MINUTES OF THE 55th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27th-28th AUGUST 2012 IN ANNEXE I & II,SCOPE CONVENTION CENTRE, SCOPE COMPLEX, LODI ROAD, NEW DELHI.

COAL MINING PROJECTS

The 55th meeting of the reconstituted EAC (T &C) was held on 27th-28th August 2012 in Fazal Hall, Scope Convention Centre, Scope Complex, New Delhi to consider the projects of coal mining sector. The list of participants of EAC and the proponents is at Annexure-1 and 2 respectively. The Committee, while welcoming the new Member Secretary & Director Dr. Manoranjan Hota, bid farewell to Dr. T. Chandini, Member-Secretary & Director who has been given other assignments in the Ministry. The Committee had appreciated her constructive contribution for smooth and effective functioning of the Committee. Dr.Chandini also thanked the Committee for all the support in discharging her duties within the framework of EIA notification.

Confirmation of the minutes of the 53rd meeting of EAC (T&C) held on **18th-19th July 2012** was confirmed.

1. Expansion of Coal Washery (2.4 MTPA to 3.6 MTPA) of M/s Hind Energy & Coal Beneficiation (India) Pvt. Ltd., located in village Hindadih, dist. Bilaspur, Chhattisgarh (EC based on TOR granted on 23.09.2010)

The proponent made the presentation. It was informed that the proposal is for expansion of the Coal washery at village Hindadih, district Bilaspur from the present 2.4 MTPA capacity (dry process) to 3.6 MTPA, whereby an additional unit of 1.2 MTPA using wet process would be added within existing plant premises. EC was granted for the existing washery vide MOEF letter dated 24.06.2008. The expansion has been necessary as many of the clients (end users) have sought washed coal with an ash content of about 34% which the dry process is not able to meet. The expansion washery would be established within 6 months. It was informed that the dry process technology involving mainly deshaling and crushing and sizing and removal of non-coal material helps reduce the ash content from 45-47% to 39%. The source of raw coal 1.2 MTPA with 46.21 % ash content would continue to be Gevra-Dipka mines of M/s SECL located at a distance of 30-40 km and others to whom the company has entered with MOU. The washed coal would be 0.78 MTPA with 35.42% ash content. Rejects would be 0.42 MTPA with 59.81% ash. It was informed that coal transportation is by rail from Gevra Railway Siding to a private Railway Siding located at a distance of about 6-7 km from the washery unit. Railway siding would be completed in 3 years time. It was informed that raw coal would be transported by rail up to Gevera railway station and a dedicated railway siding is proposed to be laid at Gatora railway station and from there by road in covered trucks up to site. The land for railway siding has already been acquired at Gatora. DPR & drawing have already been approved by South Eastern Central Railways. Proponent has asked extension till March 2014 for laying railway siding due to some policy decision from Ministry of Railway and extension granted by MoEF upto March 2014. Washed coal from the plant would be transported by road in covered trucks directly to customer either by road up to Gatora and from there by rail to the customer. The mode of transportation of washed coal with rejects would be depending on the MOU with customer, which either by road or rail transports. The entire quantity of coal rejects of 0.42 MTPA would be given to M/s Ind. Synergy Ltd. A MOU has been signed with M/s Ind. Synergy Ltd regarding utilization of washery rejects. Rejects and middling would be transported to M/s Ind. Synergy Ltd. by Rail which operating an integrated steel plant at Raigarh, Chhattisgarh. Rejects would be earlier stored in pucca plate form. The washery has Zero discharge. The effluent from the plant would lead to the thickener

and will be dosed with suitable flocculent which aids settlement of suspended solid. Suspended solids are collected at the bottom cone of the thickener tank. The solid collected in the bottom would be pumped to the multirole belt pressure for reclamation of water. The solid dried cake would be blended with rejects. There would be no adverse effect on air and water quality due to CHP, as regular water sprinkling carried out on coal heap to prevent fugitive dust emission. All conveyors would be covered to prevent fugitive dust emission. Garland drain would be provided all rounds the storage yard and the run off water collected in settling tank. The supernatants would be utilized for green belt development. The clear water will be recycled. The Lalgarh River is flowing at the distance of 3.3 km from the plant site. There are no national park /WL sanctuary within 10 km radius of the plant site. The compliances of EC letter granted in 2008 were presented. The source of water for the proposed expansion project is ground water which would be 585 m3/day (575 m3/day for washery and 10 m3/day for domestic use). The proponent has obtained the permission of Central Ground Water Authority for drawing ground water. Employment will be provided to local persons. The proponent had submitted that since their clients such as HINDALCO, Vedanta and BALCO have the mode of transport by road in their FSA Agreement with SECL, they requested the Committee to consider transport of raw coal by road. It was informed that the water consumption would increase from the present 27 m3/d to 585 m3/d and would be sourced from groundwater. The Public Hearing for proposed expansion was held on 28.02.2012. The issues raised during Public Hearing were presented. Total capital cost of the project was mentioned to be Rs 15.40 crores. The proponent presented the ambient air quality for the period of September –November, 2010.

2. The Committee discussed the issues raised during Public Hearing viz. land acquisition, repairing of road, social upliftment, accidents during transportation, health of people, employment to locals, and establishment of pond etc. The document provided by the proponent indicated that there is no match of the answers to the questions as asked in the Public Hearing. The proponent was asked to submit the details of the land acquisition as well as its Action Plan.

3. Based on the presentation and deliberations, the Committee was of the view that: (i) Avenue Plantation should be provided on both sides of the roads, village roads, vacant areas etc.; (ii) The CHP should be provided at the coal handling places i.e. loading and unloading point at Gevera and Kusmunda; (iii) Loading and unloading point should be mechanized; (iv) The transportation of coal should be by mechanically covered trucks in order to reduce coal spillage and dust pollution; (v) The time limit should be provided to the Contractual vendors /contractors for providing mechanically covered trucks for coal transportation; (vi) No further extension would be given in time limit (after March 2014) for establishing the railway siding; (vii) The waste water should be discharged after proper treatment; (viii) All the conditions stipulated in the letter of Central Ground Water Board letter no. 21-4(102)/CGWA/NCCR/2011/174 dated Nil should be adhered to and this will be stipulated in the EC letter; (ix) The details of ash percentage in raw coal, clean coal and rejects should be clearly provided in tabular form; (x) Details of existing green belts, number of trees planted, areas under plantation, name of trees, etc. along with the photographs proposed plantation be provided to the MoEF; (xi) Details of rain water harvesting measures be provided along with its design; (xi) Details of CSR of existing project and proposed expansion project, till date, be furnished; (xii) Details of allocation & expenditure funds for the existing and proposed CSR activity also be furnished; (xiii) To furnish fly ash analysis data, and how to address the non-compliance of coal quality; (xiv) The Committee sought point–wise reply in tabular forms in 3 columns on the various issues raised in Public Hearing along with the budgetary provision for each issue for which proponent has committed; (xv) The proponent should contact the local Primary Health Clinics & hospital in the area and find out the prevalent disease in the area others ailments and provide the proposed preventive measures eg purification of drinking water, health education, and sanitation, details of population eg. No of young people, old people; (xvi) Details of environmental compliance be provided.

4. The Committee after discussions decided to further consider the proposal upon receipt of the aforesaid details.

2. Expansion of Coal Washery (1.25 MTPA to 2.50 MTPA) of M/s Chhattisgarh Power & Coal beneficiation Ltd., Sirgitti Industraial Area, Bilaspur, Chhattisgarh (TOR)

The proponent made a presentation. The proposal was for expansion of the existing Coal Washery from 1.25 MTPA to 2.50 MTPA. It was informed that most of the 11.11 acre land and expansion would be carried out in the existing premises. No EC was required as washery was established before September 2006. The proposed project does not fall under the critically polluted area. There is no national park/wild life sanctuary situated in 10 km radius of the washery. No forest land is involved in the project. Arpa river is flowing at the distance of 4.9 km from the plan. No river /stream passes through the area. The raw coal would be required for expansion project would be 1.2 MT obtained from SECL, Bilaspur. The washery is a closed circuit washery and based on zero-discharge principle. Raw coal would be obtained from captive coalmines of Tata Steel and also from CIL mines in Jharia. Of the 1.2 MTPA raw coal of an average ash content of 40-42 %, clean coal of 0.74 to 0.86 MTPA with an ash content of 30-32 % ash and 0.5 MTPA reject with 70-75 % ash content would be sold to power plant. Raw coal would be transported through covered trucks from nearby SECL, Bilaspur mines upto the washery. The washed coal and rejects would be transported either through covered trucks or rail routes as per client requirement. The water requirement after propose expansion would be 625 m3/day. The source of water would be from the ground water for which approval of Central Ground Water Authority has been obtained. Sanitary waste water would be treated in septic tank followed by soak pit. The cost of project is Rs.2 Crores.

2. Based on the presentation and deliberations, the Committee was of the view that: (i) Detailed compliance status of earlier EC, vetted by the regional office of the MoEF, be provided along with the photographs including earlier CSR activity undertaken; (ii) It was observed that since the washery is in close vicinity of Bilaspur and further expansion in the proposed washery would increase the pollution load, a 'Cumulative Impact Assessment Study' should be carried out within a radius of 10 km from High Court; (iii) Ambient Air Quality monitoring /analysis should be carried out in the month of March–May, October–December & December–February. Fresh ambient air quality data should be generated around the area and presented to the Committee: (iv) As the present mode of transportation is by trucks, therefore, all the trucks should be mechanically covered. Loading and unloading transportation should also be covered mechanically: (vi) The EIA/EMP report also should, inter alia, indicate the coal characteristics: (vii) The proponent was asked to examine to provide measures for water sprinkling, rain water harvesting: (viii) The proponent should inform whether the present area is in the critically polluted area.

3. The committee recommended for the TOR for the expansion with no more additional land as per Annexure

3. Gare IV/4 Coal Mine Project (0.48 MTPA to 1 MTPA in original 884.846 ha and revised 701.512 ha) of M/s Jayeswal Neco Industries Ltd., located in Tehsil Gharghoda, Dist. Raigarh, Chhattisgarh (EC based on TOR granted on 31.05.2010)

1. The proponent made a presentation. It was informed that EC was obtained on 31.12.2007 for 0.48 MTPA for both OC and UG mining. It was also informed that project involves expansion in production only of both OC (from 0.2 MTPA to 0.4 MTPA) and UG (0.28 MTPA to 0.6 MTPA) mining. The OC mining involving 113 ha does not have any forest land. The UG mining involving the entire ML area of 701.512 ha contains 230 ha of forestland. Of the total revised ML area of 884.846 ha, 236.553 ha is forestland. However, 183.334 ha forestland was surrendered as it was found to be in non-mineralised area and therefore, the revised ML area is 701.512 ha. In the revised

land used, of the total 701.512 ha land, 236.553 ha is forest land, 281.163 ha is agriculture land and 183.796 ha is non agriculture land. There would be two mines viz: Mine-I indicates the open cast Patch "A", Patch "C", under ground and its infrastructure; Mine –II indicates the '

2. Open cast patch "B", proposed under ground & its infrastructure. Therefore, the revised forest land within the ML is 236.553 ha which was approved by MOEF vide letter no. F.No. 8-112/2002-FC (pt) dated 20th April 2010. 183.334 ha of forestland was surrendered. The project has obtained Forest Clearance for 419.887 ha dated 09.06.2003 under Forest Conservation Act, 1980. Out of the total area of 884.846, the area for inclined/open cast of mine I and II is 194.859 ha; 11.61 ha is for storage of top soil; 64.564 ha is for overburden dumps; 1.536 ha is for mineral storage; 25.155 ha is for infrastructure; 4.014 is for road; 7 ha is for green belt; 1.5 ha is for settling pond (total 310.238 ha) and 574.608 ha is for other activities (undisturbed). The extractable reserve is 15.396 MT. UG mining would be by Board & Pillar Method deploying Load Haul Dumpers .Extractable reserve by UG would be 9.796 MT and 5.600 MT for OC. Open cast mining is done by complete mechanised system of shovel-dumper. The depth of OC mine is 40 mt. with stripping ratio of 6.37 cum/t. The mine entry for OC cast mine is situated towards south-east near incrop of seam-II, while entry for under ground mine for the same seam is from north by a pair of inclines. The seam II lies at the depth of ranging 6 mt to 30 mt. seam thickness within incorp region is 2 mt to 4 mt. Initial OB has been dumped in non-forest area adjacent to mine towards east. Internal dumping has already started in decoaled area. The total OB is to be generated 35.14 M m^3. The OB in external dump would be 0.67 M m^3. The concurrent backfilling will be started from 2nd year and continue till the end of mine life. The backfilled quarry will be stabilised by planting local tree sp. The OB dump will be in 64.56 ha area with 60 mt. height and overall slope 28^0. The excess OB would be accommodated in non-forest area about 500 mt south of present working. Non-quarry will be opened in fifth year. It was informed that during the course of mining, few seasonal drainage from the lease area envisaged to be rechannelized while Kelo River will remain undisturbed as no mining proposed in the vicinity of Kelo River. Total water requirement would be 830 cum/day (210 m3/day for dust separation, 540 m3/day for green belt, 40 m3/day is for washing, 40 m3/day for domestic use). The production of coal after expansion of capacity would increase from 1600 TPD to 3333 TPD. Presently the coal transportation is by trucks to Raipur. Out of the total 1 MT Raw coal produced, clean coal to the extent of 0.40 MTPA will be transported to the integrated steel plant of JNIL at Siltara, Raipur. The life of the OC mine is 15 years and UG mine will be 20 years. The EMP Capital cost Rs. 2300.5 lakhs and Rs. 121 lakhs (recurring cost). Additional Capital cost of the project for expansion Rs. 56.24 Crores. The proposal proposed to shift two villages viz. Bankheta and Banjikhol. The project involves the R&R of 2 villages, 7 households at village Bankheta /Kondkel (4 tribals and 3 others) and 62 PAFs at Banjikhol (52 tribals and 10 others). The total oustees ,38 from village Bankheta/Kondkel and 62 nos at Banjikhol. .Rs 24.5 Crores is earmarked for compensation.First mining plan and revised second mining plan were approved on 11.7.2007 and 27.4.2010. The public hearing of the proposed enhancement project was conducted on 2.5.2012. The proponent presented the details of the public hearing before the Committee. There are no wild life corridors, protected areas, national park exist in study area as per Wildlife Protection act ,1972.It was informed that detailed wildlife conservation plan for Gare Sector-IV/8 has already been prepared and approved by CWW, forest dept. govt. of Chhattisgarh. The NOC from Central Ground Water Authority (CGWA) for extraction of groundwater has been obtained.

