd. Hazaribagh, Jharkhand.

7.16.2 The proponent made the presentation and informed that:

- i. It is the project of M/s Tenughat Emta Coal Mines Ltd to which Ministry accorded TOR vide letter no. J-11015/280/2009IA.II (M) dated 18.02.2010. Joint Venture formed between M/S Tenughat Vidyt Nigam Ltd. and EMTA Coal Limited (erstwhile EMTA).
- ii. The latitude and longitude of the project are 85° 18' 30'' & 85° 20' 30'' E and 23° 50' 30'' and 23° 51' 30'' N respectively.
- iii. The land usage of the project will be as follows:

Pre-mining:

Class of land	Area(ha)
Forest Land	124.52
Agriculture Land	134.37
Homestead Land	3.30
Water bodies, Road & Other Govt. Land	14.31
Non Agriculture Land for Colony (Outside coal block)	30.00
Total	306.50

Post Mining:

Land use	Area(Ha)
Plantation	156.03
Agriculture	76.82
Haul road entry to Phase-II	43.65
Colony & Rehabilitation site	30.00
Total	306.50

Core Area:

Quarry (Lease Area) Ha	
Forest	103.32
Agriculture	108.07
Homestead	3.30
Water bodies, Road & Other Govt.	9.31
Total	224

- iv. The total geological reserve is 74.873 MT. The mineable reserve 62.20 MT; Average stripping ratio is 1.69 m³/t.. Average gradient 8°- 25° towards west and north west. The per cent of extraction would be 83.08 %.
- v. The stripping ratio is 1:69. There will be eight seams with thickness ranging from 3 m to 18 m.
- vi. Out of total estimated water requirement 1425 m³ treated water will be used for dust suppression, plantation etc. Balance 1111m³ will be discharged to Badmahi River. There will be no void.
- vii. There is one external OB Dump covering an area 104 ha with the height upto 90 m. The quantity will be 38.38 Mm³. There is one internal dump covering an area 135 Ha with the height 480m above MSL. The quantity will be 61.14 Mm³.
- viii. The Method of mining would be Opencast with Shovel – Dumper Combination..
- ix. The life of mine is 17 Years for phase -I
 - x. **Transportation:** Coal transportation in pit by 30 T Rear Dumper, Surface to Siding by trucks and siding to loading by pay loader. After kodarma-Barkakhana railway line is completed, a new siding will be established at Charhi (aprox. 16 km)
 - xi. There is R & R involved. Total PAFs -- involved in this expansion.
 - xii. **Cost:** Total capital cost of the project is Rs. 1043.61 crores. CSR Cost Rs. 23.72 Crore.
 - xiii. **Water body:** Badmahi River, flowing along Northern and Western boundary.
 - xiv. **Approvals:** Board's approval Mine plan approval on 24.06.2009. Mine closure plan submitted vide letter dated 15.10.2012
 - xv. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xvi. **Forestry issues:** Total forest land involved 117.52 Ha in the mining area. Application for 119.27 Ha Forest Land submitted vide our Letter No TECML/Forest/2010/21 dated 20.09.2010 to DFO, Hazaribagh and sent to PCCF, Jharkhand, Ranchi, on 12.07.2011 by RCCF, Hazaribagh.
 - xvii. Total afforestation plan shall be implemented at the end of mining. Green Belt will be developed 7.0 ha where 2500 trees /ha shall be planted.
 - xviii. There is no court cases/violation pending with the project proponent.

7.16.3 Project proponent further made the presentation and informed that:

- i. F. No.13016/79/2008-CA-I, Government of India, Ministry of Coal, Dated 23rd November 2012, covering the observations and recommendations of the IMG regarding the Gourangdih ABC coal block, allotted jointly to Himachal Emta Power Ltd. and JSW, were presented before the EAC on 9th January 2013.
- ii. Data generated for one season (pre-monsoon) i.e. March, April and May 2013 have been generated. Data includes parameters PM10 & PM2.5 as required by the EAC. Results are within the permissible threshold limit.
- iii. Damodar River starting from the point of its origin and its course through North and South Karanpura coalfields shown in the map along with Gondulpara and the adjoining coal blocks. Badmahi river forms the northern and western boundaries of the coal block. The river flows from east to west and north to south direction and joins Damodar River at a distance of about 22.5 Km south-west direction of the block. The plan shows the Badmahi & Damodar rivers.
- iv. The plan shows the surface contours, and the water channels running down the hills and meeting the Badmahi River. Badmahi River, flows along Northern and Western boundary of the block.
- v. Badmahi River will not be diverted in Phase-I or Phase-II. 100m area or more has been left between the mine and Badmahi River which will be developed as greenbelt.
- vi. Out of the total 306.50 Ha of the project, the quarry area will be 224.00 Ha. Entire area will be backfilled up to ground level. There will be no OB dump. The backfilled area will be reclaimed by plantation of native grass, shrub and tree species.

- vii. R&R Colony proposed near Badam village. Selection of R&R colony will be done in consultation with the oustees.
- viii. The height of the embankment will not be less than 3m above the HFL of the river. The width at the base is proposed to be 20 m. The earthen embankment will be constructed in layers of a foot thickness by compressing with dozers and sheep feet vibratory rollers. Pitching with stone & cement will be done on the slope of embankment to prevent erosion. Also green grass matting will be done on the slopes.
- ix. As per Ministry of Coal guideline, the mining plan is based on the geological report prepared by CMPDIL.
- x. The Geological report prepared by CMPDI, there is no mention of any igneous activity. The Heat Affected Zone falls outside the area of operations in Phase-I. The reserve in this area (Phase-II) has been categorized as indicated reserve. However, Thermal Imaging may be taken up before starting of Phase-II.
- xi. The temporary OB dump will be stabilized with grass and grass will be provided to the local villagers.
- xii. This EIA/EMP presentation is for Phase-I only. The Phase-II proposal will be submitted later as suggested by EAC.
- xiii. Presentations were made on the details of backfilling and OB; detailed composition of elements analyzed. strategies for management & conservation of wild life in the core/buffer zone.
- xiv. The issues were regarding compensation, community facility, employment, dust control, green belt development, restoration of land for agriculture use etc.

