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**MINUTES OF THE 44<sup>th</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING  
HELD ON 8<sup>th</sup> – 9<sup>th</sup> October, 2015**

The 44<sup>th</sup> EAC (Thermal & Coal mining projects) meeting was held on **8-9 October, 2015** in New Delhi to consider the proposals in coal mining sector. The list of participants of EAC and the proponents are given at Annexure-1 and 2 respectively.

**B. Confirmation of Minutes:**

The Committee confirmed the minutes of the 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August, 2015 - 1<sup>st</sup> September, 2015.

**C. The following proposals were considered.**

**Agenda 44.1**

**Kusmunda Opencast Expansion Project (Normative 15 MTPA to 50 MTPA & Peak 18.75 MTPA to 62.50 MTPA) in an ML area 3510.348 ha of M/s South Eastern Coalfields Ltd, located in District Korba (Chhattisgarh) - For further consideration of EC**

44.1.1 The proposal is for Kusmunda Opencast Expansion Project (Normative 15 MTPA to 50MTPA & Peak 18.75 MTPA to 62.50 MTPA in an ML area 3510.348 ha (Latitude 22<sup>o</sup> 15' 18" to 22<sup>o</sup> 21' 30" North and Longitude 82<sup>o</sup> 38' 39" to 82<sup>o</sup> 42' 08" East) of M/s South Eastern Coalfields Ltd, located in District Korba (Chhattisgarh).

44.1.2 The proposal was earlier considered in the 37<sup>th</sup> EAC meeting held on 11<sup>th</sup> -12<sup>th</sup> June, 2015, 39<sup>th</sup> EAC meeting held on 16<sup>th</sup> -17<sup>th</sup> July, 2015 and 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August-1<sup>st</sup> September, 2015. During the last meeting, the Committee sought following information for further consideration of the project:-

- (i) Cumulative impact Assessment Study for the three mines namely; Gevra OC, Dipka OC and Kusmunda OC has not been carried out. Since the project site is located in one of the identified 'Critically Polluted Areas', modeling studies are essentially required to ascertain the environmental impact of the proposed expansion especially in terms of ambient air quality.
- (ii) Air quality modeling studies to be carried out with long term baseline data and incremental data using online monitoring system already in place.
- (iii) Water balance of the study area.
- (iv) The number of piezometers, and their locations in the entire study area (500 sqm).
- (v) The detailed action plan for the development of the green belt around mine lease area and the details of the species proposed to be planted.
- (vi) Clear commitment and action plan as per initial Environmental Clearances on:
  - a. External OBD height and area.
  - b. Internal transport and dispatch.

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

- i. Cumulative impact assessment of three mega mines namely Gevra OC, Dipka OC and Kusmunda OC submitted. The cumulative Air Quality Impact Prediction (AQIP) for incremental coal production of 48.2 MTY9(FOR INCREASE FROM 86.30 TO134.50MTPA) from Gevra, Dipka and Kusmunda opencast mines of SECL have been carried out by using **Fugitive Dust Model of USEPA**. The resultant air quality, even after enhancement of coal production from 86.3 MTY to 134.5 MTY, will remain satisfactory. The impact of coal mining on ambient air quality will further improve due to provision of green belt barrier (50 m width) around the periphery of the mine in safety zone and also around the village adjacent to the mine lease area. The predicted incremental concentration of PM -10 may be on higher side

because, the coal extraction and transportation in Kusmunda Mine is currently being carried out by conventional drilling and blasting AND BY SURFACE MINER followed by transportation by road for 18.4 MTY. Upon expansion, the entire coal (62.5 MTY) of Kusmunda mine will be taken out by Surface Miners and transported through covered conveyor system. The contribution of current mining practices of Kusmunda mine on existing ambient air quality has not been apportioned and only the incremental contribution of additional coal production of 44.1 MTY from Kusmunda and 4.1 MTY from Gevra and Dipka mines have been added on the existing concentration of PM -10 in ambient air while carrying out AQIP exercise

- ii. Air quality modeling studies carried out with long term baseline data and incremental data using online monitoring system.
- iii. Cumulative water balance exercise has been carried out and the results indicate that total draft is 30.54 M Cum, total recharge calculated is 70.78 M Cum. Therefore, the balance available ground water resource is 40.24 M Cum.
- iv. Piezometers, and their locations in the entire study area (500 sqm) submitted. Total, 17 sets /35 Nos. of Piezometers were constructed at appropriate locations in the study area (i.e. Kusmunda OCP (4sets/11Nos), Gevra OCP (5sets/10Nos), Dipka OCP (3 sets/6Nos) and Manikpur OCP (5 sets/8Nos)), to include whole hydrogeological regime of area. All these piezometers are being monthly monitored by respective project proponents and details are furnished.
- v. Detailed action plan for the development of the green belt around mine lease area and the details of the species proposed to be planted submitted. Green belt barrier for a width of (75-100 m) will be provided all around the periphery of the mine in safety zone area. Provision of Rs 2.00 crores has been made in the project report. 3 tier plantations will be done with native species (neem, semal, palash, amaltas, gulmohar, etc.)
- vi. Commitment and action plan as per initial Environmental Clearances on external OBD height and area and Internal transport and dispatch submitted.
  - In future no additional area will be used for external overburden dumping & total OB would be dumped in internal dump only as backfilling of de-coaled area. Total 325 Ha land was allocated for external OB dumps, out of which only 196.242 Ha area was used in 13 no. of external OB dumps. Out of 196.242 Ha used in external dumping, 159.43 Ha has already been biologically reclaimed up to 1<sup>st</sup> April'15. The external OB dumps have been made stable by plantation of grass beds and saplings. Out of total area 198.88 Ha of internal dump 85.00 Ha. Area has already been biologically reclaimed.
  - There shall be no external OB dumps after the mine is over.
  - The mining shall be phased out in sustainable manner. No extra over burden dumps shall be permitted.
  - The OB shall be completely re-handled at the end of the mining.
- vii. Action plan for internal transport and dispatch of coal is given below, which will be executed in phases.
  - **phase -1** With Construction of CHP & its commissioning on 31.01.17, there is all probability that new unit of CSPGCL will be commissioned and it will be able to receive 10.00 to 11.00 MTPA of coal through **belt conveyor**, hence the capacity of coal evacuation system will be about 30.00 MTPA on 31.01.2017.
  - **phase- 2** Commissioning of CHP Including Silo on 30.04.18, coal evacuation system capacity will be 50.00 MTPA.
  - The transportation of coal within mine boundary will be by tippers that will be replaced by in-pit belt conveyor after Construction of In-pit conveyor & its commissioning on 31.01.19.

44.1.4 While considering the proposal, the observations of the EAC were as under:-

- (i) With the proposed expansion of Kusmunda OCP, resultant/predicted ambient air quality values are on the higher side and there is a need to quantify the impact of measures taken to reduce these values within the acceptable limits.

(ii) The baseline data for the air quality prediction study is to reflect the cumulative impact of all the three operative mines in the study area and not to be based on EIA/EMP reports for Kusmunda OCP.

(iii) All the control measures which would result in reducing the incremental loads need to be identified and adequately defined.

(iv) With the control measures in place and negligible contribution to the baseline air quality data needs to be explained for their adequacy.

(v) It was noted that external OBD initially approved in 2006 for 30 m height was violated and fresh amendment was taken for hard OB-90m and soft OB 60 m. The coal transport and loading systems planned for dust control are much delayed.

44.1.5 *The EAC after deliberations, desired for cumulative impact scenarios at different stages of production level and mitigative measures in different time frames with annual average baseline data showing year long observations. The Committee also asked for para wise response to the apprehensions of the NGO. The proposal as such was deferred.*

## **Agenda 44.2**

### **Expansion of Amera OC project from 1.0 MTPA to 2.0 MTPA in an ML area of 664.184 ha of M/s South Eastern Coalfields Limited located at village Amera, Tahsil Lakhanpur in District Sarguja (Chhattisgarh) - For further consideration of EC**

44.2.1 The proposal is for expansion of Amera OC project from 1.0 MTPA to 2.0 MTPA in an ML area of 664.184 ha (Latitude- 23° 02' 50" to 23° 04' 34" N and Longitude 83° 01' 34" to 83° 03' 38" E) of M/s South Eastern Coalfields Limited located at village Amera, Tahsil Lakhanpur in District Sarguja (Chhattisgarh).

44.2.2 The proposal was considered in the 37<sup>th</sup> EAC meeting held on 11<sup>th</sup> -12<sup>th</sup> June, 2015 and 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August- 1<sup>st</sup> September, 2015. In response to the observations of EAC, the details submitted by the PP and/or as informed during the meeting, are as under:-

- i. The EC for Amera Opencast Coal Mine Project of 1 MTPA in mine lease area of 664.184 ha, was earlier granted by this Ministry vide letter No.J-11015/14/2004-IA.II (M) dated 22<sup>nd</sup> February, 2005.
- ii. The mine plan and mine closure plan for 2 MTPA has been approved. Copy of the same has been already submitted during EAC meeting held on 31.08.2015.
- iii. To reduce the transportation distance from mine to railway siding, in SECL, a proposal for Construction of New Railway Siding namely Pendrakhi Siding is under Administrative Approval, to serve Lakhanpur Coalfields taking off from Bisrampur Railway Station in Bilaspur Division.
  - The proposed Pendrakhi Railway Siding would be very useful as it would cater a number of mines located in Lakhanpur Coalfields i.e. existing Rehar UG, Gayatri UG, Ketki UG, Amera OC & Amgaon OC. It would also cater to the future projects such as Jamdai UG, Ghumghara UG & Binkara UG.
  - The proposed Pendrakhi Railway Siding would be useful in:
    - Reducing the distance for road transport of coal from present running mines as well as for future projects.
    - Reducing the cost of transportation.
    - Improving the environmental condition.
  - Crushing arrangements at the pit head site will be provided very shortly. For construction of Coal Handling Plant Capital Provision for an amount of Rs. 23.874 Crores has been kept in the approved RCE of Amera OC. CHP will be commissioned by Dec.'2017.
- iv. As per approved Project Report, the HFL of Ghunghuta River is 535 m. During detailed survey conducted along the banks of Ghunghuta river, it has been found that, the RL of the eastern bank varies from 542 m to 549 m and RL of western bank varies from 541 m

to 569 m. This indicates that, both the banks are present much above the HFL of Ghunghuta River, so, there is no chance of inundation of nearby villages by river water during flooding. Moreover, the village Sukhri and Patrapara are situated at a distance of about 2 KMs on east side from the bank of Ghunghuta river and having RL more than 555m. Vide letter No. 4417/ work/ 2015/ Ambikapur dated 23.09.2015, Executive Engineer, Water Resource Division, No.-1, Ambikapur, Dist. Surguja, Chhattisgarh, has indicated that, since 2004 to 2015, there is no record of incidence of flooding of any of the villages nearby to the Ghunghuta River due to heavy rain and release of water from Ghunghuta dam. As per approved PR, the HFL of Chandanai Nullah is 537 m. The detailed survey of both the banks shows that, the RLs of eastern bank varies from 542 m to 548 m and RL of western bank varies from 540 m to 546 m, which is lying much above the HFL of the nullah. Moreover, the nullah is seasonal in nature. The village Ghumghara is about 1.5 km away from bank of Chandanai nullah and is having ground RL about 559 m. Therefore, during rainy season there is negligible chance of incidence of flood in both the sides of the river/nullah and thereby the villages. The embankment for Amera OC will be constructed around 60 m away from the bank of the river/nullah. Therefore, the effect of the embankment during monsoon season will be close to null on incidence of flood.

