

Minutes of the 6th meeting of the EAC held on 27-28 February, 2017 for Thermal & Coal Mining Sector projects

A. The 6th meeting of the Expert Appraisal Committee (EAC) for Thermal & Coal mining projects was held on **27-28 February, 2017** in the Ministry to consider the proposals relating to coal mining sector. The list of participants and the project proponents are at Annexure-I & II respectively.

B. Confirmation of Minutes:

The Committee confirmed minutes of the 4th EAC meeting held on 30 – 31 January, 2017.

C. Details of the proposals considered during the meeting, deliberations made and the recommendations of the Committee, are explained in the respective agenda items as under:-

Agenda 6.1

Coal Washery of 2.5 MTPA in an area of 6.07 ha of M/s Chhattisgarh Power and Coal Beneficiation Ltd located in Tehsil Kartala, District Korba (Chhattisgarh) - Further consideration for TOR

6.1.1 The proposal is for grant of Terms of Reference to Coal Washery of 2.5 MTPA of M/s Chhattisgarh Power and Coal Beneficiation Ltd located in an area of 6.07 ha Tehsil Kartala, District Korba (Chhattisgarh).

6.1.2 The proposal was last considered in the 58th EAC meeting held on 23-24 June, 2016, wherein observations of the Committee were as under:-

- (i) The project proponent have come up with two site options only, and that too within 10 km of the Bilaspur town, which may not be considered suitable from environmental considerations. It is proposed to bring coal by road about a distance of 50 km from the mines of SECL.
- (ii) There is no availability of source of water.
- (iii) Discrepancies in Form I and the feasibility report need to be corrected.
- (iv) The project proponent may come with two alternative suitable sites close to the mines (within 10 km), with suitability of coal transportation (inward and outward) by rail only.

6.1.3 In response to the observations of EAC, the details submitted by the PP and/or as informed during the earlier meeting, are as under:-

- i. The proposal is for grant of TOR for Coal washery of 2.5 MTPA in an area of 6.07 ha..
- ii. Revised application submitted with the two new sites.
- iii. Preferred Site 1 is due to Nearest Coal mines. Single Crop land, Nearest Rail Connection. Away from dense population.
- iv. The latitude and longitude of the project are 82°41'02.88"E and 22°05'37.10"N respectively.
- v. Joint Venture: No
- vi. Employment generated / to be generated: 150 during operation phase.
- vii. Benefits of the project: Employment Generation, Beneficiated coal for Power generation, Sponge iron industry.

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

S.No.	LANDUSE	Within ML	Area (ha)		Outside ML Area
			1 st Preferred Site	2 nd Preferred Site	
1.	Agricultural land		6.07ha(Single crop)	10.54ha(Single Crop)	NA
2.	Forest land	NA	NA		NA
3.	Forest land	NA	NA		NA
4.	Grazing land	NA	NA		NA
5.	Surface water bodies	NA	NA		NA
6.	Settlements	NA	NA		NA
7.	Others (specify)	NA	NA		NA
	TOTAL		6.07 ha	10.54 ha.	

- ix. The total estimated water requirement will be in the range of 678 – 682 m³/day. There will not be any discharge of waste water. Zero Discharge System is proposed. Entire waste water after treatment will be re-circulated in process by close circuit system
- x. Raw material in the form of coal will be obtained from SECL mines from Dipka, Gerva, Kusmunda, Korba and Raigarh area. The proposed coal washery will incorporate the latest designs and equipments and will have a Receiving Hoppers, Weigh Bridge Heavy Media. Bath based coal beneficiation unit, coal crusher, Draining and Rinsing (D & R) screens, Cyclone Feed Pump, Thickener Overflow Pump, F.T. and Clarifying Pump, Sump Pump etc. Coal rejects of 0.50 MTPA will be sold to nearby power plant and cement plant
- xi. Technology: Heavy Media Cyclone
- xii. Transportation: Raw Material: New approach road of 300-500 meter will be constructing for raw material transportation by tarpaulin covered truck. 7575 Tonnes per day of raw coal will be received for washing in the proposed coal washery by about 300 trucks per day. Finished product & reject transportation: After Beneficiation washed coal will be transported from the washery by railway. 60 trucks per day will transport the reject to the power plant and cement plant. These trucks are from 300 trucks which transport raw coal.
- xiii. Cost: Total capital cost of the project is Rs. 19Crores
- xiv. Water body : No water body adjacent to the propose project
- xv. Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xvi. There are no court cases/violation pending with the project proponent.

6.1.4 The Committee, after detailed deliberations noted the following:

- (i) As desired by the EAC, two more sites were explored at village Faraswani, Tehsil Kartala in District Korba and village Dhaurabhata, Tehsil Bilha in District Bilaspur.
- (ii) After examining the relevant parameters namely, source of water, source of raw material, washed coal usage, railway line siding, habitation, land use, etc, the preferred identified site for the proposed washery shall be at village Faraswani, Tehsil Kartala in District Korba in an area of 6.07 ha.
- (iii) The potential consumers for the washed coal are yet to be identified. As of now, there is no MoU or agreement with any of the beneficiaries in this regard.
- (iv) The project proponent, presently operating their washery of 1.2 MTPA in Sirgitti Industrial Area in District Bilaspur, were never involved in supplying washed coal to any of the power generating companies, but limited to the industrial usage only.

(v) Total make up water requirement would be 678-682 cum/day to be met from the ground water. However, no information was available regarding initial water requirement.

6.1.5 The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the coal washery of 2.5 MTPA (wet process) in a total area of 6.07 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal washeries, along with the additional conditions as under:-

- All the potential consumers of the washed coal to be explored/identified, especially the thermal power plant, along with the firm justification in this regard,
- Sustainable ground water availability and the water balance to be prepared for the project,
- Impact of the pollution load due to heavy traffic on Champa road to be studied.

Agenda 6.2

Expansion of Coal Washery from 1.2 MTPA (dry process) to 3.6 MTPA (by adding 2.4 MTPA through wet process) of M/s Maheshwari Coal Benefication & Infrastructure Private Limited in District Bilaspur (Chhattishgarh) - Further consideration for TOR

6.2.1 The proposal is for grant of terms of reference to the expansion of coal washery from 1.2 MTPA (dry process) to 3.6 MTPA (by adding 2.4 MTPA through wet process) of M/s Maheshwari Coal Benefication & Infrastructure Private Limited in an area of 25.50 ha in District Bilaspur (Chhattishgarh).

6.2.2 The proposal was last considered in the 58th EAC meeting held on 23-24 June, 2016, wherein the Committee, after detailed deliberations on the proposal (**in the 58th meeting on 23-24 June, 2016**) noted that present project is not a green field project, but an expansion of the existing washery of 1.2 MTPA, and hence the project requires restructuring and resubmission of the details.

6.2.3 In response to the observations of EAC, the details submitted by the PP and/or as informed during the earlier meeting, are as under:-

- (i) The proposal for grant of terms of reference to the expansion of coal washery from 1.2 MTPA (dry process) to 3.6 MTPA by adding 2.4 MTPA through wet process.
- (ii) As per the committee suggestions submitted fresh application vide proposal no. IA/CG/CMIN/60423/2016 on dated 16th November, 2016.
- (iii) The location of proposed washery is identified adjacent to existing dry coal washery because of availability of infrastructure, railway siding etc.
- (iv) The Coal Washery of 1.2 MTPA (dry process) was accorded EC vide letter No.J-11015/950/2007-IA.II(M) Dated 18th March 2009.
- (v) The latitude and longitude of the project are 22010'43.71"N and 82007'45.66"E respectively.
- (vi) Joint Venture: No
- (vii) Employment generated / to be generated: 150 during operation phase
- (viii) Benefits of the project: Employment Generation, Beneficiated coal for Power generation, Sponge iron industry.
- (ix) Raw coal requirement: 2.4 MTPA shall be source from SECL mines at Dipka, Gerva, Kusmunda, Korba and Raigarh area.
- (x) Technology: Heavy Media Bath, The proposed expansion coal washery will incorporate the latest designs and equipment and will have a Receiving Hoppers, Weigh Bridge, Heavy Media Bath based coal beneficiation unit, coal crusher, Draining and Rinsing (D & R) screens, Cyclone Feed Pump, Thickener Overflow Pump, F.T. and Clarifying Pump, Sump Pump etc.
- (xi) Coal rejects will 15 – 20% of raw coal i.e. 0.48 MT/annum will be sold to nearby power plant and

cement plant.

(xii) Total available land: 25.5 ha.

(xiii) Total estimated water requirement shall be in the range of 652 - 657 m³/day, which will be source from ground water. NOC from CGWA is obtained for existing washery vide letter no.21-4(71)/SER/CGWA/2008-1033. Water drawn permission will be obtained from CGWA for proposed expansion project. There will not be any discharge of waste water. Zero Discharge System is proposed. Entire waste water after treatment will be re-circulated in process by close circuit system. Package type STP is proposed.

(xiv) Dedicated Railway siding is available for coal transportation for existing and proposed expansion project.

(xv) Transportation: After Beneficiation washed coal will be transported from the washery by railway wagons. About 70 trucks per day will transport the reject to the power plant and cement plant. These trucks are from truck which transport raw coal.

(xvi) Total capital cost of the project is Rs. 19 Crores. EMP Cost Rs. 4 Crores

(xvii) No Rehabilitation and Resettlement required.

(xviii) No Forest Land involved

(xix) There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

(xx) There are no court cases/violation pending with the project proponent.

6.2.4 While deliberations, the Committee noted the following:-

(i) As per the suggestion of EAC, fresh proposal has been submitted for expansion of 1.2 MTPA dry coal washery and to install a new coal washery of 2.4 MTPA (wet process) in the additional land of 25.5 ha adjacent to the operational coal washery. As such, the total capacity after expansion would be 3.6 MTPA.

(ii) The existing 1.2 MTPA dry coal washery in a total area of 8.094 ha was granted environmental clearance on 18th March, 2009.

(iii) The prior approval of Central Ground Water Board has been obtained to use ground water for washery operations, which is in conformity with one of the conditions stipulated in the EC. To meet the increased water availability, further permission shall be obtained from CGWA, which is reported to be under process.

(iv) Total water requirement would be 652 cum/day to be met from the ground water. However, no information was available regarding initial water requirement.

(v) Dedicated railway siding is available for coal transportation for the existing and the proposed expansion project.

(vi) To meet the energy requirements and to facilitate the washery to be self sustainable, one 100 kW solar power generation unit and garbage based bio-gas plant has been commissioned at the site.

(vii) The potential customers for the washed coal are yet to be identified.

6.2.5 *The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the coal washery with the additional capacity of 2.4 MTPA (wet process) in the additional land of 25.5 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal washeries, along with the additional conditions as under:-.*

- All the potential consumers of the washed coal to be explored/identified, especially the thermal power plant, along with the firm justification in this regard,
- Sustainable ground water availability and the water balance to be prepared for the project,

Agenda 6.3

Shivkar Lignite Coal Mine project of 1.0 MTPA of M/s Rajasthan State Mines & Minerals Limited in ML area 1855.45 ha located in Tehsil & District Barmer (Rajasthan) - Further consideration for TOR

6.3.1 The proposal is for grant of terms of reference to Shivkar Lignite Coal Mine project of 1.0 MTPA in mine lease area 1855.45 ha of M/s Rajasthan State Mines & Minerals Limited, located in Tehsil & District Barmer (Rajasthan).

6.3.2 The proposal was last considered in the 55th EAC meeting held on 11-13 May, 2016., wherein observations of the Committee were as under:-

(i) It was seen from the documents submitted by the project proponent as well as from the presentation that an area of approximately 1855 ha was proposed to be acquired in different phases. The project proponent informed that in the documents submitted by them it had been indicated that this lignite would be supplied to the power station located at some distance. However, the State Government revised its decision, and it is now proposed to develop the 1 MTPA mine to set up of a 125 MW pit head thermal power plant. The project proponent showed though this correction had not been met in the documents submitted, but submitted letter dated 12th April, 2016 from M/s Rajasthan Rajya Vidyut Prasaran Nigam Ltd to the above effect.

(ii) Land use pattern indicated in the presentation shows that out of the 1855 ha, approximately 1637 ha is agricultural land and another almost 50 ha is Gauchar land. The project proponent informed that land compensation would be paid as per prevailing State Government policies and the average cost per hectare is approximately Rs. 60 lakh (corresponding to approximately Rs. 10 lakh per bigha). It was observed by the Committee that on this basis, the total land cost works out to slightly more than Rs 1100 crores for setting up of small 125 MW power plant.

(iii) In addition, an area of approximately 18.5 km² of primarily agricultural land in State like Rajasthan, would get permanently destroyed. The Committee therefore, advised the project proponent to carry out a detailed cost benefit analysis of the entire project from an institute of national repute. The analysis should clearly bring out the alternative options available for setting up such small capacity power generating units along with exploring other units such as solar power which would otherwise have minimal environmental impacts.

(iv) The proposed mine is very close (only 8 km) to existing major urban agglomeration i.e. Balmer town. Normally sites on which polluting processes/industries are to be set up, should not be located near such township.

6.3.3 Meanwhile, the project proponent were given an opportunity to make a presentation in support of their proposal. As per the decisions taken during the meeting, the proposal was again placed before the Committee.

6.3.4 *The Committee, while deliberations, again expressed its concerns over the huge area involved of 1855.45 ha for production of 1 MTPA of coal, and thus questioning the techno-economical viability of the project. The Committee further noted that compliance on its earlier observations i.e. cost benefit analysis from an institute of national repute is yet to be carried out. The same was reported to be under process. The Committee therefore deferred the matter till this analysis is completed and submitted for consideration.*

Agenda 6.4

Expansion of Bhelatand Amalgamated Colliery from 0.38 MTPA to 0.41 MTPA in ML area of 521.68 ha and expansion of Bhelatand Washery from 0.96 MTPA to 1.5 MTPA in 8 ha of M/s Tata Steel Ltd, located in District Dhanbad (Jharkhand) - Further consideration for EC

6.4.1 The proposal is for grant of Environmental Clearance to the expansion project of Bhelatand Amalgamated Colliery from 0.38 MTPA to 0.41 MTPA in ML area of 521.68 ha and expansion of Bhelatand Washery from 0.96 MTPA to 1.5 MTPA in 8 ha of M/s Tata Steel Ltd, located in District Dhanbad (Jharkhand).

6.4.2 The proposal was last considered by the EAC in its 17th meeting held on 23-25 July, 2014, wherein observations of the Committee were as under:-

- (i) The approved mine plan and mine closure plan be submitted.
- (ii) Details of coal washery in the area.
- (iii) Plans for reduction of air pollution within the prescribed standards.
- (iv) Plans for coal transportation be submitted.
- (v) There shall be no surface transportation of coal and shall be only by underground means/conveyor belt.
- (vi) Source apportionment study of air pollution be carried out so as to understand the contribution of pollutants by various stakeholders in the area.
- (vii) One season air quality data be submitted.
- (viii) Reexamine the surface water quality and the characteristics of mine water.
- (ix) Details of tributaries in the area alongwith their hydrological status be provided.
- (x) Impact of mining on aquifer be submitted.
- (xi) Details of subsidence be provided.
- (xii) Details plan how to channelize the minimum flow of dust into river/tributary.
- (xiii) Details of drainage plan, tailing pond, settling pond and surface run-off be provided.
- (xiv) Adequate numbers of piezometers be provided for monitoring of ground water and reassess the water balance study.
- (xv) Rejects from coal washery shall be transported by rail wagon and not by road.

6.4.3 In response to the observations of EAC, the details submitted by the PP and/or as informed during the earlier meeting, are as under:-

- (i) Mine Plan and Mine closure plan has been obtained from Ministry of Coal vide letter dated 24th January, 2017.
- (ii) There are two other washeries namely, Mahuda washery 8 km away and Moonidih washery of capacity 1.6 MTPA, 5 km away falling in the 10 km study area. Apart from this, there is a proposed S&T washery (capacity-2 MTPA) located adjacent to the proposed washery. All coal for S&T washery will be sourced only from BCCL mines while the raw coal from the captive mines of Tata Steel is meant only for our captive Bhelatand washery.
- (iii) Air pollution data of the study area captured during the baseline study showed a slightly higher level of PM10 in few locations. It is because of the cumulative impact of the number of industries/ activities in and around the location. One of the locations is Bhelatand Office area where in some of the instances, the level was marginally found to be high. Various mitigation measures have been proposed for prevention and control of air pollution, which includes the following:-

- a) Enclosures around crushing plant.

- b) Dust Extraction system at Coal Handling Plant: - Extracted dust is mixed in water and then fed into the Tailing Thickener.
- c) Covered conveyor belts.
- d) Dry fog dust suppression system in Dry circuit coal handling plant.
- e) Plantation around the washery premises.
- f) Regular water sprinkling of roads and paved area within the plant area.
- g) Fixed water sprinklers installed which can be extended further.
- h) Presence of weighbridge in the plant to ensure no overloading in trucks.
- i) Manual checks at washery gate to ensure that trucks entering or leaving from the washery are covered with plastic sheets/tarpaulin.
- j) Roads are being regularly maintained in our area while repairing of Govt. roads intermittently is also being ensured. Water spraying is done regularly. Plantation along the road has been taken up.
- k) In future, CCTV cameras are proposed to be installed at washery gate to check compliance of covering of trucks

(iv) The coal transportation plan has been tabulated below:

	Source of Coal	Present capacity (TPD)	Proposed capacity (TPD)
Underground Belt Conveyor	Bhelatand A. Colliery	1250	1350
	Sijua Colliery	600	2000
Truck	Sijua Colliery	450	0
	BCCL coal mines	800	1500
Total Raw coal throughput		3100 TPD	4850 TPD
% via U/g belt conveyor		60 %	69 %
% via truck transportation		40 %	31 %

(v) There will be no surface transportation from our captive underground mines to feed coal to the washery. However the coal from BCCL mines will be transported through trucks as indicated above. Further we are exploring the feasibility of transportation of raw coal from BCCL mines via Rail network.