2. Based on the presentation and deliberations, the Committee was of the view that: (i) The value of NOx, as presented in the ambient air quality, appeared to be very low. The proponent was asked to check the air quality data and submit data of air quality of 3 months. The data should be provided to the MoEF; a copy of which also be sent to Dr. Attri, Member, EAC for his comments /suggestions: (ii) It was observed that there are two mines viz. M/s Jindals and M/s Monnet Ispat operating in the area. It was suggested that Cumulative Impact Assessment Study should be carried out as per the directions of the NGT in other cases: (iii) Details of Flora and Fauna, presented by the

proponent, need to be re-checked and a fresh report be presented to the Committee: (iv) The details of total OB produced, re-handled and/sequencing of the same should be provided along with the detail of void to be left in post-mining stage: (v) It was suggested that in order to prevent leaching of heavy metals, etc. the proponent should take out the OB, keep it out side and grassing of OBD should be done: (vi) Study on rock mechanics, safety & its effectiveness should be carried out as the surrounding area around mine would be disturbed: (vii) A calendar plan for utilizing the OBD be prepared: (viii) Leaching of heavy metals to the underground water should be prevented. Continuous Monitoring of the nala water at discharge point should be carried out and reports in this regard be submitted to the Regional Office of the MoEF: (ix) Presently the mode of transport of coal is by road. The proponent has informed that the mode of transportation by rail would be ready by 2017. The Committee had asked that the transportation of coal should be carried out by mechanically covered truck till the rail transportation is made available: (x) Native plant species, including the species used by tribals in the area, should be planted under plantation programme: (xi) The Wild Life Conservation Plan should be sent to Mr. Mathur, WLI Dehradun EAC member for his comments: (xii) Tribal Development Action Plan, along with budget allocation, should be prepared under PESA and approval of same be obtained from the State Govt: (xiii) A detailed R&R plan for 2010-2012 along with the budgetary provisions and the CSR Social audit report should be submitted to the MoEF: (xiv) The specific responses to the issues raised in the representation from Shri Ramesh Agarwal, Jan Chetana, along with proposed mitigative measures should be submitted to Ministry (xv) The details of the revised ML area is 701.512 ha earmarked for mining activities be clearly brought out.

3. The Committee, after discussions, decided to further consider the proposal upon receipt of the aforesaid details.

4. 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)

1. The project was allotted to M/s Jindal Steel & Power Limited as the leader & M/s Nalwa Sponge Iron Limited as associate for coal mining to meet the requirement of their respective sponge iron plants situated at the distances of 45 KM and 25 KM from the Coal Block at Raigarh & Taraimal respectively. The proponent informed that the mine allocation was made by Ministry of Coal on 13-01-2006.The earlier EC was accorded to project on 18-05-2009. The public hearing was conducted on 05-01-2008. The Stage-I Forest Clearance (93.566 ha: 51.066 ha of chhote jhaad ke jungle and 42.5 ha of bade jhaad ke jungle within the ML area) was accorded on 30-12-2010. The Environmental Clearance was challenged on 1.06.2009 in the National Green Tribunal (NGT). The NGT, in its Judgement, cancelled the Environmental Clearance with a direction to re-conduct the Public Hearing on 20-04-2012. The MOEF had directed the Chhatisgarh Environment Conservation Board (CECB) on 24-05-2012 to re-conduct the public hearing. The proponent has submitted the Form-I and Prefeasibility Report on 20-06-2012 for grant of ToR. The proposal is for opening a new mine of 4 MTPA capacity in Tehsil Garghoda, District Raigarh, Chhattisgarh for the requirements of the linked steel plant located at a distance of 54 km. The total lease area is 381.42 ha out of which 94.16 is forest land, 254.341 ha is agriculture land, 33.513 ha is Govt. land. A number of reserve and protected forests are situated within the core and buffer zone. A number of other mines (Gare IV/1 to Gare IV/6) are located adjoining each other. It is proposed to assess the cumulative impacts of the mines in the region. Kelo River flows within and adjacent to the ML area. An embankment/barrier is proposed along the Kelo River. The coal grades are B to G. The seams to be excavated for Open cast mining would be IX, VIII,VII and VI and seams for IV,III,II and I for underground mining. The seam V is not workable. The OB Coal Ratio is 2.338:1. Total extractable reserve would be 90.369 MT (OC Extractable Reserve is 66.37 MT and UG Extractable Reserve is 23.998 MT. OC and UG mining

would be carried out by mechanized method. The working depth of UG mining would be 360 m bgl and OC mining 95 m bgl. The proponent proposed the diversion of Tamnar - Lailunga road passing through ML along the boundary of ML area. The seasonal nala passes through the north-west part of the ML area shall be diverted along the lease boundary during 3rd year of mine operation. The power line passing through the western corner will be diverted along the western boundary of the ML during the 3rd year of mine operation. The total Overburden would be 153.31 Mm^3 during life of mine. 33.02 Mm^3 dumped in surface dump of 63.22 Ha, 70 m height upto 11th year. Backfilling will start from 3rd year. During 3rd to 10th year partial backfilling (56.20 Mm^3 B) will take place whereas part of the excavated OB will be deposited at the external dump (27.32 Mm^3).Full scale backfilling will be achieved from 11th year onwards. OB dump will be rehandled from 16th year upto 23rd year. 1.86 Mm^3 of topsoil, will be stacked separately in a soil stack pile over 4.5 Ha area. It is also informed that the proponent planned to backfill the washery rejects and TPP ash in decoaled area. The underground stability due to impacts of blasting will be assessed before change to UG mining. The entire quarry area of 371.49 ha will be backfilled and reclaimed by end of 21st year. The total water requirement is 1346 m3/d (381 m3/day industrial and 65.0 m3/day domestic and for Washery & Facilities 900 m3/day) which would be met from mines sump and surface reservoir. The project does not involve R&R. A coal washery of 700 TPH capacity near the pithead is proposed in north-east corner of the Mine. The area of washery is 12.52 ha. The technology used for the washery is Heavy Media Cyclone. It is two Stage (Three products) washery. The size of raw coal would be (0 – 30 mm) with 50% ash and the clean coal with 24% Ash content. Middling & fines at 53-54% Ash with 58.54 % yield will be utilized for power generation. Rejects > 77% Ash with 16% yield will be backfilled in decoaled area. Coal consumer for existing and proposed project would be DRI Plants of JSPL. The washery will be designed on zero discharge concepts. Transportation of coal from mine to washery dumpers/ tippers and washed coal from the washery to the JSPL and NSIL plants would be by road (Lailunga-Tamnar-Raigarh) which would be realigned around the ML area. 16 households of Gare village falling within the ML area would be resettled at suitable location. The total Life of Mine 34 years (Life of Open Cast Mine would be 23 years with maximum 4 MTPA production and Life of Under Ground Mine 8 years and continue upto 34 years with maximum with 1 MTPA production. The cost of project (mine and washery) would be Rs. 300 crores .

2. The Committee took note of the recent judgment of the National Green Tribunal. The EAC desired that a copy of the NGT Order be circulated to all the Members of the Committee alongwith Form-I, prefeasibility report, mine block allocation letter and MoEF letter dated 24.05.2012. The National Green Tribunal (NGT) in its order No. 3/2011 (T) (NEAA No. 26 of 2009) dated 20.04.2012 has passed the following order:

i. *The EC granted in file No. J-11015/110/2007-IA.II (M) dated 18th May, 2009 by the MoEF is set aside.*
ii. *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.*
iii. *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.*

3. Keeping the order of the NGT, the proponent had submitted the application for fresh TOR. The Committee considered the application. Based on the presentation and deliberations, the Committee was of the view that: (i) Each point of the NGT Judgment should be a condition in the TOR: (ii) The EAC had made it clear and reiterated, in accordance to the judgment of the NGT, that the nature of 'Bandanas' (Arrangement) should achieve the objective of creating a feeling of confidence where every member of Public would be encouraged to come for Public Hearing and express the views without fear and favor. The Police 'Bandobast' (Arrangement) should be more in

the nature of 'Bandobast' provided in conducting Elections rather than 'Bandobast' which create fear among people. The Public Hearing should be presided over preferably by the District Magistrate himself or by a senior officer experienced ADM who has track record and reputation for impartiality and political neutrality. In addition a senior officer from State Headquarter nominated by the Chief Secretary of State should be sent as observer for said Public Hearing .(Additional Condition): (ii) The proposal should follow EIA Notification, 2006 meticulously: (iii) The proponent should inform the status of the M/s Jindal Steel & Power Ltd., (JSPL) vis-a-vis any relevance to the proposed TOR in CAG report, published recently: (iv) It was observed that the ML area is touching the Kelo river and the proponent proposed a 15 meter river embankment for river Kelo: (v) Stone embankment should be provided: (vi) The proponent must ensure that all the mitigation measures are provided; no OBD are close to the river and no leaching of toxic pollutant into the Kelo River. (vii) It was observed that there are two sets of coal seam.(i) shallow seam would mined out by open cast mining,(ii) Deep seam which would be mined by underground mining: (viii) In open cast pit, care has to be taken that a safety belt is left between Kelo River and mine pit. This could be done by making a proper embankment constructed by impervious rocks/material: (ix) Since the beds /seam strike in North–South direction and dip towards West, there are chances of river water seepage along the bedding planes of sedimentary sequence: (x) Proponent should ensure that the flow of river should not decrease as it affects the catchment area of river. 50 mt area should be left between the embankment of Kelo River and the mine area. Thick plantation should be provided in that area and no seepage be allowed. Well design embankment should be provided. The embankment must be grassed and emplanted: (xi) The mining should be restricted in proximity of mine boundary and away from the Kelo river, as per stipulations in the 1987 guidelines: (xii) Impact of mining on neighboring forest should be assessed so as to minimize the impact of dust on forests: (xiii) Studies with regard to water transmissibility, chemical analysis and leachability /chemical toxicity should be carried out: (xiv) The wild life conservation plan should be prepared: (xv) The mode of transportation of coal should be by mechanically covered truck till the rail transportation is available: (xvi) The project cost should be revised: (xvii) Seasonal ambient air quality should be carried out and the data be presented: (viii) Cumulative Impact Assessment Study' as per Para 9 of the EIA notification should be carried out so as to evaluate the Impact on surface water, ground water, power plants.

4. The Committee, after discussions, recommended for the grant of TOR with the standard TOR as per Annexure 6 and Annexure 7.

5. Palana Lignite Mine (0.6 MTPA production capacity in an area of 819.21 ha of M/s Neyveli Lignite Corporation Limited Bikaner, Rajasthan (TOR)

1. The proponent made presentation. This proposal is for expansion and revival of old mine. It was informed that the proposal is for Palana Lignite Mine (Opencast) 0.60 MTPA production capacity in an area of 819.21 ha of M/s Neyveli Lignite Corporation Limited Bikaner, Rajasthan. The total existing mining lease area is 800.19 ha and proposed area is 812.7 ha. The mineable reserve is 15.55 mt.The proponent provided land detail. Land use of the ML area 435.85 ha, 122 ha is for external dump, 22.80 ha is for infrastructure, 238.56 ha is for intermediate area/safety corridor. There are two pits. Pit A and Pit C with average stripping ratio 1:12.82 (m3:t). The mining will be by open cast mechanized Shovel Dumper method. The project area is devoid of any surface water body./stream /nalla. The water requirement would be 0.194 MGD (883m3/day) for the project including colony .The depth to water table in Palana is 114.48 m bgl. The depth of ground water in the area is 80m .No forest land falling within the proposed project boundary. The entire man power will be accommodated in Barsingsar colony, no separate colony is envisaged in this project. The source of water will be from Indira Gandhi Nagar Pariyojana (IGNP Canal). The road connecting to Barsingsar and Palana is proposed to be diverted. There is no ecologically sensitive area. The R& R is involved but survey is yet to be carried out. The transportation of Lignite from Palana pit – C to

Palana Pit A which is 5.9 km and Palana Pit A to Barsingsar TPS existing 2x125 MW are proposed by road. The life of mine is 28 years. The cost of project is 136.82 Crores.

2. Based on the presentation and deliberations, the Committee was of the view that: (i) Committee desired that Rock Mechanics should be studied. All data available with the Government Rajasthan should be collected & reviewed to confirm the nature of the Rock: (ii) Keeping in view the area of proposed mining is in the arid area with a vast desert with no vegetation and no drainage pattern, the hydro geology of the area should be studied: (iii) The proponent was asked to explore the possibility of underground mining, mixed mining in EIA/EMP: (iv) The proponent should make provision for the restoration of land as a part of mining activity.

3. The Committee, after discussions, recommended for the grant of TOR with the standard TORs annexures 6 & 7.

6.. Inder UG to OC Mine (0.6 MTPA to 1.2 MTPA in an area of 402.07 ha) of M/s Western Coalfields Ltd., located in district Nagpur, Maharashtra (EC u/s 7.2)

1. The project was earlier considered in EAC meeting held on 24-25.2.2010 & 28-29.04.2010. The proponent had made a presentation. The Committee had sought information from the proponent that to what extent the activities are being outsourced and being undertaken by the company. The Committee also desired to know the details of additional requirements viz. additional manpower, water, transportation, equipment etc. These information should be provided by the proponent along with expected impacts of change in mining method on the land use and impacts on environment and socio-economic aspects and the proposed mitigative measures. The Committee desired that a fresh Public Hearing be conducted although the application has been made u/s 7(ii) of EIA Notification 2006. The earlier PH was held on 6.9.2005 i.e. about 7 years ago. The proponent informed that the present proposal is for expansion in production capacity only i.e. from 0.60 to 1.20 MTPA The variable items are rate of OB excavation and coal production The details of HEMM for coal and OB in Inder UG to OC for producing 0.6 MTPA (existing strength) and for achieving peak production of 1.2 MTPA have been provided. It was also informed that the impact of procuring additional HEMM from outsourcing would adversely affect the air quality of the area. The detailed water quality data also be provided. The Public Hearing was held on 11.04.2012. The proponent was asked to furnish the details of the issues raise in the public hearing and the responses by the proponent. The social impact assessment of the area be made. The study perimeter may be upto the radius of up to 10 km, The other details such as air quality monitoring, rehabilitation details, crops affected by dust, average life of nearby people affected by OCM, OB disposal, AAQ with respect to PM10,PM 2.5 be provided.