- v. Two nos. of Sedimentation tanks have been constructed for mine water before its discharge outside. Details are as under: Primary settling tank; Size 20m x 12.3m x 1.60m; Secondary settling tank Size : 24 m x 10.0 m x 1.60 m
- vi. Any form of health survey has not been done in Amera, Lakhanpur block prior to 2012, neither by SECL nor by the State Govt. or any other agencies. But regular health camps are being organized in this area since Feb 2012 by Central Hospital, Bishrampur SECL for the purpose of health status assessment and remedy. Year wise consolidated data from these health camps submitted.
- vii. During the period from February 2012 to February 2015, 34 health camps were organized in and around Amera. Total number of 2130 patients were examined during this period. The common diseases diagnosed in these camps are mentioned below:
  - Acute respiratory tract infections (348 patients 16.30%)- (No cases of TB detected)
  - Anaemia (314 patients 14.7%)
  - Acute Gastro enteritis (295 patients 13.8%)
  - Fever (Mostly viral or along with ARI and AGE)- 207 patients 9.71%
- viii. Agreed to comply with Internal dumps (2 Nos) proposed in an area of 450 Ha with a height of 7-8 m above ground level be filled into mine void and shall be brought to near the original ground level to minimize land degradation.

44.2.3 The Committee after detailed deliberation sought following additional information for further consideration:

- (i) The mine plan and the mine closure plan for the projected capacity of 2 MTPA for Amera OCP have yet not been approved by the SECL Board.
- (ii) The project proponent was to submit an action plan on possible flooding of the nearby areas due to the proposed embankments duly authenticated by irrigation/flood control department of the State. The same has not been complied with.

44.2.4 *The proposal was deferred for the want of desired/input information from the PP.*

### **Agenda 44.3**

**Amendment in Environmental clearance for change from existing 2 x 1.2 MTPA Dry type Coal washery to 1 x 2.4 MTPA wet type coal washery of M/s Hind Energy and Coal Beneficiation (India) Ltd. at Hindadih Village, Masturi Tehsil, District Bilaspur (Chhattisgarh) - EC amendment**

44.3.1 The proposal is for amendment in EC for change from existing 2 x 1.2 MTPA Dry type Coal washery to 1 x 2.4 MTPA wet type coal washery of M/s Hind Energy and Coal Beneficiation

(India) Ltd. at Hindadih Village, Masturi Tehsil, District Bilaspur (Chhattisgarh).

44.3.2 The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting are reported to be as under:-

- (i) Ministry granted EC vide letter No.J-11015/364/2009-IA-II (M) dated 21.05.2014 for expansion of washery from 2.4 MTPA (dry type) to 3.6 MTPA (additional 1.2 MTPA will be wet type).
- (ii) The present proposal is for change in the process circuit from DRY to WET type.
- (iii) No additional Land is proposed. The land remains the same even after the present proposal. As it is wet type washery, particulate Emissions will be reduced.
- (iv) Closed loop water system will be implemented. Hence there will not be any wastewater discharge out side the plant premises. The recycled water will be used in process and also for Dust suppression and for greenbelt development.
- (v) Water permission will be obtained for additional quantity of water.
- (vi) Hence, requested the Committee to accord the Amendment to the Environmental Clearance issued vide No. J-11015/190/2007-IA-II (M) Dated 24<sup>th</sup> June 2008 and to permit to convert 2.4 MTPA, dry type washery to wet type washery.

44.3.3 *The EAC after deliberation observed that the proposal involves change of technology from the present (2.4 MTPA dry and 1.2 MTPA wet to 3.6 MTPA wet process), which would require considerable water withdrawal. The EAC after deliberation decided to consider the case as a fresh one and not for amendment in the EC dated May, 2014. The project proponents were asked to apply for ToR for the said project.*

#### **Agenda 44.4**

**Khadia Opencast Coal Mine Expansion Project from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha of M/s Northern Coalfields Limited, located in District Sonbhadra (Uttar Pradesh) and in Tehsil Singrauli in District Sidhi (Madhya Pradesh) - For further consideration of EC**

44.4.1 The proposal for Khadia Opencast Coal Mine Expansion Project from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha (Latitude 24° 07' 26" N - 24° 08' 47" N and Longitude 82° 41' 40" E - 82° 44' 47" E ) of M/s Northern Coalfields Limited, located in District Sonbhadra (Uttar Pradesh) and in Tehsil Singrauli in District Sidhi (Madhya Pradesh) was earlier considered in the 29<sup>th</sup> EAC meeting held on 15<sup>th</sup> -16<sup>th</sup> January, 2015, 37<sup>th</sup> EAC meeting held on 11-12 June, 2015 and 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August- 1<sup>st</sup> September, 2015 . During the last meeting, the Committee asked the PP to come back with details sought during June EAC meeting for further appraisal.

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

- (i) No coal will be transported by road for the intended capacity 6 MTPA CHP is under construction and the same will be ready by 2017-18 when the increased production is scheduled to be achieved.
- (ii) Final stage post mining reclamation plan has been prepared by completely back filling the void. Ultimately there will be no mine void at the end of mining. Mine Closure plan has been revised. Every year plantation is being done through U.P. Forest Department. The dump reclamation is a continuous process and the land is reclaimed immediately after the completion of the dump (external and internal). As per the suggestion of the committee the main void at the end of mining shall be filled up with OB and totally reclaimed through bio-reclamation. The mine void shall be preferably filled up by OB from neighboring mines.
- (iii) Mine Plan / mine closure plan has been approved by NCL Board in the 197<sup>th</sup> Board meeting held on 28.07.2015.

- (iv) Details of year wise O.B. removal; Details of year wise Coal Production (Actual); Details of year wise Coal Production (Proposed); Details of year wise Coal Dispatch; Year wise plantation done so far & future programme been submitted

44.4.3 *The EAC, after detailed deliberations deferred the proposal for want of the following information:-*

(i) *It was noted that there was no significant development in respect of coal handling plan of 6 MTPA, which was earlier committed to be commissioned by 2017/18 (in line with the conditions of EC issued in the year 2007). The Committee asked for firm action plan for completion of the said coal handling plant.*

(ii) *Mine void filling to be done through internal dump to fill the 39 ha and 200 m deep mine void to ground level and thus to save land degradation. The project proponent proposed for bringing OB from the nearby mine to fill the void. The committee advised for using the internal 90 m height OB of the internal dump for filling the void, which is closer to the mine and thus save cost. The PP agreed to that.*

(iii) *Submission of requirement for (road transport) 10% of production for e-auction, for which no proposal has been put up.*

#### **Agenda 44.5**

**Expansion of Konar OCP for production capacity (from 4.10 MTPA Normative to 8.00 MTPA Normative and 5.00 MTPA Peak to 11.00 MTPA Peak) ; Integrated Konar Non-coking Coal Washery (7 MTPA capacity) and expansion of project area from 520.93 ha to 729.40 ha of M/s Central Coalfields limited located in Bokaro and Kargali Area District Bokaro (Jharkhand) - TOR**

44.5.1 The proposal is for seeking TOR for Expansion of Konar OCP for production capacity (from 4.10 MTPA Normative to 8.00 MTPA Normative and 5.00 MTPA Peak to 11.00 MTPA Peak); Integrated Konar Non-coking Coal Washery (7 MTPA capacity) and expansion of project area from 520.93 ha to 729.40 ha of M/s Central Coalfields limited located in Bokaro and Kargali Area District Bokaro (Jharkhand)

44.5.2 The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting are reported to be as under:

- i. Earlier EC was granted for 3.5 MTPA Konar OCP vide letter number J-11015/337/2005-IA.II(M) dated 2.2.2006 and 0.6/1.5 MTPA Khasmahal OCP vide letter number J-11015/217/2007-IA.II(M) dated 2.8.2010. Application for composite TOR of Konar Exp OCP & Integrated Konar washery was made by proposal no. IA/JH/CMIN/31248/2015.
- ii. The latitude and longitude of the project are 23° 46' 0" to 23° 48' 38"N and 85° 44' 0" to 85° 56' 0"E respectively.
- iii. Joint Venture: Not Applicable
- iv. Coal Linkage: Steel, power and other miscellaneous consumers. Konar Washery (7 MTPA) linked to Konar Expansion OCP (8/11 MTPA)
- v. Employment generated / to be generated: 110 approx
- vi. Benefits of the project: Improvements in Physical Infrastructure; Improvements in Social Infrastructure; Increase in Employment Potential; Contribution to the Exchequer; Meet energy and steel sector requirement; The beneficiation/washing of coal will lead to improvement in performance of power plant; Reduction in particulate emission; Reduction in load on Railway Network; Reduction in handling and transportation cost of coal and solid waste etc.
- vii. The land usage of the project will be as follows:

S.NO	Particulars	Forest land	Non forest land	Total
1.	Quarry	225.70	106.26	331.96
2.	Ext OB dump	55.78	5.66	61.44
3.	FBC plant	30.00	0.00	30.00
4.	Site for rejects	20.71	0.00	20.71
5.	Infrastructure(w/s,CHP, S/S,Washery,Offices,etc.	41.90	0.00	41.90
6.	Rly siding	0.53	1.73	2.26
7.	Approach to washery/coal transportation road	5.34	2.39	7.73
8	Safety zone and vacant land	29.47	15.49	44.96
9	Land requirement for future use	170.30	18.14	188.44
10	Total land requirement (including future use)	579.73	149.67	729.40

Pre-Mining:

S.NO	Particulars	Forest land	Non forest land	Total
1.	Quarry	225.70	106.26	331.96
2.	Ext OB dump	55.78	5.66	61.44
3.	FBC plant	30.00	0.00	30.00
4.	Site for rejects	20.71	0.00	20.71
5.	Infrastructure(w/s,CHP, S/S,Washery,Offices,etc.	41.90	0.00	41.90
6.	Rly siding	0.53	1.73	2.26
7.	Approach to washery/coal transportation road	5.34	2.39	7.73
8	Safety zone and vacant land	29.47	15.49	44.96
9	Land requirement for future use	170.30	18.14	188.44
10	Total land requirement (including future use)	579.73	149.67	729.40

Post- Mining: Will be finalized in draft EIA/EMP

Core area:

S.NO	Particulars	Forest land	Non forest land	Total
1.	Quarry	225.70	106.26	331.96
2.	Ext OB dump	55.78	5.66	61.44
3.	FBC plant	30.00	0.00	30.00
4.	Site for rejects	20.71	0.00	20.71
5.	Infrastructure(w/s,CHP, S/S,Washery,Offices,etc.	41.90	0.00	41.90
6.	Rly siding	0.53	1.73	2.26
7.	Approach to washery/coal	5.34	2.39	7.73

	transportation road			
8	Safety zone and vacant land	29.47	15.49	44.96
9	Land requirement for future use	170.30	18.14	188.44
10	Total land requirement (including future use)	579.73	149.67	729.40