(vi) In the 10 km study area, there are a number of industries, commercial areas, residential areas, agricultural activities, mineral transportation, active OB dumps, abandoned OB dumps, OB dumps under fire, mines under fire, power plants, coal burning activities, coke plants, brick kilns, etc. Therefore there is a cumulative impact on air quality because of the activities of the stakeholders mentioned above. During the EIA study, there were two areas where air quality level crossed the limit i.e. Bhelatand area and Dubrajpur area.

- i. Dubrajpur area: This area is about 3.5 kms away from Bhelatand area. Since this area is very close to Moonidih coal washery, Moonidih Power plant, some of the underground mines under fire and commercial activities, which are sometimes contributing to higher values.
- ii. Bhelatand area: Apart from the other activities in and around the washery as indicated above, one of the important contributors is truck movement involved in coal and sand transportation. On an average, 200 trucks, mostly bigger size having 15T capacity are plying and passing close to the location (chowk). We have put our mitigation measures in place as discussed above which seem to be sometimes inadequate. Therefore, we have planned to further strengthen our mitigative measures like further extension of fixed sprinklers, ensuring health of roads to minimize spillage without

overloading & proper coverage of trucks, installing monitoring camera and frequent maintenance of roads leading to Sijua Colliery.

(vii) One season air quality data collection has been completed by end of December and will be accordingly submitted.

(viii) The surface water quality and mine water quality characteristics were again examined and found within standards.

(ix) River Damodar flows in W-E direction along the southern part of the 10 km study area. The prominent streams draining the buffer zone are Katri Nadi, Jarian Nala and Khudia Nadi, which are all tributaries that carry the water from high lands to Damodar River. All these tributaries are perennial as they all are receiving mine water discharge from BCCL mines. In the mine leasehold area, surface run-off water drains through natural slope of the terrain to Katri Nadi. The drainage map is provided here:

(x) Mining in Jharia coalfield started way back in the year 1896. Most of the confined aquifer has been punctured previously by different underground mines. Underground mining is being practiced along with backfilling by stowing using sand which is a plus point in this case. Firstly, stowing prevents subsidence which minimizes the development of cracks to a large extent. Second, bord and pillar method is used due to which the pillars additionally help to support of the strata above it and helps in reducing cracks. Thirdly, sand, used for stowing, is having the porosity to hold the underground water thus helping aquifer to retain the underground water. Finally, more than 50% of the amount of mine water pumped out is sent back to underground for re-use in stowing.

(xi) Subsidence is observed if there is no backfilling of the mine voids. In the Tata Steel underground mines, 100% stowing or backfilling with sand is done to minimize the impact of subsidence on surface. To monitor this, we have involved the reputed institution, CIMFR, Dhanbad to carry our subsidence studies for our mines. In the study, conducted in January, 2014, in one of the panels-16 Seam/3S, it was observed that the maximum strain value is 0.78 mm/m. The non-effective range of strain value during mining operations is 3mm/m. If the observed value is below 3mm/m, then there will be no effect of subsidence on the surface.

(xii) The surface water run-off or the rainwater falling on the premises of the washery is handled by two methods- some part of the water is recycled within the plant and remaining part is handled through tailing ponds. The water is guided through drains which are connected to the water pond as a part of tailing pond management to minimize the flow of dust. The surface plan is shown here-

(xiii) The details of drainage, tailing pond, etc have been mentioned and shown in the above surface plan of washery and colliery premises.

(xiv) Fresh hydro-geological study of the area covering all the seasons for monitoring of ground water. The study will include the installation of piezometers in the area in consultation with CGWB. Work order for the same has been issued to ISM.

(xv) Rejects generated in the coal washery are being transported to consumer-end by rail wagons hence no road transportation is involved.

6.4.4 The Committee, after detailed deliberations noted the following:

(i) The Bhelatand Colliery has been in operation for the last 107 years, and as such there was no requirement of prior EC. Also, the coal washery of 0.96 MTPA was established prior to the requirement of the EC in terms of the EIA Notification, 2006.

(ii) The ToR for the project was granted on 23rd March, 2012. Public hearing was conducted on 24th

January, 2014. There is no forest area involved requiring its diversion under the Forest (Conservation) Act, 1980.

(iii) Main issues raised during the public hearing mainly included;

(a) Related to Environment Pollution and the adverse effect of washery operations in the area -

- Tree plantation
- Increase in dust pollution
- Pollution due to washery operations
- Discharge of effluents from washery
- Subsidence issues
- Noise generation due to truck transportation
- Sewage treatment in colonies

(b) Related to socio-economic welfare –

- Provision of basic amenities like drinking water, free electricity
- Cleaning of drains, roads
- TSRDS-run programmes like Computer Hardware training, MRA camps, etc and Scholarship programmes for students undertaking ITI training
- Provision of community toilets, dustbins and bathing place for women.
- Construction of parks/ playground in the villages

(iv) Mining Plan including the Mine Closure Plan was approved by Ministry of Coal vide their letter dated 24th January, 2017.

(v) Details of CSR activities undertaken during the last three years were reported as under:-

Year	Budget in lakhs	Expenditure in lakhs	Thrust Areas
2013-14	506.90	507.50	<ul style="list-style-type: none"> • Providing & Promoting Healthcare Services, • Making Available Safe Drinking Water, • Sanitation, • Promotion of Education including Special Education, • Employment Enhancing Vocational Skills especially to women, children and differently abled, • Livelihood Enhancement Projects.
2014-15	510.00	646.50	
2015-16	483.00	511.83	

6.4.5 *The EAC, after detailed deliberations, recommended the project for grant of environmental clearance subject to the:-*

- *Modern practices for agriculture to be encouraged with promotion of organic farming through training and demonstration (where ever feasible)*
- *Special emphasis should be on training and demonstration on conservation of crops and foods and food processing (wherever feasible).*

Agenda 6.5

Coal Washery of 5.0 MTPA in an area of 12.65 ha of M/s Aryan Ispat & Power Pvt. Ltd, Tehsil Rengali, District Sambalpur (Odisha) - Further consideration for TOR

6.5.1 The proposal is for grant of terms of reference to Coal Washery of 5.0 MTPA in an area of 12.65 ha of M/s Aryan Ispat & Power Pvt. Ltd, Tehsil Rengali, District Sambalpur (Odisha).

6.5.2 The proposal was last considered in the 55th EAC meeting held on 11th -13th May, 2016, wherein observations of the Committee were as under:-

(i) The project proponent has identified the three sites which are close to each other, in the same area, and close to the Hirakud reservoir. Generally, washery is required to be located close to the mines or to the user. In the present case the proposed site is not a pit head washery and of a large capacity of 5 MTPA and it has not meant for captive purpose.

(ii) The project proponent has proposed transportation of raw coal including washed coal as well as middling and rejects through both road and rail.

(iii) It was informed by project proponent that the critically polluted area in the region was about 10 km from proposed site.

(iv) Considering that site proposed is close to the Hirakud reservoir, and about 10 km distance from critically polluted area, and washery being a highly polluted activity, the site selected is not considered to be appropriate. It should be far away from the reservoir and should be close to the coal mine requiring minimal road transportation. The project proponent, therefore, may come up with some alternative site, keeping in view the above environmental consideration.

6.5.3 In response to the observations of EAC, the details submitted by the PP and/or as informed during the earlier meeting, are as under:-

(i) Three alternate sites at Gurupali, Phulchanger & Bomaloi villages were identified for setting up a 5 MTPA coal washery. Their details were presented before the EAC in its 11-13th May, 2016 meeting. Considering the observations of the Committee, two additional sites at Suldia and Singharpur villages in Jharsuguda have been examined. Out of the total five sites, three are located in Sambalpur and two in Jharsuguda District. The site within the integrated steel plant at village Bomaloi has been selected for the proposed washery. This site has the following advantages:-

- Proposed washery site is within the existing steel plant premises so no additional land is to be acquired for the project. Surplus power and water is available for the proposed washery. Cutting of trees is not involved. No approach road is to be constructed.
- Private Freight Terminal [PFT] – own railway siding is about 100 m.
- Adequate required logistic support is available for the project.
- Himgir and Belpahar railway sidings are being used for dispatch of coal from MCL Mines - Basundhara & Kulda, Belpahar, Samleswari, Lakhanpur, Lachkura, Hirakud Bundia etc. The road distance is around 12 km- 30 km. Raw coal for beneficiation at the proposed site will also follow the same transportation mode i.e. Up to Himgir and Belpahar siding ROM Coal will be transported by road and thereafter by rail to the project site.
- Road transportation of raw coal, washed coal, middling and rejects will be minimal.
 - Most of the prospective clients, namely, Aditya Aluminium Ltd.[Bomaloi – 6 km], GMR Power Ltd. [Raipur – 310 km], Bhusan Steel & Power Ltd. [Dhenkanal – 198 km], ACC [Bargarh – 94 km], Hindalco [Hirakud – 38 km] are connected by rail.
 - The clients not connected by rail are within 3 – 19 km from the project site - 3 km to 19 km. They will be supplied beneficiated coal by road.
- The plant is about 2.5 km from the Hirakud reservoir.

- Three online continuous AAQ monitoring systems functioning at the steel for PM₁₀, PM_{2.5}, SO₂, NO, NO₂, NOx and CO would help in overall environmental performance check on daily basis.

(ii) The raw coal will be sourced on behalf of the clients from the MCL mines, Basundhara & Kulda, Samleswari, Belpahar, Lakhanpur etc located within 37 km -110 km from the identified site. The nearest railway siding from the Basundhara & Kulda mines is Himgir about 30 km by road. For the other mines, Belpahar railway siding is used, which is about 12 km - 25 km. ROM coal from these mines for dispatch to the clients by rail is first transported by road to these railway sidings even today. There will not be any additional road traffic for bringing ROM coal from MCL mines to the proposed washery site through the railway sidings at Belpahar and Himgir as PFT already exists near the proposed coal washery site. The clients connected by rail will receive washed coal, middling and rejects by rail. The nearby clients like Viraj Steel & Power [3 km], SMC Power [15 km], Action Ispat & Power Limited [19 km] not connected by rail, will receive beneficiated coal by road from the washery.

(iii) In Odisha, there are three industrial clusters, namely, Angul-Talcher, Ib-Valley and Jharsuguda, which are considered critically polluted areas. Ib-Valley and Jharsuguda industrial areas are adjacent so considered as one. The proposed project site is within the integrated steel plant premises at Bomaloi village, Sambalpur District. Jharsuguda - Ib-Valley region is about 20 km from the project site. The State Pollution Control Board, Odisha in its final report (2010) on Action Plan for Abatement of Pollution in Ib Valley – Jharsuguda region has indicated that there is no effluent discharge from AIPPL steel plant. ESP and bag filters including online continuous ambient air quality monitoring systems for PM₁₀, PM_{2.5}, SO₂, NO, NO₂, NOx and CO; and continuous online stack emission monitoring systems have been installed. Char is used as supplementary fuel in AFBC boiler. Similarly, the other industries falling in the region have been directed to ensure compliance with the Action Plan findings

(iv) The Ministry of Environment, Forest and Climate Change in its report (2016) on revised classification of industry has re-categorized the coal washeries from Red to Orange category based on score of pollution index. The proposed washery is based on heavy media cyclone technology with close water circulation system. There will not be any discharge outside the plant premises. The entire process wastewater will be reused in the washing circuit. The Hirakud Dam Authorities were informed that AIPPL has planned to set up a 5 MTPA coal washery within the integrated steel plant premises at village Bomaloi with close water circulation system in which the entire process wastewater is recycled and reused in the coal washing circuit ensuring zero effluent discharge. The authorizes have made the following observations:

- The proposed project site is situated at an elevation of RL 200 m whereas Full Reservoir Level [FRL] of Hirakud reservoir is 192.024 m.
- The plant is approximately 2.5 km from the reservoir area so flooding in the area nearby the plant region does not arise.
- There is no possibility of backwater effect of the Hirakud dam entering the project area.

A copy of letter no. 11442 dated 01/10/2016 from the Main Dam Division, Burla on the above clarifications obtained.

The proposed project site is within the integrated steel plant premises. The project area falls in Sambalpur District. In Odisha, there are three industrial clusters, namely, Angul-Talcher, Ib-Valley and Jharsuguda are considered critically polluted areas. Ib-Valley and Jharsuguda industrial areas are adjacent so considered as one. The Odisha Pollution Control Board in its final report on Action Plan for Abatement of Pollution in Ib Valley – Jharsuguda area has indicated that there is no effluent discharge from AIPPL (Bomaloi). ESP and bag filters have been provided including three continuous ambient air quality monitoring systems (CAAQMS) for PM₁₀, PM_{2.5}, SO₂, NO, NO₂, NOx and CO. Continuous stack emission monitoring systems have been provided. Char is used as supplementary fuel in AFBC boiler. Fly ash is used for brick manufacturing and filling the low lying areas within the plant.

Action plan:

- Water pollution – Develop collection and treatment facility for mineral charcoal and coal pile runoff during monsoon.

Air pollution – Install ESPs in DRI Kilns, bag filters in dust generating points and pneumatic dust handling system; online stack monitoring system with real time display system for Particulate Matter control; and real time AAQ monitoring for SPM, RPM, SO₂, NOx. Considering the observations and guidelines provided by the Hon'ble Committee, five locations have been examined for the proposed washery. The site for the proposed washery at Bomaloi has been selected keeping in view the various environmental considerations which include minimal road transportation, 100% ROM coal to the washery from railway sidings at Himgir and Belpahar, and more than 70% transportation of washed coal, middling and rejects from the washery to the clients by rail through railway siding existing within 100m.

Alternative Sites Analysis: The Site-1, Site-2, Site-4 and Site-5 have not been preferred for setting up the proposed washery because –

The site-1 is close to reserved forest, nalla and an agriculture land. Involves construction of a bridge and an approach road and laying of water supply pipeline with booster pumping stations;

The site-2 is close to human habitation and a nalla. It cannot be connected to the main stream of road and rail networks as it is blocked by a colony on one side and steel plant on the other side. Like site -1, this site also needs laying of water supply pipeline with booster pumping stations. These two sites are about 1 km from the railway siding as such would involve additional road transportation;

The site-4 is a barren Govt. land, approx. 4 km from the Lakhanpur OC mine. The site requires laying of pipeline for pumping water from Hirakud Reservoir and construction of booster stations. Mine water is not available. There is no possibility of construction of railway siding. The existing railway sidings at Belpahar and Himgir are approx. 25 km and 30 km respectively by road. MCL mines also use these sidings. Though the site is close to one MCL mine, the other mines are approx. 50 km by road. Jharsuguda – Raigarh NH-200 is approx. 9 km from the site. The site partly falls under coal bearing region. Requires construction of about 2 km approach road and widening & strengthening of existing road to connect site to the NH-200; and

The site-5 is a barren Govt. land, approx. 5 km from the Lakhanpur OC mine. Adequate land is not available. The site requires laying of pipeline for pumping water from Hirakud reservoir and construction of booster stations. Mine water is not available. There is no possibility of construction of railway siding. The existing railway sidings at Belpahar and Himgir are approx. 30 km and 30 - 35 km respectively by road. MCL mines also use these sidings. Though the site is close to one MCL mine, the other mines are approx. 40 km by road. Jharsuguda – Raigarh NH-200 is approx. 9 km from the site. Requires construction of about 2 km approach road and widening & strengthening of existing road to connect site to the NH-200. The site partly falls under coal bearing region. The transportation of raw coal from the mines to the railway siding will be much more for the Site - 4 and Site - 5 as compared to the other sites. The end users of beneficiated coal, not connected by rail, are also far away from these two sites [4 & 5] as compared to the other sites.

The site-3 at Bomaloi has been preferred over the other four sites because it has major advantage of an existing railway siding about 100 m within the AIPPL's integrated steel plant premises at village Bomaloi, Tehsil - Rengali, District Sambalpur, Odisha. The land, fairly flat, is under industrial use and under possession of the company. Felling / cutting of trees is not required. There is no agriculture land within 1km of the site. Expect establishment of internal road connectivity, the site does not require any approach road construction. No water body / nallah or public road passes through or close to the washery site. The steel plant has surplus power & water [Rain water harvesting reservoirs] to meet the requirement of the proposed project. Laying of water supply pipeline and power line is far easier than the other sites located away from the steel plant. End users of washed coal, middling & rejects, namely, Aditya Aluminium Ltd.[Bomaloi – 6 km], GMR Power Ltd. [Raipur – 310 km], Bhusan Steel & Power Ltd. [Dhenkanal – 198 km], ACC [Bargarh – 94 km], Hindalco [Hirakud – 38 km] are all connected by rail. The Clients not connected by rail are SMC Power Ltd. [Jharsuguda – 15 km], Viraj steel & Power Ltd. [Gurupali – 3 km], and Action Ispat & Power Ltd. [Jharsuguda – 19 km]. These clients are located within 3 – 19 km from the site.

AIPPL has installed, within the steel plant premises, three online continuous ambient air quality monitoring station and data so generated is transmitted to the Odisha State Pollution Control Board and the Central Pollution Control Board servers on continuous basis through GPRS network. Besides, the available logistic support, this location is the best to have a proper check on environment performance of the proposed coal washery. Adequate and effective environmental protection measures including plantation will be taken to ensure compliance with the environmental regulations.