2. Based on the presentation and deliberations, the Committee was of the view that: (i) The data showed that the Ambient Air Quality was very high in the area: (ii) The Committee desired to have a copy of minutes of MoC where the Ministry had directed the proponent to use tarpaulin covered trucks: (iii) The AAQ of 2009 was not adequate. Fresh AAQ data should be generated and submitted to Ministry and with a copy be sent to Dr. Attri, Director & member, EAC for his comments. A comparison of AAQ data (past & the present) along with the analysis be provided. An action plan, with mitigative measures, to control air pollution and to improve the ambient air quality in the area be submitted. The data should be carefully checked as production capacity of mine reduces from 1.5 MTPA to 1.2 MTPA (iv) the proponent has not addressed the Public Hearing issues properly. The Committee desired that a copy of the original complaint of Takadi village should be provided:(v) The Committee has desired that it will discuss, inter alia, specifically the public hearing issues after receipt of all the information: (vi) The proponent should provide copy of original letters

from the MPPCB along with the video recording (CD) of the public hearing so as to enable the EAC to deliberate further.

3. The Committee, after discussions, decided to further consider the proposal upon receipt of the aforesaid details.

7. Wanoja OCP (0.50 MTPA normative and 0.575 MTPA peak in an ML area of 485.46 ha) of M/s WCL, located in Tehsil Warora, dist. Chandrapur, Maharashtra (Further consideration of TOR)

1. The project was earlier considered in EAC meeting held on 24-25.2.2010 & 28-29.04.2010.

2. Based on the presentation and deliberations, the Committee was of the view that most of the project area (455.46 ha) is on agriculture land with a single crop. Cotton is the main crop being cultivated in the area. The life of the mine is only about 10 years. The Committee was of the opinion that there would be about 300 inhabitants who are depending on this land for agriculture and their livelihood, will loose their land. The Committee desired that a Social Cost Benefit analysis should be carried out to see the viability of the mining activities. The Committee also desired that opinion of NEERI, Nagpur should be obtained in this regard.

3. The Committee after discussions decided to further consider the proposal upon receipt of the aforesaid details.

8. 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, M.P. (Further consideration of EC based on TOR)

1. The above cited project had already been recommended for EC. The Proponent had informed that the work order of Base line data collection has already been given to CMPDI for the year 2012-13 by vide letter dated WCOLI/MUKH./Parya/17-A/548 dated 14.08.2012. The proponent should furnish the seasonal data PM 2.5, PM 10 as specified in the TOR. The proponent should also submit the work order.

2. The Committee after discussions decided to further consider the proposal upon receipt of the aforesaid details.

9. Jamuniya UG (0.72 MTPA to 0.828 MTPA) of M/s Western Coalfields Ltd.,, dist. Chindwara, M.P.

1. The proponent informed that the total land requirement for proposed Jamuniya Underground project is 407.00 ha. Out of which 74.70 ha is forest land and the balance is non forest land. The break-up of total land requirement as submitted in the EIA/EMP is summarized as below:-

Type of Rights	Government Land(ha)	Tendency land(ha)	Forest Land(ha)	Total land requirement(ha)
All Rights	9.09	316.24	-----	325.30
Surface Rights	-----	7.00	----	7.00
Mining Rights	------	----	74.70	74.70
Total	9.06	323.24	74.70	407.00

2. The proponent had informed that there is no forest land required under Surface right/All right. The application for forestry Clearance under FC Act, 1980 has already been submitted and registered vide No.CWA/MMM/2012-82 dated 05.05.2012 and the proposal is presently with the MP State Government. Now in view of the recommendation of EAC, the EC requires submission of Stage-1 Forest Clearance, which may take considerable time and there is urgent need for increase of coal production to meet the growing demand of power in the country. The proponent had suggested an alternative proposal which include, inter alia, (i) in the first phase, EC is solicited for the project without forest land i.e. with some production capacity in a ML Area of 332.30 ha; (ii) Public Hearing has been conducted for the entire project land i.e. 407.00 ha (iii) all issues regarding environmental aspects in the proposed underground project has been addressed and presented before EAC(T&C); (iv) There is no change in the mining method; (v) Since there is no forest land under Surface/All right the initial mining activities namely incline driavge can start after EC. The Incline driavge (two nos. of 840 m each) and sinking of air shaff (194 m depth) will take about 3 years. Thereafter, the main dip development can start below non-forest land alongwith development of panels namely Panel 6, 14, 15 & 16 also below non-forest land which will take another 3-4 years. Therefore, during these 6-7 years time, the Stage-1 Forest Clearance is likely to be obtained, and once the Stage-I Forest Clearance is received, fresh EC application will be made for annexing additional land (i.e. forest land only) within the same capacity. In view of our above submission EC for proposed Jamuniya UG project for a normative capacity of 0.72 MTPA & peak capacity of 0.828 MTPA in a ML Area of 332.30 ha without any forest land in the first phase may kindly be granted.

3. **The Committee recommended for granting Environment Clearance to Phase – I project. However, the proponent was asked to seek EC for phase – II activities after the approval of forest land**.

10. Internal Discussion on 'Environmental Clearance for 'Slurry Washery Projects' under the EIA Notification 2006.

The committee has desired to be apprised with a brief note on the subject, which could be discussed in the subsequent meeting.

11. Internal consideration of Letter dated 18.06.2012 from M/s Eastern Coalfields Ltd. on deleting Mohanpur OCP from Revised application for TOR for Cluster-4 Group of 4 mines located in Raniganj Coalfields, dist. Burdwan, W.B, considered in EAC (T&C) meeting held on 21st-22nd February 2012.

The EAC in its meeting held on 21-22 February, 2012, M'S ECL had included Mohanpur OCP as a part of the cluster-4. At the same time, MoEF had also separately received intimation from the Ministry of Coal stating that Mohanpur OCP would be expanding by 25% during the current year, then a separate application would be required to be made for Monaharpur OCP expansion for 1.5 MTPA under clause 7(ii) of the EIA Notification 2006. The Committee had earlier decided that a clarification be obtained from M/s ECL in this regard before considering the grant of the ToR. The Committee considered the information and desired that a self explanatory note be prepared for consideration in the next Committee.

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

1. The Proponent made a presentation on Cluster of GDK 1&3, GDK 2 & 2A and GDK 5 Inclines. The Underground Coal Mining Projects is an expansion project for a production capacity from 1.54 MTPA to 2.274 MTPA in an expansion in an area of 1272.44 ha to 1356.85 ha. These mines are adjacent to each other and fall in South Godavari Mining Lease which is due for renewal of Mining Lease in December 2014. The production capacity is proposed to increase by introduction of semi-mechanization through Side Discharge Loaders (SDLs) and Universal Drilling Machines (UDMs). The mining method is by Board Pillar only by underground. Depillaring by hydraulic sand stowing has been proposed to protect the surface feature. The proposed balance reserved to be extracted by this mining for GDK-1 & 3 is 12.77 MT, GDK-2 & 2A 8.95 MT and GDK-5 19.74 MT. The seam present 1, 2, 3A, 3 & 4 seams. Average Grade of Coal G2 & G9, G7 and G9, G7. No R&R involved. No addition land is required. The balance life of mines GDK 1&3, GDK 2&2A and GDK 5 Inclines would be 17 years, 13 years and 34 years.

2. Details of the mining activities are as follows:

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

The land use of lease area is as follows:

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

The land use of acquired Land is as follows:

Sl. No.	**Land Use details of Acquired Land (in ha)**	**GDK - 1 & 3 Incline**	**GDK - 2 & 2A Incline**	**GDK - 5 Incline**
1.	Pit head infrastructure	4.32	4.87	6.05
2.	Infrastructure for area	5.60	6.27	0.67

	administration(workshop) MVTC, Stores, CHP, etc.)			
3.	Approach Roads	12.24	5.88	18.34
4.	Township/ colony	6.00	0.00	0.00
5.	Sand Stock Yard and stowing bunker	22.60	20.50	47.43
6.	Existing Plantation	62.71	107.45	128.60
7.	Plantation proposed	27.20	14.75	205.12
8.	Any other (pl.specify)			
	Area vacant in patches	44.23	42.24	34.68
	Grave yard (s)	2.00	-	3.00
	Sammakka jathara yard /idga yard	8.64	-	2.00
	Land use SCCL Acquired Land	**195.54**	**201.97**	**445.9**

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

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

3. Based on the presentation and deliberations, the Committee was of the view that (i) the Safety of mine related impacts and issues e.g. roof safety, Subsidence etc. should be suitably addressed in TOR; (ii) Since NTPC provides the fly ash to the mine, the same need to be mixed with OB and used for stowing. (iii) Toxicity study for Fly ash and presence of hazardous material /heavy metals in the water should be carried out before using the same for stowing; (iv) The proponent should address the safety related issues eg. Ventilation in the mines and depillaring; (v) A copy of the Subsidence studies carried out by the BHU, Varanasi should be circulated to all the members of committee for comments; (vi) Restoration of land should be done simultaneously by putting back the OBD; (vii) Mine closure plan should also be submitted; (viii) The issue of Fly ash, low grade ore should also be addressed.

4. The Committee, after discussions, recommended for the grant of TOR with the standard TOR alongwith additional ToR as annexure 5 & 7.

13 Suliyari Belwar Opencast Coal Mine Project (Ph-I) (5 MTPA normative and 6 MTPA peak in an Project area of 1080.99 ha) of M/s A.P. Mineral Dev. Corp. Ltd., located in dist. Singrauli, M.P. (Further consideration of TOR)

1. The proposal was earlier considered in EAC meeting 18th -19th June 2012. The proposal is for opening a new opencast coalmine of 5 MTPA (normative) and 6 MTPA peak in a total project area of 1080.99 ha in Singrauli Coalfields. The Ministry of Coal allotted 1298 ha of Suliyari Belwar Coal Block in the southern part of Singrauli Coalfield vide MOC letter no. 13016/8/2007-CA-I Dated 25.07.2007. The coal produced is for meeting the requirement of APGENCO. It was informed that the project is at a distance of about 70km from the Singrauli Critically Polluted Area. Of the total project area1080.99 ha, 513.11 ha is Govt. land, 567.88 ha is private land. No forestland is involved. Of the total project area, 807.86 ha is quarry area, 165.82 ha is for safety barrier, roads, etc, 27.81 ha is for

service buildings, 7.28 ha is for railway siding, 72.22 ha is for nallah diversion. The mining would be opencast with shovel-dumper combination and surface miner. The grade of coal is G. Hurudul nallah and Saha nala passing through the project area would be diverted along the boundary of the project. River Gopad flows along the boundary and joins Rihand Reservoir. Two overhead transmission lines (765 KV) of a length of 2.5 km are under construction for supply of power to Silwar from the Sasan Ultra Mega Power Project. Of the 1298 ha of the Suliyari Belwar Coal Block, 807 ha falls in non-forestland and 491 ha is in both forest and non-forest land. The detailed exploration is yet to be completed in forest land. Ultimate working depth is 245m bgl. It was informed that of the total OB of 604.03 Mm3, in which 4.05 Mm3 is topsoil and 599.98 Mm^3 is OB, which would be entirely backfilled and the internal dump would rise to a height of 120m above ground level in an area of 551.87 ha. During the initial 5 years of operation, 28.33 Mm^3 of OB would be stored in a temporary external OB dump over the mineralised area (quarry area) and would be re-handled as the mine advances. Coal evacuation outside the ML area would be by rail. A railway line of 11km length is proposed to be established from Gajara-Behara Railway Station jointly for Dongri Tal-II. A Railway Siding would be constructed. It was clarified that by underground method of the total of 95 MT of extractable reserves, only 25 MT would be extracted. At the end of mine life a final void of 409 ha would be left which would be utilised for dumping OB from Ph-II of the project. R&R of 1341 PAFs belonging to 7 villages – Aamdand (65), Amraikoh (70), Belwar (157), Dongri (113), Jheleri (679), Majholipath (220), Seerswah(37). R&R cost would be Rs. 125 to 130 crores. R&R will be provided as per R&R Policy of M.P. for Singrauli area. The life of the OC mine is 17 years The capital cost of the project is Rs 1768.14 crores.

LAND REQUIREMENT AS OC Vs UG			
S.No	**Description**	**Open cast**	**Underground**
1.	Quarry area /mine take area	807.86 ha	683.30 ha (area covered by 150 m depth line of the coal seams due to impact of subsidence)
2.	Pit head structure	27.81 ha	Can be established in mine take area
3.	Railway siding	7.28 ha	Coal transport by road as railway siding is not feasible
4.	Nallah diversion	72.22 ha	nil
Total land required to be diverted		1080.99 ha	683.30 a

2. `The Committee noted that the project is located in an area of drainages of river and nalas, which would be impacted by opencast mining. The Committee also noted that it is not clear whether the project area consists of 1298 ha or 1080.99 ha and whether forestland is involved. The Committee sought details of overlay of geological sections with external land use details. The Committee also desired that the option of underground or a combination of OC-cum-UG to minimize the impacts should be studied.

3. The Committee also desired that a social cost-benefit analysis vis-à-vis choice of mining methods should be carried out. The Committee after discussions deliberate to further considers the proposal after the aforesaid details are received. The report may also be sent to DGMS for their comments. Some road infrastructure could also be developed on the top of the underground mining.