- viii. The total geological reserve is 146.74 MT. The mineable reserve 115.65 MT, extractable reserve is 115.65 MT. The per cent of extraction would be 100 %.
- ix. The coal grade is W-IV grade in seam X and E-F grade in seam VI/VII & seam VIII The stripping ratio is 0.95 (Cum/Tonne). The average Gradient is 6- 10 deg. There will 4 seams (Seam X, Seam IX ,Seam VIII and Seam VI/VII combined). Seam IX is thin so it is not considered with thickness ranging 8.65 m to 34.71m.
- x. The total estimated water requirement is 1207 m<sup>3</sup>/day potable water demand & industrial water demand of mine & washery is 1500 m<sup>3</sup>/day and 1600 m<sup>3</sup>/day respectively. The level of ground water ranges from 1.00m to 8.07 m.
- xi. The Method of mining would be Opencast.
- xii. There is one external OB dump with Quantity of 23.21 Mbcm in an area of 61.44 ha with height of 30-90 m above GL and one internal dump with Quantity of 86.51 Mbcm in an area of 226.96 ha.
- xiii. The final mine void would be in 82 Ha with depth 180 m. and the Total quarry area is 331.96 Ha. Backfilled quarry area of 226.96 Ha shall be reclaimed with plantation. A void of 82 ha with depth 180 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 total project life including 3 years washery development period is 17 years.
- xvi. Transportation: Coal transportation in pit by through Rear dumpers from in pit to pit head coal handling plant, Surface to Siding by Belt conveyors to Pre-weigh Bin and loading at siding by Rail dispatch.
- xvii. There is R & R involved. There are 1060PAFs.
- xviii. Cost: Total capital cost of the project is Rs. 1286.54 Crore for OCP and Rs 251.48 Crores for washery. CSR Cost As per CSR policy & Companies Act, 2013. R&R Cost 63.18 Crores. Environmental Management Cost Rs. 59.58 Crores.
- xix. Water body : Goddo nallah flows along eastern periphery of project & straightening of 800 m length of this nallah is proposed and Konar river is in south west of the project.
- xx. Approvals: Ground water clearance to be applied, Board's approval obtained on 19/20.08.2015. Mining plan has been approved on 19/20.08.2015. 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: The project involves 579.73 Ha of forest land. Out of which 225.70 is for quarry. FC granted for 177.48 ha forest land for Khasmahal OCP vide letter number: F.No.8-37/2003-FC Dated 31st July 2006. FC granted for 26.94 Ha forest land for Khasmahal phase II vide letter number: F.No.8-37/2003-FC dated 6<sup>th</sup> June 2013. FC granted for 288.26 ha forest land for Konar OCP vide letter number: F.No.8-55/2009-FC Dated 23 Oct 2012
- xxiii. Density of tree plantation 2500 trees/ ha of plants.
- xxiv. There are no court cases/violation pending with the project proponent.
- xxv. Public Hearing will be held after ToR and submitting draft EIA/EMP to JSPCB.

*44.5.3 The Committee, after detailed deliberations sought following additional information for further consideration:*

- (i) *Explore the possibility for locating the CPP and FBC based TPP (boiler) in non forest area.*

- (ii) Coal Linkage for coal washery rejects.
- (iii) Details map showing diverted forest areas wrt project area along with status of tree felling, and/or change in vegetation cover in the 66 ha (approx) of forest land now proposed not be used.
- (iv) Certified EC compliance report before consideration of EC from MOEFCC regional office.

#### **Agenda 44.6**

#### **Expansion of Coal washery from 0.7 MTPA to 5.70 MTPA in a project area of 82.81 ha of M/s Aryan Ispat & Power Pvt. Ltd in Village Bomaloi, Tehsil Rengali, District Sambalpur (Odisha)-TOR**

44.6.1 The proposal is for seeking TOR for Expansion of Coal washery from 0.7 MTPA to 5.70 MTPA in a project area of 82.81 ha (Latitude 22° 08' 02.39" - 22° 08' 19.41" N and Longitude 83° 14' 30.21" - 83° 14' 50.01" E) of M/s Aryan Ispat & Power Pvt. Ltd in Village Bomaloi, Tehsil Rengali District Sambalpur (Odisha).

44.6.2 The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting are reported to be as under:

- i. The project is for TOR.
- ii. Expansion of coal washery from 0.7 MTPA to 5.70 MTPA by adding two identical modules of 2.5 MTPA capacity each based on Heavy Media Cyclone Technology
- iii. Proposed capacity will be created within the integrated steel plant located at Bomaloi Village, Tehsil Rengali, Sambalpur District, Odisha. No additional land is required. No forest land is involve.
- iv. Raw coal will be sourced on behalf of clients from MCL mines, namely, Samleswari, Belpahar, Lakhanpur located within about 65 km and Basundra mine located at about 100 km. Coal will be transported by road/rail. The plant has a private freight terminal railway siding
- v. The latitude and longitude of the project are 22°08' 02.39" - 22° 08 '19.41" N and 83° 14' 30.21" - 83°14' 50.01" E respectively.
- vi. Joint Venture: Not Applicable
- vii. Coal Linkage: Letters of interest obtained (approx. 3 MTPA).
- viii. Employment generated / to be generated: During Construction 200 Nos.; During Operation 70 Nos; Indirect employment – approx. 250 Nos.
- ix. Benefits of the project: The project will improve the socio-economic status of the society in the region by generating direct and indirect employment opportunities. The project will contribute additional revenue to the State & Central exchequers in the form of taxes, cess, etc.
- x. The land usage of the project will be as follows:

Sr. No.	Proposed Facilities	Existing (acres)	Additional (acres)
1	Washery Plant	4.47	9.85
2	Raw Coal Stockyard	5.00	7.00
3	Clean coal, middling & rejects	5.00	4.47
4	Plantation	#	9.15
	Total	14.47	30.47

# - Approximately 20% of the Total steel plant area has been covered under greenbelt

- xi. The Project Area : comprise of Steel Plant (204.65 acres); Existing Washery (14.47 acres) ; Proposed Washery (30.47 acres).

Sr. No	Particulars	Area in acres
1	Raw Material Stock yard	22.00
2	Direct Reduction Plant (2x100 TPD)	12.00
3	Direct Reduction Plant (1x350 TPD)	7.00
4	Power Plant (WHRB)	8.00
5	Power Plant (AFBC)	
6	Stores Complex	2.5
7	Coal Washery (Existing & Proposed)	44.94
8	Main Receiving Substation	4.04
9	Open vacant land for expansion	67.17
10	Green Belt	37.00
	Total Area	204.65

- xii. Proposal relates to coal washery. The entire project area is under possession of project proponent.

- xiii. River/streams: Hirakud Reservoir [1 km, W]; Matwali nadi [2.6 km, S] Bhedan river [6.6 km, NW] ; Ib river [10.5 km, WNW].

- xiv. Process and Technology & Products :

<ul style="list-style-type: none"> <li>▪ Wet process - comprising crushing, screening, washing and handling</li> <li>▪ Technology - Heavy Media Cyclone</li> </ul>	
0.7 MTPA (Barrel Washer) <ul style="list-style-type: none"> <li>• Washed coal – 0.53 MTPA</li> <li>• Rejects – 0.17 MTPA</li> </ul>	5.0 MTPA (Heavy Media Cyclone) <ul style="list-style-type: none"> <li>• Washed coal – 2.2 MTPA</li> <li>• Middling – 2.35 MTPA</li> <li>• Rejects – 0.45 MTPA</li> </ul>

- xv. Water requirement & source: Allocation of water from Hirakud Reservoir for the existing steel plant is adequate to meet the additional water requirement of the washery. 63 m<sup>3</sup>/hr [Existing - 8 m<sup>3</sup>/hr and Additional - 55 m<sup>3</sup>/hr] 4.41 cusecs (449.4 m<sup>3</sup>/hr) approved from Hirakud reservoir

- xvi. Transportation: Coal from MCL mines, namely, Basundra, Samleswari, Belpahar, Lakhanpur etc., located within about 100km, will be transported by rail. Own railway siding is 700m from the project site.

- xvii. Cost: Total capital cost of the project is Rs. 60.07 Crores.

- xviii. Approvals: Ground water clearance Allocation of water from Hirakud Reservoir for the existing steel plant is adequate to meet the additional water requirement of the washery,.

- xix. Wildlife issues: 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.

- xxi. Proposal is for TOR within the existing steel plant with the request to exempt the proposed washery expansion from the requirement of Public Hearing under Section 7(ii) of EIA Notification (2006).

- xxii. Compliance status of integrated steel plant w. r. t EC conditions issued vide letter No J-13012/60/2007-IA II (I) Dated 16<sup>th</sup> Sept 2008 submitted.

xxiii. Certified Compliance Report: MoEFCC Regional Office at Bhubnewsar has been requested to provide the certified compliance report

44.6.3 *The Committee, after detailed deliberations deferred the project on following grounds:*

*The present washery is for use of washed coal in the Integrated Steel Plant. The proposed expansion is for power plant, and for commercial purpose. This is not the case of expansion of the existing washery, and the PP needs to apply afresh for the same.*

#### **Agenda 44.7**

**Expansion of Himgir Coal Washery Capacity from 5 MTPA to 10 MTPA in an area of 13.5 ha of M/s ACB (INDIA) Limited located in Tehsil Himgir District Sundargarh (Odisha) – Further consideration for TOR.**

44.7.1 The proposal is for seeking TOR for expansion of Himgir Coal Washery Capacity from 5 MTPA to 10 MTPA in an area of 13.5 ha of M/s ACB (INDIA) Limited located in Tehsil Himgir District Sundargarh (Odisha). The proposal was last considered in 14<sup>th</sup> EAC meeting held on 27<sup>th</sup> – 28<sup>th</sup> March, 2014 wherein, Committee sought following information for further consideration of the project:-

- i. Compliance status to earlier EC conditions duly authenticated by the RO MOEF be submitted.
- ii. The FBC boiler power plant has not been installed as per one of the conditions of the EC which construes as violation.
- iii. The full capacity i.e. 5 MTPA has not yet been reached. The Proponent has so far reached only 0.2 MTPA of the full capacity.
- iv. Details of mode of transportation of coal from and to the clients be provided
- v. Details of hydrological conditions and water balance be submitted. Also, a study be carried out to evaluate the impact on the downstream ecology. The permission of the State Government for abstraction of ground water be submitted.
- vi. Details of CSR activities carried out so far be submitted alongwith budgetary figures.
- vii. The Committee recommended that a sub-Committee of the EAc to have a site visit.

44.7.2 The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting are reported to be as under:

- i. MOEF granted EC vide letter no. J-11015/925/2007.IA-II(M) dated 22.06.2009 for the 5 MTPA coal washery capacity( raw coal by wet process).
- ii. This is a standalone washery and no interlinked projects are envisaged.
- iii. The latitude and longitude of the project are 21<sup>0</sup> 53' 29.2" N to 21<sup>0</sup> 53' 38.9" N and 83<sup>0</sup> 43' 28.9" E to 83<sup>0</sup> 43' 38.5" E:
- iv. Joint Venture: Not applicable
- v. Coal Linkage: Washery shall be catering to the washed coal requirement of the customers whose coal linkage is from the mines of MCL like TSPL, GMR and Adani etc.
- vi. Employment generated / to be generated: To be generated: 44 Nos.
- vii. Benefits of the project: The proposed proposal will bring better economic status of the community due to better earnings and enhancement of literacy due to improved educational facilities made available to the locals as a part of Corporate Social Responsibility of the company. It is an Economically Viable Proposal. Proposed activity will ensure all Environmental Protection Measures.
- viii. Land requirement/details: Total land area required 13.57 ha. No forest land involved.
- ix.