6.5.4 During deliberations, the EAC noted the following:-

(i) The proposed washery of 5 MTPA is envisaged in an area of 31.26 ha in the premises of Integrated Steel Plant (already includes washery of 0.7 MTPA) in a total area of 204.65 ha of M/s Aryan Ispat & Power Pvt Ltd. The Environmental clearance for the integrated steel plant was granted by the Ministry on 16th September, 2008.

(ii) As desired by the EAC, two more sites at villages Suldia and Singharpur in District Jharsuguda were explored/examined.

(iii) After examining the relevant parameters namely, source of water, source of raw material, washed coal usage, railway line siding, habitation, land availability and land use pattern, etc, the preferred identified site for the proposed washery shall be at village Bomaloi in District Sambalpur (Odisha) in an area of 31.26 ha.

(iv) The identified site is at an elevation of RL 100 m, whereas FRL of Hirakud reservoir is 192.024 m. The site is approximately 2.5 km from the reservoir.

(v) It was reported that major corporate groups namely, M/s Bhushan Steel Ltd, Hindalco, M/s Viraj Steel & Energy Pvt Ltd, M/s SMC Power Generation Ltd etc have shown their interest in procuring washed coal from the proposed washery.

6.5.5 *The EAC, after deliberations, recommended the proposal for grant of ToR to the coal washery of 5 MTPA in an area of 31.26 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects, along with the additional conditions as under:-*

- *Cumulative impact assessment shall be carried out to ascertain the impacts of all current and proposed projects in the surrounding area on all environmental parameters, including the impact of withdrawal of water from Hirakud dam on downstream farmers in the Hirakud command area and the Mahanadi delta.*

Agenda 6.6

Utkal D & E Opencast coal mine project of 4 MTPA in an area of 842.96 ha of M/s NALCO located in Tehsil Chhendipada District Angul (Odisha) - For consideration of TOR

6.6.1 The proposal is for grant of terms of reference (ToR) to Utkal D & E Opencast coal mine project of 4 MTPA in an area of 842.96 ha of M/s NALCO located in Tehsil Chhendipada, District Angul (Odisha).

6.6.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

(i) The project is for ToR.

(ii) The latitude and longitude of the project are 20° 56' 33" to 20° 58' 58" N and 84° 55' 49" to 84° 57' 18" E respectively.

- (iii) Joint Venture: Not applicable
- (iv) Coal Linkage: For 9th, 10th, 11th, & 12th units of Captive Power Plant of NALCO.
- (v) Employment generated/to be generated: 880 direct employment opportunity. Beside above indirect employments will also be generated.
- (vi) Benefits of the project: The proposed project will result in following benefits – (i) Improvement in Physical Infrastructure (ii) Improvement in Social Infrastructure (iii) Increase in employment potential (iv) Contribution to the Exchequer (both State and Central Govt.)
- (vii) The land usage of the project will be as follows:

Pre-Mining:

Sl. No.	Particulars			
		Forest	Non-forest (Govt. & tenancy)	Total (ha)
A	Break-up of mining lease area:			
1	Quarry excavation	152.92	238.49	391.41
2	External Dumps	146.52	218.31	364.83
3	Infrastructure,Road	10.51	20.12	30.63
4	Nalla diversion,Barrier and safety	15.16	40.93	56.09
	Total Mine Lease Area	325.11	517.85	842.96
B	Outside Mining Lease Area			
1	Residential colony & R&R site	--	42.25	42.25
	TOTAL PROJECT AREA	325.11	560.10	885.21

Post- Mining:

Sl. No.	Land Use during Mining	Land Use (ha)				Total
		Plantation	Water Body	Public Use/Agriculture	Undisturbed	
1	External OB Dump	364.83	--	--	--	364.83
2	Top Soil Dump	will be spread concurrently in the backfilled area				
3	Excavation	218.85	137.64	34.92	--	391.41
4	Built up area	12.50	14.51	28.31	12.04	67.36
5	Green Belt	19.36	--	--	--	19.36
6	Residential colony & R&R site (Outside mining lease area)	--	--	--	42.25	42.25
	Total	615.54	2.15	63.23	54.29	885.21

(viii) The total geological reserve is 167.92 MT. The mineable reserve 159.52 MT, extractable reserve is 159.52 MT. The per cent of extraction would be 94.99 %.

(ix) The coal grade is G13. The stripping ratio is 2.49 cum/tonne. The average gradient 5.86 degrees. There will be 15 seams with the thickness details as under:-

Seam name	Range (m)	Average thickness (m)
Seam-XI Top	1-1.90	1.63
Seam-XI Middle	1-1.90	1.25
Seam-XI Bottom	1-1.75	1.35
Seam-X	1-3.40	1.50
Seam-IX	25.19-34.52	23.98
Seam-VIII Top	1.32-6.53	3.40
Seam-VIII Bot.	1-3.35	1.60
Seam VII B	1-4.95	2.68
Seam-VII A	1-2.10	1.50
Seam-VB	1-4.84	1.50
Seam-VA	1-2.48	1.63
Seam-IV B	1-3.64	1.58
Seam-III E Top	1-4.90	2.24
Seam-III E Bot.	1-5.30	3.46
Seam-III D	1-10.90	3.72
Seam-III A Top	1-2.05	1.72
Seam-III A Bot.	1-4.60	2.43

(x) Total estimated water requirement is 1538.27 m³/day. The level of ground water ranges from 1.21m to 9.75 m.

(xi) The method of mining would be Opencast Mining by Shovel – Dumper/Ripper-dozer in OB/ parting. Surface miner-pay loader - tipper in coal.

(xii) There are two external OB dumps with Quantity of 138.24 Mbcm in an area of 364.83 ha with height of 60 m above the surface level and one internal dump with Quantity of 258.35 Mbcm in an area of 253.77 ha.

(xiii) The final mine void would be in 137.64 Ha with depth varying from 0 to 242m. and the Total quarry area is 391.41 Ha. Backfilled quarry area of 253.77 Ha shall be reclaimed with plantation. A void of 137.64 ha with depth varying from 0-242 m, which is proposed to be converted into a water body.

(xiv) The life of mine is 43 Years.

(xv) Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Surface to Siding by belt conveyor to Pre-weigh Bin and loading at siding by silo.

(xvi) There is R & R involved. There are 199 PAFs.

(xvii) Total capital cost of the project is Rs.337 crore. CSR Cost Rs.2.00 per Tonne of coal production. R&R Cost Rs. 5993.00 Lakh. Environmental Management Cost Will be provided in EIA/ EMP.

(xviii) Water body : Gundijeri and Katau Nala– passing through the block; Singhda jhor – Adjacent (North); Ghordia Nallah is about 2.2 km (SE) ; Khandanal Nallah is about 2.8 Km (NE).

(xix) Approvals: Board's approval obtained on 22nd August, 2011. Mine closure plan is an integral part of mining plan.

(xx) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

(xxi) Forestry issues: Total forest area involved 325.11 ha; Stage I forest clearance for 137.02 Ha for Utkal D Coal Mine was obtained vide letter no.F.No.8-99/2006-FC dated 20th October, 2006.

(xxii) Total afforestation plan shall be implemented covering an area of 364.83 ha at the end of mining. Green Belt over an area of 12.5 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxiii) There are no court cases/violation pending with the project proponent.

6.6.3 During deliberations, the EAC noted the following:-

- (i) Earlier this Ministry had issued separate environmental clearances for Utkal D and Utkal E opencast coal mining project involving total areas 301 ha and 729.18 ha with the forest area of 143.52 ha and 169 ha respectively.
- (ii) For Utkal D, out of the total forest of 143.52 ha, Stage-I FC has been obtained for 137.02 ha leaving the safety zone of 6.5 ha. Whereas, for Utkal E, there has been no diversion of any forest land out of the total forest area of 169 ha.
- (iii) Now there is a proposal to merge the both Utkal D and Utkal E in the name of Utkal D & E Opencast coal mine project of 4 MTPA in an area of 842.96 ha. The Mining Plan and the Mine Closure Plan is yet to be approved by Ministry of Coal.

6.6.4 *The EAC, after deliberations, recommended the proposal for grant of ToR to the Utkal D & E Opencast coal mining project of 4 MTPA in an area of 842.96 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects, and including an assessment of the cumulative impact of all ongoing and proposed projects in the region*

Agenda 6.7

Mine-III Lignite Opencast Mine of 11.50 MTPA in an area of 4841.99 Ha by M/s NLC India Limited at Vridhachalam Chidambaram District Cuddalore (Tamil Nadu) - For consideration of TOR

6.7.1 The proposal is for grant of terms of reference (ToR) to Mine-III Lignite Opencast Mine of 11.50 MTPA in an area of 4841.99 ha by M/s NLC India Limited at Vridhachalam Chidambaram District Cuddalore (Tamil Nadu).

6.7.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The proposal is for grant of ToR to Mine-III Lignite Opencast Mine of 11.50 MTPA in an area of 4841.99 ha in District Cuddalore (Tamil Nadu).
- (ii) The latitude and longitude of the project site are

Mine-III Area		
Corner	Latitude	Longitude
1	11° 28' 30.84"	79° 26' 17.84"
2	11° 28' 10.27"	79° 30' 36.28"
3	11° 26' 37.47"	79° 31' 05.76"
4	11° 25' 07.60"	79° 27' 43.19"
5	11° 26' 49.88"	79° 26' 20.59"
6	11° 31' 49.06"	79° 24' 24.44"
7	11° 30' 0.37"	79° 22' 42.30"
8	11° 29' 14.56"	79° 24' 05.95"

- (iii) Joint Venture: no JV
- (iv) Coal Linkage: Lignite will be fed to the proposed NLCIL Pithead TPS-II 2nd Expansion -1320 MW at Neyveli. MoEF&CC Proposal No: IA/TN/THE/60765/2016, dated 30.11.2016 for TPS

- (v) Employment generated / to be generated: About 300 persons. In addition, there will be indirect employment in the outsourced Mining activities.
- (vi) Benefits of the project: Proposed Mine-III project will feed Lignite requirement of proposed pithead 1320 MW TPS-II 2nd Expansion. The power generation will help for country's Industrial, Social and Agriculture development.
- (vii) The land usage of the project will be as follows:

Pre-Mining:

S. No.	As per Tamil Nadu Government Land Classification	Within ML area in (ha)	Outside the ML area in (ha)	Total
1	Forest Land	0.00	0.00	0.00
2	Irrigated Land (patta lands)	1214.45	61.07	1275.52
3	Un irrigated Land (Dry)	2132.11	671.90	2804.01
4	Cultivable Waste (Govt. Tharisu)	18.58	6.63	25.21
5	Common facility (Govt.Poramboke)	429.48	193.38	622.86
6	Earmarked for Housing	109.11	5.28	114.39
	Total Land	3903.73 ha	938.26 ha	4841.99 ha

Post- Mining:

Sr. No.	Post Mining Land use	Area in Ha
1	External OB Dump (Reclaimed with plantation)	688.00
2	Mine Backfilled area (Reclaimed with plantation)	3014.00
3	Mine Final void (Converted as Lake)	353.00
4	Green Belt (With plantation)	124.00
5	Infrastructure	153.49
6	Inspection Road around the Mine (With Avenue trees)	25.00
7	Intervening area (Brought under plantation)	139.50
8	Garland canal & Drainage	157.00
9	Safety Zone (Brought under plantation)	188.00
	Total land	4841.99

- (viii) The total geological reserve is 440.88 MT. The mineable reserve 386.87 MT, extractable reserve is 386.87 MT. The per cent of extraction would be 87.75 %.
- (ix) The coal grade is 2689 kcal/kg, stripping ratio is 1: 7.45 tonne/m³. The average Gradient is 1 in 85 towards East-SE. There will be 2 seams with thickness ranging 3.5 m to 22 m.
- (x) Total estimated water requirement is 150 KLD. The level of ground water ranges from 60 m to 70 m below ground level.
- (xi) The Method of mining would be Shovel/Backhoe will be deployed in the advancing benches. The excavated overburden will be spread back by using dumpers in the mined out area. After Top soil spread, the backfilled area will be biologically reclaimed and afforested to restore to pre-mining condition.
- (xii) There is one external OB dump with Quantity of 408 Mbcm in an area of 688 ha with height of 90 meter above the surface level and one internal dump with Quantity of 2314 Mbcm in an area of 3014 ha.
- (xiii) The final mine void would be in 353 ha with depth varying from 20 to 40 m. and the Total quarry area

is 3367 ha. Backfilled quarry area of 3014 ha shall be reclaimed with plantation. A void of 353 ha with depth varying from 20 to 40 m which is proposed to be converted into a water body.

- (xiv) The life of mine is 35 years.
- (xv) Transportation: Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Surface to Siding by belt conveyors to Pre-weigh Bin.
- (xvi) There is R & R involved. There are 5927 PAFs.
- (xvii) Cost: Total capital cost of the project is Rs. 1150 Crores. CSR Cost Rs 32.19 per Ton (Rs. 81.93 Crore during 2015-16). R&R Cost Rs. 809 Crore. Environmental Management Cost During preparation of Feasibility report.
- (xviii) Water body : Seasonal Rivers Manimuktar at west side and Vellar at south side.
- (xix) Approvals: Ground water clearance application has been submitted to CGWB on 17.10.2016, Board's approval obtained on 23.03.2015. Mining Plan and Mine Closure Plan is under preparation. Mine closure plan would be an integral part of the Mining Plan.
- (xx) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- (xxi) Forestry issues: Not applicable. As there is no Forest Land involved.
- (xxii) Total afforestation plan shall be implemented covering an area of 4841.99 ha at the end of mining. Green Belt over an area of 124.00 ha. Density of tree plantation 2500 trees/ ha of plants.
- (xxiii) There are no court cases/violation pending with the project proponent.

6.7.3 *The EAC, after deliberations, recommended the proposal for grant of ToR to Mine-III Lignite Opencast Mining project of 11.50 MTPA in a total area of 4841.99 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects.*

Agenda 6.8

Expansion of Coal Washery from 1 MTPA to 5 MTPA of M/s Mahavir Beneficiation Private Ltd. in an area 16.12 ha located in District Anuppur (Madhya Pradesh) - Further consideration of EC

6.8.1 The proposal is for grant of environmental clearance to the expansion of Coal Washery from 1 MTPA to 5 MTPA in an area 16.12 ha of M/s Mahavir Beneficiation Private Ltd, located in District Anuppur (Madhya Pradesh).

6.8.2 The proposal was earlier considered by the EAC in its 44th meeting held on 8-9 October, 2015 and 47th meeting held on 7-8 January, 2016, wherein observations of the Committee were as under:-

(a) Regarding transportation of coal by trucks using State Highway, project proponent was asked to (i) provide report on study to be conducted by Road Research Institute for road capability (ii) permission of the competent authority for use of the proposed road (iii) to indicate who will maintain the road and bear the maintenance cost due to heavy truck movement in large number (iv) effect of noise and dust on road side habitation, due to movement of trucks carrying coal and mitigation measures.

(b) Regarding impact of expansion project on ambient air quality in surrounding area, the PP was asked to monitor air quality in all four directions of the boundary (outside) of washery, as present data is only for one side of the boundary, and also to monitor at nearest village. The monitoring data should be minimum for two weeks, monitored on alternative days with recording of meteorological data. During the monitoring period,

plant should run at existing capacity (1.0 MTPA). The predicted value is to be provided considering fugitive emission from the purposed expansion plant (additional capacity of 4.0 MTPA).

(c) Response to the issues raised by the NGO w.r.t. present/existing production capacity; land acquisition; transportation; wild life conservation plan etc.

(d) Assurance from Railways for converting their siding beside the Rly. Station as practically - washery captive siding and dust emission issues need to be settled. PP were advised to study for making their own railway siding in the washery premises as the 5 MT raw coal and washed coal, rejects are to be handled for more than 25 yrs, as life of the washery was reported by the PP.

(e) No action on mechanically covered tippers/trucks been taken. PP needs to initiate necessary action.

(f) The PP should submit a statement showing the following:-

- Total area available,
- Present and proposed land use,
- Yearly production of each of the years the washery has already been in operation,

6.8.3 In response to the observations of EAC, the details submitted by the PP and/or as informed during the earlier meeting, are as under:-

(a) A copy of the State Government clarifying that the District major roads are adequate for additional traffic and maintenance is done by State PWD. AERMOD model (version 7.1.0) and the Federal Highway Administration – Traffic Noise Model (TNM version 2.3) have been used to assess impact due to dust and noise. Information on impact of noise and dust, and mitigation measures submitted.

(b) PM₁₀ & PM_{2.5} (AAQ) were monitored at 9 locations including four outside the plant boundary from 6th Jan - 23rd Feb, 2016. Site specific meteorological parameters, fugitive dust levels within the washery and on either side of the coal transportation route were also monitored. CPCB guidelines were followed. Mathematical modeling exercise has been carried out using AERMOD model to predict GLCs due to washery and its allied activities as well as additional traffic volume. A report on impact of fugitive dust emissions on the surrounding area due to proposed expansion from 1 MTPA to 5 MTPA submitted.

(c) There is no proposal to convert the Amlai railway goods shed to a captive siding. The South East Central Railway has clarified that there will be no constraint in loading from the Amlai railway goods shed. Feasibility to build own railway siding within the washery premises has been examined. The operating opencast mines, regional topographic features and forests in the adjoining region do not permit linkage to the project site to the existing rail network. The Amlai railway goods shed is only 7 km by road from the washery site.

