

## Minutes of the 1<sup>st</sup> meeting of the EAC held on 27<sup>th</sup> December, 2016 for Thermal & Coal Mining Sector projects

**A.** The 1<sup>st</sup> meeting of the Expert Appraisal Committee (EAC) for Thermal & Coal mining projects was held on **27<sup>th</sup> December, 2016** in the Ministry to consider the proposals relating to coal mining sector. The list of participants and the project proponents are at Annexure-I & II respectively.

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

### Agenda 1.1

#### **Expansion of Rohini OCP from 2.30 MTPA to 3.30 MTPA of M/s Central Coalfields Limited in an area of 255.68 ha located in District Ranchi (Jharkhand)**

1.1.1 The proposal is for grant of environmental clearance for expansion of Rohini Opencast Coalmine Project from 2.30 MTPA to 3.30 MTPA (peak) of M/s Central Coalfield Limited in a total area of 255.68 ha in District Ranchi (Jharkhand).

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

(i) The project was earlier accorded EC vide letter No.J-11015/227/2007-IA.II(M) dated 5<sup>th</sup> October, 2009 for 2.00 MTPA (Normative)/2.30 (Peak) capacity in a total area of 258.17 ha.

(ii) The project area is now reduced from 258.17 ha to 255.68 ha.

(iii) Latitude and Longitude of the project site are **23° 40' 31" to 23° 42' 30"N** and **84° 58' 38" to 84° 59' 54"E** respectively.

(iv) Joint Venture: No joint Venture.

(v) Coal Linkage: **Power and other miscellaneous consumers.**

(vi) Employment generated / to be generated: **40 land losers provided employment.**

(vii) Benefits of the project: Development of Rohini OCP has resulted in following benefits:

- Improvements in Physical Infrastructure
- Improvements in Social Infrastructure
- Increase in Employment Potential
- Contribution to the Exchequer
- Meet energy requirement
- Post-mining Enhancement of Green Cover

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

Pre-Mining:

Particulars	Total land for Rohini exp. Project (ha)		
	Forest	Non- Forest	Total
Quarry	138.33	65.72	204.05
Haul Road	1.63	0.50	2.13
Embankment	6.53	14.24	20.77
Nala Diversion	0.30	0.50	0.80
Safety Zone	0.00	27.93	27.93
Gross Total	146.79	108.89	255.68

Post- Mining:

SN	Description	Land-use (Ha)				
		Plantation	Water Body	Public / CCL use	Landscaped Quarry Batter	Total
1	Excavation	0.00	10.51	0.00	0.00	10.51
2	Backfilled Area	156.47	0.00	0.00	0.00	156.47
3	Quarry batter	0.00	0.00	0.00	37.07	37.07
4	Builtup area	2.00	0.00	1.00	0.00	3.00
5	Green belt	5.00	0.00	0.00	0.00	5.00
6	Embankment	20.77	0.00	0.00	0.00	20.77
7	Road	3.00	0.00	0.00	0.00	3.00
8	Undisturbed area/ river	0.00	18.55	1.31	0.00	19.86
<b>Total</b>		<b>187.24</b>	<b>29.06</b>	<b>2.31</b>	<b>37.07</b>	<b>255.68</b>

(ix) Total geological reserve is 93.718 MT. The mineable reserve 16.71 MT, extractable reserve is 14.41 MT, and thus the per cent of extraction would be 100%.

(x) The coal grade is G-11. The stripping ratio is 2.03 Cum/tonne. The average Gradient is 1<sup>0</sup> to 2<sup>0</sup>. There will be 3 seams with thickness ranging

Sl. No.	Particulars	Unit	Value
I	COAL		
A	Seam Thickness		
1	Middle Dakra	M	8-13
2	Top Lower Dakra	M	1-3
3	Upper Dakra	M	1-2

(xi) The total estimated water requirement is 451m<sup>3</sup>/day. The level of ground water ranges from 4.45 m to 6.00 m BGL.