Land use	Area (ha)
Plant area	3.25
Raw coal stock yard	2.5

Clean coal stock yard	1.75
Water Reservoir	1.0
Parking and Rest room area	0.25
Green belt area	4.5
Administrative building	0.25
Total	13.50

- x. Process : 100% recycling of water by installing state of a the art equipments like thickening systems, belt press, classifying cyclones, high frequency screens etc and thus to construct an eco-friendly washery which ensures zero discharge of water outside premises.
- xi. Water requirement: Existing water requirement of 300 CUM Per Day m<sup>3</sup>/day. Ground water clearance is not applicable as presently no use of Ground Water for plant purpose.
- xii. Water body: Brahmani Nala is flowing from NE to SW at a distance of 550.0 meters in the west of Project site.
- xiii. There is no R & R involved. There are no PAFs.
- xiv. Transportation of coal: Transportation of coal from surface to siding by truck and siding to loading by pay loaders.
- xv. Cost: Total capital cost of the project is Rs. 40.90 Cores; CSR cost Rs. 10 lakhs; Environment Management Cost is Rs. 42 lakhs .
- xvi. Wildlife issues: There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km Buffer Zone.
- xvii. Forestry issues: No forest area involved in coal washery.
- xviii. There are no court /violation cases pending against the project proponent.

#### 44.7.3 The PP further presented that :

- i. MoEF&CC sought for additional information vide letter dated 30/04/2014. The clarifications/compliance was submitted on dated 20/11/2014 after receipt of Certified Compliance Report of previously granted EC from RO, MoEF&CC on 28/10/2014.
- ii. In the mean time Standard Terms of Reference has been Notified by the Ministry of Environment, Forest and Climate Change (MoEF&CC) on the web based portal (<http://envfor.nic.in>).
- iii. As per the Ministry's guidelines for Online Submission & Monitoring of Environmental Clearances for grant of Environment Clearance through Single Window Clearance System an online application was submitted on the Web Based Portal of the Ministry of Environment, Forest and Climate Change Government of India (MoEF&CC) (<http://environmentclearance.nic.in/default.aspx>) subsequent to which the proposal is being considered for the approval of the TOR.
- iv. Himgir Coal Washery of ACB (India) Limited obtained the Environmental Clearance (EC) for its existing 5 MTPA capacity Coal Washery vide letter no J-11015/925/2007-IAII (M) dtd 22.06.2009, MoEF, Govt of India.
- v. Forest Clearance (Stage –I) Order over an area of 2.699 ha has been obtained as per FC Act 1980, vide letter no 5-ORB171/2013-BHU dated 25<sup>th</sup> February 2014 by Govt of India, Ministry of Environment & Forests, Eastern Regional Office Bhubaneswar, Odisha for Laying Closed Conveyor for Washed Coal Transportation from Plant to Railway Siding.
- vi. The Company also obtained the Consent to Establish (CTE) on dtd.12.08.2009 and Consent to Operate (CTO) for the 5 MTPA capacity Coal Washery valid up to 31.03.2018 from Odisha State Pollution Control Board, Bhubaneswar.
- vii. The Consent to Operate from State Pollution Control Board for the railway siding vide consent Order No. 701 by letter no. 1171/III-CON (Operate) 262 dated 20<sup>th</sup> March, 2014 and is valid upto 31.03.2018.**

#### 44.7.4 The Committee, after detailed deliberations noted the following:

- i. The washery of 5 MTPA granted EC in year 2009 is still not fully commissioned.
- ii. The washed coal conveyor which is on forest land is still not erected as Stage -2 FC not

- iii. yet obtained although stage I FC was obtained in February 2014..
- iii. The transportation of washed coal by road permitted for 3 years, which will expire in April, 2016.
- iv. The erection of conveyor will take two years after the Forest area is released.
- v. As per the report submitted by PP, the production in the year 2014-15 is 1.2 MTPA approx. which is much less than the present sanctioned capacity of 5 MTPA.
- vi. Fluidized Bed Combustion (FBC) TPP which was to be constructed within 2 years of operation of the washery, not yet commissioned.
- vii. PP informed that only 6 MW has been achieved as such. This condition has not been fully complied. (Condition No. A(iii))

44.7.5 The Committee suggested PP to reply to the query raised during 14<sup>th</sup> EAC meeting held on 27<sup>th</sup> – 28<sup>th</sup> March, 2014.

- (i) Compliance status to earlier EC conditions duly authenticated by the RO MOEF be submitted.
- (ii) The FBC boiler power plant has not been installed as per one of the conditions of the EC which construes as violation.
- (iii) The full capacity of 5 MTPA has not yet been reached. The proponent has so far reached only 0.2 MTPA of the full capacity.
- (iv) Details of mode of transportation of coal from and to the clients be provided.
- (v) Details of hydrological conditions and water balance be submitted. Also, a study be carried out to evaluate the impact on the downstream ecology. The permission of the State Government for abstraction of ground water to be submitted.
- (vi) Details of CSR activities carried out so far be submitted along with budgetary figures.

44.7.6 *The proposal was deferred for the want of desired/input information from the PP.*

#### **Agenda 44.8**

**Expansion of Coal Washery from 1 MTPA to 5 MTPA in a project area of 16.12 ha of M/s Mahavir Beneficiation Private Ltd., Dhiroul Village, Anuppur District Anuppur, (Madhya Pradesh) - EC based on TOR granted dated 21.05.2014**

44.8.1 The proposal is for seeking environmental clearance for expansion of Coal Washery from 1 MTPA to 5 MTPA in a project area of 16.12 ha) of **M/s Mahavir Beneficiation Private Ltd., Dhiroul Village, Anuppur** District Anuppur, Madhya Pradesh.

44.8.2 The details of the project, as per the documents submitted by the Project Proponent (PP), and also as informed during the above said EAC meeting are reported to be as under:

- i. The coal washery was established with prior "Consent to Establish" granted by the MPSPCB in 2005 when there was no requirement of granting environmental clearance to coal beneficiation projects under the applicable Rules Laws.
- ii. It is a three product Coal Washery.
- iii. The latitude and longitude of the project are :

A : 23°07'53.91" N - 81°36'00.40" E  
 B : 23°07'52.16" N - 81°35'44.84" E  
 C : 23°07'39.35" N - 81°35'35.75" E  
 D : 23°07'37.21" N - 81°35'49.68" E

- iv. **Joint Venture:** not applicable.
- v. **Coal Linkage :** Letters of Interest from the parties have been obtained & submitted.
- vi. **Employment generated / to be generated:** During Construction period approx. 150 persons; Operation period – 65 persons; Indirect employment – approx. 200 persons.
- vii. **Benefits of the project:** The project will improve the socio-economic status of the society

in the region by generating direct and indirect employment opportunities and encourage ancillary industries. The project will contribute additional revenue to the State & Central exchequers in the form of taxes, cess, etc

viii. Land requirement/details :

Sl. No.	Units	Existing Plant areas in (Acres)	Proposed Plant area in (acres)	Total After Expansion Acres
1	Washery Plant & Machinery	3.25	13.25	16.50
2	Raw Coal Stockyard	1.0	5.0	6.0
3	Clean coal, middling & rejects	0.85	3.0	3.85
4	Other Facilities Internal roads, WTP, Maintenance shed, Office, Store, Staff Quarters, etc.	0.50	1.0	1.5
5	Plantation	2.4	9.56	11.96
	Total	8.00	31.81	39.81

ix. The entire project area of 39.81 acres is private land under possession of the project proponent. Land use is industrial.

x. **Source of availability of coal**

Coal source	Type of Mine	Distance
Amlai	Opencast	3.5 km N
Bangwar	Underground	7.2 km, WNW
Dhanpuri	Opencast	5 km, NW
Sharad	Underground	7.7 km, N

xi. **Process Details:**

**Pre-Treatment Section:** Raw coal (-) 1000mm will be received by rear dump trucks in the ground hoppers. From there, coal will be fed to a Jaw crusher through grizzly feeder. Crushed coal and grizzly feeder underpass will sent to Rotary Breaker through slow moving flat picking belt conveyors. Stone & shale picking manually and discharged at the other end of the rotary breaker. Rotary breaker will size coal to (-) 50 mm. Sized coal will be transported to Screening House through belt conveyors to separate 15mm – 50mm and (-) 15mm fractions. (-) 15mm coal will be collected in 2 loading bunkers for dispatch to clients.

**Dry Beneficiation:** In the Air Jig, separation of coal from shale is accomplished in the form of a fluidized bed created by a pulsing column of air. (-) 50mm to (+) 15mm fraction is fed to Air Jig where cleans and middling are produced. Through a set of belt conveyors, these two products will be stored in the bunkers for dispatch to clients. In the process heavier shale & lighter stones are collected separately as rejects. Reject collected will be transported to a reject bunker

xii. **Water requirement:** Existing water requirement of 212 m<sup>3</sup>/day is met from bore wells. Additional water requirement of 110m<sup>3</sup>/day for the proposed expansion based on dry process will also be met from ground water with prior approval of the Competent Authority.

xiii. **Transportation** of coal: Transportation of coal from the nearby SECL mines located within 10km to the washery by road. Washed coal including middling will be transported by road to the own railway siding at Amlai (less than 7 km) and thereafter by rail.

xiv. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

xv. Approvals: Ground water allocation letter no. 21-4 (168) /NCR/CGWA/2014-183 dated 14/05/2015.

- xvi. Cost: Total capital cost of the project is Rs. 44.00 Crores. CSR Cost Rs. 15 lakhs per annum of coal production. R&R Cost Nil. Environmental Management Cost Capital cost Rs. 70 lakhs and recurring cost Rs. 7 lakhs / annum.
- xvii. Wildlife issues: There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km Buffer Zone. However RFs falling within 10 km radius viz: Burhar RF (0.5 km, NW); Lakanpur RF (3.0 km, S); Maikal RF (8.1 km, S); Mauhari RF (9.9 km, ENE).
- xviii. Forestry issues: No forest area involved in coal washery.
- xix. There are no court /violation cases pending against the project proponent.
- xx. Public Hearing was held on 2.06.2015 The issues raised in the PH includes Air & water pollution; construction of Pucca road ; employment; transportation; Patna Kala village to be developed as an ideal village etc.

44.8.3 Compliance status conditions of consent to operate and consent to establish were presented along with its compliance status. The committee found the compliance to be satisfactory.

44.8.4 The Committee after detailed deliberation sought following additional information for further consideration:-

- (i) Green belt as per the Consent to Operate has not been fully implemented.
- (ii) The entire Green Belt should be developed within 2 years.
- (iii) Increase the budget from Rs. 5 lakhs to 20 lakhs for wild life conservation and details of actual implementation of wild life conservation activities..
- (iv) Traffic density study be submitted.
- (v) Impact of fugitive emission due to traffic be submitted. Permission from railway to load requested/required quantity.
- (vi) For transportation of raw coal, washed coal and middling, procurement of mechanically covered trucks to be made within 2 years. Till this time it is allowed by the tarpaulin trucks for 2 years. The same is also applicable for 1 MTPA capacity.
- (vii) The Committee noted that traffic load study for both raw and washed coal has not been carried out. The transport is through National Highway as reported by the PP. The permission from Railway authority for availability of railway siding at Amlai Railway Station has not been obtained. The loading of the 4 MTPA coal i.e. more than 12,000 TPD additionally is proposed be done by pay loaders which will create dust pollution at the station yard. These issues have been raised also in the Public Hearing including road safety issues. These have to be carried out and submitted.