7.16.4 The issues raised during public hearing were regarding compensation, community facility, employment, dust control, green belt development, restoration of land for agriculture use etc.

7.16.5 The Committee after deliberation recommended the project for the EC with the following specific conditions:

- i. The road transport is permitted for 5 years with mechanically covered trucks. Thereafter a transportation of coal shall be by rail.
- ii. Loading of coal shall be through silo/mechanical loading arrangement
- iii. There shall be no external OB dumps at the end of mining and all shall be completely rehandled into mine void
- iv. There shall be no disturbance /diversion and dumping of OB into the River Damodar,
- v. The embankment be strengthened.
- vi. The mine closure plan be submitted to MOEF for record.
- vii. The detailed CSR action plan be implemented.

7.17 Shahpur East (0.70 MTPA in 693 ha ML area) and Shahpur West (0.405 MTPA in 587.50 ha ML area) Underground Coal Mining Projects of M/s National Mineral Development Corp. Ltd., Tehsils Sohagpur in dist. Shahdol and Tehsil Pali in dist. Umaria, Madhya Pradesh - EC based on TOR granted on 29.10.2010

7.17.1 The proposal is for Shahpur East (0.70 MTPA in 693 ha ML area) and Shahpur West (0.405 MTPA in 587.50 ha ML area) Underground Coal Mining Projects of M/s National Mineral Development Corp. Ltd., Tehsils Sohagpur in dist. Shahdol and Tehsil Pali in dist. Umaria, Madhya Pradesh.

7.17.2 The proponent made the presentation and informed that:

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- i. TOR was accorded vide letter no. J-11015/280/2010-IA.II(M) dated 29.10.2010. Extension of validity of TOR and increase in production capacity obtained on 23.05.2013.
- ii. Shahpur East and Shahpur West Coal Blocks with peak production capacity is 1.30 MTPA (Shahpur East 0.7 MTPA and Shahpur West 0.6 MTPA)
- iii. Total ML area is 1280.5 ha (Shahpur East 693 ha + Shahpur West 587.50 ha)
- iv. The latitude and longitude of the project: Shahpur East 23°14'21" to 23°15'37" N and 81°18'48" to 81°20'28" E; Shahpur West 23°14'21" to 23°15'37" N and 81°17'20" to 81°18'48" E respectively.
- v. The land usage of the project will be as follows:

Pre-mining:

S.No	Type of land	East Block	West Block	Total	Remarks
1	Habitation	58.703	66.657	125.36	Private Land
2	Agriculture land	556.794	439.599	996.39	
3	Grazing Land	9.529	12.347	21.876	Government Land
4	Cremation Ground	2.015	0.883	2.898	
5	Road	9.002	5.503	14.505	
6	Ponds	15.606	15.119	30.725	
7	River & Nalla	11.938	7.855	19.793	
8	School	0.85	0.529	1.379	
9	Panchayat Bhawan	0.458	0	0.458	
10	Khal Khaddar	0.101	0.303	0.404	
11	Fertilizer Ditch	0	0.237	0.237	
12	Gothan	0	1.805	1.805	
13	Temple	0.06	0.012	0.072	Forest land
14	Bag Bagia	0	1.391	1.391	
15	Other Govt. Land	18.745	0	18.745	
16	Judpi Jungle	9.199	16.342	25.541	Forest land
17	Forest	0	18.921	18.921	
	Total Land	693	587.5	1280.5	

Post- Mining:

S.No	Area Description	Land Use (ha.)	
		East Block	West Block
1	Top Soil Dump	0.00	0.36
2	Surface dump	0.50	0.50
3	Settling ponds (water reservoir)	0.40	0.40
4	Ventilation shaft	0.00	0.18
5	Coal stack yard	1.00	0.60
6	Facilities including roads, office, workshop, store, CHP, mouth of inclines, VTC, Canteen, Deisel, Bunk and area between the buildings but excluding Magazines and plantation	7.85	8.47
7	Green belt	0.42	1.27
8	Approach Roads	2.9	4.83

9	Magazine with 10 m road and plantation	0.848	0.00
10	Ghinachuhia nala diversion	2.2	0.00
	Disturbed - Sub total	16.12	16.61
11	Undisturbed area	676.88	570.89
	Grand Total	693	587.5

Core area:

S.No.	Area Description	Land Use (ha.)	
		East Block	West Block
1	Top Soil Dump	0.00	0.36
2	Surface dump	0.50	0.50
3	Settling ponds (water reservoir)	0.40	0.40
4	Ventilation shaft	0.00	0.18
5	Coal stack yard	1.00	0.60
6	Facilities including roads, office, workshop, store, CHP, mouth of inclines, VTC, Canteen, Deisel, Bunk and area between the buildings but excluding Magazines and plantation	7.85	8.47
7	Green belt	0.42	1.27
8	Approach Roads	2.9	4.83
9	Magazine with 10 m road and plantation	0.848	0.00
10	Ghinachuhia nala diversion	2.2	0.00
	Disturbed - Sub total	16.12	16.61