4. The Committee observed that a considerable number of villages would be evacuated in case of UG mining and OC mining. The Committee also observed that in case of OC mining, there will be

more evacuation of people in comparison to UG mining. Therefore, the committee recommended for a mix of OC –CUM-UG mining option.

5. The Committee, after discussions, recommended for the grant of TOR with the standard TOR as per Annexure 6 and 7.

14. 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, M.P. (EC based on TOR granted on 28.10.2010).

1. The proponent made a presentation. It was informed that the proposal is for opening of a new opencast-cum-underground coalmine project of a maximum rated capacity of 0.36 MTPA (0.16 MTPA OC and 0.20 MTPA UG) in an ML area of 239 ha. Of the total ML area, 142.075 ha is forest land, 76.841 ha is agriculture land, 4.167 ha is barren land, 9.020 ha is revenue forest land, 6.521 ha is Govt. land, and 0.376 ha is boundary land. Of the total lease area, 118.60 ha is OC excavation/quarry area, 0.20 ha is for explosive magazine, 1.60 ha for settling pond, 3.0 for road, 2.0 ha for surface facilities and the balance would be undisturbed.

Land Use Within ML Area At 5th Year & End Of Mining

Sl. No.	Description	Area (Ha.)	
		5th year	End of Mine
1	Mining / Excavation	41.54	118.60
2	Surface dump	8.23	00**
3	Top soil dump	3.00	0.00
4	Magazine	0.20	0.20
5	Road	3.00	3.00
6	Water reservoir (settling pond)*	1.60	1.60
7	Facility	2.00	2.00
	Sub Total Disturbed	59.57	125.4
8	Peripheral green belt	6.890	6.890
9.	Undisturbed	172.54	106.71
	Total	239.00	239.00

It was also informed that the geological reserve is 20.975 MT (20.072 MT proved). Total mineable reserves are 18.078 MT (3.874 MT by OC and 14.204 MT by UG). The extractable Reserves 9.44 MT (3.758 MT by OC & 5.682 MT by UG) (45%). Coal Grades 26.5% C, 34.7% D, 24.5% F and rest A, B, E & G. The total mineable seams are IX HCL (Hard Cover Line), VIII, VII, VII T, VII B, VI Bot (B) & VI Bot (Comb). Mining method for OC is mechanized by Shovel dumper with hydraulic excavators & UG mining by Board and Pillar system. In the OC mining the OB Coal ratio (cum/ te) would be 9.8: 1. The ultimate working depth of OC mining will be 60 m and 190 m by UG mining. The total OB generated in the life of mine would be 36.10 Mm3. The external OB dump will be 50 mt. height with 1.78 Mm3OB. concurrent backfilling will be started in 2nd year. It was informed that a distance of 50m would be maintained from the quarry floor and the roof of the UG seam to be worked below the quarry floor. Subsidence is expected. The maximum subsidence will be 1566.6 mm and maximum tensile strain will be 7.17 mm/m. It was informed that the OC mining

would be for the upper seams at the depth of 60m and requires to be carried out before the UG mining in the deeper seams. Surface transport of coal from OC by coal tippers, transport of OB will be done by dumpers and transport of coal from UG to surface will be done by Conveyor. Coal will be transported by road to Satna cement plant via Shahdol. Subsequently, the company intends to transport coal by railways by taking a siding at Burhar. The total water requirement would be 444 cum/day (potable 244 cum/day and 200 cum/day industrial). Source of water would be potable water obtained from Bore well, Industrial water obtained from Mine sump and surface reservoir. The mining activity shall intersect the water table resulting in mine seepage both in opencast as well as underground stage. The Banish nala is 1.5 km. in south-west flowing through the western part of the block and Nargara nalas from the eastern side. There are 24 PF and RF in the study area Major forest type- northern dry mixed deciduous forest Burhar forest RF is within the block. Mainly Sal forest falling under the Shahdol Forest Division. There are 3 reserve & 1 protected forest area in the study area. No National Park, Wildlife Sanctuary, Biosphere Reserve, Tiger Reserve, Elephant Reserve or Corridor is within the study area. The major tree species reported in the study area including buffer zone are Sal (*Shorea robusta*), Salai (*Boswellia serrata*), Saja (*Terminalia tomentosa*), Kusum (*Scheichesia oleosa*), Tendu (*Diospyros melanoxylon*), Char (*Buchnania lanzan*), Dhaura (*Anogeissus latifolia*), Saliha (*Boswellia serrata*), Jamti (*Eugenia heyneana*) and Bhilwa (*Semicarpus anarcardiun*). Bamboo (*Dendrocalamus strictus*) is also seen in some of the areas. Fauna eg. Barking Deer, Spotted Deer, Common Langur, Jackal, Five striped Squirrel, Indian Hare etc. are also reported in the area. R&R involves 703 persons who are expected to be displaced and rehabilitated as per M.P. Govt. R&R policy. It was informed that the Tribal Development Action Plan has been prepared with the provision of Rs. 403.13 lakhs. The total cost of R&R will be Rs.1627.49 lakhs. Proponent proposed residential colony for their work force at the distance of 4 km. from project boundary. Life of OC-cum-UG mine is 31 years, of which OC mine will be 23 years. Public hearing held on 16.2.2012 and the issues raised during public hearing eg. Land acquisition, R&R ,employment,pollution & others have been presented before the committee. EMP Capital Cost are Rs. 469.88 lakhs and Recurring Annual Cost Rs. 76.13 lakhs. Cost of the project is Rs. 60 crores.

2.. Based on the presentation and deliberations, the Committee was of the view that (i) Committee desired that a social cost-benefit analysis vis-à-vis choice of Under ground mining methods should be got carried out; (ii) It was observed that the thickness of seam, as reported by proponent, is 35.85. This appears not be correct and this need to be checked and details be provided; (iii) The mode of coal transportation should be by Rail; (iv) The native plant species should be taken for plantation for the benefit of the tribals; (v) Crown dump should be rehandled and the OB dump in void and reduce the depth of final void depth to 40-60 mt; (vi) Mine closure Plan should be prepared and stress should be given on progressive & time bound rehabilitation of the area so as to bring back the area for future generation; (vii) Detailed presentation on mining closure activity should be done in future; (ix) Proponent should make reclamation of abandoned mines; (x) A separate discussion /presentation on Mine Closure is required.; (xi) Change in Post-mining stage by reducing the depth of mine void is required to be done; (xii) The proponent should go for under ground mining option; (xiii) The mode of road Transportation of coal should be by mechanically covered trucks so as to prevent spillage and dust pollution; (xiv) The water level has been informed to be at 5m bgl. The proponent may therefore, intercept the water table in the first year; (xv) There are isolated patches of sal forest. A study be carried out by Indian Institute of Forest Management, Bhopal in this regard; (xvi) There are 15 mines are already operating in the area so most of the fauna have been vanished. Therefore the Ecological Restoration of the area is necessary; (xvii) The Committee has noted that R&R Plan is yet to be approved by State Govt..Therefore, the approved R&R Plan from State Govt. should be submitted to Ministry for record; (xix) The provision of the fund for the CSR should be Rs.35 Crores; (xx) The proponent should explore the possibility of providing share to local people in the company; (xxi) Social Scientist should be included in CSR the Committee; (xxii) Committee

desired that issues raised during Public Hearing should be provided in tabular form and each issue along with budgetary provision be addressed; (xxiii) The Forest Clearance is required for granting the EC.

4. The Committee had decided to further consider the proposal upon receipt of the aforesaid details.

15 Letter dated 02.08.2012 of M/s Radhikapur West regarding MOEF letter dated 20.07.2012 on the consideration of Radhikapur (West) Coal Mine Project (6 MTPA in ML area of 1047.99 ha) and Coal Washery of 6 MTPA in EAC (T&C) meeting held on 18th-19th June 2012.

1. The project was earlier considered in the EAC (T&C) meeting held on 18th-19th June 2012 for further consideration of EC .The Ministry, vide letter no. J-11015/30/2011-IA.II(M) dated 20.07.2012, informed the decision of Committee to proponent. The Committee suggested that as companies are operating in Talcher Coalfield should make joint effort to protect Singhra Jore . The embankment along Singhara jore should be protected and strengthened and no mining should be carried out below the Singhara jore .It was also desired that MOEF to write to State Government for restoration of jore and carry out monthly monitoring. The exercise to be funded by the project proponent. The Committee also desired that an assimilation study be carried out by the project proponent.

2. The Proponent made presentation. It was informed that all stipulations of MOEF are accepted by them. However, the last stipulation is not feasible to complete due to reasons stated in subsequent slides. Thus, proponent seek exemption from the condition that "Assimilation study be carried out by the project proponent"

3. The proponent informed that there are 18 coal mines are situated on the north and south bank of Singhara jore , which is a tributary of Brahmini River. The status of same are given below:

Sl.No	Name of the block	Company	Status
1	Kalinga	MCL	In operation
2	Hingula	MCL	In operation
3	Gopal Prasad (west)	MCL	Pending Govt. Clearances
4	Utkal -A	MCL, JSL, JSESL, SDRIL	Pending Govt. Clearances
5	UTKAL –B-1	JSPL	Pending Govt. Clearances
6	UTKAL –B-2	MIEL	Pending Govt. Clearances
7	UTKAL -C	UCL	Pending Govt. Clearances
8	UTKAL -D	OMC	Pending Govt. Clearances
9	UTKAL -E	NALCO	Pending Govt. Clearances
10	Radhikapur (East)	Tata, SIL, SPSSIL	Pending Govt. Clearances
11	Radhikapur (west)	RML,OCL,Ocean	Pending Govt. Clearances
12	Konark	MCL	Not explored

13	Balbhadra	MCL	Project cleared yet to start
14	Ramchandi	JSPL	Pending Govt. Clearances
15	Palasbani East	Yet to be allotted	Un-explored
16	Palasbani West	Yet to be allotted	Un-explored
17	Tentuloi	Yet to be allotted	Un-explored
18	Phulajhari	Yet to be allotted	Un-explored

4. It was also informed that presently only two mines of MCL are operating and other mines are at various stages of Government clearances. Some of the mining areas are yet to be explored and allocated. The proposed assimilation study would require host of critical data from operating and planned coal mines viz. drawl of water from jor during different seasons, discharge of water during different season, its quality and seasonal variation in quality of discharge at various points, calendar plan for production of various mines, areas of exploitation, solid waste generation, etc. The proponent suggested that the data generation from the assimilation study can best be carried out by State/Central agencies from the coal mines, as these bodies are statutorily competent to seek the same. The proponent showed its inability, being a private party, to access into data as most of the mines are government / PSU mines. It was also informed that "monthly monitoring for flow of the Jore" should also be carried out by State / Central government bodies or any agency working under the aegis of these government bodies but funding of the study can be jointly done by various industries situated in the coalfield. It is not possible for a single mine operator to carry out the assimilation study. Proponent informed that an assimilation study should be carried out State Pollution Control Board and State Govt.so this condition should be deleted.

5. The proponent requested for deletion of condition "an assimilation study be carried out by the project proponent". The proponent informed that it is difficult for them to carry out such study as there are several mines in the region and making a joint effort by the proponent would be difficult. He further suggested that such assimilation study should be carried out the State Pollution Control Board or the State Govt. and requested the Committee to delete this condition from the EC.

6. The Committee desired that this issue should be re-examined in the Ministry and the Committee may be apprised so as to discuss further.

7. Therefore, the **Committee decided that there would be no deletion of this condition.**

16. Letter dated 16.04.2012 of M/s NMDC on Shahpur East (0.70 MTPA in 693 ha ML area) and Shahpur West (0.45 MTPA in 587.50ha ML area) Underground Coal Mining Projects of M/s National Mineral Development Corp. Ltd., Tehsil Sohagpur in dist. Shahdol and Tehsil Pali in dist. Umaria, M.P. (Modification sought on TOR granted on 29.10.2010).

1. Proponent made presentation. It was informed that the TOR was granted by MoEF vide letter no J-11015/280/2010-IA.II(M) dated 29.10.2010 for integrated EIA /EMP report for two UG Coal Mining Project i.e. Shahpur East & West coal blocks of combined peak production capacity of 1.105 MTPA over a combined ML area of 1280.50 ha.In Shapur West earlier production capacity was 0.405 MTPA in MLarea of 587.5 ha. It was informed that in modification of TOR w.r.t production Capacity of Shahpur West Coal Block for preparation of integrated EIA/EMP for both Shahpur East and West Coal Blocks

S.no	**Location**	**ML Area in ha**	**Capacity (MTPA)**

1.	Shahpur East	693.0	0.70
2.	Shahpur West	587.5	0.405
	Total	1280.50	1.105

The NMDC proposal came for enhancement of production capacity from **1.105 MTPA** to **1.30 MTPA**. Proponent also requested for extension of TOR time for preparation of EIA/EMP.

S.no	**Location**	**Capacity as per earlier TOR**	**Modification proposed**
1.	Shahpur West	0.405(MTPA)	0.60(MTPA)

It was informed that the production capacity of Shahpur West Coal Block is 0.405 MTPA based on draft Mining Plan submitted to MOC for approval. MoC, vide its letter no dated 26.11.2010, suggested some changes to be incorporated in the mining plan, which is as follows:

"**Suggestion no.11pertainsto "*Possibility of adopting Continuous Mining System .By this method ,the reserve in top seams can be liquidated fast ad equipment can be moved to seamII which account for the largest portion of coal reserve. By adopting this method, ventilation would be easier and production level can be increased to 0.6 MTPA.'***

The Standing Committee has revised the Mining Plan of Shahpur West Coal Block for a production capacity of 0.60 MTPA which was submitted to MoC, on 11,06.2011 and Shahpur East block for production capacity at 0.70 MTPA on 16.12.2011. The MoC had approved the Mining Plan of Shahpur West Coal Block on 07.02.2012. The approval of the Mining Plan of Shahpur East is awaited. Now the combined the production capacity has been enhanced from **1.105 MTPA** to **1.30 MTPA**..The production capacity of Shahpur East block would remain unchanged. The modification sought in TOR as follows:

S.no	**Location**	**Capacity as per earlier TOR**	**Capacity (MTPA)**
1.	Shahpur East	0.70	0.70
2.	Shahpur West	0.405	0.60
Total		**1.105**	**1.30**

The proponent also informed that there would be no change in other conditions of TOR. The NMDC had requested the Committee for above modification in enhancement of production capacity of Shapur West coal Block from 0.405 to 0.60 and issue modified TOR for preparation of integrated EIA/EMP report for a combined peak production of 1.30 MTPA of Shahpur East and West coal Block over combined ML area of 1280.50 ha. The proponent also requested extension of for TOR period for preparation of EIA/EMP.