(xii) The method of mining would be open cast with shovel-dumper combination.

(xiii) There is no external OB dump and one internal dump with Quantity of **35.76** Mbcm in an area of **156.47**ha.

(xiv) The final mine void would be in 47.57 ha mine void (after backfilling), 10.51 Ha will be converted into water body with depth about 65 m BGL and the Total quarry area is **204.05** Ha. Backfilled quarry area of **156.47** Ha shall be reclaimed with plantation. A void of 47.57 ha with depth 65 m which is proposed to be converted into a water body.

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

(xvi) The life of mine is **7** Years.

(xvii) Coal transportation in pit by **Dumpers** from in pit to pit head coal handling plant, Surface to Siding by rail to Pre-weigh Bin and loading at siding by **pay loader**.

(xviii) There is no R & R involved. There are 34 project affected families.

(xvix) Total capital cost of the project is Rs.**105.67** Crores. According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 5.00 per tonne of coal production of

previous year whichever is higher. R&R Cost: Nil. Environmental Management Cost: **Rs. 1587.77 Lakhs.**

(xx) Damodar river flows along northern boundary of the project and the quarry is at a safe distance of more than 100 m from the river. An embankment has already been developed between quarry and the river.

(xxi) Mine Plan for the proposed expansion of Rohini OCP in an area of 255.68 ha has been accorded approval by the M/s CCL Board on 25<sup>th</sup> August 2016. Mine closure plan is a part of the Mine plan approved by M/s CCL Board.

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

(xxiii) **Total forest area involved (in ha) for mining: 146.79 Ha.**

Area (in ha)	Stage-1 FC issued vide letter no. & date
71.98	8-60/94-FC dt. 23.02.1995
74.81	8-60/1994-FC dt.-24.01.2013

(xxiv) Total afforestation plan shall be implemented covering an area of **156.47** ha at the end of mining. Green Belt over an area of **5** ha. Density of tree plantation **2500** trees/ ha of plants.

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

(xxvi) Public Hearing was held on 23.12.2008. The issues raised during the PH include free LPG for the villagers, coal transportation by covered trucks; medical facility and education to villagers; water harvesting measures; control measures for air pollution and vibration due to blasting; employment; electricity; compensation for land outstees.

(xxvii) **Certified EC Compliance Report:** The Regional Office of MoEFCC at Ranchi has carried out the site inspection on 20<sup>th</sup> May, 2016 to verify the status of compliance of EC conditions granted for expansion of **Rohini OCP from 0.8 MTPA to 2.30 MTPA with increase in ML area from 167.04 ha to 258.17 ha of M/s Central Coalfields Limited in District Ranchi (Jharkhand).** The project proponent presented the action taken on each of the observations made by Regional Office during the site visit.

1.1.3 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of Rohini OCP from 2.30 to 3.30 MTPA (peak) without any change in the total ML area and/or the mining process/technology.

(ii) The earlier EC was accorded to the project on 5<sup>th</sup> October, 2009 for expansion from 0.8 MTPA to 2.30 MTPA with increase in mine lease area from 167.04 ha to 258.17 ha, based on the TOR issued on 23<sup>rd</sup> May, 2007, public hearing conducted on 23<sup>rd</sup> December, 2008 and subsequent recommendations of the EAC.

(iii) The Regional Office of MoEF&CC at Ranchi has conducted the site inspection on 20<sup>th</sup> May, 2016 and forwarded their report on compliance status of EC conditions. The compliance has been reported in terms of 'Agreed', 'Complied', 'Partly Complied', 'Agreed to comply' and 'To be complied'.

*The committee noted the compliance status as satisfactory to take the proposal forward.*

(iv) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM<sub>10</sub>) and other gaseous pollutants are within the prescribed standards.

(v) It was observed that in the earlier EC, forest land involved was 154.41 ha, which is now reduced to 146.79 ha and thus having a difference of 7.62 ha. The PP on this issue clarified that 2.49 ha of forest land falling in the safety zone has been surrendered, but could not justify the status of balance 5.13 ha of the forest land.