- vi. Shahpur East Coal Block was allotted to M/s National Mineral Development Corporation Ltd vide letter No. 13016/08/2007-CA-I Dated 25th July, 2007. The coal block is allotted to NMDC on Govt. dispensation. NMDC does not have any captive use for this block and the block has been allotted for commercial mining.
- vii. 1000mm "PVC" Belt conveyor of 2.5m/s speed x 80m lift. Surface transport by coal tippers
- viii. Constraints at surface: A road (Shahdol-Khameria) passing through the south eastern part of the block. The Ghinachuhia nala flows through the western part of the block. Habitations of 3 villages (Chunia, Kathotia and Sinduri) lying within the block boundaries. Only 12.438 MT reserves will be blocked under these constraints (at surface) out of the total 51.49 MT, which accounts for about 24%. It has been assumed that these surface constraints are not advisable to disturb, hence no diversion or rehabilitation has been proposed.
- ix. The total geological reserve is 116.042 MT (Shahpur East 63.363 MT + Shahpur West 52.679 MT). The mineable reserve 60.332 MT (Shahpur East 39.052 MT + Shahpur West 21.28 MT); extractable reserve is 35.626 MT (Shahpur East 22.186 MT + Shahpur West 13.44 MT). The per cent of extraction would be 30.70 %.
- x. The coal grades are C to F grades. The stripping ratio is NA. The average Gradient is 1⁰ to 2⁰ South easterly. There will be eight seams in Shahpur east and eight seam in Shahpur west with thickness ranging from 0.02 to 57.00 m.
- xi. The total estimated water requirement is 1021 m³/d (Shahpur East 394 m³/d + Shahpur West 627 m³/d). The level of ground water ranges from 3.1 to 14.3 m (bgl) (Pre Monsoon Period) 1.6 to 6.0 m (bgl) (Post Monsoon Period).
- xii. The Method of mining would be underground by Mechanized & semi mechanized Bord and Pillar.

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- xiii. There are one each external OB Dumps in East and West block covering an area of 0.5 ha each having height of 3 m with a quantity of 0.16 Mm³. There are no internal dumps. There is total 0.3 ha quarry area each in east and west block.
- xiv. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xv. The life of mine of Shahpur East 33 years; Shahpur West 24 years.
- xvi. Transportation: Coal transportation in pit underground to surface by conveyor. Surface to Siding by Tippers to the pit head stockpile and stock yards at railway sidings and siding to loading by pay loader
- xvii. There is R & R involved. No PAFs are involved.
- xviii. **Cost:** Total capital cost of the project is Rs. Rs.1862/- Shahpur east Cola Block; Rs.2288/-Shahpur West Coal Block. CSR Cost 0.4 % of the capital cost per annum. R&R cost will be worked out based on latest LARR Act 2013. Environmental Management Cost Rs. 264 lakhs (East Block Rs. 130 lakhs + West Block Rs. 134 lakhs).
- xix. **Water body:** Ghogra Nala is passing through Shahpur west block; Ghinachuhia nala is passing through Shahpur East block.
- xx. **Approvals:** Application has been submitted to central Ground water Board for its approval. The application is under process. Board's approval obtained on 10.10.2011. Mining plan has been approved Shahpur West block - 07.02.2012; Shahpur East block - 27.12.2012. Mine closure plan: Mine closure Plan is an integral part of Mine Plan which has been duly approved by Ministry of Coal for Shahdol East Coal Block on 7.12.2012 and Shahdol West Coal Block on 27.12.2012.
- xxi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxii. **Forestry issues:** The forest land involved for mining Shahpur West Coal Block 35.263 Ha; Shahpur East Coal Block 9.199 Ha. Applications for FC of Shahpur East and Shahpur West Coal Blocks have been submitted at Conservator of Forest Shahdol vide letter dated 14.10.2010 under F.C Act, 1980. The proposal is under consideration of Forest Department at Shahdol and Umaria.
- xxiii. Total afforestation plan shall be implemented covering an area of 31.39 ha at the end of mining. Green Belt will be developed 6.94 Ha where 2500 trees /ha shall be planted.
- xxiv. There is no court cases/violation pending with the project proponent.
- xxv. The **Public Hearing** for the project was held in two districts i.e. 16th April 2013 at Khamhariya khurd village, Sohagpur Tehsil for Umaria district and 26th April, 2013 at Chunia village, Pali Tehsil for Shahdol district of Madhya Pradesh. The issues raised during the public hearing were reg. compensation, employment and water, construction of boundary wall, facilities for health education and drinking water.

7.17.3 EAC deliberated on the public hearing issues & commitments and budgetary allocation made by project authorities there under. The issues raised were list of farmers whose land will be acquired; compensation; provisions for employment; rehabilitation; steps for the improvement of of groundwater quality; facilities of Health, education and drinking water in the region. The proponent has assured to address the concerns raised during Public Hearing.

7.17.4 The Committee after deliberation recommended the project for the EC with the following specific conditions:

- i. The proponent shall monitor the subsidence continuously.
- ii. The transport of coal by road to siding shall not be FOR more than 5 years. Thereafter, the transportation of coal shall be by aerial ropeway/belt conveyor.

- iii. The proponent shall submit a feasibility report within six months to the EAC for future use on the mining of thin seam by underground method.

7.18 Hingula Washery of (10 MTPA in an area of 27 ha) of M/s Mahanadi Coalfields Ltd., Dist. Angul, Orissa – TOR.

7.18.1 The proposal is for Hingula Washery of (10 MTPA in an area of 27 ha) of M/s Mahanadi Coalfields Ltd., Dist. Angul, Orissa.