44.8.5 *The proposal was deferred for the want of desired/input information from the PP.*

## **Agenda 44.9**

**Lingraj OCP Expansion project from 13 MTPA to 20 MTPA within the total area of 1493.20 Ha (1410.01 Ha + Outside ML area 83.19 Ha; Latitude 20° 57' 39" to 20° 58' 18" North and Longitude 85° 09' 33" to 85° 12' 12" East) of M/s Mahanadi Coalfields Ltd., located in Talcher Coalfields, District. Angul (Orissa) - For further consideration of EC**

44.9.1 The proposal is for Lingraj OCP Expansion project from 13 MTPA to 20 MTPA within the total area of 1493.20 Ha (1410.01 Ha + Outside ML area 83.19 Ha; Latitude 20° 57' 39" to 20° 58' 18" North and Longitude 85° 09' 33" to 85° 12' 12" East) of M/s Mahanadi Coalfields Ltd., located in Talcher Coalfields, District Angul (Odisha)

44.9.2 The proposal was considered in the 33<sup>rd</sup> EAC meeting held on 9<sup>th</sup> -10<sup>th</sup> April, 2015 and 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August- 1<sup>st</sup> September, 2015. During the last meeting, the Committee sought following information for further consideration of the project:

- (i) Grassing needs to be done for top soil.
- (ii) CSR Audit report to be submitted.

- (iii) Wild Life Conservation Plan with budgetary allocation be submitted.
- (iv) The total project area 1493.20 ha consist of 1410.01 ha of ML area (includes 186.311ha of forest area) and 83.19 ha outside ML area. The proposed expansion involves quarry extraction in an additional area of 28 ha (total quarry area becomes 538.851 ha) and reduction in blasting danger/safety zone of the same (areal) extent. As such, no additional area is required for the proposed expansion and effect of safety zone reduction on DGMS requirement and safety of nearby habitation if any.
- (v) Detailed action plan for water harvesting with appropriate budget.
- (vi) Action plan to reduce road transportation and pay loader loading to minimize dust emission as Talcher is being Critically Polluted area.
- (vii) Action plan for the proposed measures of SPCB for mitigation of Cumulative impact of Coal mining project and other industries operating in buffer zone of the project site.
- (viii) Revised basic information w.r.t. OB and Void management.
- (ix) The Committee noted inconsistency in the details in respect of land use (post-mining), external OB dumps and void management given in the basic information sheet and that in presentation/discussed during the meeting.

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

- i. Grassing and other soil conservation measures are taken up on the top soil dump and also after its spreading on the backfilled area. Quantity of the top soil stored during 2014-15 = 84,810 m<sup>3</sup> and the area of the top soil dump approximately 3 ha and the same was spread over backfilled area of about 5 ha. Grass turfing was done during 2014 and expenditure incurred for the purpose was Rs. 15,000. Top soil from the above shown top soil dump has already been spread over backfilled area.
- ii. **CSR Audited Report for the Financial Year 2014-15 for MCL submitted. The same is also available on public domain in the Annual Report of MCL on [http://www.mcl.gov.in/Financial/MCL\\_AR%2014-15.pdf](http://www.mcl.gov.in/Financial/MCL_AR%2014-15.pdf).**
- iii. Wild Life Conservation Plan with budgetary allocation as prepared by M/s Richardson & Cruddas (A Govt. of India Undertaking) submitted.
- iv. A safety zone of 300 m has been kept around the quarry extraction area for blasting except for a patch of 28 ha as per mine geometry, where the safety zone has reduced to 230m distance, but as the blasting permission has been granted by DGMS for keeping minimum 100 m distance, there will be no issue of safety for the nearby habitation. Copy of the DGMS blasting permission submitted.
- v. Water harvesting activities taken up by MCL include: (a) villages/towns in the nearby areas of the Lingaraj area of MCL and (b) within the mines area complex.

(a) For water harvesting in the nearby village/ town Lingaraj Area various measures were taken to construct/improve surface water bodies which includes construction of new ponds, deepening/expansion/de-siltation of the existing ponds, renovation of the existing abandoned ponds etc. A Total of 16 villages/towns around the Lingaraj Mine have been covered and details of works taken up during last 2-3 years are briefed below:

SI No	Name of work	Expenditure incurred/Remark
1	Deepening and expansion of old pond in Simlipal Village 16,000 m <sup>3</sup>	Departmental Equipment
2	New Pond in Biharipur Village 16,000 m <sup>3</sup>	Departmental Equipment
3	Deepening and expansion and renovation of old pond in Balugaon Khamar Village 40,000 m <sup>3</sup>	Departmental Equipment
4	Deepening and expansion and renovation of old pond in Talbeda Village 24,000 m <sup>3</sup>	Departmental Equipment
5	Deepening of pond n in Madanmohanpur	Departmental Equipment

SI No	Name of work	Expenditure incurred/Remark
	village 2,000 m <sup>3</sup>	
6	New pond in Balugaon Khamar Village 6,000 m <sup>3</sup>	Rs. 3 .16 lakhs
7	Deepening and renovation of existing pond in Deulbera 2,000 m <sup>3</sup>	Rs. 1.20 lakhs
8	Renovation of Soubbhagya Sagar Big Tank of Talcher Municipality	Total work order value 3.27 Cr, 80% work completed. This project is expected to benefit around 50,000 people of Talcher municipality

(b) Water harvesting has also been taken up in the Area Office Complex of Lingaraj Area, Project Office Complex, Regional Store Complex, Deulbera Dispensary complex, etc. and the detailed description is given in the Action Plan.

- vi. Transport of coal from Mine to ground bunker at pit head by tipper (2 km). From ground bunker to SILO at Railway Siding by conveyor. Proposed Dispatch of Coal : By Rail – 18.87 MT ( 94.35%) ; By Road – 1.13 MT ( 5.65%). Coal will be loaded into Railway Wagons through SILOs.
- vii. Action Plan has been prepared by SPCB for mitigation of Pollution in the Critically Polluted Area of Angul Talcher region (as declared by CPCB) in the year 2010 and Action Points have been defined for different major industries like NALCO, NTPC, MCL etc. The Action Plan for MCL submitted along with the summary of its implementation status.
- viii. The Basic Information has been revised. Total Excavation Area is 538.851 ha. Total coal extraction will be to the tune of 440.31 Mte or 275.20 M Cum (Avg. Specific gravity 1.6) and total OB removal shall be 222.23 M Cum. Thus total volume removed shall be 498.43 M Cum which will be filled up with 222.23 M Cum available OB (21 to 22% bulking factor will make it approx 270 M Cum, thus total % of filling up to ground level possible = 270/498.43= **54.21%**). In terms of area total excavated area of 538.851 ha, shall be backfilled with the available OB up to ground level to the tune of 292.141 ha and balance 246.710 ha shall remain as partially filled void which will be developed as water body with maximum depth 185 m. There shall not be any external OB dump post mine closure. Out of total 292.141 ha backfilled area 186.311 ha shall be afforested and balance 105.83 ha shall be developed for agriculture purpose.
- ix. The inconsistency in basic information is highly regretted and the revised Basic Information submitted.

Pt. No.	Title of the Information	Original Basic Information (EAC Meeting 01.09.2015)	Revised Basic Information (EAC Meeting 09.10.2015)
6	Whether the project is in the Critically Polluted Area (CPA)	Yes, however the moratorium has been lifted.	Yes, however the moratorium has been lifted in March 2011, hence it is not applicable at present..
8	Employment generated/ to be generated	An additional 265 direct employment opportunity for the expansion project. Total employment including the existing project will be 1690. Beside above, indirect employments will also be generated.	An additional 265 direct employment opportunity for the expansion project. Total employment including the existing project will be 1690. Beside above, indirect employments will also be generated through contractual jobs and coal transportation by Co-operative Society formed by PAPs.
17	Capacity of the mine applied for	16.0 MTY (Normative), 20 MTY (Peak)	<b>20 MTY (Peak)</b>
28	Whether ambient air quality seasonal data has been documented. If so, from which season to which season and whether the results are within the prescribed limits.	Yes, ambient air quality data is being documented. Routine ambient air quality monitoring is being carried out at fortnightly interval and the results are within prescribed limits. Base line data generation was done for the proposed expansion project during the pre-monsoon period from 15th Mar. 2013 to 12th Jun. 2013.	Yes, ambient air quality data is being documented. Routine ambient air quality monitoring is being carried out at fortnightly interval and the results are within prescribed limits. Base line data generation was done for the proposed expansion project during the pre-monsoon period from 15 <sup>th</sup> Mar.2013 to 12 <sup>th</sup> Jun.2013, Minimum and Maximum value of PM10, 54 &130 micro gram/cum. Min & Max for PM2.5, 28 &12 micro gram/cum in residential areas.
30 i	Details of O.B External OB dumps	There will be no additional area to be used for external dumping. However, external dumping will be continued up-to two years	There will be no external dump after mine closure. Ultimately all the 9 existing external dumps will be rehandled back to de-coaled void.

		within the provision of area provided for external dumping in the existing project.	
v	Quantity	8.18 Mm <sup>3</sup> (For the proposed expansion project)	8.18 Mm <sup>3</sup> (For the proposed expansion project) which will be rehandled back to de-coaled void.
31 iii	Details of Internal Dumps: Height	Up-to 35 m from ground level (As per EMP)	Up-to 35 m from ground level (As per EMP) during mining. Ultimately all dumps above ground level will be rehandled back to the de-coaled void & internal dumps will be restricted to ground level.
iv	Quantity	214.05 Mm <sup>3</sup> (For the proposed expansion project)	Total overburden of 222.23 M.cum. will be backfilled.
32 ii	Details of final Mine Voids: Depth	Maximum depth = 185 m. (In future the void will be utilized for dumping from Arkhapal & Sakhigopal blocks, dumping of washery rejects.)	Maximum depth = 185 m. (In future the void will be utilized for dumping overburden from dip side blocks like Arkhapal & Sakhigopal) which are under formulation.

#### 34(ii) Post-Mining

Post-mining land use						
S. N.	Land use during Mining	Land use (in ha)				
		Plantation	Water body including dip side slope & haul road	Undisturbed	Built-up area/ Public use	Total
1	External OB dump	256.03	0.00	0.00	0.00	256.03
1	Excavation including Top soil Dump	292.141	246.709	0.00	0.00	538.851
2	Safety zone for expansion including green belt & undisturbed area	110.58	0.00	442.34	0.00	552.92
4	Infrastructure including CHP, workshop, Rly. Siding, Office buildings & Roads etc.	10.36	0.00	0.00	41.44	51.80
5	Rationalisation of project boundary	2.08	0.00	0.00	8.33	10.41
	<b>Mining Lease Area</b>	<b>671.191</b>	<b>165.749</b>	<b>442.339</b>	<b>49.77</b>	<b>1410.01</b>
6	Residential colony	16.64	0.00	0.00	66.55	83.19
7	Resettlement site					
	<b>Total</b>	<b>687.831</b>	<b>165.749</b>	<b>442.339</b>	<b>116.32</b>	<b>1493.20</b>

#### 34(ii) Post-Mining (Post-mine closure)

SIN o	Land Use during Mine Closure Period	Land use in ha.			
		Left out void/ water body	Afforested or arboriculture	Land to be converted for agriculture (Conceptual)	Undisturbed Built up area
1.	Quarry excavation area	246.71	186.311	105.83	----
2.	Safety Zone for blasting	----	110.58	----	442.339
3.	OB dump (external)	----	----	256.03	----
4.	Infrastructure	----	10.36	----	41.44
5.	Rationalisation of project boundary	----	2.08	----	8.33
6.	Residential colony & Resettlement site		16.64		66.55
	<b>Total</b>	<b>246.71</b>	<b>325.971</b>	<b>361.86</b>	<b>558.659</b>