(d) The matter was taken up with the Indian manufacturers of commercial heavy vehicles as well as the fabricators. None has responded positively. Nevertheless, efforts would be to comply with the EAC recommendation as soon as possible. Till such time the mechanically covered trucks are not available, movement of coal will be by tarpaulin covered trucks.

(e) Total project area is 39.81 acres and the land use of the project site is industrial with the Year-wise production as under:-

Year	Production [in MT]
2008-09	68,031.06
2009-10	2,07,818.94

2010-11	4,11,314.80
2011-12	6,55,857.45
2012-13	6,54,917.12
2013-14	2,67,487.61
2014-15	3,75,791.53
2015-16	6,78,002.00

6.8.4 During deliberations, the EAC noted the following:-

(i) The proposal is for grant of environmental clearance to the expansion project of coal washery from 1 MTPA to 5 MTPA in the same area of 161.2 ha.

(ii) The coal washery of 1 MTPA was established in the year 2005. There being no requirement of the prior EC for coal washeries in terms of the EIA Notification, 2006 at that time, no EC was obtained in the instant case.

(iii) ToR for the expansion project was issued on 21st May, 2014 and the public hearing was conducted on 2nd June, 2015.

(iv) Public hearing was supervised and presided over by the Assistant Collector, District Anuppur. Whereas, the EIA Notification, 2006 provides for public hearing to be supervised and presided over by the District Magistrate/District Collector/Deputy Commissioner or his or her representative not below the rank of the Additional District Magistrate.

(v) The project proponent was asked to justify the requirement of coal washery at the given site based on operations of existing washery, including data on raw coal consumed, washed coal dispatched, and raw coal characteristics, and also potential consumers for the expanded washery.

6.8.5 The proposal was, therefore, deferred for clarifications and inputs on above lines.

Agenda 6.9

Expansion of Coal Washery from 0.96 MTPA to 2.4 MTPA of M/s Bhatia Coal Washeries Ltd in an area of 7.2 ha located in Panderpauni Tehsil Rajura, District Chandrapur (Maharashtra) - For further consideration of TOR

6.9.1 The proposal is for grant of terms of reference (ToR) for the expansion project of Coal Washery from 0.96 MTPA to 2.4 MTPA of M/s Bhatia Coal washeries Ltd in an area of 7.2 ha located in village Panderpauni, Tehsil Rajura in District Chandrapur (Maharashtra).

6.9.2 The proposal was last considered in 61st meeting of the EAC held on 28-29 July, 2016, wherein observations of the Committee were as under:-

(i) The earlier EC for the coal washery of 0.96 MTPA in village Panderpauni Tehsil Rajura in District Chandrapur (Maharashtra) was granted by SEIAA in Maharashtra on 11th November, 2009 subject to implementation of certain terms and conditions.

(ii) The PP themselves stated that neither they were uploading the status of compliance of the stipulated EC conditions nor submitting the six monthly reports to the concerned authorities in MoEF/CPCB/SPCB.

(iii) The proposal being for expansion of the existing capacity of 0.96 MTPA and for which EC is granted by SEIAA, does necessarily require clarification in respect of ground reality on site and the reporting on compliance of the EC conditions as well, and cannot be considered without that.

6.9.3 In response to the observations of EAC, the details submitted by the project proponent and/or as informed during the meeting, are as under:-

- (i) Environmental Clearance is granted to existing 0.96 MTPA coal washery vide letter No.F. No. SEAC-2009/CR.5/TC2 dated 10th November, 2009.
- (ii) Consent to Operate has been granted by Maharashtra Pollution Control Board.
- (iii) The inspection was carried out by R.O. MoEF & CC Nagpur on 16/11/2016. Some additional query were raised. The same was submitted to the RO, MOEF&CC Nagpur. Certified EC compliance report from the RO MOEF&CC is awaited.

6.9.4 During deliberations, the EAC noted the following:-

- (i) The instant proposal as well as the proposal listed at Agenda 6.10, although uploaded separately on the Ministry's website but contain the same details. The project proponent was asked not only to rectify the same but also to withdraw the remaining four proposals displayed on the portal, which are reported to be infructuous.
- (ii) The RO at Nagpur has inspected the site in December, 2016, but no compliance status of the earlier EC conditions was submitted. The same was the essential requirement earlier desired by the EAC to consider the proposal further.

6.9.5 *The proposal was observed to be incomplete, and therefore deferred.*

Agenda 6.10

Expansion of Coal Washery from 1.5 MTPA to 4.0 MTPA of M/s Bhatia Coal washeries Ltd in an area of 8.28 ha at Yehsamba (Gondegaon), Tehsil Parseoni in District Nagpur (Maharashtra) - For consideration of TOR

6.10.1 The proposal is for grant of terms of reference (ToR) to the expansion project of Coal Washery from 1.5 MTPA to 4.0 MTPA of M/s Bhatia Coal washeries Ltd in an area of 8.28 ha at Yehsamba (Gondegaon), Tehsil Parseoni in District Nagpur (Maharashtra).

6.10.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The proposal is for grant of fresh ToR to expansion of coal washery.
- (ii) Latitude and longitude of the project site are 21°16'25.39"N and 79°12'10.68"E respectively.
- (iii) Joint Venture: No joint venture; Coal Linkage : Not applicable
- (iv) Employment generated / to be generated: 120 during operation phase
- (v) Benefits of the project: Employment Generation Beneficiated coal for Power generation, Sponge iron industry.
- (vi) Transportation: Raw coal will be available in the Gondegaon O/C mines of Gondegaon Area of WCL and will be transported by tarpaulin covered trucks. The washed coal will be dispatched by the Railway siding
- (vii) There is no R & R involved. There are no PAFs.
- (viii) Cost: Total capital cost of the project is Rs. 21.5 Crores.
- (ix) Approvals: Ground water clearance Permission will be obtained from CGWA.
- (x) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- (xi) Forestry issues: not forest area involved.

(xii) There are no court cases/violation pending with the project proponent.

6.10.3 During deliberations, the EAC noted the following:-

(i) The instant proposal as well as the proposal listed at Agenda 6.9, although uploaded separately on the Ministry's website but contained the same details. Project proponent was asked not only to rectify the same but also to withdraw the remaining four proposals displayed on the portal, which are reported to be infructuous.

(ii) The RO at Nagpur has inspected the site in December, 2016, but no compliance status of the earlier EC conditions was submitted. The same was the essential requirement earlier desired by the EAC to consider the proposal further.

6.10.4 The proposal was observed to be incomplete, and therefore deferred.

Agenda 6.11

Basundhara Coal Washery of 10 MTPA in an area 27.66 ha of M/s Mahanadi Coalfields Limited, located in District Sundergarh (Odisha) - For further consideration of EC

6.11.1 The proposal is for grant of environmental clearance to the Basundhara Coal Washery of 10 MTPA in an area 27.66 ha of M/s Mahanadi Coalfields Limited, located in District Sundergarh (Odisha).

6.11.2 The proposal was last considered in the 1st EAC meeting held on 27th December, 2016., wherein observations of the Committee were as under:-

(a) Out of total area of 43.90 ha proposed for washery, forest area involved is 29.41 ha. There being no stage-I forest clearance for the said forest land in terms of the Forest (Conservation) Act, 1980, its diversion for non-forestry purposes may not be permissible at present.

(b) Mine closure activities already undertaken in respect of Basundhara (East) Coal mine has to be in conformity with the approved mining plan, conditions stipulated in EC in this regard, if any, and the other relevant statutory provisions.

(c) Basundhara (East) coal mine is reported to be abandoned and the total process water requirement of 2222 cum/day for coal beneficiation has been proposed to be utilized from the abandoned mine through 3.5 km long pipeline. Detailed study regarding sustenance of water availability throughout life of the washery has not been substantiated by the project proponent.

6.11.3 In response to the observations of EAC, the details submitted by the project proponent and/or as informed during the meeting, are as under:-

(i) The forest diversion proposal for 29.41 ha is in the advance stage for grant of Stage-I forest clearance. The forest diversion proposal after all compliances has been forwarded to AIG Forests, MoEFCC, Gol, New Delhi vide no. 5-ORC291/2016-BHU, Dtd. 01.11.2016 by Conservator of Forest (Central), MoEFCC, BBSR.

(ii) The Environment Clearance for Basundhara (East) OCP was granted vide letter No.J-11015/31/93-IA.II(M) dated 30th January, 1995 and the mining has been completed and coal production has been stopped since 29.06.2005. Out of 33.78 ha of quarry area, 12.69 ha has been left as void for water body and rest of the land has been technically & biologically reclaimed.

This post-mining land use is as per the EC issued. As per Post mining land use in EIA-EMP, out of 33.78 Ha of quarry area, 17.29 Ha was proposed to be afforested & remaining 16.49 was proposed to be left for water body, haul road & dipside slope.

Since the mining was stopped much before the Mine closure guideline was issued by Ministry of Coal, the mine does not have an approved mine closure plan. However, for mines closed before August 2009, CIL has issued guideline, vide letter no. CIL/DT/122/16/254 dated 7th November, 2016, for preparation of Mine Closure Status Report (MCSR) instead of Mine Closure Plan. Accordingly, CMPDIL has been requested to prepare the MCSR for Basundhara (East) OCP.

(iii) A comprehensive report on sustenance of Basundhara East Quarry as a water source: 12.69 ha of Basundhara(East) OCP has been left as void and rest of the land has been technically & biologically reclaimed. This void is being used as an artificial water reservoir and is a source of water for domestic & industrial use for the whole area. Basundhara(West) OCP is an adjoining mine with common boundary with Basundhara(East) OCP. The total quarry area of Basundhara East Sump is calculated to be 126900 Sq.Mtr. Basundhara East Sump has ample capacity to store the runoff generated during the monsoon. If required, it can also accommodate water from neighboring mines as well. At present the runoff generated from Basundhara (West) and land outside the mine boundary (North Side) also has been channelized to the East Sump by means of garland drains. The Digital Elevation Model showing the flow patterns in the area of the mine has been presented in Figure 03. Calculation of sump capacity and surface runoff has been presented in Tables 1 and 2 respectively.

Table - 1 Calculation of Sump Capacity

Sump Name	Actual Area (m ²)	Depth (m)	Volume (Lakh m ³)
Basundhara East Sump	126900	25	~32

Table - 2 Calculation of Surface run-off inflow to Basundhara East Sump

Name	Area (M ²)	Average Rainfall (m)	Coefficient	Quantity (L m ³)	Evaporation losses	Net quantity (L m ³)
R3 Area	800000	1.43	0.8	9.152	0.457	8.69
R1 Area	1290955	1.43	0.8	14.77	0.738	14.03
R2 Area	833009	1.43	0.8	9.53	0.476	9.05
					Total	31.77

Table - 3 Calculation of Anticipated Water consumption from Basundhara East Sump

Sl.no.	Purpose	Consumption per day	Annual Requirement
01.	Domestic use for residential colony of Basundhara Area (For 365 days)	1000 KLD	365000 KL
02.	Industrial use – Industrial cooling, spraying, Dust suppression in Basundhara Project (For 330 days)	350 KLD	115500 KL
03.	Kulda OCP – Domestic (For 365 days)	50 KLD	18250 KL

04	Basundhara Washery (10 Mty) (For 365 days)	2222 KLD	733260 KL
	Total (KL)	3622 KLD	1232010 KL
	Total in L.M³		12.32

Table - 4 Abstract

SI.No.	Description	Quantity
1	Sump Volume (From Table -1)	~32 L.m ³
2	Surface Run-off accumulated on annual basis in Basundhara East Sump (From Table -2)	~31 L.m ³
3	Water Consumption on annual basis (From Table -3) a) Industrial & Domestic b) Basundhara Washery (10 Mty) Total	4.99 L.m ³ 7.33L.m ³ 12.32 L.m ³ ~ 12 L.m ³

Basundhara East Sump is an important surface water resource, which facilitates harvesting and storage of rainwater through its catchment areas and replenishment of the ground water and is a life-line for Basundhara coalfields. Its sustenance can be assessed by its existence in the same form and quantum since last 10 years. It can easily serve as an important source of water for Basundhara Washery which has an annual requirement of 7.33 lakh cum. Hence, it is assured that Basundhara (East) Sump, as shown in mine voids, will remain as water reservoir for Basundhara Washery.

6.11.4 During deliberations, the EAC noted the following:-

- (i) The proposal is for environmental clearance to the Basundhara Coal Washery of 10 MTPA in a total area of 43.90 ha. Out of it, the forest area involved is 29.41 ha for which Stage-I FC is yet under consideration.
- (ii) As per the detailed study regarding sustenance of water availability throughout mine life, it appears that the total process water requirement of 2222 cum/day would be adequately met with.
- (iii) The Mine Closure Plan for Basundhara (East) Coal Mine was not applicable since the mining was stopped much before the Mine Closure guidelines issued by Ministry of Coal on 7th November, 2016.
- (iv) As per the Mine Closure guidelines, mines closed before August, 2009, are required for preparation of Mine Closure Status Report instead of Mine Closure Plan. Presently, Mine Closure Status Report is under preparation for Basundhara (East) OCP by CMPDIL.
- (v) Mine Closure Status Report would take another 3-6 months for its finalization and approval by the Ministry of Coal. The project proponent shall be required to formulate an action plan, which would essentially take care of restoration/reclamation of the abandoned mine and thus the management of mine water also.

6.11.5 *The EAC, after detailed deliberations, decided not to recommend the proposal, but to wait for the firm action plan to be submitted adequately addressing the requirements contained in the mine closure status report.*

Agenda 6.12

Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) in a total area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha) - For consideration of EC

6.12.1 The proposal is for grant of environmental clearance to Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) in a total area of 795.38 ha (ML area - 653.83 ha) of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha).

6.12.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The project was accorded ToR vide letter No.J-11015/159/2015-IA.II(M) dated 18th June, 2015.
- (ii) The latitude and longitude of the project are 22° 01' 16" to 22° 02' 52" North and 83° 43' 34" to 83° 45' 14" East respectively.
- (iii) Joint Venture: no joint venture
- (iv) Coal Linkage : Power Plant & Basket Linkage
- (v) Employment generated / to be generated: 1567 direct employment opportunity. Beside above indirect employments will also be generated.
- (vi) Benefits of the project: (i) Improvement in Physical Infrastructure (ii) Improvement in Social Infrastructure (iii) Increase in employment potential (iv) Contribution to the Exchequer (both State and Central Govt.) (v) Post mining enhancement of Green Cover (vi) Improvement of Electrical Power Generation and availability of electricity for 24x7 in rural areas (vii) Overall economic growth of the country.
- (vii) The land usage of the project will be as follows:

Pre-Mining:

Sl. No.	Item	Forest Area (Ha)	Non-Forest Area (Ha)	Total Area (Ha)
1.	Quarry excavation *	68.16	321.66	389.82
2.	Safety zone (7.5 m around mine boundary)	1.66	3.51	5.17
3.	Blasting danger zone (excluding the part of OB dump)(300m from mine boundary)	3.86	132.98	136.84
5.	OB Dump area (external)	1.87	60.71	62.58
5.	Infrastructure including CHP, washery, SILO point, laying of railway line for dispatch etc.	13.35	36.31	49.66
6.	Rationalization of project boundary	-	9.76	9.76
	Mining lease area	88.90	564.93	653.83
8.	Other Infrastructure	-	40.00	40.00
9.	Residential colony	-	33.05	33.05
10	Rehabilitation site	-	68.50	68.50
	Total Project Area	88.90	706.48	795.38

ii) **Post-closure land use** (Core zone)–

Sl. No	Land Use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1	External OB Dump *	-	-	62.58	-	62.58
2	Top Soil Dump	will be spreaded concurrently in the backfilled area				
3	Excavation	88.90	233.72	67.20	-	389.82
4	Roads	Included at point no.5				
5	Built up area	9.93	-	39.73	-	49.66
6	Green Belt	32.54	-	-	109.47	142.01
7	Undisturbed Area	1.95	-	-	7.81	9.76
	Total	133.32	233.72	169.51	117.28	653.83

- (viii) The total geological reserve is 262.75 MT. The mineable reserve 229.25 MT, extractable reserve is 229.25 MT. The per cent of extraction would be 87.25 %.
- (ix) The coal grade is Varies between G9 & G13. The stripping ratio is 0.98 Cum/tonne. The average Gradient is 3⁰- 7⁰. There will be 02 seams with thickness ranging

Coal seam	Thickness range (m)		Average thickness (m)
	Min.	Max.	
Lajkura-IV	1.98	18.79	13.12
Lajkua III/II Top	8.42	11.45	9.52
Lajkura III/II (M)	8.61	26.37	20.45
Lajkura III/II (B)	1.47	6.18	3.44
Lajkura I	4.80	18.86	14.81
Lajkura I Bottom	1.04	4.45	2.00
Rampur V/IV top	1.61	12.26	9.31
Rampur V/IV (M)	9.97	16.11	11.05
Rampur V/IV (B)	1.97	6.84	3.62
Rampur III (T&B)	1.69	10.07	6.15
Rampur III/II combined	7.67	15.56	11.60
Rampur II	1.45	10.73	4.24
Rampur I	1.15	5.58	2.32

- (x) The total estimated water requirement is 3.152 m³/day. The level of ground water ranges from about 1.18 m bgl to about 8.42 m bgl (buffer zone).
- (xi) The Method of mining: Opencast Mining by Shovel – Dumper/Ripper-dozer in OB/ parting; surface miner, pay loader & tipper in coal
- (xii) There is 2 external OB dump with quantity of 21.09 Mbcm in an area of 62.58 ha with Mostly 90-100m for one dump & 55-60m for another dump. This will be re-handled into the mine void during the mine closure period and one internal dump with quantity of 202.72 Mbcm in an area of 230 ha.
- (xiii) The final mine void would be in 159.82 Ha with depth 260 m and the total quarry area is 389.82 Ha. Backfilled quarry area of 156.10 Ha shall be reclaimed with plantation. A void of 233.72 ha with depth varying from 0-60 m which is proposed to be converted into a water body.
- (xiv) The seasonal data for ambient air quality has been documented and all results at all stations are