7.18.2 The proponent made the presentation and informed that:

- i. The latitude and longitude of the project are 20°56'02"N to 20°58'28" N and 85°02'52" E to 85°06'57" E respectively.
- ii. Project location is not in the Moratorium. The Moratorium has been lifted vide MOEF letter no. J-11013/5/2010-1A.II. (I) dtd. 31.03.2011
- iii. The land usage of the project: Total 27 Ha. land (17 ha. for Washery infrastructure & 10 ha. for Reject storage) is already acquired land of Balram OCP)
- iv. Grade of coal is F.
- v. The total estimated water requirement is 2222 m³/day.
- vi. Transportation: Raw Coal by Tube conveyor, washed coal & reject by Conveyor Belt.
- vii. There is no R & R involved.
- viii. The **life** of washery is 35 years
- ix. **Cost:** Total capital cost of the project is Rs. 181.0 Crore.
- x. **Approvals:** Ground water clearance has not been obtained. Board's approval considered in 126th meeting of MCL board held on 13.01.2011. Proposal for Hingula Washery (10 Mty) on BOM basis approved by MCL board in the 126th meeting of MCL board held on 13.01.2011.
- xi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xii. **Forestry issues:** No forest land involved in washery project.
- xiii. Green Belt will be developed 3 ha where 1600 Nos/ha of tree shall be planted.
- xiv. There is no court cases/violation pending with the project proponent.
- xv. The raw coal ash content of Hingula-II expansion OCP is in the range of 38.5+4%. This ash content is proposed to be reduced to 33.5+0.5% after washing in Hingula Washery. The washing of coal will lead to improvement in performance of power plant, reduction in particulate emission, reduction in load on Railway Network and reduction in handling and transportation cost of coal and solid waste.
- xvi. Hingula Washery has been proposed to be set up on BOM basis for beneficiation of raw coal (non-coking coal of grade-F & ash content ranging between 34.5-42.5%) of Hingula-II Expansion OCP (12 MTY). Hingula-II OC Expansion Project a working mine having EC vide letter No. J-11015/136/ 2007-IA.II (M) dtd. 31st Oct'07, is planned for expansion of capacity to 15.00 MTPA. proposal has been submitted to the MoEF.
- xvii. Hingula Washery will be located in the mine leasehold of Balram OCP in Hingula Area of Talcher Coalfield in Angul District, Odisha.
- xviii. 17 Ha land is required for proposed Hingula Washery. 10 ha land is required for temporary storage of Reject. 17+10 =27 Ha land required for Washery & Reject storage has already been acquired and is in possession of MCL All the 27 Ha land falls within the mine leasehold of Balram OCP which is a running mine.
- xix. The entire land for washery is in non-forest, non-agricultural area and is non-coal bearing.
- xx. **Topography & Drainage:** The contour of the proposed washery site vary from 126 m to 130 m

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above MSL. Main drainage of the coalfield is controlled by perennial Brahmani river flowing North – South. There is one seasonal nallah, Bangaru Jhore, that originates within the Kalinga east block and flows from SW to NE and finally drains into Brahmani river.

- xxi. Raw Coal will be transported from Hingula - II OCP to washery by pipe conveyor of capacity 2200 tph of 3.76km length
- xxii. Washed coal shall be transported from Hingula washery to the silo(4000t) near railway siding by 2x2000 tph conveyor belts of length 400m.
- xxiii. Rejects to be transported from washery to reject site (area 10ha) by conveyor belt of length 760m.
- xxiv. Water will be brought from south quarry of Bharatpur OCP (6 km) /Gandhi Sagar of BOCP /Mitti quarry (3.5 km) of BOCP upto washery site (by mcl).
- xxv. Washing technology: Washing technology preferably based on Jig/ Heavy Media Separation (Bath/ Drum/ Cyclone or combination thereof) but Bidders are free to offer any other improved / proven technology being used elsewhere in the world. Washing circuit has to be necessarily a closed circuit with zero water discharge.
- xxvi. Justification of washing technology: On the basis of wash-ability analysis, beneficiation of 50-6 mm size fraction and direct mixing of untreated -6 mm size fraction has been envisaged. Beneficiation of 50-6 mm size fraction in jig/heavy media separation (Bath/Drum/Cyclone or combination thereof) to achieve requisite quality of beneficiated coal after mixing with untreated fraction of raw coal i.e. (-) 6 mm.
- xxvii. Water quality control method: The washing process is based on closed water cycle with zero discharge. Slime ponds have been proposed to receive radial thickener underflow in case of emergency. This will prevent water pollution as well as loss of fine coal and process water. No ground water is proposed to be used. Total water demand of 2222 m³/day which will be met from South Quarry of Bharatpur OCP/Gandhi Sagar of BOCP/Mitti Quarry of BOCP. This includes 1516 m³/day for washery process, 6 m³/day for drinking and 700 m³/day for firefighting, dust suppression, plant cleaning and arboriculture.

7.18.3. The Committee after deliberation recommended for granting ToR with the following specific conditions with the standard additional ToRs:

- i. Stacking of rejects should not be done for a longer period. Details of stacking of rejects be submitted.
- ii. Proponent may examine the possibility of utilising rejects for utilising in the FBC power plant
- iii. Details of linkage of raw coal to washery should be submitted.
- iv. Details of water consumption be submitted.
- v. Coal transportation shall be by closed conveyor belt TO WASHERY AND RLY. SIDING.

7.19 Clarification on disposal of fly ash in Jaganathpur, South-Balanda and Bharatpur mine voids of M/s Mahanadi Coal Fields Ltd., Orissa

7.19.1 M/s MCL informed the EAC that they have been granted permission for undertaking a pilot study to evaluate the impact of flyash in the mine voids of Jaganathpur, South-Balanda and Bharatpur mine voids of M/s Mahanadi Coal Fields Ltd. The proponent has sought clarification that whether they need to have a revised mine plan and mine closure plan before undertaking the pilot studies. The EAC after deliberation was of the opinion that there is no need for a revised mine plan and mine closure plan with regard to these three mine voids and specific to the pilot studies only, The date of one year shall be counted from the date of the start of the pilot study.

7.20 12 MTPA coal washery and washery reject coal based CFBC Boiler Power Plant of (Max. Capacity 375 MW) M/s Maharashtra State Power Generation Co. Ltd., Dist. Chandrapur, Maharashtra – TOR - Further Consideration

7.20.1 The Project proponent informed to the Ministry vide their letter CE/CEGSU/CHN Coal Washery/1039 dated 13.12.2013 their inability to attend EAC meeting and requested to consider the case in subsequent EAC meeting. The Proposal was deferred for consideration.