	Details of Forest Issues				
ii	Status of Forest Clearance	Forest Clearance (stage II/ Final) for 186.311 ha. has been obtained vide Ref. No. 8-99/87-FC dt: 07.03.1989.	Forest Area (in ha)	Stage-I FC issued vide letter No.&dt.	Validity period of FC
			186.311	Forest Clearance (stage II/ Final) for 186.311 ha. has been obtained vide Ref. No. 8-99/87-FC dt: 07.03.1989.	Perpetual
vi	Total forest land for which stage-I FC is available (give area in ha), provide breakup of this area in following format:	Nil	Forest Area (in ha)	Stage-I FC issued vide letter No. & dt.	Validity period of FC
			186.311	Forest Clearance (stage II/ Final) for 186.311 ha. has	Perpetual

	<u>Area</u> Stage I FC issued Validity period <u>Vide letter no. &amp; dt. of FC</u>		been obtained vide Ref. No. 8-99/87-FC dt: 07.03.1989.
vii	Balance forest land for which Stage-I FC is not available (give area in ha)	Nil	Nil No additional forest land is required for expansion project.
viii	Details of wild life issues involved, if any. If so, whether WL management plan has been prepared and pl. indicate the status.	Nil	Forest Clearance (stage II/ Final) for 186.311 ha. has been obtained vide Ref. No. <b>8-99/87-FC dt: 07.03.1989</b> . No wild life issues were raised in the said Forest Clearance. However, Flora & Fauna study was carried out by M/s Richardson & Cruddas (1972) Ltd. for obtaining Environment Clearance of Lingaraj OC Expn. (from 13 Mty. to 20 Mty.) Project. As per the direction of EAC, wild life management plan has been prepared by the same consultant.
35 vii)	Cost of project: Environment Management cost	Rs. 34.97 Cr (Including the cost of existing project.)	Rs. 25.97 Cr (Including the cost of existing project.)
37 a.	Details of reclamation Total Afforestation plan shall be implemented covering of mining. This will include		
i	Reclaimed external OB dump (in ha)	Total afforestation plan shall be implemented covering an area of 256.03 ha. at the end of mining. This will include:- Reclaimed external OB dump (in Ha.): 60.09 ha of existing project by plantation. Grass Carpeting has been done over 10 ha. area. In the balance area grass carpeting will be done during mining & external OB dump will be re-handled & dumped in the de-coaled mine void at the end of mining.	60.09 ha area of external OB dumps of existing project has been reclaimed by plantation. Grass Carpeting has been done over 10 ha area. In the balance area (185.94 ha) grass carpeting will be done during mining. However, all external OB dumps will be re-handled & dumped in the de-coaled mine void at the end of mining. The total land of 256.03 ha is proposed to be converted into agricultural land.
ii	Internal dump (in ha)	292.141 Ha. up-to the closure of mine. Out of which 25.60 ha. already reclaimed for the existing project.	Out of total proposed backfilled area of 292.141 ha, an area of 186.311 ha will be afforested by plantation and the remaining backfilled area of 105.83 ha-of land is proposed to be converted into agriculture land. Area backfilled so far is 88.71 ha. Out of this, 25.60 ha of backfilled (internal dump) area has already been planted in the existing project. So, 160.711 ha of area remains to be planted during the remaining life of the project which also includes the proposed expansion.
iii	Green belt (in ha)	139.66 Ha	139.66 Ha (As per EMP). This constitute plantation in safety zone 110.58ha, Rationalization of Project Boundary 2.08ha, Infrastructure 10.36 ha and colony 16.64ha .
v	Void( in ha.) at a depth of (in m) which is proposed to be converted into water body	Remaining area of 246.709 Ha. up-to a depth of 185 m. which is proposed to be converted into a water body (80.96 ha.) and slope area with haul road etc.(165.749 ha.). In future the void will be utilised for dumping from Arkhapal & Sakhigopal blocks, dumping of washery rejects.	Remaining area of 246.71ha up-to a depth of 185 m. which is proposed to be converted into a water body. In future the void will be utilised for overburden dumping from dip side Arkhapal & Sakhigopal blocks.

44.9.4 The Committee after detailed deliberation recommended the project for granting EC subject to following specific conditions:-

- (i) Periodically monitoring of WHS constructed /maintained and study their effectiveness.
- (ii) All this work should be completed by monsoon of year 2016.
- (iii) By the year 2016 silo should be commissioned.
- (i) Dispatch of 18.87 MT of Coal will be started from January, 2017.
- (ii) Initial OB will be filled in.
- (iii) Out of 538.851 ha Excavated area 292.18 ha will be filled in & Brought to the Ground level and balance 246.71 ha shall remain as partially filled void 185 m deep.
- (iv) There will be no external OBD in post mine closure. PP confirm that OB from Alkhapal and Sakshi Gopal OCP under formulation having a stripping ratio more that 2-3 m<sup>3</sup>/T initial

OBD will be filled in this mine void and brought to the Ground Level.

- (v) This refilling is expected by 8<sup>th</sup> year when the mine is in operation.
- (vi) The wild life conservation plan is to be re-done with time bound and site specific action plan and got approved from the PCCF wild life and be submitted to MoEF&CC within 3 months.

#### **Agenda 44.10**

##### **Jagannath Washery of 10 MTPA in an area of 29.94 ha of M/s Mahanadi Coalfields Ltd. located in village Hensmul District Talcher (Odisha) - Amendment in TOR.**

44.10.1 The proposal is for amendment in TOR granted vide letter No.J-11015/203/2015 -IA-II (M) dated 13.08.2015 to Jagannath Washery of 10 MTPA in an area of 29.94 ha (Longitude 85° 09' 10" E to 85° 11' 37" E and latitude 20° 57' 59" N to 20° 58' 43"N) of **M/s Mahanadi Coalfields Ltd.**, located in villages Hensmul, District Talcher (Odisha).

44.10.2 The details of the proposal, as per the documents submitted by the project proponent (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

(i) As per the standard TOR prescribed for the EIA study of the Coal Washeries, a thick green belt of about 50 m width should be developed surrounding the washery. In this connection due to the non availability of land, it is proposed to go for plantation as per the plan.

(ii) Towards South of washery site, it is possible to do plantation upto 50 m width but in North, East and West site the same is possible for a width varying from 5 m to 15 m only. However surrounding the rejects storage site, plantation upto 50 m width is possible except in a few stretches due to existence of road and Ananta OCP Area.

(iii) In view of above it has been requested to amend the TOR.

44.10.3 *The EAC, after deliberations, agreed to the proposal for amendment in ToR with inclusion of the following condition:-*

*The green belt of 50 m width should be developed on Southern and Western side and 15 m on Eastern and Northern side, including Western side of the coal bunker. Also, 15 m thick plantation will be made around the raw coal bunker and 50 m thick around rejects storage yard.*

#### **Agenda 44.11**

##### **Makardhokra - I OC expansion from 1 MTPA to 2 MTPA in a lease area 660.70 ha of M/s Western Coalfields Ltd. located in District Nagpur (Maharashtra)**

44.11.1 The proposal is for grant of EC to Makardhokra-I OC expansion project from 1 MTPA to 2 MTPA in a lease area 660.70 ha (Latitude 20° 51' 06" & 20° 52' 30" N and Longitude 79° 14' 17" & 79° 15' 52" E) of M/s Western Coalfields Ltd. located in District Nagpur (Maharashtra). UNDER 7(ii)EIA NOTIFICATION, 2006.

44.11.2 The details of the project, as per the documents submitted by the project proponent (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

- i. The project of 1.0 MTPA was earlier accorded EC vide letter No.J-11015/54/2005-IA.II (M) dated 2.8.2006.
- ii. The latitude and longitude of the project are 20° 51' 06" & 20° 52' 30" N and 79° 14' 17" & 79° 15' 52" E respectively.
- iii. Joint Venture: no Joint Venture.
- iv. Coal Linkage : Thermal power plants of MAHAGENCO & Miscellaneous consumers.
- v. Employment generated/to be generated: Required Manpower for the project is 168

Nos.(From Internal &/ land oustees) Indirect – Approximately 200 (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 power houses & 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:

Particulars	Total Area (ha)
Agricultural Land	589.97 ha
Waste Land	29.22 ha
Settlements	Nil
Total	619.19 ha

Post- Mining:

Particulars	Total Area (ha)
Quarry/exposed Area	252.96ha
External OB	197.95ha
Infrastructure& Road	8 ha
Blasting/ safety zone	44.39 ha
Rationalisation of boundary	115.89 ha
Total	619.19 ha (Out of Total 619.19 ha project Area, Plantation will be done in 344.06 ha Area)

- viii. The total geological reserve is 45.10 Mt. The mineable reserve 22.74 MT, extractable reserve is 22.74 MT. The per cent of extraction would be 85.50 %.
- ix. The coal grade is GCV –(4420-5142) Kcal/kg. The stripping ratio is 1: 6.30 m<sup>3</sup>/t. The average Gradient is 1:9. There will be Five seams with thickness ranging from 2.65m to 6.27m.
- x. The total estimated water requirement is 460 m<sup>3</sup>/day. The level of ground water ranges from 1.45 m to 8.60 m.
- xi. The Method of mining would be Opencast with Shovel – Dumper Combination (Semi mechanized)
- xii. There is Three external OB dump with Quantity of 145.31 Mm<sup>3</sup> in an area of 197.95 ha with height of 60 meter above the surface level and Two internal dump with Quantity of 45.21 Mm<sup>3</sup> Mbcm in an area of 95.10 ha.
- xiii. The final mine void would be in 177.96 Ha with depth 100.00 m. and the Total quarry area is 252.96 Ha (on surface). Backfilled quarry area of 75 Ha shall be reclaimed with plantation. A void of 177.96 ha with depth 100 m depth 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 16 Years.
- xvi. Transportation: Coal transportation in pit by through Dumpers from in pit to pit head coal handling plant, Surface to Siding by Tippers to Pre-weigh Bin and loading at siding by Pay Loaders.
- xvii. There is R & R involved. There are 444 PAFs.
- xviii. Cost: Total capital cost of the project is Rs. 266.2308 Crores. CSR Cost Rs. 2.00 per tone of coal production. R&R Cost Nil. Environmental Management Cost (capital cost Rs. 97.09 Lakhs and Revenue @ Rs 6.00 per tone).
- xix. Water body: River Amb flows adjacent to the proposed mine.
- xx. Approvals: Board's approval obtained on 27.09.2014 Mining plan has been approved on

27.09.2014. 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. Forestry issues: there is no forest area involved.
- xxiii. Total afforestation plan shall be implemented covering an area of 344.06 ha at the end of mining. Green Belt (Out of Total 619.19ha Area, Plantation will be done at 344.06 ha Area. i.e., 55.56% of Project Area)ha. Density of tree plantation 8,60,150 Nos. of trees will be planted over 344.06 ha area(At 2500 plants per ha).
- xxiv. There are no court cases/violation pending with the project proponent.
- xxv. Public Hearing was held on 23.08.2005. The issues raised in the PH includes, regular monitoring of pollution levels in ambient air, mine discharge, noise level, land outstees have not been paid compensation/given employment against land acquired by WCL, effects of vibration due to blasting, provision of water supply to the affected areas, etc. Already covered in the existing EC.
- xxvi. Mine Plan and Mine Closer Plans for 2.0 MTPA approved by WCL on 27.09.2014.

44.11.3 EC compliance report: The certified compliance report of the Regional Office, MoEFCC at Bhopal vide letter No.3-53/2006(ENV)/64dated 06.07.2015 was deliberated in the EAC meeting. The Committee noted the following:-

- (i) Makardhokra I & II are adjoining projects. Piezometers have already been commissioned in Makardhoka II. Regular monitoring of groundwater level (4 times in a year i.e. May, Aug, Nov and Jan) and quality (Once in a year i.e. May) is being carried out by CMPDI, RI-IV, Nagpur since May, 2003 from existing dug wells in adjacent Umrer OC and Makardhokra-II OC.