- within prescribed limits.
- (xv) The life of mine is 23 Years.
 - (xvi) Transportation: Coal transportation in pit by Dumper/ dumper & conveyor from in pit to pit head coal handling plant, Surface to Siding by Conveyor to Pre-weigh Bin and loading at siding by SILO loading & rail transport.
 - (xvii) There is R & R involved. There are 1291 PAFs.
 - (xviii) Cost: Total capital cost of the project is Rs. 1375.38 Crores. CSR Cost Rs.45.85 Cr. @ Rs.2/te of coal produced. R&R Cost Rs.146.07 Cr. Environmental Management Cost Rs.172.22 Cr.
 - (xix) Water body: River Basundhara flows at a distance of 1.8 Km; Chhaten Jhor at a distance of 1.4 Km
 - (xx) Approvals: Board's approval obtained on 08th November, 2014. Mining plan has been approved on 18th July, 2014. Mine closure plan is an integral part of mining plan.
 - (xxi) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
 - (xxii) Total forest area involved is 88.90 ha, for which diversion proposal has been submitted to MoEFCC, New Delhi on 6th April, 2015. FAC meeting held on 12.07.2016. MoEF&CC, New Delhi, requested for two point compliance, the same has been forwarded by Principal Secy. F&E Dept. GoO to MoEF&CC, New Delhi on 11.01.2017 and submitted on 13.01.2017. Likely to be considered in FAC meeting of Feb ,2017
 - (xxiii) 88.90 ha will be afforested, the remaining 67.20 ha is proposed to be converted into agricultural land.. Green Belt over an area of 32.54 ha. Density of tree plantation 2500 trees/ ha of plants.
 - (xxiv) There are no court cases/violation pending with the project proponent.
 - (xxv) Public Hearing was held on 6th April, 2016. The issues raised during public hearing include environmental problems, employment, water sprinkling on the road, air quality, road conditions, drinking water facility etc

6.12.3 During deliberations, the EAC noted the following:-

- (i) The proposal is for grant of environmental clearance to the Garjanbahal Opencast coal mining project of 13 MTPA in a total area of 795.38 ha in Garjanbahal village, Tehsil Himgir in District Sundergarh (Odisha). The project with its capacity of 10 MTPA in the mine lease area of 603.45 ha was earlier granted EC vide letter dated 3rd May, 2005. However, the validity of the said EC expired since the operation of the mine could not be started within five years.
- (ii) ToR for the instant project with the proposed capacity of 13 MTPA in a total area of 795.38 ha (ML area 653.83 ha) was issued on 18th June, 2015 and the public hearing was conducted on 6th April, 2016. Main issues raised during the public hearing included air pollution in the Garjanbahal village, drinking water supply, etc.
- (iii) Base line data was generated during the pre-monsoon season, March to June, 2014 i.e. prior to the issue of ToR. The same has already been regularised by the EAC.
- (iv) Total project area of 795.38 ha includes forest area of 88.90 ha for which Stage-I FC is under consideration.
- (v) The Mining Plan and the Mine Closure Plan were approved by the Ministry of Coal vide their letter dated 18th July, 2014 and 27th July, 2016 respectively.
- (vi) The base line air quality values at some of the identified locations namely, BangureKela (A3), Barpali (A6) and Tumulia (A7) are already exceeding the prescribed standards in terms of PM₁₀ which might not allow any more industrial activities in that area.

6.12.4 The EAC, after detailed deliberations, deferred the proposal for the present and recommended the following:-

- One season base line data for the pre-monsoon period to be collected with the Windrose based on IMD meteorological data.
- In view of the prevailing air quality values on the higher side, compliance status of EC conditions for the nearby Kulda Opencast coal mine of 10 MTPA to be submitted.

Agenda 6.13

Expansion of Jayant Opencast Coal mine project from 15.5 MTPA to 25 MTPA in an area of 3177 ha of M/s Northern Coalfields Limited located in District Singrauli (Madhya Pradesh) – For consideration of TOR

6.13.1 The proposal is for grant of terms of reference (ToR) to the expansion project of Jayant Opencast Coal mine project from 15.5 MTPA to 25 MTPA in a total area of 3177 ha of M/s Northern Coalfields Limited located in District Singrauli (Madhya Pradesh).

6.13.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- The project is for grant of ToR to the expansion of Jayant Opencast Coal Mine project from 15.5 MTPA to 25 MTPA.
- The latitude and longitude of the project site are 24°09'50" N - 24°11'25" N and 82° 38'25" E - 82°41'42" E respectively.
- Joint Venture: no joint venture
- Coal Linkage : Singrauli Super Thermal Power Station (SSTPS) of NTPC through their own MGR system and other consumers by Public Railway
- Employment generated/to be generated: 2690(Sanctioned manpower as per EPR- option -II) Present Manpower is 2249 as on 30.11.2016
- Benefits of the project: The project will be able to supply planned quantity of coal to Singrauli Super Thermal Power Station (SSTPS) of NTPC through their own MGR system, other thermal power stations of the nation and other consumers by Public Railway system , thus meeting the energy requirement of the country.
- The land usage of the project will be as follows:

Pre-Mining:

S. No.	Land Use	Within ML Area (Ha)	Outside mine lease area (Ha)	Total
1.	Tenancy Land(Agricultural land)	1530.00	NIL	1530.00
2.	Forest Land	1180.00	NIL	1180.00
3.	Wasteland	-	NIL	-
4.	Grazing land	-	NIL	-
5.	Surface water bodies	-	NIL	-
6.	Settlements	-	NIL	-
7.	Others (Government land)	467.00	NIL	467.00
Total		3177.00	NIL	3177.00

Post- Mining:

Sl. no.	Land use during Mining Operation	Land Use (Ha)				
		Plantation	Water Body	Public Use	Others	TOTAL
1	External OB dump	118.65	-	-	-	118.65
2	Top soil dump	Top soil will be completely used in reclamation of dumps.				
3	Excavation	1589.00	251.00	-	-	1840.00
4	Infrastructures (Workshop, CHP, Admn.building & Roads)	-	-	64.00	-	64.00
5	Residential	-	-	261.90	-	261.90
6	Greenbelt and Others	772.45	-	-	-	772.45
7	Undisturbed area (Forest land in Safety Zone)	-	-	-	120.00	120.00
Total		2480.10	251.00	325.90	120.00	3177.00

Core area: 3177.00 Ha

- (viii) The total geological reserve is 355.74 MT. The mineable reserve 328.01 MT, extractable reserve is 328.01MT. The per cent of extraction would be 92.20%.
- (ix) The coal grade is G-8 to G-14. The stripping ratio is 2.99Cum/tonne. The average Gradient is 2⁰ to 4⁰. There will be 03 seams with thickness

Coal Seam	Thickness (m)	
	From	To
Purewa Top	4.00	13.07
Purewa Bottom	8.69	18.54
Turra	13.90	23.61

- (x) The total estimated water requirement is 11654 cum/day. The level of ground water ranges from 1.16 m to 21.55 m below ground level.
- (xi) The method of mining would be combined system of mining deploying dragline and shovel-dumper.
- (xii) There is 2 external OB dump with Quantity of 60.00 Mbcm in an area of 118.65 ha with height of 90 meter above the surface level and 2 internal dump with Quantity of 1758.58 Mbcm in an area of 1589.00 ha.
- (xiii) The final mine void would be in 251.00 Ha with depth varying from 30 to 40 m . and the Total quarry area is 1840.00 Ha. Backfilled quarry area of 1589.00 Ha shall be reclaimed with plantation. A void of 251.00 ha with depth varying from 30 to 40 m which is proposed to be converted into a water body
- (xiv) The life of mine is 18 Years.
- (xv) Transportation: Coal transportation in pit by through mine pit to crusher by rear dumpers/tippers from in pit to pit head coal handling plant, Surface to Siding by belt conveyors through CHP and through tippers also to Pre-weigh Bin and loading at siding by Automatic loading system through Silo.
- (xvi) There is R & R involved. There are 4000 PAFs.
- (xvii) Cost: Total capital cost of the project is Rs. 2269.13 Crores. CSR Cost Rs. 2% /- per Tonne of coal production. R&R Cost Rs. 299.06 Crores. Environmental Management Cost Rs. 278.05 Crore.
- (xviii) Approvals: Ground water clearance applied on 20.08.2016 Board's approval obtained on 09.04.2016. Mining plan has been approved on 09.04.2016. Mine closure plan is an integral part of mining plan.
- (xix) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.

(xx) Total forest area involved is 1180.00 ha (including safety zone and all types of forest land)

Sl. No.	Area (Ha)	Stage-1 FC issued vide letter no. & date	Validity period of FC
1.	100.00	(1) 8-158/90-FC dated 20.03.1992 and (2) T/624/2893/2002/10-3 dtd. 25.11.2003	Renewed up to 2012 vide letter dtd. 25.11.2003. Further its renewal is agreed in principle during FAC meeting held on 28.11.2014 subject to submission of some documents. All such documents have been submitted vide letter no. Jnt/GM/Renewal/-100 Ha/F-26/68 dated 20 th May, 2016.
2.	68.29	Letter No. 8-158/90-FC dated 16.01.1997.	Lease period is valid for 30 years
3.	50.881	Letter No. 8-93/99-FC dated 25.01.2000.	Lease period is valid for 30 years .
	The remaining forestland has been acquired under CBA Act, before the Forest (Conservation) Act, 1980.		

(xxi) Total afforestation plan shall be implemented covering an area of 118.65 ha at the end of mining. Green Belt over an area of 772.45 ha. Density of tree plantation 2500 is trees/ha of plants.

(xxii) There are no court cases/violation pending with the project proponent.

6.13.3 During deliberations, the EAC noted the following:-

(i) The proposal is for consideration of ToR for the expansion project of Jayant Opencast Coal Mine from 15.5 MTPA to 25 MTPA in a total area of 3177 ha which includes 1180 ha of forest area.

(ii) The project with its capacity of 15.5 MTPA in the mine lease area of 603.45 ha was earlier granted EC vide letter dated 10th December, 2008. Compliance status of EC conditions has been forwarded by the RO at Bhopal vide their letter dated 25th November, 2016.

(iii) Out of the forest land of 1180 ha, Stage-I forest clearance is available for an area of 219.71 ha obtained during the period 1992-2000. The remaining forest land of 960.829 ha was reported to be acquired under the Coal Bearing Area Act, 1957, before the enactment of the Forest (Conservation) Act in October, 1980. However, no documentary evidence was provided effecting regularization of the said forest land and to ensure that the Stage-I FC is not required for the same.

(iv) The proposal for expansion was approved by the NCL Board on 1st March, 2016. Whereas, the Mine Closure Plan was approved on 26th March, 2016

(v) The base line air quality values at some of the identified locations are already exceeding the prescribed standards in terms of PM₁₀ which might not allow any more industrial activities in that area.

6.13.4 *The Committee, after deliberations, did not agree to the proposal for grant of ToR especially in view of the above observations.*

Agenda 6.14

Expansion of Pauni-II Opencast Coal Mine from 0.6 MTPA to 3.25 MTPA with increase in ML area from 316.30 ha to 1152.66 ha of M/s Western Coalfield Limited located in District Chandrapur (Maharashtra) - For consideration of TOR

6.14.1 The proposal is for grant of terms of reference to the expansion of Pauni-II OC from 0.6 MTPA to 3.25 MTPA with increase in ML area from 316.30 ha to 1152.66 ha of M/s Western Coalfield Limited located in District Chandrapur (Maharashtra).

6.14.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The proposal is consideration of grant of ToR to the expansion project of Pauni-II Opencast Coal Mine from 0.6 MTPA to 3.25 MTPA.
- (ii) The latitude and longitude of the project site are N 19°47'59" to N 19° 49'45" and E 79°13'41" to E 79°16'15" respectively.
- (iii) Joint Venture: no Joint Venture.
- (iv) Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO & Miscellaneous consumers
- (v) Employment generated / to be generated: Required manpower for the project is 242 Nos. Indirect – Approximately 300 (contractual & misc. works related to mining operations).
- (vi) Benefits of the project: This project will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non-coking coal for the power houses and other bulk consumers of western as well as southern part of the country.
- (vii) The land usage of the project will be as follows:

Pre-Mining: The total land requirement for this project is 1152.66 ha

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Agricultural land	1047.55	3.44	1050.99
2	Forest land	12.07	-	12.07
3	Waste land/Govt. Land	89.6	-	89.6
4	Grazing land	-	-	-
5	Surface water bodies	-	-	-
6	Settlements	-	-	-
7	Others (specify)	-	-	-
	Total	1149.22	3.44	1152.66

Post- Mining:

S.N.	Land use during mining	Land use (ha)				Total
		Plantation	Water Body	Public use	Undisturbed	
1	External OB Dump	214.57	--	--	--	214.57
2	Top soil dump	35.40	--	--	--	35.40
	Land reclaimed after rehandling of Top soil dump up to ground level	58.93	--	--	--	58.93
3	Excavation	107.00	188.35	--	--	295.35
4	Roads	0.50	--	1.50	--	2.00

5	Built up area	3.00	--	7.00	--	10.00
6	Green Belt	Included in S. No 4, 5 & 7				
7	Undisturbed Area	150.00	--	--	386.41	536.41
	Total	569.40	188.35	8.50	386.41	1152.66

- (viii) The total geological reserve is 35.82 MT. The mineable reserve 30.63 MT, extractable reserve is 30.63 MT. The per cent of extraction would be 85.51 %.
- (ix) The coal grade is GCV 4817 k Cal /kg (Grade G-9). The stripping ratio is 1:6.19 m³ /t. The average Gradient is 1 in 6 to 1 in 7. There will be 1 seams with thickness ranging

Quarry	Quarry-I		Quarr-II	
	Top Section	Bottom Section	Top Section	Bottom Section
Seam Thickness	10.72m – 10.95m	2.55m - 4.30m	5.56m - 13.99m	2.05m - 6.00m

- (x) Total estimated water requirement is 880 m³/day. The level of ground water ranges from 0.1 m to 14.3 m.
- (xi) The method of mining would be Opencast with Shovel-Dumper Combination.
- (xii) There is External OB and 1 internal dump with Quantity of 80.73 Mbcm in an area of 107.00 ha.

Type of OB dump	Number of OB dumps	Name of dumps	Area of External OB Dump (Ha)	Maximum Height of OB dump (m)
Permanent OB Dump	2	Dump A	154.17	90
		Dump D	60.40	90
Permanent Top Soil Dumps	1	Dump B	35.40	30
Temporary Top Soil Dumps	1	Dump C	58.93	30

- (xiii) The final mine void would be in 188.35 ha with depth 200 m. and the Total quarry area is 295.35 Ha. Backfilled quarry area of 107.0 Ha shall be reclaimed with plantation. A void of 188.35 ha with depth 200 m which is proposed to be converted into a water body
- (xiv) The life of mine is 14 Years.
- (xv) Transportation: Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Surface to Siding by Dumpers to Pre-weigh Bin and loading at siding by Pay loaders.
- (xvi) There is no R & R involved. There are no PAFs.
- (xvii) Cost: Total capital cost of the project is Rs. 499.0042 Crores. CSR Cost based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per Tonne of Coal Production of the previous year whichever is higher. R&R Cost Nil. Environmental Management Cost: Capital – Rs 97.09 Lakhs and Revenue- @ Rs 6/tonne.
- (xviii) Water body: two seasonal nallah flows through the block boundary. Both nallah are proposed to be diverted as follows: Diversion of Lendi nala for 1.50 km and proposed to meet in Sakhri Nallah. Diversion of Sakhri nala for 2.00 km and proposed to meet in Pauni Nallah.
- (xix) Approvals: Ground water clearance applied on 20.01.2017. Board's approval obtained on 19/09/2016. Mining plan has been approved on 19/09/2016. Mine closure plan is an integral part of mining plan.

- (xx) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- (xxi) Total forest area involved is 12.07 ha. Status of application for diversion of forest land is as below:-
 - Proposal submitted to Dy.Conservator of Forest, Central Chanda Division, Chandrapur vide letter no. WCL/BA/AGM/PLG/20 dated 17.01.2014.
 - NOC from Gram Sabha and GPS Plan submitted with proposal on 03.01.2015.
 - Hard copy of proposal submitted to Dy Conservator of Forest on 16.02.2015 vide letter no WCL/BA/AGM/PLG/83.
 - Site inspection done on 31.03.2015 by Dy. Conservator of Forest, Chandrapur.
 - Online submission of Part-II completed on 15.06.2015. Hard copy of proposal to be forwarded to APCCF/NO, Nagpur by CCF, Chandrapur.
 - Proposal is under process at DFO/CCF level for further necessary action.
- (xxii) Total afforestation plan shall be implemented covering an area of 569.40 ha at the end of mining. Green Belt over an area of 153.50 ha. Density of tree plantation 2500 trees/ha of plants.
- (xxiii) There are no court cases/violation pending with the project proponent.

6.14.3 During deliberations, the EAC noted that the Mining Plan for the project of Pauni-II Opencast Coal Mine with its increased capacity at 3.25 MTPA was approved by WCL Board on 19th September, 2016. Mine Closure Plan is an integral part of the said Mining Plan.