7.21 Dharmasthal Coal Mine expansion project (0.5 MTPA from underground to opencast mining in an ML area of 63 ha. of forest land and increase of capacity of Coal Washery (from from 1000 TPD to 2000 TPD in an ML area 249.246 ha M/s BLA Industries Ltd., Dist. Narsimhapur, Madhya Pradesh – TOR

7.21.1 The proposal is for expansion of Dharmasthal Coal Mine (from 0.3 MTPA to 0.5 MTPA, Underground to Opencast Mining and increase of capacity of Coal Washery (from 1000 tpd to 250 tph) in an ML area 249.246 ha M/s BLA Industries Limited., Dist. Narsimhapur, Madhya Pradesh

7.21.2 The proponent made the presentation and informed that:

- i. It is the project of M/s BLA Industries Limited for fresh TOR, where request has been made for capacity expansion in mining, coal washery and change of technology from UG to OC.
- ii. The latitude and longitude of the project are 22° 44' 05" N - 22° 45' 00"N and 78° 47' 45" E – 78° 49' 40" E respectively.
- iii. The land usage of the project will be as follows:

Pre-Mining:

Private Agricultural Land	82.272 ha
Forest Land	155.218 ha
Govt. Non Forest Land	11.756 ha
Total	249.246 ha

Post Mining:

Types of land	Within lease	Out of lease	Total
Forest	109.035 Ha	4.656 Ha	113.691 ha
Non Forest	94.028 Ha	92.00 Ha	186.028 ha
Total	203.063 Ha	96.656 Ha	299.719 ha

Core Area:

Types of land	Within lease
Forest	109.035 Ha
Non Forest	94.028 Ha
Total	203.063 Ha

iv. The total geological reserve is 9.15 MT. The mineable reserve 9.15 MT; extractable reserve is 8.18 MT. The per cent of extraction would be 89.40 %.

v. The coal grade is A to G grade. The stripping ratio is 1:10.3. The average Gradient is 1 in 3 to 1 in 8.

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- There will be four seams with thickness ranging from 0.21 m to 10.32 m.
- vi. The total estimated water requirement is 500 m³/d. The level of ground water ranges from 6.07 m bgl to 25.0 m bgl in pre monsoon season. A void of 135 ha with depth of about 106 m to 140 m, which is proposed to be converted into water body.
 - vii. The Method of mining would be Opencast with Shovel Dumper method
 - viii. There are one external OB Dumps covering an area 90 ha with the height upto 90m. The quantity will be 28.85 Mm³. There are three internal dumps covering an area 72 ha with the height 30 m. The quantity will be 55.38 Mm³. Final mine void will be over 135 ha with a depth of 106 m to 140 m.
 - ix. The **life of mine** is Twenty One Years from 2004-05.
 - x. **Transportation:** Coal transportation in pit by 20/25 ton dumpers, Surface to Siding by Coal after washing is dispatched by road only and siding to loading not applicable.
 - xi. There is no R & R involved. No PAFs involved in this expansion.
 - xii. **Cost:** Total capital cost of the project is Rs. 36.5 crores (Present investment) and 40.0 Crores (additional Investment). CSR Cost Rs 2.79 Crores already up to March 2013. R&R Cost: Not applicable. Environmental Management Cost Rs. Earlier expenses on capital account Rs. 3.85 Crores; Revenue expenses for year 2012-13 Rs. 0.51 Crores; Proposed on Capital account Rs. 15.00 Crores; including payment of NPV for diversion of 78.406 ha. Forest land, cost of CA land and afforestation cost etc.
 - xiii. **Water body:** Sitarewa river flows at a distance of 1.7 km outside of eastern boundary of the mining lease area. There are two seasonal water courses passing through the mining lease, which are required to be diverted but this will not disturb flow of water on down stream side.
 - xiv. **Approvals:** Ground water clearance obtained Vide letter no. 2-1/CGWA/BLA/99-144, dated 29-Dec-1999, from Central Ground Water Authority. Application for fresh clearance under process. The Board approval is not applicable.
 - xv. Mine plan for 0.3 MTPA and change of technology, i.e. from underground mining to opencast mining, in 35.285 ha. forest area, approved vide letter no. 13016/1/1996/CA-1, dt. 23.2.2006 and Mine Plan for change technology from underground to opencast for 63 ha. of additional forest land , approved vide letter no. 13016/1/1996-CA(vol IV) dt.15.02.2012. Mining plan for increase of production from 0.3 MTPA to 0.5 MTPA submitted to Ministry of Coal on 13.05.2013.
 - xvi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xvii. **Forestry issues:** The forest land involved for mining is 155.218 ha. The status of Stage- I FC

Sr. No.	Area in ha.	Final stage / FC issued Letter No. & date	Validity period of FC	Remark
a)	155.218	Final 8-54/95 -FC, dated 12.02.1997	Co-Terminus with mining lease	Final FC Already obtained for underground Mining
b)	35.285	8.54/95-FC dt. 06.12.2006	Co-Terminus with mining lease	Final FC Already obtained for Opencast Mining
Under Process with State Govt.				
c)	63.00 Ha	Applied for	-	For Opencast Mining
d)	15.406 Ha	Applied for	-	For Opencast Mining & Allied Mining Operations

- xviii. Stage 1 Forest Clearance has not yet been obtained for 78.406 ha. of Forest land for opencast mining and allied mining operations.
- xix. Total afforestation plan shall be implemented covering an area of 167 ha at the end of mining. Green Belt will be developed 5 ha where 2500 trees /ha shall be planted.
- xx. There is no court cases/violation pending with the project proponent.
- xxi. The last public hearing for the project was held on 14.06.1999 for the earlier project.