2.. The Committee agreed for enhancement of production capacity from 1.105 MTPA to 1.30 MTPA but asked the proponent that separate application should be submitted for extension of time for further consideration.

17. Kapuria UG Mine (2.4 MTPA normative with a peak capacity of 3.12 MTPA in an ML area of 809.60 ha) of M/s Bharat Coking Coal Ltd. located in Jharia Coalfields,Dist- Dhanbad, Jharkhand (TOR).

1. The proponent made presentation. The Kapuria Block is situated in Dhanbad district of Jharkhand. At present no mining activity exists and the block is completely virgin. The proposed Kapuria underground mine with lease hold area of about 8.096 Kapuria geological Block, covering an area of about 6.4 Sq. Km is located in north-central part of Jharia Coalfield, the block is bounded by Bhelatand Colliery in the east & Malkera Colliery TSL) in the west Western edge of Jarian Nala (Moonidih) at east, West - Eastern edge of Khudia Nala. The Katri Nala, which joins Damodar river in the south, together with its two tributaries, Khudia and Bansjora, constitutes the main drainage Channel in the area. Large part of Khudia and Katri Nalas flow across the strike of the formation. Kapuria (UG) (proposed) the Lease Area is 809.60 ha .Method of mining, is proposed by Longwall method with powered support. Normative Production 2.40 MT, and Proposed Peak Production in 3.12 MTPA,. The Depthof mining would be 235-860 mt. Geological Reserve 146.175MT.Grade of Coal, ST-I, ST-II, W-I to W-IV .Seams to be worked, XVIIIA, L-6, L-5, XVIC, XVIB, XVIA, XV.. The Kapuria exploration block occupies by rocks of Barren Measure Formation which overlie the coal bearing Barakars of Gondwana Super Group and Post Gondwana intrusives, apart from soil and alluvium of recent era. The general strike of the area is WNW-ESE which gradually changes to NW-SE towards the SE part of the block. Coal produced will be transported by conveyor to proposed linked Kapuria Washery (capacity: 2.5 MTY). The excess mine discharge water will be discharged into nearby streams / tanks. After treatment, this can be used by nearby villagers for agricultural purpose. This will also augment the recharge of the ground water regime. It was informed that the proposed mine is a green field project and will be developed in an area which is virgin and undisturbed by mining activities. Separate transportation network of the high capacity underground mine will not interfere with the existing mining activities. This will ensure better assessment and prediction of air pollution load apart from taking up environmental management thereby enabling common control and mitigation measures. The proposed area of the cluster is virgin and therefore a better ecological restoration plan can be developed for the area. The subsided area can be developed by dozing and filling and levelling and reclaimed biologically. There are no protected areas under international conventions, national or local legislation. As per the latest CIL's Policy, the company will spend 5% of the retained earning of the previous year subject to a minimum of Rs. 5/- per tonne of coal production every year. The life of mine is more than 30 years The fund will interalia be used for:

MINES OF CLUSTER XII – KAPURIA UG MINE						
Sl No	Name of Mines	Production Capacity (MTY)		Lease Hold Area (Ha)	Life (Years)	Status of Mine
		Normative	Peak			
1	Kapuria UG Mine	2.4	3.12	809.6	> 30	Proposed

LAND USE OF CLUSTER XII – KAPURIA UG MINE			
Sl.No	Type of land use	Present mining land use (in Ha)	Post mining land use (in Ha)

1	Road/Rail	26.77	26.77
2	Scrubs	218.64	218.64
3	Fallow land	47.96	47.96
4	Vegetation	8.70	8.70
5	Water Body	15.23	15.23
6	Settlements	97.72	97.72
7	Barren land	394.58	303.58
8	Plantation		91.00
	Total	809.60	809.60

EXPECTED COAL PRODUCTION IN THE INITIAL NINE YEARS CLUSTER XII – KAPURIA UG MINE		
SL NO.	YEAR	COAL PRODUCTION (Million Tonnes)
1	1st year	1.892
2	2nd year	1.849
3	3rd year	1.914
4	4th year	1.940
5	5th year	2.022
6	6th year	2.348
7	7th year	2.456
8	8th year	2.537
9	9th year	3.066
	Total	20.024

2. Based on the presentation and deliberations, the Committee was of the view that (i) Due to the mining activity in this project, the neighbouring mine people would be relocated; (ii) Local people (about 10%) should be provided employment in the company; (iii) Since, 17 villages will be displaced, the proponent should provide permanent livelihood to displaced local people. A detailed action plan in this regard should be prepared and submitted to the EAC ;(iv) A socio-economic study should be carried out; (v) A coal linkage plan be prepared to indicate further steps to improve the

situation in the cluster; (vi) The objectives of the Jharia Action Plan should be fulfilled by operating Kapuria mine.

3. The Committee, after discussions, recommended for the grant of TOR as Annexure 5 and generic TOR at Annexure 7.

18. Cluster III (7 mines of a peak prodn. of 3.6 MTPA in a combined ML area of 1420.61 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand (EC based on TOR granted on 04.11.2010)

1.. The proponent has made a presentation. It was informed that the proposal for grant of Environmental Clearance for Cluster III Group of Mines (five operating mines namely Jogidih Colliery, Maheshpur Colliery, Govindpur Colliery, New Akashkinaree Mixed Mine and Block-IV/ Kooridih Mixed mine, Two closed mines i.e South Govindpur Colliery, and Teturiya Colliery on account of Lease renewal .This proposal does not involve increase in lease hold area, change in technology or change in product mix in the mines.The area has undulating topography. The lowest elevation is 160 m and the highest elevation is 208.08 m.The cluster is of Barakar formation. It is bounded in the east by Cluster-IV mines of BCCL and in the north by habitation and metamorphics, in the west by Cluster-II mines of BCCL and in south by Cluster-XV mines.Khudia River and Bagdigi Nallah passes through the cluster.Highest MSL as per topo sheet,208.80 m .The drainage system in the area is controlled by Khudia riverThe project area is mainly drained by Baghdidi nala which is flowing throgh the cluster. Damodar River is the master drainage of the area. It was informed that the peak water requirement of cluster-III would be 5745 m3/day (1120 m3/day for mining operations and 4625 m3/day for domestic). It was informed that the depth of the final mine void would be 15-20m in an area of 139.23 ha at the end of mining. Water level in the cluster is in the range of 2.5 -11.44m bgl (pre-monsoon) in core area and 1.37-18.28-m bgl (during post-monsoon) in buffer area. For Coal Transportation ,In Phase-I(10+5 years)it is proposed to continue the existing Road-Rail transport net work system in view of the implementation of the Jharia Action Plan (for 10 years) and Another 5 years gestation period after the completion of Jharia Action Plan for consolidation of the backfilled dug out fire areas and unstable areas is required. Thus the period of 15 years make the Phase-I .All mitigation measures (like covered trucks, green belting on either sides of the roads, enhanced water sprinkling, strengthening and maintaining the roads etc.) shall be adopted up to 15 years with the existing road-rail transport system. Later in Phase –II (after 15 years).BCCL shall implement conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase-II which shall start after 15 years from now.It is proposed to carry all coal transport by Rail and Conveyor belt, minimizing the existing road transport system in about 5 mines with about 0.87 MTY that would continue after 15 years. Coal despatch shall be done via RLS and suitably designed off-take points shall be provided. In cluster III The proposed Coal transportation 0.87 MTPA peak production of coal from the mines at that time of operation (0.317MTPA of Jogidih Colliery, 0.091MTPA Maheshpur Colliery , 0.182 MTPA of Govindpur Colliery , 0.176 MTPA New Akashkinaree UG mine , 0.104MTPA of Block-IV/Kooridih UG Mine) of Cluster-III after 15 years in Phase -II would be mainly transported by Conveyor to railway siding. Presently the transportation of coal is upto railway siding by road. Total 80 Mm^3 of OB will be generated from two opencast mines (New Akashkinaree OCP and Block-IV OCP) during their whole life.Of which 24 Million m3 (36.63 Ha) external OB dump has been biologically reclaimed. Rest will be dumped internally over the de-coaled area. 89.30 Ha of abandoned quarry has been backfilled, leveled and plantation will be developed over them. Only 29.37 Ha of the void area will continue as water body. The process of dumping will continue till the life of the mine. Akashkinaree OCP has very small and low height dump (12-20m). Maximum height of this dump is expected to be 40m to 50m. So these dumps do not pose any danger. Dump of Block IV, Kooridih OCP is being backfilled with external

dump. Backfilling is done against mine wall and presently OB is being dumped on mine floor. The slope analysis of this dump has been done. Analysis has been done with the help of Galena software & Bishop's simplified method used for the analysis of dump by BCCL . It has been found that the dump height is approximately 93m (from floor of the quarry). Presently it is backfilled against the mine edge. Several analysis is done between the top level of the dump and up to base of dump. Earthquake / blasting affect has been considered in the analysis. Present slope angle of slope surface is about 45^0 which is being flattened to below 40^0. Analysis is done for drained conditions. However effect of Phreatic line has been taken for internal dump in analysis. It has been recommended after study that Top of the dump shall be leveled with the provision of herb all along the dump with proper drainage arrangement at top as well as along the slope which will prevent the formation of deep gully on dump slope. The toe of the dump (bottom of coal rib) shall not be eroded or cut at any point of time to avoid the failure of slope. Garland drain shall be constructed and maintained to prevent the gushing of the surface runoff in the mine, Plantation and grassing shall be done on top and slope of the dump respectively, Top soil shall be spread at the top & face of the O.B. dump. This would enhance the bonding capacity of the particle and regular monitoring will be done for development of tension crack, gullies, movement of soil mass, stagnation of water and any other unusual occurrence. Maximum subsidence, slope and tensile strain over the mining area due to coal extraction in Govindpur Colliery would be 2.462m and tensile strain of 35.90, Jogidih UG the subsidence 1.363 m and tesile strain 29.40mm/m, Maheshpur Colliery the subsidence 1.565 m and Tensile strain 22.68 mm/m, Akashkinaree colliery UG the subsidence 1.539mm and Tensile strain 27.17 mm/m.It was informed that measures would be taken to reclaim the area affected by subsidence etc filling the cracks,plantation,maintainance of water bodies created by subsidence, placing surface drains outside the subsidence area, precaution to be taken during depillaring, plantation on reclaimed subsidence area etcIt was informed that the control of fires and rehabilitation of affected families from fire and subsidence affected areas within Cluster-III would be carried out in phased manner. It was informed that OB dump fires would be dealt with by cooling, quenching and removal, excavation of fire material and filling with cohesive soil and surface sealing. It was informed that reclamation work on two OB dumps of about 8 ha. Grass seeds provided by Delhi University are being broad cast over the OB dumps in the form of seed balls. One scientist of Delhi University visited the dumps for guiding the whole process in June, 2012. This project is being done through local villagers and Self Help Groups. Bamboo plantation in combination with local species over these dumps has started. Seeds collections, saplings from nearby forest, bamboo clumps have been done by local villagers. In this respect BCCL had imparted training programme to about 130 local un-employed youths in eco-restoration methods in Feb., 2012. One Model Eco-restoration Project has been started through Forest Research Institute, Dehradun on an OB dump over 7 ha. in 2011 and this will continue up to five years. In addition to this, BCCL also identified about 45 ha. of mined out lands for ecological restoration to be done for next monsoon and the whole work shall be done through local villagers . It was informed that it is planned to take up an additional 854.72 ha under plantation with 2136800 nos of plants. The Action Plan has also been prepared for Ecological Restoration OB dumps and voids. It was informed that the BCCL has formulated its Corporate Environment Policy. Out of 595 unstable sites identified in the Master Plan, 58 sites consisting of 3756 no. of houses are affected in this cluster. The affected families will be rehabilitated in adjacent non-coal bearing area at a cost of Rs. 27012.66 lakhs. The proposed rehabilitation sites for cluster-III are 4A and 4B. JCF-F/KATRAS/EAST KATRAS (NEW AKASHKINAREE)/1/35 Scheme has been prepared for dealing with fire at East Katras(New Akaskinaree) colliery. There is surface fire which would be controlled by trench cutting .Public Hearing held on 22.01.2012.CSR Rs 5/ton of coal production.EMP Capital cost Rs 27627.66 Lakhs and recurring cost Rs 344.45 Lakh.Mine closure cost would be Rs 3922.72 Lakh.

Cluster III Group of Mines				
Sl No	**Name of Mines**	**Production Capacity (MTY)**		**Lease Hold Area (Ha)**
		Normative	**Peak**	
1.	Jogidih Colliery	0.244	0.317	167.00
2.	Maheshpur Colliery	0.070	0.091	292.68
3.	South Govindpur Colliery (Closed for production)	Nil	Nil	182.00
4.	Teturiya Colliery (Closed for production)	Nil	Nil	123.00
5.	Govindpur Colliery	0.140	0.182	159.55
6.	New Akashkinaree Mine - Opencast Section - UG Section	 1.000 0.135	 1.300 0.176	347.38
7.	Block-IV/Kooridih Mixed Mine - Opencast Section - UG Section	 1.100 0.080	 1.430 0.104	149.00
Total		2.769	3.600	1420.61

TECHNICAL PARAMETERS OF CLUSTER III

Particular	Name of the Mine							Total
	Jogidih UG	Maheshpur UG	South Govindpur UG	Teturiya UG	Govindpur UG	New Akashkinaree Mixed	Block-IV/ Kooridih Mixed	
Lease Area (Ha)	167.00	292.68	182.00	123.00	159.55	347.38	149.00	1420.61
Life of Mine	60 Years	60 years	Closed for production	Closed For production	> 30 Years	OC : 8 Years UG : > 30 Years	OC : 8 Years UG : >30 Years	
Method of Mining	B&P/ SDL/ Manual	B&P/ Manual	--	--	B&P / Manual	OC: Shovel-Dumper UG: Caving / B&P / Manual	OC: Shovel-Dumper UG: B&P / Manual Dev.	