6.14.4 *The EAC, after deliberations, recommended the proposal for grant of ToR to the expansion from 0.6 MTPA to 3.25 MTPA with expansion in mine lease area from 316.30 ha to 1152.66 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects.*

Agenda 6.15

Expansion of Haldibari UG Coal Mining project from 0.42 MTPA to 0.66 MTPA of M/s South Eastern Coalfields Limited in an area of 390 ha in District Anuppur (MP) and District Koriya (Chhattisgarh) - For consideration of EC

6.15.1 The proposal is for grant of environmental clearance to the Haldibari UG Expansion project from 0.42 MTPA to 0.66 MTPA of M/s South Eastern Coalfields Limited in an area of 390 ha in District Anuppur (MP) and District Koriya (Chhattisgarh).

6.15.2 The proposal was last considered in the 61st EAC meeting held on 28-29 July, 2016, wherein observations of the Committee were as under:-

- (i) The proposal for grant of EC has been submitted without the ToR/scoping clearance for the proposed expansion.
- (ii) The earlier public hearing for the project was conducted in May 2005 in Madhya Pradesh, and in August, 2005 in Chhattisgarh for its existing approved capacity of 0.42 MTPA (Annex 7 B and 8 B of the background document). The PP has submitted the present proposal for expansion under para 7(ii) of the EIA Notification, 2006 based on the different OMs regarding capacity expansion issued, by the MoEFCC. It has been requested to consider the expansion proposal without fresh public hearing. When asked why the initial request for ToR had not been made, PP submitted that the OMs did not specify any such procedure to be followed, and that this practice had also been followed in the past.

(iii) It was pointed out to the PP that the various OMs on which reliance has been placed for directly submitting EIA documents is not correct. None of the OMs anywhere indicate that the first stage request for ToR can be avoided. For expansion etc proposals under para 7 (ii) of the Notification, it is for the EAC to

decide on the nature of “due diligence” required in each case. Furthermore, even if the OMs contained an indication that the ToR stage, or any other procedural requirement can be bypassed, it needed to be borne in mind that OMs cannot override Gazette Notifications.

(iv) However, in this case, in view of the small increase proposed in the capacity, the Committee agreed for no fresh public hearing to consider the proposal for expansion. Nevertheless, the PP should issue public notices in the leading local newspapers, Gram Panchayats, website of PP etc. about the proposed expansion, along with the intimation that the public can send its comments if any to the PP and also to the MoEF&CC within 15 days/one month respectively after publication of the public notice.

(v) The compliance report dated 5th October, 2015 from the Regional Office at Nagpur indicates non/partial compliance in respect of number of conditions stipulated in the EC issued for the project. The Committee asked for the compliance monitoring report to be of not more than 6 months old.

(vi) Regarding permission for water for the proposed enhanced capacity of 0.66 MTPA, the PP had attached at Annex 5, a letter of 08th Jan 2007 from the Central Ground Water Authority (CGWA). On enquiry, particularly since the letter is of Jan 2007, while the expansion proposal is being made nine years later, it obviously turned out that the CGWA letter was for the existing capacity of 0.42 MTPA. Clearly therefore, the PP does not have the water permission, and has to apply for it. In addition, the CGWA letter of Jan 2007 had stipulated certain conditions to be implemented by the PP. The PP had however not indicated in the documents whether the stipulated conditions had been complied with, and this would need to be done when next the case comes up before the EAC.

6.15.3 In response to the observations of EAC, the details submitted by the project proponent and/or as informed during the earlier meeting, are as under:-

(i), (ii) , & (iii) Haldibari UG is a running mine having EC of TPA. The proposal for expansion from 0.42 to 0.66 MTPA has been submitted in prescribed Form-I for expansion under clause 7(ii) of the EIA Notification, 2006, and different OMs regarding capacity expansion issued, by the MoEF&CC. EIA/EMP of Haldibari UG for expansion from 0.42 to 0.66 MTPA has been prepared as per Model/Standard ToR for underground projects. Accordingly form-I along with EIA/EMP was prepared for expansion under clause 7(ii) and submitted to MOEF&CC website on dated 31.05.2016. Subsequently the project was considered by EAC in its 61st meeting held on 28th-29th July, 2016 for consideration of EC. The agenda clearly mentioned the project for consideration of EC. SECL at no stage ignored any process of Environmental Clearance. Similar process has been followed for projects under clause 7(ii) and ECs have been granted based on that.

(iv) Public notices about the proposed expansion have been issued in the leading local newspapers, Gram Panchayats and website of SECL on 14th November, 2016. No comments were received by SECL till date.

(v) Application for inspection and re-certification by RO, MoEF&CC, and Nagpur has been submitted on 10.08.16. RO, MoEF&CC, Nagpur inspected the mine on 17.01.2017. Inspection report received on 27.01.2017.

Application for Ground water clearance for enhanced capacity has been submitted to the Central Ground Water Authority (CGWA) on 12.11.2016.

6.15.4 During deliberations, the EAC noted the following:-

(a) The proposal is for grant of environmental clearance to the expansion project of Haldibari underground coal mine from 0.42 MTPA to 0.66 MTPA in a total area of 390 ha in the Districts of Anuppur and Koriya in the States of Madhya Pradesh and Chhattisgarh respectively.

(b) The project was earlier accorded environmental clearance on 21st March, 2006 with its capacity as 0.42 MTPA based on the public hearing conducted on 5th May, 2005 in District Anuppur and on 31st August, 2005 in Tehsil Manendragarh, District Koriya (Chhattisgarh).

(c) Mining Plan of Haldibari UG Mine for its capacity at 0.66 MTPA was approved by the SECL Board on 27th February, 2016. Whereas, the Mine Closure Plan was earlier approved on 18th May, 2013.

(d) Out of the total project area of 390 ha, forest land involved is 321 ha, comprising 201 ha in the State of Chhattisgarh and 120 ha in Madhya Pradesh. Stage-II forest clearance has been obtained for the complete forest area of 321 ha.

(e) Subsequent to the environmental clearance of production capacity of 0.42 MTPA, Consent to Establish/Operate was obtained only from the concerned regulatory authority in the State of Chhattisgarh. The said statutory requirement is yet to be fulfilled for the State of Madhya Pradesh.

(f) As desired by the EAC in its earlier meeting held in February, 2016, fresh compliance report on the status of EC conditions has been submitted in January, 2017. Also, public notices were issued in the leading local newspapers on 14th November, 2016 and on the SECL website, for inviting comments on the proposed expansion of the UG coal mining project.

6.15.5 The Committee, after deliberations, observed that the Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 remains the statutory requirement after obtaining environmental clearance for the project, and has to be fulfilled in totality for project implementation. In the instant case, even if the mining operations are not extended to the areas falling in the State of Madhya Pradesh, the Consent to Establish/Operate is essentially required from the concerned regulatory authority in view of common EIA/EMP report submitted for the project and the EC granted accordingly.

Agenda 6.16

Batura OCP of 2.00 MTPA (Normative)/3.00 MTPA (Peak) in ML area of 967.473 ha of M/s South Eastern Coalfield Limited in Districts of Anuppur and Shahdol (MP) - For ToR

6.16.1 The proposal is for grant of terms of reference (ToR) to Batura Opencast Coal Mining project of 2.00 MTPA (Normative)/3.00 MTPA (Peak) in mine lease area of 967.473 ha of M/s South Eastern Coalfields Limited in Districts Anuppur and Shahdol (Madhya Pradesh).

6.16.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The project for ToR.
- (ii) The latitude and longitude of the project site are 23^o12'40" to 23^o14'10" N and 81^o40'20" to 81^o43'20" E respectively.
- (iii) Joint Venture: no joint venture
- (iv) Coal Linkage: Likely with MPEB and other power projects
- (v) Employment generated / to be generated: 248 Persons
- (vi) Benefits of the project:
 - Improvements in Physical Infrastructure
 - Improvements in Social Infrastructure
 - Increase in Employment Potential
 - Contribution to the Exchequer
 - Meet energy requirement
 - Post-mining Enhancement of Green Cover

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

Pre-Mining:

S.No.	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL
1.	Agricultural Land	570.558	132.519	703.077
2.	Forest Land	76.840	24.600	101.440
3.	Waste Land	107.920	8.554	116.474
4.	Grazing Land	3.030	0.000	3.030
5.	Surface water bodies	16.842	1.930	18.772
6.	Settlements	24.410	0.270	24.680
7.	Others (specify)	0.000	0.000	0.000
	TOTAL	799.600	167.873	967.473

Post- Mining:

S No	Pattern of utilization	Area (ha)
1.	Reclaimed Internal dumps	689.24
2.	Reclaimed External dumps	26.816
3.	Green belt & avenue plantation	57.45
4.	Final void /Water body	110.36
5.	Built up area (Infrastructure, colony, roads, R & R site)	59.007
6.	Safety zone: Undisturbed area	24.60
	Total	967.473

Core area :

S N.	Particulars	Forest land (Ha.)	Tenancy land (Ha.)	Government Land (Ha.)				Grand Total (Ha)
				Grazing land	Waste land	Water body	Total	
1	Quarry area	76.84	609.159	3.03	95.876	14.695	113.601	799.600
2	External dump (including 11.136Ha for Top soil)	0	22.318	0	3.418	1.08	4.498	26.816
3	Infrastructure, etc	0	8.111	0	0	0	0	8.111
4	Roads	0	10.226	0	5.254	1.00	6.254	16.480
5	Residential Colony	0	3.00	0	0	0	0	3.000
6	Explosive magazine	0	1.00	0	0	0	0	1.000
7	Nala Diversion, if any	0	9.532	0	1.988	0	1.988	11.520
8	Safety Zone	24.60	64.411	0	9.938	1.997	11.935	100.946
	Total Land (in ha)	101.44	727.757	3.03	116.474	18.772	138.276	967.473

- (viii) Total geological reserve is 41.2629 MT. The mineable reserve 33.44 MT, extractable reserve is 33.44 MT. The per cent of extraction would be 81%.
- (ix) The coal grade is G5, stripping ratio is 1:9.18 Cum/tonne and the average Gradient is 1 in 5. There will be four seams with thickness ranging 0.10 m to 4.63 m.
- (x) Total estimated water requirement is 324 KLD (Approx). The level of ground water ranges from 1.75 m to 14.14 m.
- (xi) The method of mining would be Open cast mining with Surface Miner and Shovel-Dumper combination.
- (xii) There is 01 external OB dump with Quantity of 5.10 Mbcm in an area of 26.816 ha with height of 30 m above the surface level and 01 internal dump with Quantity of 302.00 Mbcm in an area of 689.24 ha.
- (xiv) The final mine void would be in 110.36 ha with depth 60 m. and the Total quarry area is 799.60 ha. Backfilled quarry area of 689.24 ha shall be reclaimed with plantation. A void of 110.36 ha with depth 60 m which is proposed to be converted into a water body.
- (xv) The life of mine is 20 years.
- (xvi) Transportation: Coal transportation in pit by belt conveyor from in pit to pit head coal handling plant, Surface to Siding by belt conveyor to Pre-weigh Bin and loading at siding by Rail.
- (xvii) There is R & R involved. There are 1870 PAFs.
- (xviii) Cost: Total capital cost of the project is Rs. 203.82 Crores. CSR Cost According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the last three years or Rs. 2.00 per tonne of coal production of previous year whichever is higher. R&R Cost Rs.29.29 Crores. Environmental Management Cost Rs.41.39 crores.
- (xix) Water body: Katna nallah delineating roughly the southern block boundary drains the area and finally discharges into Sone River in North-Western part of the block.
- (xx) Approvals: Ground water clearance will be applied, Board's approval obtained on 09.09.2008 Mining plan has been approved on 09.09.2008. Mine closure plan is an integral part of mining plan.
- (xxi) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- (xxii) Forestry issues: 101.440 ha (includes 24.600 ha of safety zone which is not to be acquired). Proposal considered by FAC for Stage 1 FC on 10.11.2016. Site inspection by RO, MoEF done on 17/18th January, 2017. Inspection report awaited.

(xxiii) Total afforestation plan shall be implemented covering an area of 26.816 ha at the end of mining.

Area (in ha)	Stage-1 /Final FC issued vide letter no. & date	Validity period of FC
76.840ha	<ul style="list-style-type: none"> Forest land proposal registration no.: 14/S-SDL/MIM/2011-118 dtd. 11.10.2011. Proposal considered by FAC for Stage 1 FC on 10.11.2016. Site inspection by RO, MoEF done on 17-18.01.2017. Inspection report awaited. 	

Green Belt over an area of 38.235 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxiv) There are no court cases/violation pending with the project proponent.

6.16.3 *The EAC, after deliberations, recommended the proposal for grant of ToR to Batura Opencast Coal Mining project of 2 MTPA (Normative)/3 MTPA (Peak) in an area from 967.473 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects.*

Agenda 6.17

Environment Clearance for Durgapur Extension Deep OC Phase-II of M/s Western Coalfields Limited in District Chandrapur (Maharashtra) - For consideration of EC dovetailing the EC for Phase-I

6.17.1 The proposal is for grant of environmental clearance to Durgapur Extension Deep OC Phase-II of 3 MTPA of M/s Western Coalfields Limited in a total area of 1622.50 ha located in District Chandrapur (Maharashtra), dovetailing the EC for Phase-I granted on 16th March, 2012.

6.17.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

(i) The EC for Durgapur OC Project for 2.3 MTPA for a total lease area of 1354.64 ha was accorded vide letter dated 30th March, 2007. The terms of reference for Durgapur Extension (Deep) OC was granted vide letter dated 12th June, 2008 for production capacity of 3.00 MTPA with increase in land area from 1354.64 ha to 1645.82 ha. Based on the said ToR, public hearing was conducted on 30th October, 2009. EIA/EMP was submitted along with the Public Hearing. Proposed 1645.82 ha land included additional forest land of 121.58 ha for which Stage-I FC, was under process.

(ii) EAC held on 23-24 January, 2012, and considered the proposal and noted that the operation of the project are in two phases i.e. phase-I & II. Phase-I did not involve any additional forest land.

(iii) Additional forest land of 121.58 ha is involved only in Phase – II along- with non-forest land where operation could commence only after obtaining FC. EAC recommended the proposal of EC for Phase – II based on MoEF circular dated 9th September, 2011.

(iv) Based on the recommendation of EAC for EC within the acquired land, EC was granted for Durgapur Opencast Expansion for 3.00 MTPA in 1186.54 ha of existing ML area vide No.J-11015/56/2008- IA.II (M) dated 16th March, 2012.

(v) Based on application by PP dated 03/11/2011, the Stage-I FC for 121.58 ha has been accorded vide letter dated 16th December 2015 and subsequently submitted to MoEF&CC on 01/02/2016.

(vi) In this connection an assessment study has been carried out by Maharashtra Government through Wildlife Institute of India.

(vii) Revised Project Report including Mining Plan and mine closure plan has been approved by WCL board vide letter dt. 21.02.2017 for 3.00 MTPA with total land area of 1622.50 ha (within the 1645.82 ha now - ML area 1597.50 ha + 25.00 ha land for village rehabilitation outside the ML area).

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

Pre-Mining: The total land requirement for this project is 1622.50 ha

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Agricultural land	1045.20	25.00	1070.20
2	Forest land	379.35	-	379.35
3	Waste land/Govt. Land	172.95	-	172.95
4	Grazing land	-	-	-
5	Surface water bodies	-	-	-
6	Settlements	-	-	-
7	Others (specify)	-	-	-
	Total	1597.50	25.00	1622.50

Post- Mining:

S. No.	Land use post-mining	Land use (ha)				
		Plantation	Water Body	Public use	Un-disturbed	Total
1	External OB Dump	350.00	0.00	0.00	111.38	461.38
2	Excavation	150.00	175.00	0.00	335.68	660.68
3	Infrastructure like Sub-station, CHP Service Buildings etc.	10.00	0.00	90.00	0.00	100.00
4	Undisturbed area (brought under plantation)	100.00	0.00	0.00	245.44	345.44
5	Area for village rehabilitation	4.00	0.00	21.00	0.00	25.00
6	Road	2.00	0.00	8.00	0.00	10.00
7	Colony Land	4.00	0.00	16.00	0.00	20.00
	Total	620.00	175.00	135.00	692.50	1622.50

(ix) The total geological reserve is 49.76 MT. The mineable reserve 47.27 MT, extractable reserve is 47.27 MT. The percent of extraction would be 95%.

(x) The coal grade is GCV 4581 k Cal /kg (Grade G-10). The stripping ratio is 1:6.58 m³ /tonne. The average Gradient is 1 in 8 to 1 in 10. There will be one seam with thickness ranging 13.24 m to 17.51 m.

(xi) Total estimated water requirement is 790 m³/day industrial demand and 1400 m³/day for domestic demand. The level of ground water ranges from 2.87 m to 8.57 m.

(xii) The method of mining would be Opencast with Shovel-Dumper combination.

(xiii) There are eight external OB dumps with Quantity of 116.85 Mm³ and area of 461.38 ha and 3 internal dump and 202.59 Mm³ in an area of 485.68 ha. The final mine void would be in 175 ha with depth 150 m.

(xiv) Total quarry area is 660.68 ha. Out of total backfilled quarry area of 485.68 ha, 150 ha area shall be reclaimed with plantation. A void of 175.00 ha with depth 150 m which is proposed to be converted into a water body.

(xv) The life of mine is 17 Years.

(xvi) Transportation: Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Coal from CHP to consumer is transported by belt conveyer.

(xvii) There is R&R of Sinhala, Navegaon, Masala Tukum and old Masala involved. There are 1275 nos. of PAFs.