7.21.3 The Committee after deliberation recommended the project for granting ToR with additional standard ToRs:

- i. Forest Clearance is to be obtained for the forest land to used for mining purpose.
- ii. The title of the application, as stated by the Proponent, needs to be appropriately corrected while submitting for application for consideration for EC.
- iii. Public Hearing need to be undertaken as per the EIA Notification, 2006

7.22 Rabodh Open Cast coal mining project (2.5 MTPA in an area of 4.58 sqkm) of M/s Jharkhand State Mineral Development Corp. Ltd. Village Rubodh, Dist. Ramgarh, Jharkhand - TOR

7.22.1 The Project Proponent did not attend the meeting. The project was deferred.

7.23 Jageshwar Open Cast Coal Project (0.6 MTPA in ML area of 270 ha) of M/s Jharkhand State Mineral Development Corp. Ltd. Jharkhand, vill. Jogeshwar, Tehsil Ramgarh, Dist. Ramgarh Jharkhand – TOR

7.23.1 The Project Proponent did not attend the meeting. The project was deferred.

7.24. Cluster IV (5 Mixed Mines) Coal Mining Project (7.34 MTPA normative and 9.55 MTPA peak in an ML area of 1123.79 ha) of M/s Bharat Coking Coal Ltd., Dist. Dhanbad, Jharkhand –TOR.

7.24.1 The proposal is for capacity expansion of Cluster IV (5 Mixed Mines) Coal Mining Project (7.34 MTPA normative and 9.55 MTPA peak in an ML area of 1123.79 ha) of M/s Bharat Coking Coal Ltd., Dist. Dhanbad, Jharkhand.

7.24.2 The proponent made the presentation and informed that:

- i. It is the project of Capacity Enhancement (Expansion) namely in Salanpur Colliery, Katras Choitudih Colliery, Amalgamated Keshalpur West Mudidih Colliery, Angarpathra colliery & Ramkanali colliery and Gaslitand colliery (from 3.706 MT peak to 9.55MT peak) for implementation of Master Plan for Dealing with fires and subsidence and rehabilitation in the Leasehold of M/s BCCL.
- ii. Earlier EC obtained vide letter no. J-11015/212 /2010-IA.II (M), Dated: 6th February, 2013.
- iii. The latitude and longitude of the project are 23°46'26" to 23°48'45" North and 86°17'30" to 86°19'44" East respectively.
- iv. The land usage of the project will be as follows:

Present mining: & Post Mining:

Sl.No.	Type of land use		Present mining land use (in Ha)	Post mining land use (in Ha)
1	Running Quarry	Backfilled	93.81	0
		Not Backfilled	101.09	0
2	Abandoned Quarry	Backfilled	82.09	0
		Not Backfilled	17.66	0
3	External OB dump		28.89	0
4	Service building/ Mine Infrastructure		18.52	0
5	Coal dump		9.36	0
6	Road and rail		106.52	106.52
7	Homestead Land		136.87	72.5
8	Agricultural Land		21.22	21.22
9	Forest Land		0	0
10	Plantation		4.07	669.79
11	Water Body		48.42	42.87
12	Barren Land		455.27	210.89
	Total		1123.79	1123.79

- v. The total geological reserve is 228.5 MT; extractable reserve is 201.67 MT. The per cent of extraction would be 88.25 %.
- vi. The coal grade is ST-II, W-II, W-IV grade. There will be four seams with thickness ranging from 1.4 m to 30.56 m.
- vii. The total estimated water requirement is 9678 m³/d. The level of ground water ranges from 0.85m to 9.65 m. There will be no void.
- viii. There are two external OB Dumps covering an area 14.82 ha with the height upto 18 m. The quantity will be 28.85 Mm³. There are three internal dumps covering an area 72 Ha with the height 30 m. The quantity will be 2.57 Mm³.
- ix. Method and life of mine for respective mines :

	Salanpur Colliery	Katras Choitudih Colliery	Amalgamated Keshalpur West Mudidih Colliery	Angarpathra colliery & Ramkanali colliery	Gaslitand colliery
Method of mining	Bord & Pillar (UG) & Shovel-dumper Combination (OC)	Shovel-dumper Combination	Shovel & Dumper in OC and Bord & Pillar in UG	Bord & Pillar	Shovel & Dumper in OC
Life of mine (yrs)	10 years	4 years	20 years	Over 30 years	03 years

- x. **Transportation:** the transportation of coal from mines of cluster IV to various siding (distance ranging form 3.2 to 5 Km) is presently being done by covered trucks on road. From the railway siding the coal is being transported to power houses and fertilizer plants by rail. This system will continue till the approved Jharia action/Master Plan for dealing with fire, subsidence and rehabilitation is implement in the coming 10 years. After that all the coal form the mines shall be

- transported to the sidings by closed covered conveyor system.
- xi. There is R & R involved. Total PAFs 7012 involved in this expansion.
 - xii. **Cost:** Total capital cost of the project is Rs. 267.194 crores. CSR Cost (As per the 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). R&R Cost Rs. 262.7369 Crore. Environmental Management Cost will be given as per norms.
 - xiii. **Water body:** Katri Nallah flows within the cluster and Khudia Nallah, Jarian Nallah and Kumari Jore are on the west, east and north side respectively of the Cluster-IV and flow southwardly.
 - xiv. **Approvals:** Almost all the collieries/mines of BCCL are taken over from the erstwhile private owners. Hence Board Approval not required. Therefore the mine does not have structured mining plans. The mining operations are being continued as amalgamated collieries in Cluster-IV. Mining closure plan approval is under process.
 - xv. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - xvi. **Forestry issues:** There is no forest land involved in the mining area.
 - xvii. Total afforestation plan shall be implemented covering an area of 665.72 ha at the end of mining. Green Belt will be developed 74.67 ha where 2500 trees /ha shall be planted.
 - xviii. There is a court cases: State Govt./Jharkhand State Pollution Control Board had issued closure orders for all the mines of BCCL in Aug., 2011 and March 2012 stating that BCCL is operating all its mines without the Env. Clearance. BCCL had approached and filed Writ Petition in the Hon'ble High Court of Jharkhand, Ranchi for legal relief against the closure of mines by JSPCB with the following facts that BCCL had already initiated the process of Env. Clearance in 2008 onwards and was approved the cluster concept in 2009. BCCL is completing all its EMP process well within the validity periods of two years stipulated in the Terms of Reference (TOR). Further all the mines of BCCL are infected by coal fires and a PIL case is being dealt in this regard in the Hon'ble Supreme Court of India. By closing the mines, the fires will not stop and shall aggravate and cause more devastation and pollution. The court had taken cognizance of the facts and appreciating the sincere efforts of BCCL in obtaining the Env. Clearance had granted "Status Quo" to be observed and admitted the case i.e. No. WP(C) 4944/2011. BCCL is submitting action taken report to the Hon'ble High Court of Jharkhand, as per its direction. The Environment clearances granted to BCCL including Cluster-IV is submitted to the court in the ATR.
 - xix. BCCL was granted EC for Cluster-IV for a normative production of 2.851 MTPA and peak production of 3.706 MTPA with leasehold area 1123.79 Ha on 6th Feb 2013 (vide letter no. J-11015/212/2010-IA.II (M) dated 6th Feb, 2013).
 - xx. This proposal is to deal with fire urgently in some seams in cluster IV mines,
 - xxi. The EAC has noted, with concern, the submissions by the proponent that the fresh fires have been erupted in AKWMC and Gaslitand Collieries during last years. The fire in adjacent Cluster-V has travelled to AKWMC Colliery which needs to be liquidated on war-footing basis. The fire in Gaslitand and AKWMC Collieries are to be adequately dealt with.