Production (1993-94) in MT	0.201	0.230	0.093	0.055	0.487	0.438	0.853	2.357
Production (2011-12) MT	0.059	0.056	--	--	0.082	0.524	0.424	1.145
Proposed Peak Production (MTPA)	0.317	0.091	--	--	0.182	1.476	1.534	3.600

SUMMERISED DATA (Project Details) OF CLUSTER III				
Particulars	Jogidih UG Mine	Maheshpur UG Mine	Govindpur UG MIne	New Akashkinaree OC Mine
Manpower	776	593	835	54
Ventilation	AF-65 Exhaust	AF-65 Exhaust	AF-65 Exhaust	--
Maximum depth (m)	--	146.0	190.0	120
Stripping Ratio	--	--	--	1 : 6.5
Seam gradient	1 in 6	1 in 8	1 in 5 / 1 in 6	1 in 6
Mineable Reserve (MT)	10.50	18.82	5.95	8.00
Linkage	Steel/Power Plants	Steel/Power Plants	Steel/Power Plants	Steel/Power Plants
Grade of Coal	W- IV	W-III	W-IV / D	W-IV

Seams to be worked	I / III Seams	IX Top/ IX Bottom/V/VI/VII	I / II / IV	X / IX / VIII C / VIII B / VIII A / VII T/B / VI / IV
Cost of Production (Rs/te) Selling Price- (Rs./ Te) (2008-09)	1672.55 1377.21	2299.71 1298.35	2160.08 1335.00	407.12 951.70

SUMMERISED DATA (Project Details) OF CLUSTER III			
Particulars	New Akashkinaree UG Mine	Block-IV/Kooridih OC Mine	Block-IV/ Kooridih UG Mine
Manpower	868	722	210
Ventilation	PV 160	--	PV 160
Maximum depth (m)	130.0	200	--
Stripping Ratio	--	1 : 4.3	--
Seam gradient	1 in 5	1 in 10 / 1 in 5	1 in 10 / 1 in 5
Mineable Reserve (MT)	9.00	12.50	4.896
Linkage	Power Plant	Power Plant/ Washery	Power Plant
Grade of Coal	W-III / C / D	W-III/W-IV/D/W-IV(C)	W-III/W-IV/D/W-IV(C)

Seams to be worked	I / II	V/VI/VII/VIII/X/XA	II
Cost of Production (Rs/te) Selling Price-(Rs/Te) (2008-09)	1828.99 1307.30	718.00 1230.00	2129.32 1226.00

COALPRODUCTION IN 1993-94 & DURING LAST FIVE YEARS OF CLUSTER III

Year	Production Level (MT)						
	Jogidih UG	Maheshpur UG	South Govindpur UG	Teturiya UG	Govindpur UG	New Akashkinaree Mixed Mine	Block IV / Kooridih Mixed Mine
1993-94	0.201	0.230	0.093	0.055	0.487	0.438	0.853
2005-06	0.09	0.08	--	--	0.13	0.36	0.62
2006-07	0.07	0.07	--	--	0.12	0.51	0.76
2007-08	0.11	0.06	--	--	0.12	0.65	1.30
2008-09	0.088	0.060	--	--	0.111	1.188	1.043
2009-10	0.093	0.051	--	--	0.101	0.818	0.862
2010-11	0.067	0.038	--	--	0.092	0.633	0.201

2011-12	0.059	0.056	--	--	0.082	0.524	0.424

OVERALL LAND USE OF CLUSTER-III			
Sl.No.	Type of land use	Present mining land use (in Ha)	Post-mining land use (in Ha)
1	Running Quarry		
	Backfilled	55.00	0
	Not Backfilled	65.90	0
2	Abandoned Quarry		
	- Backfilled	89.3	0
	- Not Backfilled	14.27	0
3	External OB dump	36.63	36.63*
4	Service building/ Mine Infrastructure	45.47	45.47
5	Coal dump	37.93	0
6	Homestead Land	147.77	147.77
7	Agricultural Land	190.24	190.24
8	Forest Land	0	0
9	Plantation / reclamation	24.85	854.72

10	Water Body	29.37	29.37
11	Barren Land	564.79	72.88
12	Others (rail/road *etc.*)	46.21	43.53
13	Fire area	72.88	0
	Total	1420.61	1420.61

Conceptual Land use of Cluster III

Sl.no.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	1.8				1.8
2	External Waste Dumps	34.83				34.83
3	Excavation (backfill)	91.53	29.37			120.90
4	Road			2.68	43.53	46.21
5	Built up area (Infrastructure)				45.47	45.47
6	Afforestation				24.85	24.85
7	Water Body				29.37	29.37

8	Undisturbed Area	701.71			415.47	1117.18
	Total	829.87	29.37	2.68	558.69	1420.61

Details of Rehabilitation in Cluster III		
S.N.	Parameter	Details
1.	Total Voids	8.7 Mm^3
2.	Total Volume of OB	80 Mm^3
3.	Unstable Sites	58
4.	No. of Houses to be rehabilitated	3756 as per JAP
5.	Cost	Rs. 27012.66 lakhs
6.	Affected Area	862574 m^2
7.	Fire	72.88 Ha

2. Based on the presentation and deliberations, the Committee was of the view that (i) the mining plan and post-mining plan, closure plan should be prepared and submitted to the Ministry; (ii) It was observed that most of the OBs are not reclaimed and abandoned. The proponent should dump all the OB material in abandoned mines; (iii) No Forest land is involved in the cluster; (iv) The OB material should be crushed like sand and be used for stowing in underground mines; (v) The gap/space available between the entire mine area should be suitably planted with native species. Plantation should also be made in vacant area and along the road side so as to reduce dust pollution; (vi) The mine water should be treated properly before supply to the villager; (vii) The railway siding order issued and same would come in 3 years details of same should be provided to ministry; (viii) The mode of transportation of coal by truck till Railway Siding should be by mechanically covered trucks; (ix) Number of voids present in cluster – III at the end of mining should be backfilled upto ground level and no void should be left at the end of mining; (x) The area should be restored by planting native species(xi) The schedule of backfilling should be clearly brought out and submit the same to MoEF.; (xi) The Committee appreciated the proposal of herbal garden and suggested that that a central recreation park with herbal garden should be developed for use of all inhabitants; (xii) Coal dispatch shall be diverted from the present rail sidings to Rapid Loading System (RLS) soon after the construction and commissioning of the RLS at Maheshpur is completed.

3.. The Committee recommended for granting EC with standard conditions alongwith the above mentioned additional conditions.

19. Cluster X (6 mines of a peak prodn. of 2.289 MTPA in a combined ML area of 2057.95 ha) of M/s Bharat Coking Coal Ltd., located in Jharia Coalfields, Dist. Dhanbad, Jharkhand (EC based on TOR granted on 04.11.2010)

1. The proponent made a presentation and it was informed that Cluster X consists of 6 mines of (3 mixed UG –Cum- OC & 3 UG) located in Jharia coalfields along with a Coal Washery located in Sudamdihi Incline lease hold area. The total combined prod. capacity is 1.76 MTPA (normative) and 2.289 MTPA (peak) in a total combined ML area of 2057.47 ha. The cluster if flanked in the east and in the north by TISCO mines and in the west and south by metamorphic. The cluster is drained by River Damodar. It was informed that Sudamdih coal washery of BCCL is located in south-eastern part of Jharia Coalfields in Dhanbad district of Jharkhand adjacent to Damodar River which is 2.0 km from Sudamdih Railway station. The washery is connected with Dhanbad-Jharia-Chas state highway at about 3 km away. The washery is based is closed water circuit and base don the principle of zero discharge. The source of water is mine discharge of from Sudamdih Shaft, situated beside washery. Water requirement of washery is 0.1 MGD.well maintained Railway siding with electronic weighbridge is existing at Sudamdih washery loading of washed coal and middling takes place through chutes & conveyors from silos. Rejects generation is only 1% i.e. 5000T (approx)/annum which is used to filling the ditches and for road making and as building material by local villagers. The benefit of cluster are Common Transport network of Railway,Safe rehabilitation as per Jharia Action Plan,Effective waste management & reclamation of mines,Common and effective mitigation measures of environmental pollutants, Greenbelts can be developed all around the cluster including the banks of Damodar river. Pre-monsoon Water Levels vary from 0.85 to 10.82 m below ground level and Post-monsoon Water Levels vary from 0.10 to 7.32 m below ground level in core area. Water requirement would be 6770 m3/day (2512 m3/day industrial & 4256 m3/daydomestic).For Coal Transportation, In Phase-I(10+5 years),it is proposed to continue the existing Road-Rail transport net work system in view of the implementation of the Jharia Action Plan (for 10 years) and Another 5 years gestation period after the completion of Jharia Action Plan for consolidation of the backfilled dug out fire areas and unstable areas is required. Thus the period of 15 years make the Phase-I .All mitigation measures (like covered trucks, green belting on either sides of the roads, enhanced water sprinkling, strengthening and maintaining the roads etc.) shall be adopted up to 15 years with the existing road-rail transport system. Later in Phase –II (after 15 years) BCCL shall implement conveyor-cum-rail transport to avoid movement of trucks within the cluster for coal transportation in Phase-II which shall start after 15 years from now.It is proposed to carry all coal transport by Rail and Conveyor belt, minimizing the existing road transport system in about 5 mines with about 0.87 MTY that would continue after 15 years. Coal dispatch shall be done via RLS and suitably designed off-take points shall be provided. In cluster X, The proposed Coal transportation 0.947 MTPA peak production of coal from the mines at that time of operation (0.143MTPA of Bhowrah North UG , 0.3771 MTPA Bhowrah South (UG), 0.07 MTPA of Patherdih (UG), 0.117 MTPA from Sudamdih Incline (UG),0.24 MTPA Sudamdih Shaft (UG)) of Cluster- X after 15 years in Phase -II would be mainly transported by Conveyor to railway siding. Presently the transportation of coal is upto railway siding by road. Subsidence prediction study has been done for the panels as proposed to be depillared in mine projection plans for different seams and considering the geo-mining parameters as provided by Colliery Authority. The site specific subsidence parameters, e.g. subsidence factor, angle of draw, non-effective width of the panels are not available for the mine. These values have been taken from subsidence data observed in nearby coalfields having similar geo-mining conditions. The Patherdih Colliery, . Bhowrah XIII, XIV Seam , Amlabad XIV Seam in cluster X fire affected. BCCL has engaged National Remote Sensing Agency (NRSA), Hyderabad for conducting Thermal Infra Red imaging of the fire areas and monitoring of temperatures and fire spots in 2006 .NRSA had used ASTER Satellite Imagery for ascertaining the fire areas for the whole Jharia Coalfield and have prepared isothermal contour map of the Jharia Coalfield which is procured

shortly. It was informed that OB dump fires would be dealt with by cooling, quenching and removal, excavation of fire material and filling with cohesive soil and surface sealing. In addition to this, BCCL also identified about 45 ha. of mined out lands for ecological restoration to be done for next monsoon and the whole work shall be done through local villagers. It was informed that it is planned to take up an additional 854.72 ha area and 2136800 nos of plants to be planted. Action Plan has also been prepared for Ecological Restoration OB dumps and Voids under guidance Prof. Babu. It was informed that BCCL has formulated its Corporate Environment Policy. BCCL is formulating a detailed Corporate Social Responsibility (CSR) Action Plan through Tata Institute of Social Sciences (TISS), Mumbai which will consist of need-based base-line survey, CSR Action Plan, CSR Auditing and monitoring mechanism etc. This job is expected to be completed by 2012. Normative Capacity of the Cluster X is 1.762 MT. 5% of the retained earning of the previous year subject to minimum of Rs. 5 per tonne of coal production of the previous year will be provided for Corporate Social Responsibility (CSR). An amount to the tune of Rs. 87.71 lakhs will be used for the CSR works per year for Cluster X. This expenditure will be done under the activities mentioned in the scope of CSR above . Cost of EMP (Capital) would be Rs 860.50 Lakh and Recurring cost Rs 45.45 Lakh. Public Hearing was held on 17.03.2012.