44.11.4 The EAC, after detailed deliberations recommended the project for grant of EC subject to following specific condition, in addition to other generic conditions as applicable:-

- (i) The final mine void has been given 177.96 ha & 100 m deep should be backfilled from the external OBD and brought to the ground level to reduce land degradation.

#### **Agenda 44.12**

**Expansion of Chotia-II Captive coal mining Project from 0.25 MTPA to 1.0 MTPA in an ML area 411.0 ha of M/s Bharat Aluminium Company Limited (BALCO), located in Salaigot village, Tehsil Podiuprodha, Korba District (Chhattisgarh) - For further consideration of TOR**

44.12.1 The proposal is for Terms of reference for Expansion of Chotia-II Captive coal mining Project from 0.25 MTPA to 1.0 MTPA in an ML area 411.0 ha (latitude N 22° 50'40.6" N- 22° 51' 58.6" N-22° 51' 33.4" N-22° 51' 1.3" N and longitude 82° 33' 1.2" E - 82° 31' 57.9" E-82° 31' 26.9" E-82° 31' 47.7" E) of M/s Bharat Aluminium Company Limited (BALCO), located in Salaigot village, Tehsil Podiuprodha, District Korba (Chhattisgarh).

44.12.2 The details of the request, as per the documents submitted by the project proponent (PP), and also as informed during the above said EAC meetings, are reported to be as under:-

- i. The project was accorded Environment Clearance issued by MoEF for 0.25 MTPA vide letter No.J-11015/95/2004-IA.II (M) dated 10<sup>th</sup> November 2005.
- ii. Chotia-I is 7 km away from Chotia-II.
- iii. Joint Venture: No JV
- iv. Coal Linkage : No Linkage Available
- v. Employment generated / to be generated: Employment already generated = 200; Maximum direct employment to be generated = 605.
- vi. Benefits of the project: Bharat Aluminium Company Limited (BALCO) has set up a 600 MW captive Power Plant at Korba District to meet its power requirement for manufacturing of Aluminium. Coal from Chotia-II Coal Mine is essential to start up the

600 MW Captive Power Plant and sustain the Aluminium production. BALCO supplies Aluminium products to defence, aerospace, railways and power sector hence contributes directly to country's growth and prosperity. All together around 200 direct employments have already been generated by project. More than 120 local villagers also got direct employment in Bharat Aluminium Company Limited. After expansion of mine another around 605 direct employments will be generated. Due to creation of direct and indirect employment by the project there has been considerable upliftment in socio-economic status of local community and same will be continued in future as well.

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

Pre-Mining:

SN	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL (Ha)
1	Agricultural land	NIL	NIL	NIL
2	Forest land	316.826	NIL	316.826
3	Wasteland	NIL	NIL	NIL
4	Grazing land	NIL	NIL	NIL
5	Surface water	NIL	NIL	NIL
6	Settlements	NIL	NIL	NIL
7	Others (specify)	NIL	NIL	NIL
	<b>TOTAL</b>	<b>316.826</b>	<b>NIL</b>	<b>316.826</b>

Post- Mining:

SN	Land use during Mining	Land use (Ha)				
		Plantation	Water Body	Public	Un disturbed	Total
1	External OB Dump	3.0				3.0
2	Top Soil Dump					
3	Excavation	70.50	8.9			79.40
4	Roads					
5	Built Up Area	6.826				6.826
6	Green Belt Area	6.702				6.702
7	Un disturbed Area				220.898	220.898
	<b>TOTAL</b>	<b>87.028</b>	<b>8.9</b>		<b>220.898</b>	<b>316.826</b>

viii. The total geological reserve is 10.832 MT. The mineable reserve 10.17 MT, extractable reserve is 7.68 MT. The per cent of extraction would be 70%.

ix. The coal grade is E-D. The stripping ratio is 4.82 m<sup>3</sup>/t. The average Gradient is 2° to 6°. There will be 3 seams with thickness ranging from 0.06 m to 4.08 m.

x. The total estimated water requirement is 250 m<sup>3</sup>/day. The level of ground water ranges from 45 m - 50 m.

xi. The Method of mining: Conventional Shovel & dumper for Open Cast Mining and Bord & Pillar using SDL/LHD for Under Ground mining.

xii. There is 1 external OB dump with Quantity of 0.80 Mbcm in an area of 3.0 ha with height of 15.0 meter above the surface level and 1 internal dump with Quantity of 23.21 Mbcm in an area of 70.50 ha.

xiii. The final mine void would be in 8.9 Ha with depth 45 m. and the total quarry area is 79.40 Ha. Backfilled quarry area of 70.50 Ha shall be reclaimed with plantation. A void of 8.9 ha with depth 45 m which is proposed to be converted into a water body

xiv. The life of mine is 20 Years.

xv. Transportation: Coal transportation In pit: 30 tonne rear dumping Trucks.

xvi. There is no R & R involved. There are no PAFs.

xvii. Cost: Total capital cost of the project is Rs. 100 Crores. CSR Cost Rs. 5/tonne of coal production. R&R Cost Nil. Environmental Management Cost 10/tonne.

xviii. Water body: Hasdeo River flows at a distance of 1 Km in east from the Mine.

- xix. Approvals: Ground water clearance 22<sup>nd</sup> August, 2005, Board's approval obtained on 17<sup>th</sup> July, 2015 Mining plan has been approved on 17<sup>th</sup> July, 2015. 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 for mining 316.826 ha. Stage-II Clearance granted, forest land transferred in favour of project proponent by State Government. Tree felling has also been done on 40 Hectare of Land. Stage 1 FC has not been obtained for 42.92 Ha area because thickness of seams are not workable hence currently it is not planned for mining.
- xxii. Total afforestation plan shall be implemented covering an area of 80.202 ha at the end of mining. Green Belt over an area of 6.702 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxiii. There are no court cases/violation pending with the project proponent.
- xxiv. Public Hearing was held on 04.09.2004 for the earlier EC granted on 10<sup>th</sup> November, 2005 for the project of 0.25 MTPA.

44.12.3 The proposal was last considered in the 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August- 1<sup>st</sup> September, 2015. During the meeting, the Committee sought following information for further consideration of the project:-

- (i) To submit the revised application in Form-1 for Chotia II sub block only, as the details provided during the presentation were relating to the expansion of both Chotia I and Chotia II.
- (ii)** Ambiguity to be resolved vis-a-vis the approved mine plan and the vesting orders issued by MOC.
- (iii) Response to the representation received from one of the NGOs requesting to address issues w. r. t. landuse, biodiversity, water resources, cumulative impacts etc be submitted.

44.12.4 The Committee, during the deliberations noted the following:

- (i) The EC dated 10<sup>th</sup> November, 2005 for Chotia –II is for 0.25 MTPA UG mine as per first mine plan approval.
- (ii) The PP informed that in the year 2010, modification in the Mine Plan was made for 0.5 MTPA OC and 0.3 MTPA UG.
- (iii) Stage -1 FC received on 04.01.2011 and Stage –II on 07.06.2011.
- (iv) The PP informed that the application for FC was made by the earlier proponent for both OC and UG mine. However, they were requested to look into the details and submit the detailed documents to clarify whether the FC was given for both OC & UG without taking note of the EC which is for UG mine only.
- (v) In the year 2010, revised mine plan was approved with OC & UG. However, no application for amendment of EC was submitted by the earlier PP.
- (vi) PP has applied for revision of Mine Plan with OC & UG to MOC, which is still awaited.

44.12.3 *In view of the observations as above, the committee suggested project proponent to apply for amendment in the EC after approval of revised mine plan.*

### Agenda 44.13

#### Discussion on any other matters with the permission of the Chair

**(a) Coal Beneficiation Plant of 1 MTPA capacity of M/s Shree Nakoda Ispat Ltd - Correction in minutes of the meeting**

The proposal for amendment in the EC to the project 'Coal Beneficiation Plant of 1 MTPA capacity of M/s Shree Nakoda Ispat Ltd' was considered in the 42<sup>nd</sup> EAC meeting held on 31<sup>st</sup> August - 1 September, 2015 (Agenda 42.15). The EAC noted the discrepancy in minutes of the meeting (para 42.15.2), and agreed for correction therein as under:-

'The proposal for amendment in the EC granted to the above project vide letter No. **J-11015/18/98-IA II (M) dated 1<sup>st</sup> March, 1999**, was placed before the 39<sup>th</sup> EAC meeting held in July, 2015. The Committee after detailed deliberations, and considering the submissions as above recommended the project for amendment in EC, in respect of the following'

may be read as

'The proposal for amendment in the EC granted to the above project vide letter No. **J-11015/473/2008-IA-II (M) dated 10.02.2010** was placed before the 39<sup>th</sup> EAC meeting held in July, 2015. The Committee after detailed deliberations, and considering the submissions as above recommended the project for amendment in EC, in respect of the following'

**(b) Amlohri Open Cast Coal Mine Expansion Project from 10 MTPA to 14 MTPA in ML area of 2175 ha of M/s Northern Coalfields Limited, located at District Sidhi (Madhya Pradesh)**

The above project has been accorded EC vide letter No. J-11015/364/2005-IA-II(M) dated 02.09.2015. The PP have now requested for amendment/modification in the EC conditions, as under:-

Para	Condition	Amendment proposed
xiv	There are two external OB dump with Quantity of 185 Mbcm in an area of 402 ha with height of 150 meter above the surface level and two internal dump with Quantity of <b>29.87 Mbcm</b> in an area of 728 ha.	There are two external OB dump with Quantity of 185 Mbcm in an area of 402 ha with height of 150 meter above the surface level and two internal dump with Quantity will be <b>1129.87 Mbcm</b> in an area of 728 ha.
2 (x)	The land after mining shall be brought back for agriculture purpose	The land after mining shall be reclaimed by afforestation.
2 (xvi)	People working in the core area should be periodically tested for the lung diseases and the burden of cost on account of working in the coal mine area	Periodical medical examination shall be conducted once in five years for assessing effects of dust for persons.
2 (xiii)	Everybody in the core area should be provided with mask for protection against fugitive dust emissions.	Dust mask shall be provided to everyone working in the mining area.
2 (xxiv)	Drills shall be wet operated	Drills should be either wet operated or equipped with cyclone dust extractors to control dust emission.