7.24.3 The Committee after deliberation recommended the project for granting ToR with additional standard ToRs:

- i. The base line data was generated during March, 2011 to June, 2011 for cluster-IV for which EC was granted (vide letter no – J-11015/212/2010-IA.II (M) dated 6th Feb, 2013). Since there is no change in lease hold area for the present expansion project, as requested by the proponent, the EAC waived off generation of fresh baseline data.
- ii. The Public Hearing for Cluster-IV, for which EC has granted, was held on 21.01.2012. Since there is no change in lease hold area for the present expansion project and in view of urgency for

controlling the mine fires, as requested by the proponent, the EAC after due diligence recommended for waiving off the Public Hearing.

- iii. Details of the fire zone(s) and how much coal under fire at stake be submitted.
- iv. BCCL shall only outsource heavy equipment, man and machinery and not coal production, safety matters, supervision, sales etc. in totality.
- v. All persons engaged in fire dealing are properly trained for safety of operations

7.25 Rampia and Dip Side of Rampia Coal Blocks Open cast Mine of (6 MTPA in Phase 1, total ML area 1270 ha) of M/s Rampia Coal Mine and Energy Private Ltd, dist. Sundargarh, Orissa – TOR

7.25.1 The project proponent has informed, vide letter RCMEOL/BBSR/13-14/MoEF/0198 dated 12.12.2013 for deferment of proposal. The Project was deferred.

7.26 Gevra OCP project [Expansion from 35 MTPA (normative) to 47.25 MTPA (peak) MTPA in ML area of 904.027ha] of M/s South Eastern Coalfields Limited, dist. Korba, Chhattisgarh - EC under 7(ii) of EIA Notification 2006.

7.26.1 The EAC in its meeting in October, 2013 had considered the enhancement of production under 7(ii) of the EIA Notification, 2006 and recommended for enhancement of production to 2.0 MTPA. MoC has requested the MoEF to review the enhancement of production in Gevra Open cast mine from 2 MTPA to 5 MTPA as the project has direct bearing on current year's coal production targets on priority. Keeping this in view, with the permission of the Chair, the proponent made a presentation which includes the following:

- i. The proponent has informed that this 5.0 MTPA coal will be disbursed to NTPC power plant through existing Silo and MGR system to meet the extra demand of NTPC and there will be no road transportation of coal
- ii. The proponent has submitted that Gevra Project has been producing and dispatching 35 MT in silo/belt, rail/road method, e-auction.
- iii. The additional 5.0 MT production will be done by surface miner and that there is no change in method of mining. And land use pattern.
- iv. The PP has informed that orders have been placed for 2 no 4000 tonne capacity silo and a cross country belt conveyor for which the construction has been started. Construction schedule of cross country conveyor and silos for loading in railway wagon in the present Warf loading siding to be submitted to the MOEF for record.
- v. The GM and the Director (Tech) have confirmed that the construction has started from August, 2013 and shall be completed by August, 2015

7.26.2 In view of the cushion available for enhancement of additional production of approx 5.0 MT by existing belt conveyor arrangement itself, the EAC has recommended for granting additional EC clearance of 5.0 MTPA i.e. 40 MTPA.

7.26.3 The EAC has reiterated its earlier decision that that a subcommittee will visit the mine as this is being one of the largest mine in the region.

The meeting ended with vote of thanks to the Chair.

ANNEXURE-1**PARTICIPANTS IN 7th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 12th -13th DECEMBER, 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 (on 12 th Dec 2013)
7.	Shri G. S. Dang	Member
8.	Dr. S. D. Attri	Member
9.	Dr. Manoranjan Hota	Director & Member Secretary
10.	Shri. P. R. Sakhare	Deputy Director

PARTICIPANTS IN 7th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 12th -13th DECEMBER, 2013 ON COAL SECTOR PROJECTS.

7.1 Tawa –III of M/s Western Coalfields Ltd.

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

7.2 Ukni Deep of M/s Western Coalfields Ltd.,

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

7.3 Chhinda of M/s Western Coalfields Ltd.,

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

7.4 Padmapur Extn. Deep of M/s Western Coalfield Ltd.

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

7.5 Visapur of M/s Western Coalfield Ltd.

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

7.6 Chinchala-Chikalgaon of M/s Western Coalfields Ltd.

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

7.7 Bikram Coalmine of M/s Birla Corp. Ltd.,

1. Shri Dhritiman Datta
2. Prof. B. K. Shrivastva
3. Shri Suman Sankar
4. Shri B. R. Nahar
5. Shri V. K. Seth
6. Shri S. S. Dang