CLUSTER -X OF BCCL MINES AND STATUS

Sl No	Name of Mines		Production Capacity (MTY)		Lease Hold Area (Ha)	Life (Years)	Status
			Normative	Peak			
1	Bhowrah North	UG Section	0.11	0.143		>30	In Operation
		OC Section	0.42	0.546	208.83	4	In Operation
2	Bhowrah South	UG Section	0.29	0.377		>30	In Operation
		3 Pit OC Section	0.235	0.305		4.5	In Operation
		Chandan OC Section	0.158	0.205	571.58	2.5	In Operation
3	Patherdih	UG Section	0.054	0.07		>30	In Operation
		Chandan OC Section	0.22	0.286	244.34	4	In Operation
8	Sudamdih Incline (UG)		0.09	0.117	254.27	>30	In Operation
9	Sudamdih Shaft (UG)		0.185	0.24	391.5	>30	In Operation

10	Amlabad (UG)		0	0	386.95	NA	Closed for production
	Total		1.762	2.289	2057.47		
11	Sudamdih Coal Washery (Within the lease hold of Sudamdih Shaft Mine)		1.6	2.08	18	18	In Operation

TECHNICAL PARAMETERS OF CLUSTER X									
Name of Mines	Bhowrah North		Bhowrah South			Patherdih		Sudamdih Incline	Sudamdih Shaft (UG)
	UG Section	OC Section	UG Section	3 pit OC Section	COCP Section	UG Section	OC Section		
Lease Area (Ha)	208.83		571.58			244.34		254.27	391.5
Life (in years)	30	4	30	2	2.5	30	4	30	30
Max. depth (m)	260	100	350	110	90	270	100	160	400
Method of Mining	Bord & Pillar	Shovel Dumper Combination	Bord & Pillar	Shovel Dumper Combination	Shovel Dumper Combination	Bord & Pillar	Shovel Dumper Combination	Bord & Pillar	JANCKOWICE
Proposed peak Production (MTPA)	0.143	0.546	0.377	0.305	0.205	0.070	0.286	0.117	0.240
Production in 2011-12 (MTPA)	0.048	0.155	0.051	0.185	0	0.015	0.132	0.039	0.021

TECHNICAL PARAMETERS OF CLUSTER X									
Name of Mines	Bhowrah North		Bhowrah South			Patherdih		Sudamdih Incline (UG)	Sudamdih Shaft (UG)
	UG Section	OC Section	UG Section	3 pit OC Section	CO CP Section	UG Section	OC Section		
Manpower	900	145	1074	142	300	462	338	936	1151
Grade of Coal	W-II, W-IV	ST-II	St-1 to W-IV	St-II & W-II	NL W-IV	W-IV	**W-III, W-IV**	**W-IV**	**W-I & W-IV**
Mineable Reserve (Mt)	13.3	1.6	48.47	0.485	0.44	2.52	0.9	3.944	6.748
Seams to be worked	VIII, VII, VI, V, IVT, IVB	XIV, XV & XIVA	XVI I, VII, VI, V, IV T/IV B, III	XIV, XIII, XI/XII, IX/X	IV Top, IV Bot, III, II, I T, I B	VI	III, II, I T/I M, IB	**VIII, VII, VI, IV**	XI/XII, VIIIA, Local, VIII, VII

THE DETAILS OF INTEGRATION WITH JHARIA ACTION PLAN

S.N.	Parameter	Details
1.	Total Voids	20.511 Mm^3
2.	Total External OB	16.85 Mm^3
3.	Total Unstable Sites	25 no
4.	Total Affected Area	697600 m^2
5.	No. of Houses to be rehabilitated	1670 no. as per JAP
6.	Land for Resettlement	8.50 ha (BCCL land) 23.10 ha (Non-BCCL land)
7.	Total cost of fire dealing	700.00 lakhs
8.	Total resettlement Cost	Rs 7087.75 lakhs

LAND USE OF CLUSTER X

S.No	Type Land Use	Present Mining Land Use(In Ha)	Proposed Mining Land Use(In Ha)	Post- Mining Land Use(In Ha)
1.	**Running quarry**			
	Backfilled	35.12	17.52	0.00
	Not Backfilled	66.70	30.64	0.00
2.	**Abandoned quarry**			0.00
	Backfilled	46.15	0.00	0.00
	Not Backfilled	69.00	0.00	0.00
3.	External OB dump	53.80	0.00	0.00
4.	Service building/mne infrastructure	17.27	16.25	0.00
5.	Coal dump	15.63	15.63	0.00
6.	Road & rail	87.35	87.34	87.34
7.	Homestead land	103.31	103.01	103.01
8.	Agriculture land	35.81	35.81	35.81
9.	Forest land	0.00	0.00	0.00
10	Plantation/reclamation	57.03	496.48	755.41
11.	Water body	243.97	265.84	286.54
12	Barren land	1226.35	988.94	789.36
	Total	**2057.47**	**2057.47**	**2057.47**

CONCEPTUAL LAND USE OF CLUSTER X						
Sl No.	Land Use Classification	Post Mining Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	Top Soil Dump	2.69				2.69
2	External Waste Dumps	51.11				51.11
3	Excavation (backfill)	174.40	42.57			216.97
4	Road	0.00			87.35	87.35
5	Built up area (Infrastructure)	33.20			103.01	136.21
6	Afforestation				57.03	57.03
7	Water Body				243.97	243.97
8	Undisturbed Area	436.99			825.17	1262.16
	Total	698.39	42.57	0.00	1316.53	2057.49

ENVIRONMENTAL ISSUES-MITIGATION & BENEFITS: CLUSTER-X	
Major Env. issues	Mitigation measures & Benefits
Voids (135.7 Ha.)	95.0 Ha. Backfilling and 40.7 Ha. Water body
Ex. OB Dumps(53.8 Ha.)	Use for backfilling. No external dumps will be there.
Fire/Unstable area (25 sites with 0.7 sqkm consisting of 1670 families)	Dig out fire at cost of Rs. 700.0 lakhs and rehabilitate affected families at cost of Rs. 7087.75 lakhs
Loss of coal (10% locked in barriers)	Recover 7.5 MTof coal from barriers
Reclamation/Mine closure	Plantation in 755.41 Ha. Rs.3876.15lakhs for Mine Closure (Fund allocation for mine closure as per MoC guideline and adopted by BCCL @ Rs.1 lakh/Ha. in case of U/G mines and Rs.6 laks/Ha. in case of OCP mines)
CSR	Rs.87.71 lakhs per year (Fund allocation for CSR as per CIL guideline and adopted by BCCL @ Rs. 5/Tonne of Coal produced

EXISTING & PROPOSED LEVELS OF PRODUCTION IN CLUSTER X

Sl No	Name of Mines		Production Capacity (MTY)		Coal Production in 2011-12 (MTY)
			Normative	Peak	
1	Bhowrah North	UG Section	0.11	0.143	0.048
		OC Section	0.42	0.546	0.155

2	Bhowrah South	UG Section	0.29	0.377	0.051
		3 Pit OC Section	0.235	0.305	0.185
		Chandan OC Section	0.158	0.205	0
3	Patherdih	UG Section	0.054	0.07	0.015
		Chandan OC Section	0.22	0.286	0.132
8	Sudamdih Incline (UG)		0.09	0.117	0.039
9	Sudamdih Shaft (UG)		0.185	0.24	0.021
	Total		1.762	2.289	0.646

PRODUCTION OF COAL FROM CLUSTER X DURING LAST 5 YEAR		
Year	Total Coal (MTPA))	Total OB (Mm3)
2007-08	0.589	1.140
2008-09	0.7851	3.104
2009-10	0.537	3.107
2010-11	0.7901	5.029
2011-12	0.646	2.133

PROPOSED PRODUCTION OF COAL OF CLUSTER X FOR NEXT 5 YEAR		
YEAR	PROPOSED NORMATIVE PRODUCTION (MTPA)	PROPOSED PEAK PRODUCTION (MTPA)
2012-13	1.762	2.289
2013-14	1.762	2.289
2014-15	1.683	2.188
2015-16	1.683	2.188
2016-17	0.809	1.052

BACKFILLING PROGRAMME Mm3 CLUSTER X

Name of Mine	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total
Bhowrah North OCP	3.78	3.78	3.78	3.78	-	15.12
3 Pit OCP	1.83	1.83	1.83	1.83	0.92	8.24
Chandan OCP (Bhowrah)	0.70	0.70	0.35	-	-	1.75
Chandan OCP (Patherdih)	0.975	0.975	0.975	0.975	-	1.9

Sudamdih Coal Washery

Proponent made a presentation on the details of the Coal Washery at Sudamdih , Dhanbad, Jharkhand with production capacity of 1.6 Mty (nominative & 2.08 (peak) production in an area of 18 Ha within the lease hold of Sudamdih Shaft mine(UG). Sudamdih coal washery was constructed by M/s. Mc.Nally Bharat Engineering co. Ltd. and commissioned in the year 1980. Sudamdih Coal Washery of BCCL is located in south-eastern part of Jharia Coalfield in Dhanbad District of Jharkhand, adjacent to the Damodar River. It is at a distance of 2 Km from Sudamdih Railway Station. In its East side Chasnalla Washery of IISCO is situated in the South River Damodar, in the West Sudamdih Incline mine are located. The Washery is connected with Dhanbad-Jharia-Chas State Highway at about 3 km away.It was informed that production in 2011 -12 is Raw Coal Input 0.5114 MT with grade W-III, W-IV.The Clean/ Washed Coal is 0.2025 MT with 39.60 %yield , Middlings & Slurry Coal 0.3039 MT with 59.42 % yield and Rejects is 0.0050 MT. Balance of coal clean coal39.60% with 19.70% ash ,Middlings 59.42% with 37.49 % of ash, Rejects 0.98 with 30.81% ash. , It is zero discharge washery Coal from mines of cluster-X and IX of (+) 300 mm sizes are used in the washery. Coal then passes through Rotary Breaker where raw rejects (nearly 1.0%) are separated and remaining coal having sizes of (-) 125mm goes to stock piles by series of conveyor belts. Secondary crushing is done in the size of (-) 37mm by Hammer Crushers. Crushed coal is sent to distributing conveyor which distributes coal on eight no. of declining screens. The over flow of desliming screen having size (-) 37mm to + 0.5mm (coarse coal) is beneficiated in heavy media cyclones and the underflow coal of screen having size (-) 0.5mm (fine coal) is beneficiated by froth floatation, disc filters and high frequency screens. Effluent, if any, is settled in setting ponds. Settled coal is marketed after grading through external reputed agencies and the water is re-circulated back to the plant. The overflow and underflow of cyclones are rinsed with water on rinsing screens and sent to clean coal and middling coal silos. There are three nos. of clean coal silos having capacity of 2000T each and one no. of middling silo having capacity of 2700T. Loading in railway wagons is done through silos for dispatch to consumers. Major coal consumers are SAIL/ RINLI/ ISCO in respect of Washed Coal and DVC/ NTPC/ /DSP/ BSP/ RSP etc. in respect of Midlings. Water required for the washery is about 0.1 MGD. For dispatch of clean coal and middling well maintained Railway siding with electronic weighbridge is existing at Sudamdih Washery. Loading of washed coal and & middlings takes place through chutes & conveyors from Silos. The Rejects produced will be disposed off to the selected party for utilization in FBC based power generation. Tendering is already under process. The life of washery is18 years.

2.. Based on the presentation and deliberations, the Committee was of the view that: (i) All the void /water bodies should be backfilled upto ground level and no OB dump at the end of mining.; (ii) Extensive plantation should be provided on either side of Damodar River; (iii) Details of impact of mining on Damodar River should be assessed and provided; (iv) Impact of mining on ground water of the area (Impact Zone) should be provided; (v) A Garland drain should be provided; (vi) Excess water from mine after treatment should be supplied to the villagers; (vii) Rejects of washery along with dry carbon slurry should be utilized in power plant; (viii) No discharge of washery (slurry) in Damodar River should be done;(ix) Entire washery water should be recycled; (x) Damodar River should be protected by plantation on both sides;(xi) the drain water should not be discharged in to Damodar River; (xii) A herbal garden with medicinal plants be developed; (xiii) A time schedule for filling of existing and abandoned quarries be done; (xiv) The coal rejects and slurry be sent to power plants and other recognized vendors; (xv) Mine closure plan should be submitted to the MoEF; (xvi) Of the total water body area of 286.54 ha in the post-mining land use ,consist of 243.97 ha of natural water bodies like Damodar river and no. of water ponds. Only 42.57 ha of mine voids were proposed to be converted to artificial water bodies for catering to domestic use of local villagers. The Committee was of the view that no additional water bodies need to be created from mine like void keeping in view the Damodar river in the vicinity.

3.. The Committee recommended for granting Environment Clearance with standard conditions alongwith the above mentioned additional conditions.

20 Parsa East and Kanta Basan Opencast Mine (10 MTPA) and Coal Washery (10 MTPA) of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd., of Hasdeo-Arand Coalfields in Tehsil Udaipur, Dist. Sarguja, Chhattisgarh -

The above cited Project was allotted by the Ministry of Coal to M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd., Jaipur vide letter no 13016/74/2006-CA dated 25.06.2007 for developing captive opencast coal mine for power generation at their linked Power plants – Chhabra Phase-II (2x250 MW) & Kalisidh (2x600MW) in Rajasthan. The captive coalmine is also a JV jointly owned by RSVS (24%) and M/s Adani Ltd. (76%). The proposed Parsa East and Kanta Basan Opencast Mine (10 MTPA) and Coal Washery (10 MTPA)(in an area of 2711.034 ha for mine, washery and infrastructure including 1898.328 ha of forest land) in Hasdeo-Arand Coalfields in Tehsil Udaypur, Dist. Sarguja, Chhattisgarh. The project implementation has been envisaged in two phases of 15 year each.

2. The proponent has informed that the coal mining would be by opencast mechanized method. The OB removal would be by shovel dumper and coal excavation by surface miner, which does not involve drilling and Blasting. The thermal power plant has already been granted EC and is in advance stage of completion which is likely to be commissioned in last quarter of 2012-13. The Environment Clearance had already been accorded to 10 MTPA mine and 10 MTPA washery vide letter no J-11015/03/2008-IA.II (M) dated 21.12.2011 and corrigendum letter on 22 .06.2012 as specific condition iv & v in the EC. The Proponent had obtained the Stage –I forestry clearance vide letter no.8-31/2010 –FC dated 6.07.2011 and Stage –II vide even letter dated 15.03.2012. The Consent to Establish has been obtained from Chhattisgarhi Environment Conservation Board vide letter dated 1571/TS/CECB/2012 dated 22.06.2012. The Coal production has commenced from October 2012. The Proponent has started construction of 10 MTPA main washery based on Jig washing technology which is expected to be commissioned only by August 2013.