(xviii) Cost: Total capital cost of the project is Rs. 378.8711 Crores. CSR Cost based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per Tonne of Coal Production of the previous year whichever is higher. R&R Cost 126.4425 Crores. Environmental Management Cost: Capital – Rs155.00 Lakhs and Revenue- @ Rs 6/tonne.

(xix) Water body: one seasonal nallah flows through the block boundary. Nallah are proposed to be diverted. The re-alignment of this nala is proposed along periphery of external dump.

(xx) Approvals: Ground water clearance:-NOC for withdrawal of groundwater from CGWA was granted vide letter no.21-4(21)/CR/CGWA/2007-764 dated 31-08-2007 as per prevalent rules. Further as per amended rules of 2012 application for grant of NOC for dewatering of Groundwater has been submitted to CGWB dated 07-06-2016. Board's approval obtained on 21/02/2017. Mining plan has been approved on 21/02/2017. Mine closure plan is an integral part of mining plan.

- (xxi) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- (xxii) Total forest area involved 379.35 ha. Breakup of the forest land clearance is as below:
- 40.46 ha - FLD- 3679/1435 – F3 dated 23rd May, 1980 from Revenue Department, Govt. of Maharashtra, Mantralaya, Bombay
 - 136.54 ha - F.8 – 35/2001 – FC dated 19.09.2006 from MOEF
 - 80.77 ha - F.8 – 123/2003 – FC dated 8th November, 2005 from MOEF
 - 121.58 - Stage – I FC granted vide 8-84/2014-FC Dated 16th September 2015 from MoEF&CC
- (xxiii) Total afforestation plan shall be implemented covering an area of 620ha at the post-mining. Density of tree plantation 2500 trees/ ha of plants.
- (xxiv) There are no court cases/violation pending with the project proponent.

6.17.3 During deliberations, the EAC noted the following:-

- (a) The environmental clearance for Durgapur Opencast coal mining project for its expansion from 1.8 MTPA to 2.3 MTPA in a total area of 1354.64 ha (including forest land of 324.57 ha) was granted on 30th March, 2007.
- (b) The project was later revised to 3 MTPA involving more area of 291.18 ha (additional forest land of 40.35 ha), and the ToR was granted on 12th June, 2008. The public hearing was conducted on 30th October, 2009 involving a total area of 1645.82 ha, which includes total forest land of 364.92 ha.
- (c) Due to non acquisition of the total land of 1645.82 ha envisaged earlier (as per the ToR) and the Stage-I FC not available for the total forest land, the environmental clearance was issued on 16th March, 2012 involving a total area of 1186.54 ha (includes forest area of 257.77 ha for which Stage-I FC is available).
- (d) Now, after acquiring more land of 410.96 ha including the forest land of 121.58 ha, the total land available for the project is 1597.50 ha. The instant proposal is for environmental clearance to Durgapur Opencast coal mining project at the same capacity of 3 MTPA in a total area of 1597.50 ha.
- (e) The project proponent has also requested to consider the present proposal as Phase-II and thus dovetailing with the environmental clearance granted on 16th March, 2012 as Phase-I.
- (f) The revised project report including the Mining Plan and the Mine Closure Plan has been approved by the WCL Board on 21st February, 2017 for 3 MTPA with the total land involved as 1622.50 ha (includes mine lease area of 1597.50 ha and 25 ha for village rehabilitation outside the mine lease area)
- (g) Public hearing was conducted on 30th October, 2009 for the total area of 1645.82 ha in District Chandrapur (Maharashtra) which covers the area of 1597.50 ha involved in the instant proposal.
- (h) No compliance status of existing EC (vide letter dated 16th March, 2012) conditions has been made available.

6.17.4 *The Committee, after detailed deliberations, observed that the proposal does involve increase in land area from 1186.54 ha to 1597.50 ha even if the production capacity remains at 3 MTPA. The Committee further opined that although the fresh public hearing may not be required but there is a need to examine the compliance status of earlier EC conditions. The proposal was, therefore, deferred.*

Agenda 6.18

Koyagudem Opencast-III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) in ML area of 1607.6 ha of M/s The Singareni Collieries Company Ltd. located in district Bhadradi (Telangana) - For consideration of TOR

6.18.1 The proposal is for grant of terms of reference (ToR) to Koyagudem Opencast-III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) of M/s The Singareni Collieries Company Ltd in mine lease area of 1607.6 ha located in District Bhadradi (Telangana).

6.18.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

(i) The proposal is for grant of ToR to Koyagudem Opencast-III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) of M/s The Singareni Collieries Company Ltd in mine lease area of 1607.6 ha in District Bhadradi (Telangana).

(ii) The latitude and longitude of the project site are 17°35'56" - 17°39'15" N and 80°28'13" - 80°30'54" E respectively.

(iii) Joint Venture: no

(iv) Coal Linkage: Basket linkage

(v) Employment generated / to be generated: Direct: 220, Outsourcing employees: 1000; Indirect : 1635

(vi) Benefits of the project: The proposal is to optimize the excavation of reserves and to minimize the gap between coal demand and supply by extending the existing opencast projects considering their dip side reserves up to an optimum depth line and also to meet the coal demand in the region.

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

Pre-Mining:

Sl. No.	Pre-mining Land use	Area in ha
1.	Forest land already diverted	464.77
2.	Agricultural land to be acquired	448.67
3.	Forest land to be diverted	694.16
	Total Area	1607.60

Post- Mining:

Sl. No.	Land use during mining	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total
1.	Quarry area	261.80	462.25	0.0	--	724.05
2.	External Dump Area	627.19	*08.36	0.0	--	635.55
3.	Inspection road, bund, transmission line & for lighting safety zone	64.97	0.0	62.56	--	127.53
4.	CHP and Coal Yard	1.77	*29.12	26.66	--	57.55
5.	Mine Service Facilities	2.99	0.0	4.19	--	7.18
6.	Magazine	0.0	0.0	0.36	--	0.36
7.	Diversion of Public road	1.38	0.0	2.08	--	3.46
8.	Nallah diversion & settling tanks	0.0	0.0	38.96	--	38.96
9.	Belt Conveyor & railway siding	9.18	0.0	3.78	--	12.96
	Total	969.28	499.73	138.59	--	1607.6

Core area :

Sl. No.	Activity	Total land requirement in ha		
		Forest	Non-Forest	Total
1.	Quarry Area	379.30	344.75	724.05
2.	External Dump Area	635.55	0.00	635.55
3.	Inspection road, bund, transmission line & lighting safety zone	59.67	67.86	127.53
4.	CHP and Coal Yard	41.96	15.59	57.55
5.	Mine Service Facilities	0.00	7.18	7.18
6.	Magazine	0.00	0.36	0.36
7.	Diversion of Public road	0.00	3.46	3.46
8.	Nallah diversion & settling tanks	36.3	2.66	38.96
9.	Belt Conveyor & railway siding	6.15	6.81	12.96
	Total	1158.93	448.67	1607.60

(viii) Total geological reserve is 146.81 MT. The mineable reserve 111.98 MT, extractable reserve is 111.98 MT. The per cent of extraction would be 76.28%.

(ix) The coal grade Out of the 12.70 m thick, 2.1m of top section has G17 grade and bottom 10.60 m has G13 grade. The stripping ratio is 7.80 Cum/tonne. The average Gradient 1 in 7 to 1 in 12 (80 - 50 degrees). There will be one seam with thickness Minimum : 5.29 m; Maximum : 15.23 m; The average thickness of the seam in this project is 14.80 m. But, only 12.70 m thickness is considered for reserves calculation as the top most 2.1 m of the seam is inferior grade (Nil grade).

(x) Total estimated water requirement is 1388 m³/day. The level of ground water ranges from 1.00 m to 8.90 m.

(xi) The method of mining would be Opencast Mining.

(xii) There is One external OB dump with Quantity of 464.89 M.Cum of OB (460.26 M.Cum. Hard OB and 4.63 M.Cum. Top Soil) in an area of 635.55 ha with height of 120 meter above the surface level and One internal dump with Quantity of 401.71 M.Cum of OB (399.99 M.Cum. Hard OB and 1.72 M.Cum. Top Soil) in an area of (a) At GL: 261.80 Ha.(b) Floor) area:415.18 Ha.

(xiii) The final mine void would be in 499.73 Ha with depth varying from 0 m to 175 m. and the Total quarry area is 724.05 Ha. Backfilled quarry area of 261.80 Ha shall be reclaimed with plantation. A void of 462.25 ha with depth 175 m which is proposed to be converted into a water body.

(xiv) The life of mine is 29 Years.

(xv) Transportation: Coal transportation in pit by through trucks from face to in-pit hopper and from hopper to pit head CHP by series of conveyor belts from in pit to pit head coal handling plant, Surface to Siding by trucks from pit head CHP to Area CHP to Pre-weigh Bin and loading at siding by Loading coal to trucks/rail for dispatch.

(xvi) There is R & R involved. There are following PAF

Village	PDFs (ST)	PAFs (ST)	Structures
Dantala Tanda	125	--	70
Ippal Tanda	100	--	40
Babuji Tanda	150	--	90
Rural Artisans/small traders	--	41	--
ROFR (persons)	--	470	--
Total	375	511	200

- (xvii) Total capital cost of the project is Rs. 596.29 Crores. CSR Cost 5/- per Tonne of coal production per Tonne of coal production. R&R Cost Rs. 143.55 Crores. Environmental Management Cost (capital cost Rs.4.80 Crores (Direct) and Rs.2.86 Crores (Indirect), annual recurring cost 5.57 per tonne).
- (xviii) Water body: A nallah (drain) flowing between KOC-I dump and Pit-II of KOC-II from north to south is to be diverted to facilitate merging of proposed external dump yard and the internal dump yard to minimize the requirement of land for external dump. The length of proposed diversion is around 3.64 km.
- (xix) Approvals: Ground water clearance Application has been submitted to State Ground Water department for ground water clearance, Board's approval obtained on 16.10.2015. Mining plan has been approved on 24th August, 2016. Mine closure plan is an integral part of mining plan.
- (xx) Wildlife issues: Part of the project falls within 10 km radius of Kinnerasani Wild Life Sanctuary under Chatakonda RF. The project is not falling within the eco-sensitive zone of 2.5 Km. Wild Life Management plan will be prepared in consultation with the State Forest Department, if necessary.
- (xxi) Forestry issues: Total forest area involved 1158.93 ha. Forest clearance obtained for 464.77 ha only. Remaining 694.16 ha is yet to be diverted.
- (xxii) Total afforestation plan shall be implemented covering an area of 969.28 ha at the end of mining. Green Belt over an area of 15.32 ha. Density of tree plantation 2500 trees/ ha of plants.
- (xxiii) There are no court cases/violation pending with the project proponent.

6.18.3 During deliberations, the EAC noted the following:-

- (i) The proposal is for grant of ToR to Koyagudem Opencast- III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) in a total area of 1607.60 ha in Lingala Koyagudem Coal belt of Godavari Valley Coalfield, in Bhadradi Kothagudem District of Telangana State.
- (ii) Total forest land involved is 1158.93 ha out of which Stage-I FC has already been obtained for 464.77 ha. The project proponent has applied for diversion of additional forest land of 694.159 ha in November, 2016.
- (iii) Mining Plan for the project has been approved by the Ministry of Coal on 24th August, 2016.

6.18.4 *The EAC, after deliberations, recommended the proposal for grant of ToR to the expansion of Koyagudem Opencast-III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) in a total area of 1607.60 ha, and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified and notified in the standard ToR applicable for coal mining projects.*

Agenda 6.19

Manuguru Opencast-IV Extension Project of 3 MTPA (Normative)/3.5 MTPA (Peak) in ML area of 734.60 ha of M/s The Singareni Collieries Company Ltd, located in District Khammam (Telangana) - Amendment in the EC

6.19.1 The proposal is for amendment in the EC dated 10th December, 2014 for Manuguru Opencast-IV Extension Project of 3 MTPA (Normative)/3.5 MTPA (Peak) in mine lease area of 734.60 ha of M/s The Singareni Collieries Company Ltd, located in District Khammam (Telangana), to include more forest area of 245.47 ha.

6.19.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under:-

- (i) The EC was accorded on 10th December, 2014 to Manuguru Opencast-IV Extension Project for (3.0 MTPA (Normative)/3.5 MTPA (peak) with expansion in the mine lease area from 440 ha to 734.60 ha, of

which 654.95 ha is forest land and 79.65 ha is Non-Forest Land. Out of 654.95 ha of forest land approved for the project, 470.00 ha of land is already under SCCL possession and 184.95 ha of forest land is additionally required for the expansion operations.

(ii) It was proposed to utilize 245.47 ha of forest land earmarked for expansion of Manuguru opencast -II (For Which EC was accorded on 31st July, 2008) dump yard for external dumping of OB from proposed Manuguru Opencast-IV Extension (North external dump yard with a quantity of 97.90 M.Cum with dump height of 120 m). Subsequently the void of Manuguru Opencast-IV Extension will be utilized for accommodating the OB from Expansion of Manuguru opencast -II at the later stages of mining operations.

(iii) As per MOEF&CC circular, which stipulates that “the project proponent shall seek and obtain approval under F(C) Act for diversion of entire forest land within the mining lease of the project within a period of two years, failing which the mining lease will be reduced to non-forest area plus forest area for which FC is available and EC will be available for the revised lease area”.

(iv) Environmental Clearance was accorded on 31st July, 2008 for Manuguru Opencast-II coal mine expansion project of 4.0 MTPA (Normative)/5.0 MTPA (peak) with a lease area of 3205.70 ha, of which 2673.70 ha is the forest land and 532.0 ha is non-forest land.

(v) Subsequently, SCCL applied for further expansion in respect of Manuguru opencast-II Expansion Project from 5.0 MTPA to 6.25 MTPA. However, while granting EC for Expansion of Manuguru Opencast-II coal mine project from 5.0 MTPA to 6.25 MTPA, MoEF&CC reduced the total land extent of the project from 3205.76 ha to 1526.20 ha, covering 994.14 ha of forest land for which FC was available. As per the reduced land extent, clearance has to be obtained for balance 1679.56 ha of forest land.

(vi) SCCL applied for diversion of 430.42 ha of forest land for Manuguru Opencast-IV Extension Project, which covers 184.95 ha of forest land of EC granted for Manuguru Opencast-IV Extension Project and 245.47 ha of forest land of EC granted for Expansion of Manuguru Opencast-II coal mine project which has been proposed to be utilized for Manuguru Opencast-IV Extension Project. MoEF&CC granted Stage-I Forestry Clearance for diversion of 430.42 ha of forest land.

(vii) Land requirement details Manuguru Opencast-II coal mine Expansion project (Normative production of 4.0 MTPA and a peak production of 5.0 MTPA), Manuguru Opencast-IV Extension Project and Expansion of Manuguru Opencast-II coal mine project (from 5 MTPA to 6.25 MTPA) are furnished below.

(All figures in ha)

Particulars	Manuguru OC-II expansion as per original EC -2008 (4 MTPA with peak production of 5 MTPA)	Manuguru Opencast-IV Extension as per EC sanctioned in 2014 (3.5 MTPA)	Expansion of Manuguru Opencast-II as per revised EC IN 2014 (from 5 MTPA to 6.25 MTPA)
Land requirement			
Forest land	2673.70	654.95	994.14
Private land	532.06	79.65	532.06
Total	3205.76	734.60*	1526.20
Land under SCCL possession			
Forest land	994.14	470	994.14
Private land	77.60	78.76	77.60
Total	1071.74	548.76	1071.74
Balance land to be diverted/acquired			
Forest land	1679.56	184.95	----
Private land	454.46	0.89	454.46
Total	2134.02	185.84	454.46

*Additional land of 245.47 Ha earmarked for Expansion of Manuguru Opencast-II dump yard used for external dumping of Manuguru Opencast-IV Extension project.

(viii) Hence, requested to make suitable amendments to EC letter of Manuguru Opencast-IV Extension Project by adding 245.47 Ha of forest land in the forest land requirement of the project i.e. increase the extent of forest land from 654.95 Ha to 900.42 Ha, as forest land diversion is in advanced stage. After inclusion of 245.47 of forest land, the total land requirement of Manuguru Opencast-IV Extension Project will be increased from 734.60 ha to 980.07 ha.

6.19.3 During deliberations, the EAC noted the following:-

(i) The proposal seeks amendment in the environmental clearance dated 10th December, 2014 for Manuguru Opencast IV Extension project of capacity 3 MTPA (Normative)/3.5 MTPA (Peak) effecting increase in mine lease area from 734.60 ha to 980.07 ha (includes forest land of 654.95 ha diverted earlier and 245.47 ha to be taken out from the Manuguru OC-II).

(ii) The adjacent Manuguru OC-II coal mining project of capacity 4 MTPA (Normative)/5 MTPA (Peak) in a total area of 3205.7 ha was granted environmental clearance vide letter dated 31st July, 2008. The total mine lease area included forest land of 2673.70 ha.

(iii) The environmental clearance dated 31st July, 2008 for Manuguru OC-II was further revised vide letter dated 21st February, 2014 with its capacity increased to 6.25 MTPA, but area reduced to 1526.20 ha after excluding the forest land of 1679.56 ha for which Stage-I FC was not available.

(iv) The EC dated 10th December, 2014 for Manuguru Opencast IV Extension project, finds mention that an area of 255.04 ha earmarked for Manuguru OC II (EC granted on 21st February, 2014) dump yard shall be used for external dump in addition to the above initially, and OB of Manuguru OC-II to be accommodated in this area will be dumped in the void of Manguru OC-IV expansion.