*The EAC, after detailed deliberations, recommended for amendment in the EC conditions as proposed by the project proponents.*

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**PARTICIPANTS IN 44<sup>th</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 8<sup>th</sup> – 9<sup>th</sup> October, 2015 ON COAL SECTOR PROJECTS.**

<b>Sl. No.</b>	<b>LIST OF PARTICIPANTS Expert Appraisal Committee (Coal Mining)</b>	
1.	Shri Jawahar Lal Mehta	Member
2.	Dr. T. K .Dhar	Member
3.	Shri A. K. Bansal	Member
4.	Shri N. K. Verma	Member
5.	Shri S. S. Bala	Member
6.	Dr. S. D. Attri	Member
7.	Shri P. D. Siwal	Member
8.	Shri S. K. Shrivastva	Member Secretary

**PARTICIPANTS IN 44<sup>th</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 8<sup>th</sup> – 9<sup>th</sup> October, 2015 ON COAL SECTOR PROJECTS.**

**44.1 Kusmunda Opencast Expansion Project of M/s South Eastern Coalfields Ltd.**

1. Shri R. P Thakur
2. Shri U. T. Kanzaokar
3. Shri A. S. Bapat
4. Shri D. C. Kundu
5. Ms. Charu Sharma
6. Shri Ashutosh Kumar
7. Shri P C Jha
8. Shri R. B. Singh
9. Shri S. R. Talankar
10. Shri U K Singh
11. Shri Manoj Kumar
12. Shri Amit Saxena
13. Dr. A. Tiwari
14. Shri Pawan Kumar

**44.2 Expansion of Amera OC project of M/s South Eastern Coalfields Limited.**

1. Shri R. P Thakur
2. Shri U. T. Kanzaokar
3. Shri A. S. Bapat
4. Shri D. C. Kundu
5. Ms. Charu Sharma
6. Shri Ashutosh Kumar
7. Shri P C Jha
8. Shri R. B. Singh
9. Shri S. R. Talankar
10. Shri U K Singh
11. Shri Manoj Kumar
12. Shri Amit Saxena
13. Dr. A. Tiwari
14. Shri Pawan Kumar

**44.3 2 x1.2 MTPA Dry type Coal washery to 1 . 2.4 MTPA wet type coal washery of M/s Hind Energy and coal beneficiation (India) Ltd.**

1. Shri Rajeev Agarwal
2. Shri Pawan Agarwal
3. Shri Abhishek Mukharjee

**44.4 Khadia Opencast Coal Mine Expansion Project of M/s Northern Coalfields Ltd.**

1. Shri J. L. Singh
2. Shri B. K. Sharma
3. Shri U. C. Dumka
4. Shri Manoj Agrawal
5. Shri Pawan Kumar
6. Shri Ashok Prasad
7. Shri V. N. Dupattawala

- 44.5 Expansion of Konar Expansion OCP of **M/s Central Coalfields limited.**
1. Shri P. K. Guin
  2. Shri Alok Kumar
  3. Shri S. Singh
  4. Dr. A. Sinha
  5. Shri Pushkar
  6. Shri J. Charkraborty
- 44.6 Expansion of 0.7 MTPA to 5.70 MTPA Coal washery of **M/s Aryan Ispat & Power Pvt. Ltd.**
1. Shri Ankur Jain
  2. Shri K. K. Jain
  3. Shri y. P Ohri
  4. Shri N. K. Prasad
  5. Shri N. Kumar
  6. Dr. B. Chandra
  7. Shri P. Rama Krishna
  8. Shri P. K. Das
  9. Shri M Janardhan
  10. Shri G. V. Daghara Rao
- 44.7 Expansion of Washery from 5.0 MTPA to 10 MTPA of **M/s ACB (INDIA) Ltd.**
1. Shri V. B. Sahay
  2. Shri Pratap Reddy
  3. Shri S. K. Mishra
  4. Shri S. K. Mohan
- 44.8 Coal Washery (expansion from 1 MTPA to 5 MTPA in an ML area 16.12 ha) of **M/s Mahavir Beneficiation Private Ltd.**
1. Shri Ankur Jain
  2. Shri K. K. Jain
  3. Shri N. K. Prasad
  4. Shri N. Kumar
  5. P. Rama Krishna
  6. Shri Y. P Ohri
  7. Shri M. Janardhan
  8. Shri G. V. Raghav Rao
- 44.9 Lingraj OCP Expansion project from 13 MTPA to 20 MTPA of **M/s Mahanadi Coalfields Ltd.**
1. Shri J. P. Singh
  2. Shri N.K. Srivastava
  3. Shri N. K. Singh
  4. Dr. A. K. Samantaray
  5. Shri K. S. Ganapathy
  6. Shri S. K. Bhar
  7. Shri A. Sinha
  8. Dr. V. Arora
  9. Shri D. K. Sah
  10. Dr. Shambhantar
  11. Shri A. K. Sinha
  12. Shri P. K. Mishra

44.10 Jagannath Washery (10.0 MTPA in an area of 29.94 Ha) of **M/s Mahanadi Coalfields Ltd.**

1. Shri J. P. Singh
2. Shri N.K. Srivastava
3. Shri N. K. Singh
4. Dr. A. K. Samantaray
5. Shri K. S. Ganapathy
6. Shri S. K. Bhar
7. Shri A. Sinha
8. Dr. V. Arora
9. Shri D. K. Sah
10. Dr. Shambhu jha
11. Shri A. K. Sinha
12. Shri P. K. Mishra

44.11 Makardhokra -I OC for 1.00 MTPA rated capacity in a lease area 660.70 ha of **M/s Western Coalfields Ltd**

1. Shri B.K Mishra
2. Shri S. K. Sinha
3. Shri R. M. Wanare
4. Shri V. K. Nagda
5. Shri G. Kumar
6. Shri K. Chakraborty

44.12 Expansion of Chotia-II Captive coal mining Project of **M/s Bharat Aluminium Company Limited (BALCO)**

1. Shri M Janardhan
2. Shri P Rama Krishnan
3. Shri G V Raghava Rao
4. Shri R. K. Narang
5. Shri Tushar Sainger
6. Shri Ravi Kumar

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**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 Government.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> and NO<sub>x</sub>, 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-IIOI3/25/2014-IA.I dated 11<sup>th</sup> 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 confirm 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.

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**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 (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> 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.
- (xxv) 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.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) 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 <sup>st</sup> Year)	5 <sup>th</sup> Year	10 <sup>th</sup> Year	20 <sup>th</sup> Year	24 <sup>th</sup> 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 <sup>st</sup> year					
2.	3 <sup>rd</sup> year					
3.	5 <sup>th</sup> year					
4.	10 <sup>th</sup> year					
5.	15 <sup>th</sup> year					
6.	20 <sup>th</sup> year					
7.	25 <sup>th</sup> year					
8.	30 <sup>th</sup> year					
9.	34 <sup>th</sup> year(end of mine life)					
10	34- 37 <sup>th</sup> 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:**

<b>TOTAL ML/PROJECT AREA (ha)</b>	<b>TOTAL FORESTLAND (ha)</b>	<b>Date of FC</b>	<b>Extent of forestland</b>	<b>Balance area for which FC is yet to be obtained</b>	<b>Status of appl for. diversion of forestland</b>
		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.

<b>S.N</b>	<b>ML/Project Land use</b>	<b>Area under Surface Rights(ha)</b>	<b>Area Under Mining Rights (ha)</b>	<b>Area under Both (ha)</b>
1.	Agricultural land			
2.	ForestLand			
3.	Grazing Land			

4.	Settlements			
5.	Others (specify)			

#### Area under Surface Rights

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

- (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 (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> 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 of .....MTPA 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.

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44<sup>th</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING  
SCHEDULED FOR 8<sup>th</sup> – 9<sup>th</sup> October, 2015

AGENDA

Venue: Brahmaputra 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>

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](mailto:sk.smree66@nic.in) at least one week prior to the EAC meeting.
- ii. Please indicate the agenda number on the document submitted as well as in the e-mail while forwarding the relevant information.
- iii. Without this information, EAC has discretion to invite the proponent for the meeting.
- iv. Please also provide a copy to the EAC Members during the meeting.
- v. 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.

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COAL MINING PROJECTS

Thursday 8<sup>th</sup> October, 2015

10:00 AM -10:15 AM: Confirmation of Minutes

- 44.1 Kustumda Opencast Expansion Project (Normative 15 MTPA to 50MTPA & Peak 18.75 MTPA to 62.50 MTPA in an ML area 3510.348 Ha); Latitude 22<sup>o</sup> 15' 18" to 22<sup>o</sup> 21' 30" North and Longitude 82<sup>o</sup> 38' 39" to 82<sup>o</sup> 42' 08" East of **M/s South Eastern Coalfields Ltd.**, located at dist. Korba, Chhattisgarh - **For further consideration of EC**
- 44.2 Expansion of Amera OC project ( from 1.0 MTPA to 2.0 MTPA in an ML area of 664.184 Ha; Latitude- 23<sup>o</sup> 02' 50" to 23<sup>o</sup> 04' 34" N and Longitude 83<sup>o</sup> 01' 34" to 83<sup>o</sup> 03' 38" E of **M/s South Eastern Coalfields Limited** located at village Amera, Tahsil Lakhanpur in District Sarguja Chhattisgarh - **For further consideration of EC**
- 44.3 Amendment in Environmental clearance for change from existing 2 x1.2 MTPA Dry type Coal washery to 1 . 2.4 MTPA wet type coal washery of **M/s Hind Energy and coal beneficiation (India) Ltd.** at Hindadih Village, Masturi Tehsil, Bilaspur District, Chhattisgarh.- **EC amendment**

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- 44.4 Khadia Opencast Coal Mine Expansion Project (from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha) of **M/s Northern Coalfields Limited**, located in District Sonbhadra, Uttar Pradesh and in Tehsil Singrauli in District Sidhi, Madhya Pradesh - **For further consideration of EC**
- 44.5 Expansion of Konar Expansion OCP (Nominal / Peak capacity 8.00/ 11.00 MTPA) & Integrated Konar Non-coking Coal Washery (7 MTPA) in a project area of 729.40 Ha of **M/s Central Coalfields limited** located in District - Bokaro, Jharkhand- **TOR**

**Friday 9<sup>th</sup> October, 2015**

- 44.6** Expansion of 0.7 MTPA to 5.70 MTPA Coal washeries in an area of 82.81 ha (Latitude 22° 08' 02.39" - 22° 08' 19.41" N and Longitude 83° 14' 30.21" - 83° 14' 50.01" E) of **M/s Aryan Ispat & Power Pvt. Ltd** Located in Village Bomaloi, Tehsil Rengali, District Sambalpur. Odisha **-TOR**
- 44.7** Expansion of Production Capacity from 5 MTPA to 10 MTPA in an area of 13.5 ha at Himgir Coal Washery of **M/s ACB (INDIA) Limited** located in Tehsil Hemgir, District Sundargarh Odisha **-TOR**
- 44.8** 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**

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- 44.9** Lingraj OCP Expansion project from 13 MTPA to 20 MTPA within the total area of 1493.20 Ha (1410.01 Ha + Outside ML area 83.19 Ha; Latitude 20° 57' 39" to 20° 58' 18" North and Longitude 85° 09' 33" to 85° 12' 12" East) of **M/s Mahanadi Coalfields Ltd.**, located in Talcher Coalfields, District. Angul Orissa- **For further consideration of EC**
- 44.10** Jagannath Washery (10.0 MTPA in an area of 29.94 Ha) of **M/s Mahanadi Coalfields Ltd.** Longitudes 85° 09' 10" E to 85° 11' 37" E and latitudes 20° 57' 59" N to 20° 58' 43"N, located in villages Hensmul District Talcher, Orissa – **Correction in TOR.**
- 44.11** Makardhokra -I OC for 1.00 MTPA rated capacity in a lease area 660.70 ha. Of **M/s Western Coalfields Ltd.** Latitude 20° 51'06" & 20° 52'30" N and Longitude 79° 14'17" & 79° 15'52" E located in District Nagpur Maharashtra. **-EC under 7(ii) of EIA Notification, 2006.**
- 44.12** Expansion of Chotia-II Captive coal mining Project(from 0.25 MTPA to 1.0 MTPA in an ML area 411.0 Ha) of **M/s Bharat Aluminium Company Limited (BALCO)**, latitude N 22° 50'40.6" N- 22° 51' 58.6" N-22° 51' 33.4" N-22° 51' 1.3" N and longitude 82° 33' 1.2" E - 82° 31' 57.9" E- 82° 31' 26.9" E-82° 31' 47.7" E, located in salaigot village, tehsil podiuprodha, korba district, Chhattisgarh- **For further consideration of TOR**
- 44.13** Discussion on any other matters with the permission of the Chair.

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