3. The proponent has informed that in order to provide proper supply of clean coal to their Power Plant, which is going to start in December 2012, the proponent has proposed to set up an interim washery of 2 MTPA capacity based on Barrel washing technology for washing initial production from Seam IV The Plant and Machinery for this purpose are indigenously available and the erection and commissioning of Barrel Washery can be made in 3-4 months. The throughput capacity of Barrel washery is 400TPH i.e. 2MTPA.The land of 2 ha area consisting of mainly tenancy land within total earmarked area of 47 ha of washery project. It is wet process washery comprising of crushing, screening, washing through Barrel washer and material handling. The interim washery would be decommissioned in 10 months or so on the commissioning of the main washery. It was informed that 2 MTPA raw coal with an average ash content with 35-37 %. The washery would produce metallurgical clean coal (1.55 MTPA) of 30 % ash content for use in plants and coal rejects of 0.45 MTPA with > 68% ash content to be utilized in an FBC based Thermal Power Plant. The washery is based on the concept of close loop water cycle and zero effluent discharge. Raw coal transported by covered belt conveyor and till railway Siding is Commissioned, clean coal transportation by covered truck up to loading point (under construction) and then by rail to Power plant. Coal Rejects would be dispatched initially for 2-3 years by road to end users thereafter through covered belt conveyors to the FBC based Power Plant. Make-up water requirement would be 360 m^3/day from mine water. The washing would produce clean coal and rejects. Dewatered rejects would be conveyed to Reject Bin. The de-watered clean coal would be conveyed to clean coal bin along with (-) 25 mm screened fines for loading and dispatching. The overflow water from Barrel Tank would be used to Hydro cyclone and HF screen for recovery of slurry fines. The water from Hydro cyclone and HF Screen would be fed to a small thickener and its underflow fines again recovered through Hydro-Cyclone and HF Screen and fed to clean coal screen.

4. The Committee observed that an Appeal no. 30/2012 is pending in the National Green Tribunal relating to Forestry Clearance. The detail of same should be provided to the committee. The Committee desired that the Barrel Washery is a new proposal so the fresh application in Form-I may be submitted to the ministry for TOR and EC. It was stated that the amendment to the granted Environmental Clearance should not be permitted on the basis of letter submitted by the proponent vide letter no. RVUN/Dy.CE (PPC & PF. /D 1673 dated 27.07.2012.

5. The Committee after discussion had decided to recommend for the granting Environmental Clearance for the interim washery of 2 MTPA and was of the opinion that the interim arrangement being of less capacity will have less environmental impact in comparison to the 10 MTPA washery which has already been recommended by this Committee. However, the interim arrangement can not be open ended. Therefore, the proponent has to give an undertaking about the time limit for this arrangement and in any case the interim arrangement shall not exceed one year. The interim washery shall be dismantled thereafter.

21. Over the last few years, this Committee (as well as the previous Committee) have been dealing with many proposals from BCCL in respect of new mining projects and expansion of existing projects in the Jharia Coal Field area. Detailed presentation had been made in the past to this Committee and the previous Committee regarding the special problems of fire and subsidence in the Jharia Coal Field area. The history of this problem alongwith the recommendation of various experts group constituted by the Ministry of Coal to mitigate the problems in this area and also brought to the notice of this Committee. All these activities finally lead to Jharia Action Plan which is currently being implemented by the BCCL and being monitored periodically by the Divisional Commissioner Dhanbad.

While prescribing the TOR and recommending for EC in respect of New Projects or expansion of projects in this area, the EAC has been taking care to ensure that the conditions prescribed are in consonance with the Jhaira Action Plan. The Committee is of the view that the full Committee should visit the Jharia Coal field area for on-the-spot site inspections to have a better understanding of this special problem that exists in this area. Keeping all this in mind the Committee decided to visit Jhaia Coal field, Sijua ecological restoration site, Damuda Ecological restoration site, Shatabdi Fire project and also to discuss the actual ground level implementation of the Jharia Action Plan with all relevant stakeholders during 27-30th October, 2012. During this visit the Committee will also hold its next EAC meeting in Dhanbad for considering the coal mining proposals located in Jharia Coal Field area.

The meeting ended with a Vote of Thanks to the Chair.

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ANNEXURE-1

PARTICIPANTS IN 55th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27th-28th AUGUST 2012 ON COAL SECTOR PROJECTS.

1.	Shri V.P. Raja	Chairman
2.	Prof. C.R.Babu	Member
3.	Shri T.K. Dhar	Member
4.	Shri J.L. Mehta	Member
5.	Prof. Roonwal	Member
6.	Dr. Shiv Attri	Member
7.	Dr. Manoranjan Hota	Director, MOEF
8.	Dr. Rubab Jaffer	Scientist B, MOEF

Special Invitees:

Shri R.K.Garg, Advisor, Coal India Ltd. attended the meeting on both days.

ANNEXURE-2

PARTICIPANTS IN 55th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) IN THE MEETING HELD ON 27th-28th AUGUST 2012 ON COAL SECTOR PROJECTS.

1. M/s Hind Energy & Coal Beneficiation (India) Pvt. Ltd.,

1. Shri Pawan Agarwal
2. Shri Rajeev Agarwal

2. M/s Chhattisgarh Power & Coal beneficiation Ltd.,

1. Shri S.C.Agagarwal,Sr General Manager (Commercial)
2. Shri Nagarjuna Pioneer Env.consultant, Hyderabad
3. Shri Y.Maheshwar Reddy , Pioneer Env.consultant, Hyderabad

3. M/s Jayeswal Neco Industries Ltd.,

1. Shri S.K.Moitra
2. Dr S.S.Garg, General Manager (Env.)
3. Shri Sandeep Mishra, G.M (Env.)
4. Shri Alok Kr.Rajan, JNIL
5. Shri S.K.Swain, JNIL
6. Shri P.K.Sinha JNIL
7. Shri P.Prasad JNIL
8. Shri Rajesh Shivial Shrivastawa
9. Shri Shantanu Puranik
10. Shri A.D.Jamkar

4. M/s Jindal Steel & Power Ltd.,

1. Dr J.K Saw Vice –President (Env.)
2. Shri Satya Prakash, Vice –President (Mine)
3. Shri Sharad Malviya, Deputy Manager (Env.)
4. Dr I.N.Rao, Adv. (Env.)
5. Dr Manisha Sharma ,Director, Environment Min Mac consultant.

5.M/s Neyveli Lignite Corporation Limited Bikaner, Rajasthan

1. Shri I. Susai Arulraj ,General Manager
2. Shri C.Muthuswamy ,Addl. Chief Manager
3. Shri M. Raghunathan ,DGM/MP NLC
4. Shri R.M.Dayal, NLC
5. Shri M.Himanshu Singh, KIKONS
6. Shri Mahesh Bilaskar , KIKONS

6. M/s Western Coalfields Ltd.,

1. Shri Om Prakash, Director WCL
2. Shri R.M.Wanare , General Manager(Env.)
3. Shri D. Basu, General Manager (Env.) WCL
4. Shri K Chakroborty, General Manager (Mining), WCL
5. Shri S.K Singh, Chief Manager
6. Dr.Debabrata Das, Assistant Manager (Hydrogeolog)-CMPDI

7. M/s Singareni Collieries Comp. Ltd.

1. Shri B Ramesh Kumar, Dir (P&D) SCCL
2. Shri P Sharth Kuamr, Addl. Mgr. (Env.) SCCL
3.Shri P.Uma Maheshwar SCCL
4. Shri Y Rajeshwar Reddy, COP (Coal), APMDC
5. Dr.Durga Vara Prasad, SGP, SCCL
6.Shri G.Venkatanarayana
7.Shri H.D.Nagaraja ,Executive Dsirector-AMPDC

8. M/s Birla Corp. Ltd., dist. Shahdol, M.P

1. Shri S.S.Dang, Birla Corp. Ltd
2. Shri V.K.Sethi , Birla Corp. Ltd
3. Dr Yogesh Dubey , IIFM,Bhopal
4. Shri B.D.SHARMA-Consultant Min Mac consultant
5. Dr. Marisha Sharma, MINMEC

9. M/s Radhikapur West Coal Mining Pvt. Ltd.

1. Shri G.P.Sharma ,Senior Manager
2. Shri Dayal Chand,Chief General Manager,
3. Shri D.K.Jain,
4. Dr. Marisha Sharma, MINMEC

10. M/s National Mineral Development Corp. Ltd.,

1. Shri S.K. Bhattacharya, General Manager (R&P)
2. Shri Md. Nasim Ansari ,Manager (Geology) MMDC,
3. Dr, K.J.Kaulakar ,Senior Manager NMDC
4. Shri Suraj Kumar ,Manager (Mining),
5. Shri John Thom General ManagerNMDC

11.M/s Bharat Coking Coal Ltd.

1. Shri D C Jha, Dir (T), BCCL
2. Dr. EVR Raju, Chief Manager (Env.), BCCL
3. Shri B C Maji, GM (Env.), BCCL
4. Shri S Panja, Sr. Manager (hydrogeology)
5. Shri V K Sinha, Reg. Director, CMPDI
6. Shri Durga Prasad, Vice President, CMPDI

7. Shri Gholam Shahid, Sr. Mgr., CMPDI
8. Shri D P Singh, Sr. Manager, CMPDI
9. Shri Amit Roy, Sr. Manager,

12. M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd.

1. Shri N.M.Mathur, Dir. (Tech.), RVNUL, Jaipur
2. Shri RK Gaur, Dy. CE (Fuel), RVNUL
3. Shri Harsh Nivas Asst. Manager RVNUL
4. Shri G.V.Rao HoD (Washery)
5. Shri KP Singh, GM, AMPL
6. Shri M.K. Thapar, AMPL
7. Shri Ajeet Srivastava, AMPL
8. Shri B.S.Sodhi, AMPL
9. Shri R.L.Matto, AMPL
10. Shri G.V.K.Rao, Vimta Labs

ANNEXURE-3

GENERIC TOR FOR COAL WASHERY

Based on the presentation made and discussions held, the Committee prescribed the following TOR:

(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 (PM_{10}, $PM_{2.5}$, SOx and NOx), 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

(xxxviii) 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.

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ANNEXURE-4

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/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**
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 (PM_{10}, $PM_{2.5}$, 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 are 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 though 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 break up 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 us 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 based on slope stability studies with a max of 28^{o} angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.

Project	**Total waste generation (Mm3)**	**Topsoil (Mm3)**	**Total OB generation (Mm3)**	**Total OB in Ext. Dump**	**Total OB Backfilled (Mm3)**
Original Project (ha)					
Expansion Project (**ha) (balance life)**					
TOTAL (Mm3)					

(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.	1st year										
2.	3rd year										
3.	5th year										
4.	10th yesr										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th 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)**				
1.	External OB Dump	Plantation	Water Body	Public Use	Undisturbed	TOTAL

2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	TOTAL	85				**110**

(xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.

(xxx) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine.

(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) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.

(xxxiv) 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.

(xxxv) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.

(xxxvi) 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.

(xxxvii) In built mechanism of self-monitoring of compliance of environmental regulations.

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

(xxxxi) 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.

(xxxxii) 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 area for which FC is yet to be obtained	Status of appl. for diversion of forestland
		If more than one, provide details of each FC			

(B) MINING PLAN/PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:
Copy of Letter of Approval of Mining Plan/Project Approval

(xxxviii) 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.

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ANNEXURE -5

GENERIC TOR FOR AN UNDERGROUND COALMINE PROJECT

(i) An EIA-EMP Report should be prepared for a peak capacity of **????.. MTPA** over an area of ????.. ha addressing the impacts of the underground coalmine project including the aspects of mineral transportation and issues of impacts on hydrogeology, plan for conservation of flora/fauna and afforestation/plantation programme based on the generic structure specified in Appendix III of the EIA Notification 2006.. Baseline data collection can be for any season except monsoon.

(ii) The EIA-EMP report should also cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ? air, water, land, biotic community, etc. through collection of baseline data and information, generation of baseline data on impacts for ??. MTPA of coal production based on approval of project/Mining Plan.

(iii) A Study area map of the core zone and 10km area of the buffer zone (15 km of the buffer zone in case of ecologically sensitive areas) delineating the major topographical features such as the land use, drainage, locations of habitats, major construction including railways, roads, pipelines, major industries/mines and other polluting sources, which shall also indicate the migratory corridors of fauna, if any and the areas where endangered fauna and plants of medicinal and economic importance are found in the area.

(iv) Map showing the core zone along with 3-5 km of the buffer zone) delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records) and grazing land and wasteland and water bodies.

(v) Contour map at 3m interval along with Site plan of the mine (lease/project area with about 3-5 km of the buffer zone) showing the various surface structures such as buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within/adjacent to the ML), green belt and undisturbed area and if any existing roads, drains/natural water bodies are to be left undisturbed along with details of natural drainage adjoining the lease/project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., highways, passing through the lease/project area.

(vi) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area. Impacts of project, if any on the landuse, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations. Extent of area under surface rights and under mining rights.

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

Area Under Surface Rights

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

(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 though 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 (PM_{10}, $PM_{2.5}$, 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.

(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.	1st year										
2.	3rd year										
3.	5th year										
4.	10th yesr										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year (end of mine life)										
10.	34-37th 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.

s/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.

(xxiv) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.

(xxv) 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.

(xxvi) Status of any litigations/ court cases filed/pending in any Court/Tribunal on the project should be furnished.

(xxxvii)Submission of sample test analysis of:

(xxxvii) Characteristics of coal - this includes grade of coal and other characteristics ? ash, S and heavy metals including levels of Hg, As, Pb, Cr etc.

(xxxviii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.

(A) FORESTRY CLEARANCE

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

(B) MINING PLAN /PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:
Copy of Letter of Approval of Mining Plan/Project Approval

(xxxviii) **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.

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ANNEXURE-6

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	TOTAL (ha)

			(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.	Forest Land			
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 (PM_{10}, $PM_{2.5}$, 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 are 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 though 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 us 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^{o} 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 (1st Year)	5th Year	10th Year	20th year	24th 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.	1st year										
2.	3rd year										
3.	5th year										
4.	10th year										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year										

	(end of mine life)										
10.	34-37th 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)**				
1.	External OB Dump	Plantation	Water Body	Public Use	Undisturbed	TOTAL
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	TOTAL	85				**110**

(xxxvi) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.

(xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.

(xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.

(xxxix) Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xxxx) In built mechanism of self-monitoring of compliance of environmental regulations.

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

(xxxxii) Submission of sample test analysis of:

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

(xxxxiii) Copy of clearances/approvals ? such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.

(A) FORESTRY CLEARANCE

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

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

(B) MINING PLAN APPROVAL

(c) MINING PLAN/PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:

Copy of Letter of Approval of Mining Plan/Project Approval

(xxxviii) 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.

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ANNEXURE -7

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

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