7.8 Khairagura of M/s The Singareni Collieries co. Ltd.,

1. Shri Surendra Pandey
2. Shri A Manohar Rao
3. Shri Vasanth Kumar
4. Shri P. Shanath Kumar
5. Dr. Durga Vara Prasad

7.9 Nigahi of M/s Northern Coalfields Ltd.,

1. Shri P. Prasad
2. Shri A. N. Bahodu
3. Shri Niranjan Das
4. Shri B. K. Sharma
5. Shri U. C. Dumka
6. Shri V. N. Dupattawala
7. Shri A. K. Gupta
8. Shri Atal Bihari

7.10 Govindpur Ph-II OC of M/s Central Coalfields Ltd.

1. Shri Somitra Singh
2. Shri A. Sinha
3. Shri Jayant Chakraborty
4. Shri Pushkar
5. Shri Manoj Kumar

7.11 Argada Sirka Group Mixed Mines of M/s Central Coalfields Ltd.

1. Shri Somitra Singh
2. Shri A. Sinha
3. Shri Jayant Chakraborty
4. Shri Pushkar
5. Shri Manoj Kumar

7.12 Kedla of M/s Central Coalfields Ltd.

1. Shri Somitra Singh
2. Shri A. Sinha
3. Shri Jayant Chakraborty

4. Shri Pushkar
5. Shri Manoj Kumar

7.13 Rangamati – B of M/s Eastern Coalfields Limited

1. Shri Ramesh Chandra
2. Shri J. N. Biswal
3. Shri S. K. Sinha
4. Shri S. Kundu
5. Shri A. Shekhar

7.14 Manikpur Expn. of M/s SECL,

1. Shri N. Kumar
2. Shri R. P. Thakur
3. Shri U.T. Kanzaokar
4. Shri Amit Saxena
5. Shri Kushagra Vashishth
6. Dr. Anurag Tiwari
7. Shri A.K. Gupta
8. Shri S. R. Tripathi
9. Shri M.P. Singh
10. Shri D. Srinath
11. Shri Z. H. Khan
12. Shri Vijay Kumar

7.15 Gare IV/6 of M/s Jindal Steel & Power Ltd.,

1. Shri R. N. Bhargava
2. Dr. J. K. Soni
3. Shri Anand Goal
4. Shri Satya Prakash
5. Dr. Vijay Jagnath
6. Shri Sanjay Shrivastva
7. Shri Yogesh Sindhu
8. Shri Brajesh Srivastav
9. Shri Sharad Malviya
10. Shri D. N. Abrol
11. Shri Rajan Anand

7.16 Gondulpara Coalmine of M/s Tenughat Emta Coal Mines Ltd.

1. Shri A. K. Toolei
2. Shri S. N. Verma
3. Shri R. Ranjan
4. Shri S. K. Tiwary
5. Shri S. C. Chatterjee
6. Shri A. R. Sharma
7. Shri Nirmal Kumar Shah

7.17 Shahpur East and Shahpur West of M/s National Mineral Development Corp. Ltd.,

1. Shri M Jayamal Reddy
2. Shri Rajeev Sharma

3. Shri A. Kamalakar
4. Md. Nasim Ansari
5. Shri B. D. Sharma
6. Shri Vijay Kumar

7.18 Hingula Washery of M/s Mahanadi Coalfields Ltd.,

1. Shri P. K. Mishra
2. Shri J. P. Singh
3. Dr. A. K. Samantaray
4. Shri H. N. Nayar
5. Shri C. Jayadev
6. Shri A. Kumar
7. Shri Y. Mishra
8. Shri S. N. Sinha
9. Shri S. K. Mishra
10. Shri U. K. Mohanty
11. Shri A. K. Nandey
12. Shri G. Shahid

7.19 Clarification on disposal of fly ash in Jaganathpur, South-Balanda and Bharartpur mine voids of M/s Mahanadi Coal Fields Ltd., Orissa

1. Shri P. K. Mishra
2. Shri J. P. Singh
3. Dr. A. K. Samantaray
4. Shri H. N. Nayar
5. Shri C. Jayadev
6. Shri A. Kumar
7. Shri Y. Mishra
8. Shri S. N. Sinha
9. Shri S. K. Mishra
10. Shri U. K. Mohanty
11. Shri A. K. Nandey
12. Shri G. Shahid

7.20 12 MTPA coal washery by M/s Maharashtra State Power Generation Co. Ltd.,

Absent

7.21 Dharmasthal Coal Mine M/s BLA Industries Ltd.,

1. Shri S. R. Mishra
2. D. W. Datey
3. Shri N. K. Prasad
4. Shri S. Kumar
5. Shri Deepak Bhargava
6. Shri S. K. Shukla

7.22 Rabodh M/s Jharkhand State Mineral Development Corp. Ltd.

Absent

7.23 Jageshwar OCP M/s Jharkhand State Mineral Development Corp. Ltd.

Absent

7.24 Cluster IV M/s Bharat Coking Coal Ltd.,

1. Shri V. K. Sinha
2. Dr. E. V. R. Raju
3. Shri Amit Roy
4. Shri Kumar Ranjeev

7.25 Rampia of M/s Rampia Coal Mine and Energy Private Ltd,

Absent

7.26 Gevra OCP project of M/s SECL,

1. Shri N. Kumar
2. Shri R. P. Thakur
3. Shri U.T. Kanzaokar
4. Shri Amit Saxena
5. Shri Kushagra Vashishth
6. Dr. Anurag Tiwari
7. Shri A.K. Gupta
8. Shri S. R. Tripathi
9. Shri M.P. Singh
10. Shri D. Srinath
11. Shri Z. H. Khan
12. Shri Vijay Kumar

GENERIC TOR FOR COAL WASHERY

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- (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 OPENCAST 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/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*

* 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)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					

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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.
- (xl) 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.
- (xli) 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 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 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

*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.
 - (xxviii) Submission of sample test analysis of:
 - (xxix) Characteristics of coal - this includes grade of coal and other characteristics ? ash, and heavy metals including levels of Hg, As, Pb, Cr etc.
 - (xxx) 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

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- (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)

- (A) 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