6.19.4 *The Committee, after detailed deliberations, observed that the proposal actually involves increase in area from 734.60 ha to 980.07 ha with the production capacity remaining the same at 3 MTPA (Normative)/3.5 MTPA (Peak). The proposal, in fact, needs consideration under para 7 (ii) of the EIA Notification, 2006 and in no way qualifies for amendment in the EC.*

The project proponent decided to withdraw the proposal.

Agenda 6.20

Discussion on any other item

The meeting ended with the vote of thanks to Chair.

LIST OF EAC MEMBERS PARTICIPATED IN 6th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27-28 FEBRUARY, 2017 ON COAL SECTOR PROJECTS.

Sl. No.	List Of Participants Expert Appraisal Committee (Coal Mining)	
1.	Dr. Navin Chandra	Chairman
2.	Dr. Narmada Prasad Shukla	Member
3.	Shri N Mohan Karnat	Member
4.	Dr. Sharachchandra Lele	Member
5.	Prof Om Prakash	Representative (ISM, Dhanbad)
6.	Dr. R K Giri	Representative (Indian Meteorological Department)
7.	Shri S. K. Shrivastva	Member Secretary

LIST OF PROPONENTS PARTICIPATED IN 6th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27-28 FEBRUARY, 2017 ON COAL SECTOR PROJECTS.

6.1 Coal Washery of 2.5 MTPA of M/s Chhattisgarh Power and Coal Beneficiation Ltd

1. Shri. B M Gupta
2. Shri. Vivek Sharma
3. Shri. Aurag Shrivastava
4. Shri. Rajesh Shrivastava

6.2 Expansion of Coal Washery of M/s Maheshwari Coal Beneficiation & Infrastructure Private Limited.

1. Shri. Anil Munoha
2. Shri. Sandeep Nair
3. Shri. Abhishek Goenka

6.3 Shivkar Lignite Coal Mine project of M/s Rajasthan State Mines & Minerals Limited

1. Shri P R Prajapat
2. Shri. K C Sharma
3. Shri. P R Gelhot
4. Shri. P D Karkhanis
5. Shri. S M Dixit

6.4 Expansion of Bhelatand Amalgamated Colliery of M/s Tata Steel Ltd

1. Shri. Raj S Shingh
2. Shri. Aoteesh Singh
3. Shri. Ajay Sahay
4. Shri. Sanjay Rajoria
5. Dr. Manoj Kumar Gupta
6. Shri. Manyank Shekhar
7. Shri. Prabir Kumar Sarkar
8. Shri. Sagar Jain
9. Dr. T B Singh

6.5 Coal Washery of 5.0 MTPA in an area of 12.65 ha of M/s Aryan Ispat & Power Pvt. Ltd.

1. Shri. Ankur Jain
2. Shri. Pramod Kumar Jain
3. Shri. K K Jain
4. Shri. P Ramakrishna
5. Shri. P K singh
6. Shri. M Janardhan
7. Shri. G V Raghava Rao
8. Shri. Navin Kumar

6.6 Utkal D & E Opencast coal mine project of 4 MTPA in an area of 842.96 ha of M/s NALCO.

1. Shri. Jiban Mahapatra
2. Shri. S K Das
3. Shri. S K Patil
4. Shri. R C Shahu
5. Shri. S K Shrivastava
6. Shri. N K Singh
7. Shri. J Patnaik
8. Dr. A Roul
9. Shri. Debashis Roy
10. Shri. S C Yadav

6.7 Mine-III Lignite Opencast Mine of 11.50 MTPA in an area of 4841.99 Ha by M/s NLC India Limited

1. Shri. Subir Das
2. Dr. S Mohan
3. Dr. T Kannadasan
4. Shri. Sobinathan
5. Shri. G V Rao
6. Shri. M Janardhan
7. Shri. P Ramakrishan
8. Shri. Ravish N Singh
9. Shri. Abhay B Bhagat

6.8 Expansion of Coal Washery from 1 MTPA to 5 MTPA of M/s Mahavir Beneficiation Private Ltd.

1. Shri. Ankur Jain
2. Shri. Pramod kumar Jain
3. Shri. B P Jagad
4. Shri. M Janardhan
5. Shri. P Ramakrishnan
6. Shri. G V Raghava Rao
7. Shri. Navin Kumar

6.9 Expansion of Coal Washery from 0.96 MTPA to 2.4 MTPA of M/s Bhatia Coal Washeries Ltd

1. Shri. M A Ansari
2. Shri. R R Gajbhye

6.10 Expansion of Coal Washery from 1.5 MTPA to 4.0 MTPA of M/s Bhatia Coal washeries Ltd

1. Md. A Ansari
2. Shri. R R Gajbhye

6.11 Basundhara Coal Washery of 10 MTPA in an area 27.66 ha of M/s Mahanadi Coalfields Limited

1. Shri. Pravin Kumar Dubey
2. Shri. Sukanta Mandal
3. Shri. S K Bhar
4. Shri. R C Sahoo
5. Shri. S K Srivastav

6. Shri. Raji Josma
7. Shri. A Kumar
8. Shri. Sujatha A M
9. Shri. N K Singh
10. Shri. C Jaydev
11. Dr. A K Samantaray
12. Shri. P K MishraN Kumar
13. Shri. D P Singh

6.12 Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) of M/s Mahanadi Coalfields Limited

1. Shri. Pravin Kumar Dubey
2. Shri. Sukanta Mandal
3. Shri. S K Bhar
4. Shri. R C Sahoo
5. Shri. S K Srivastav
6. Shri. Raji Josma
7. Shri. A Kumar
8. Shri. Sujatha A M
9. Shri. N K Singh
10. Shri. C Jaydev
11. Dr. A K Samantaray
12. Shri. P K MishraN Kumar
13. Shri. D P Singh

6.13 Expansion of Jayant Opencast Coal mine project from 15.5 MTPA to 25 MTPA in an area of 3177 ha of M/s Northern Coalfields Limited.

1. Shri. V K Sanjay
2. Shri. Atal Bihari
3. Shri. V N Dupatawal
4. Shri. Sanjeev Kumar
5. Shri. Y Mishra

6.14 Expansion of Pauni-II OCP from 0.6 MTPA to 3.25 MTPA with increase in ML area from 316.30 ha to 1152.66 ha of M/s Western Coalfield Limited

1. Shri. T N Jha
2. Shri. K Chakraborty
3. Shri. S C Shankar
4. Md. Noor Uddin
5. Shri. R M Wanare
6. Shri. U S Shah
7. Shri. Vijay Krishna Nagda

6.15 Expansion of Haldibari UG Coal Mining project from 0.42 MTPA to 0.66 MTPA of M/s South Eastern Coalfields Limited

1. Shri. P K Sinha
2. S S Sinha
3. Shri. Manoj Kumar
4. Shri. Amit Saksena

5. Shri. A S Bapat
6. Shri. Baban Singh
7. Shri. Rajesh Singal
8. Shri. Vijay Sahay
9. Shri. D K Badgaiyan
10. Shri. H K Gour
11. Shri. Charu Sharma
12. Shri. S R Tripathi

6.16 Batura OCP of 2.00 MTPA (Normative)/3.00 MTPA (Peak) in ML area of 967.473 ha of M/s South Eastern Coalfield Limited

1. Shri. P K Sinha
2. S S Sinha
3. Shri. Manoj Kumar
4. Shri. Amit Saksena
5. Shri. A S Bapat
6. Shri. Baban Singh
7. Shri. Rajesh Singal
8. Shri. Vijay Sahay
9. Shri. D K Badgaiyan
10. Shri. H K Gour
11. Shri. Charu Sharma
12. Shri. S R Tripathi

6.17 Durgapur Extension Deep OC Phase-II of M/s Western Coalfields Limited

1. Shri. T N Jha
2. Shri. K Chakraborty
3. Shri. S C Shankar
4. Md. Noor Uddin
5. Shri. R M Wanare
6. Shri. U S Shah
7. Shri. Vijay Krishna Nagda

6.18 Koyagudem Opencast-III (KOC-III) coal mining project of 3.60 MTPA (Normative)/4.80 MTPA (Peak) in ML area of 1607.6 ha of M/s The Singareni Collieries Company Ltd.

1. Shri. A Manohar Rao
2. Shri. M Vasanth Kumar
3. Shri. K Raghu Kumar
4. Shri. P Ravi Kumar
5. Shri. N Bhaskar

6.19 Manuguru Opencast-IV Extension Project of 3 MTPA (Normative)/3.5 MTPA (Peak) in ML area of 734.60 ha of M/s The Singareni Collieries Company Ltd

1. Shri. A Manohar Rao
2. Shri. M Vasanth Kumar
3. Shri. K Raghu Kumar
4. Shri. P Ravi Kumar
5. Shri. N Bhaskar

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant alongwith a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM₁₀, PM_{2.5}, SO_x and NO_x, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. 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 specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.
- xiv. O.M. no. J-II013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in

the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.

- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. 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.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should conform to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

LANDUSE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

Sl. No.	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 plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xv) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (xvi) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xvii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xviii) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xix) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xx) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
- (xxi) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater

should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.

- (xxii) Impact of blasting, noise and vibrations should be given.
- (xxiii) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxiv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxiv) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxv) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvi) Efforts be made for maximising progressive internal dumping of O.B., sequential mining , external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- (xxvii) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxviii) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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					

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others(Undisturbed Area/etc)		TOTAL	
1.	1 st year										
2.	3 rd year										
3.	5 th year										
4.	10 th year										
5.	15 th year										
6.	20 th year										
7.	25 th year										
8.	30 th year										
9.	34 th year(end of mine life)										
10.	34- 37 th Year (Post-mining)										

* As a representative example

(xxix) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

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

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

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

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

- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxiii) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxiv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxv) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxvi) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxxvii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the 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.
- (xxxviii) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxxix) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xl) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xli) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xlii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

FOREST CLEARANCE: Details on the Forest Clearance should be given as per the format given:

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 , provide details of each FC			

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report shall be prepared for..... MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (iv) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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	

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) 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.
- (xvii) 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 should be provided.

- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
- (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
- (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
- (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
- (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. 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 submitted.
- (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) 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.
- (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

Details on the Forest Clearance should be given as per the format given:

Total ML /Project Area (ha)	Total Forest Land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl. For diversion of forest land
		If more than one provide details of each FC			

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity ofMTPA for OC-cum-UG project which consists of MTPA in an ML/project area of ha 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 to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum-underground mining.

10/03/2017

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

Subject: **Approval of the minutes**
To: "S.K Srivastava" <sk.smree66@gov.in>,
Srivastava Additional Director <sk.smree66@nic.in>,
Purushottam Ramdas Sakhare <sakhare.pr@nic.in>

Date: 03/09/17 12:16 AM
From: navin chandra <navinchandrarrl@yahoo.com>
Reply-To: navin chandra <navinchandrarrl@yahoo.com>

Approved minutes 07032017.docx (212kB)

07/03/2016

Dear Dr. Srivastava,

I have gone through the Final draft of the minutes of the meeting. In the case of TATAs, I have added demonstration (wherever feasible) and also added food processing. You may upload the minutes now.

Thanking you,

Sincerely,

(NAVIN CHANDRA)

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

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**6th EAC (THERMAL & COAL MINING PROJECTS) MEETING
SCHEDULED FOR 27th - 28th February, 2017.**

AGENDA

**Venue: Bhramaputra, Conference Hall, First Floor, Vayu Wing, Indira Paryavaran Bhawan,
Jorbagh, New Delhi-110003.**

[Pl. check the MoEF website: http://environmentclearance.nic.in/Report/Default3.aspx](http://environmentclearance.nic.in/Report/Default3.aspx)

Important Note:

- i. Please send the information as per Annexure 1 by E-mail in word format and also a signed & scanned copy, to the Member-Secretary at sk.smree66@nic.in at least one week prior to the EAC meeting.**
- ii. Please send hard copies of the documents indicating agenda items to all the EAC members, at least one week prior to the meeting and ensure the receipt of same.**
- iii. Non receipt of the project will lead to deferment of the project.**
- iv. Without this information, EAC has discretion to invite the proponent for the meeting.**
- v. Please also provide a hard copy of presentation to the EAC Members during the meeting.**
- vi. No consultant is permitted into the meeting who has no accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) as per the MoEF OM dated 2nd December, 2009.**

COAL MINING PROJECTS

Time: 10.00 AM

Monday: 27th February, 2017

- 6.1 Coal Washery (capacity of 2.5 MTPA In an ML area 10.57 ha) of **M/s Chhattisgarh Power And Coal Benification Ltd.** Tahsil, Masturi, District: Bilaspur (Chhattisgarh)- (Further consideration for TOR)**
- 6.2 Expansion of 1.2 MTPA dry coal washery to 2.4 MTPA wet Coal washery (total capacity after expansion will be 3.6 MTPA) of **M/s Maheshwari Coal Benefication & Infrastructure Private Limited** in district Bilaspur (Chhattishgarh).- (Further consideration for TOR)**
- 6.3 Shivkar Lignite Coal Mine (capacity of 1.0 MTPA In an ML area 1855.45 ha) of **M/s Rajasthan State Mines & Minerals Limited**, located in Tehsil & District Barmer (Rajasthan) - (Further consideration for TOR)**
- 6.4 Bhelatand Amalgamated Colliery expansion from 0.38 MTPA to 0.41 MTPA in an ML area of 521.68 ha) & Expn. Of Bhelatand Washery (0.96 MTPA to 1.5 MTPA in 8 ha) of **M/s Tata Steel****

Ltd., Dhanbad (Jharkhand)- (further consideration for EC)

6.5 Coal Washery (capacity of 5.0 MTPA In an ML area 12.65 ha) of **M/s Aryan Ispat & Power Pvt. Ltd.**, Tehsil Rengali, Distt. Sambalpu (**Odisha**) - (**TOR**)- last considered in the 55th EAC meeting held on 11th -13th May, 2016

-Lunch Break-

6.6 Utkal D & E Opencast coal mine project of 4 MTPA in an area of 842.96 Ha of **M/s NALCO** located in Tehsil Chhendipada district Angul (Odisha)- (Consideration for TOR)

6.7 Mine-III Lignite Opencast Mine of 11.50 MTPA in an area of 4841.99 Ha by **M/s NLC India Limited** at Vridhachalam Chidambaram District cuddalore (Tamilnadu)- (Consideration for TOR)

6.8 Coal Washery (expansion from 1 MTPA to 5 MTPA in an ML area 16.12 ha) of **M/s Mahavir Beneficiation Private Ltd.**, District Anuppur, (Madhya Pradesh) –(EC based on TOR granted dated 21.05.2014) - (Further consideration for EC)

6.9 Expansion of Coal Washery from 0.96 MTPA to 2.4 MTPA of **M/s Bhatia Coal washeries Ltd** in an Area of 7.2 ha located in Panderpauni Tehsil Rajura, District Chandrapur (Maharashtra) - For consideration of TOR (last considered in 61st EAC meeting held on 28th -29th July, 2016

6.10 Expansion of Coal Washery from 1.5 MTPA to 2.5 MTPA (Total 4.0 MTPA after expansion) in an area of 8.28 ha of **M/s Bhatia Coal washeries Ltd** at Yehsamba (Gondegaon), Tehsil Parseoni District Nagpur (Maharashtra) -TOR

Time: 10.00 AM

Tuesday: 28th February, 2017

6.11 Basundhara Coal Washery (10 MTPA in an ML area 27.66 ha of **M/s Mahanadi Coalfields Limited.**, located in District Sundergarh, (Odisha) - (for further consideration of EC)- (further consideration for EC)

6.12 Garjanbahal OCP coal block, 10 MTPA (Normative) and 13.0 MTPA (peak) in a total area of 795.38 Ha (ML area 653.83 Ha + Additional area 141.55 Ha); of **M/s Mahanadi Coalfields Limited** in District Sundargarh (Odisha)–(Consideration for EC)

6.13 Jayant Open Cast Expansion project from 15.5 MTPA to 25 MTPA in an area of 3177 ha of **M/s Northern Coalfields Limited** located in District Singrauli (Madhya Pradesh)- (Consideration for TOR)

6.14 Expansion of **Pauni –II** OC from 0.6 MTPA to 3.25 MTPA along with expansion in an ML area from 316.30 ha to 1152.66 ha) of **M/s Western Coalfield Limited** located in District Chandrapur (**Maharashtra**)-(Consideration for TOR)

6.15 Haldibari UG Expansion project from 0.42 MTPA to 0.66 MTPA of **M/s South Eastern Coalfields Limited** in an area of 390 ha in District Koreya, (Chhattisgarh)-(Further consideration for EC)

-Lunch Break-

6.16 Batura OCP of 2.00 MTPA (Normative) and 3.00 MTPA (Peak) in an ML area 967.473 Ha of **M/s South Eastern Coalfield Limited** at district Anuppur and Shahdol (Madhya Pradesh).- TOR

6.17 Environment Clearance for Durgapur Extension Deep OC - Phase-II of **M/s Western Coalfields Limited** in District Chandrapur (Maharashtra) - FC submitted- EC may be granted dovetailing the phase I EC

6.18 Koyagudem Opencast –III (KOC-III) coal mining project of 3.60 MTPA (Normative) and 4.80 MTPA (Peak) in the ML area of 1607.6 ha of **M/s The Singareni Collieries Company Ltd.** located in district Bhadradi (Telangana)-(Consideration for TOR)

6.19 Manuguru Opencast IV Extension Project of (Normative 3 MTPA with a Peak production of 3.5 MTPA in ML area of 734.60 ha; **M/s The Singareni Collieries Company Ltd.** District Khammam, Telangana - (EC amendment to the forest land extent from 654.95 Ha to 900.42 Ha. and total land area from 734.60 Ha to 980.07 Ha in the EC letter).

6.20 Discussion on any other item.