*1.1.4 The Committee, after detailed deliberations, decided for exempting the proposal from the requirement of fresh TOR and fresh Public Hearing, and recommended the proposal for grant of Environmental clearance to the expansion of Rohini OCP from 2.30 to 3.30 MTPA (peak), subject to satisfactory clarification in respect of para 1.1.3 (v) above.*

*The environmental clearance shall be further subject to specific and general conditions as applicable, and additional conditions as under;*

- The project proponent shall obtain Consent to Operate from the State Pollution Control Board for the existing production capacity of 2.30 MTPA and also the Consent to Establish for the proposed capacity of 3.30 MTPA prior to enhancing the production capacity.*
- Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*

## **Agenda 1.2**

**Expansion of Jharkhand OCP from 1.0 MTPA to 2.70 MTPA of M/s Central Coalfields Limited in an area of 261.84 ha located in District Ramgarh (Jharkhand)- (EC based on TOR granted on 08.04.2015)**

1.2.1 The proposal is for grant of EC for expansion of Jharkhand Opencast Coalmine Project from 1.0 MTPA to 2.70 MTPA of M/s Central Coalfields Limited in an area of 261.84 ha in District Ranchi (Jharkhand).

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

(i) The project for expansion of Jharkhand Opencast Coalmine from 1.0 MTPA to 2.70 MTPA of M/s Central Coalfields Limited in a total area of 278.88 ha in District Ramgarh (Jharkhand) was accorded ToR vide letter No.J-11015/03/2015 dated 8<sup>th</sup> April, 2015. However, area of the mine proposed after public hearing was reduced from 278.88 to 261.84 ha.

(ii) Major part of project area falls in Ramgarh District but a small part (17.04 ha) falls in Bokaro District towards north of Chutua nallah. The public hearing was held on 20<sup>th</sup> August, 2016 in project premises under the administrative control of the Additional District Collector, Ramgarh assisted by JSPCB officials. However, for the part falling in Bokaro District, public hearing could not be held due to administrative reasons. In view of the same, 17.04 ha of project area falling in Bokaro District was deducted from the total project area. Accordingly, the EIA/EMP reports were finalized and uploaded for revised project area of 261.84 ha. The Mine Plan and the Mine Closure Plan for revised project area of 261.84 ha was approved by CCL Board in October, 2016.

- (iii) The project was earlier accorded EC vide letter No. J-11015/12/89-IA.II(M) dated 30<sup>th</sup> January, 1995 for 1 MTPA in a total area of 278.88 ha.
- (iv) Latitude and Longitude of the project site are 23° 46' 53" to 23° 48' 29" N and 85° 36' 23" to 85° 37' 23" E respectively.
- (v) Joint Venture: Not Applicable
- (vi) Coal Linkage : Coking coal, power and other miscellaneous consumers
- (vii) Employment generated/to be generated: Total 33 no. of direct employment has been given to land losers and proposal of employment to 35 more land losers is under process.
- (viii) Benefits of the project: Development of Jharkhand OCP has resulted in following benefits.

- Improvements in Physical Infrastructure
- Improvements in Social Infrastructure
- Increase in Employment Potential
- Contribution to the Exchequer
- Meet energy requirement
- Post-mining Enhancement of Green Cover

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

Pre-Mining:

Land Use	Land Area (ha)		
	Forest	Non-Forest	Total
Quarry	89.47	33.1	122.57
External OB Dump	31.37	2.63	34.00
Haul Road	1.82	1.32	3.14
Safety Zone/ green belt	38.15	63.98	102.13
<b>Total</b>	<b>160.81</b>	<b>101.03</b>	<b>261.84</b>

Post- Mining:

S No.	Description	Land-use (Ha)				Total
		Plantation	Water Body	Public use	Landscaped Quarry Batter	
1	Ext OB Dump	34.00	0.00	0.00	0.00	34.00
2	Top soil dump	2.00	0.00	0.00	0.00	2.00
3	Excavation	58.40	44.92	0.00	19.25	122.57
4	Built-up area	0.00	0.00	11.00	0.00	11.00
5	Green belt	13.20	0.00	0.00	0.00	13.20
6	Undisturbed	0.00	2.00	77.07	0.00	79.07
<b>Total</b>		<b>107.60</b>	<b>46.92</b>	<b>88.07</b>	<b>19.25</b>	<b>261.84</b>

- (x) Total geological reserve is 126.643 MT. The mineable reserve 21.53 MT, extractable reserve is 7.83 MT. The per cent of extraction would be 100 %.

- (xi) The coal grade is W-IV. The stripping ratio is 1.54 average Cum/tonne. The average Gradient is 1 in 6-10. There will be 6 seams with thickness ranging:

Sl. No.	Particulars	Unit	Thickness Range
1.	<b>Seam Thickness</b>		
A	Seam VA	M	4.96-7.63
B	Seam V	-do-	6.99-8.82
C	Seam IV	-do-	3.34-5.20
D	Seam III (T)	-do-	3.90-4.89
E	Seam III (B)	-do-	1.48-2.33
F	Seam III (Merged)	-do-	4.79-7.53

(xii) Total estimated water requirement is 880m<sup>3</sup>/day. The level of ground water ranges from 3.1 to 10 m.

(xiii) The Method of mining would be opencast with shovel-dumper combination.

(xiv) There is one external OB dump with quantity of 10 Mcumin an area of 34 ha with height of 60 m above the surface level and one internal dump with quantity of 11.25Mbcm in an area of 58.40 ha.

(xv) Final mine void would be in 64.17 Ha with depth about 60-70 m BGL and the Total quarry area is 122.57 Ha. Backfilled quarry area of 122.57 Ha shall be reclaimed with plantation. A void of 64.17 ha with depth 60-70 m below ground level which is proposed to be converted into a water body.

(xvi) The life of mine is 6 years balance life.

(xvii) Transportation: Coal transportation in pit by Dumpers from in pit to pit head coal handling plant, Surface to Siding by trucks to NR Siding about 18 km away from mine , Kedla coal washery about 9 km away to Pre-weigh Bin and loading at siding by payloader.

(xviii) There is R & R involved. There are 23 PAFs (already shifted).

(xix) Total capital cost of the project is Rs. 44.285 Crores. According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 5.00 per tonne of coal production of previous year whichever is higher. R&R Cost: Rs 25.06 Lakh. Environmental Management Cost Rs. 219.80 Lakhs.

(xx) Chutua River is flowing in the north of the project. It lies more than 100m away from the mine edge.

(xxi) Ground water clearance to be applied. CCL Board's approval obtained on 28<sup>th</sup> October, 2016 for Mine Plan. Mine closure plan is an integral part of Mine Plan.

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

(xxiii) Total forest area involved is 160.81 ha in present proposal. Stage-1 FC has been obtained for the complete area as per the following details:-

Area (in ha)	Stage-1 FC issued vide letter no. & date
57.94	8-52/93-FC dt. 09.09.1994
96.28	F.No 8-52/2003-FC dt. 09.12.2003.
06.59	8-52/2003-FC(Vol.I) dated 22.03.2010
160.81	

(xxiv) Total afforestation plan shall be implemented covering an area of 34.00 ha at the end of mining. Green Belt over an area of 13.20 ha. Density of tree plantation 2500 trees/ ha of plants.

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

(xxvi) Public Hearing was held on 15<sup>th</sup> July, 2016. The issues raised during the PH include medical care, control measures for air, water and noise pollution, improvement in education system, DAV school fees structure, employment to the land losers, etc.

(xxvii) **Certified EC Compliance Report:** The Regional Office of MoEFCC at Ranchi has carried out the site inspection on 25<sup>th</sup> May, 2016 to verify the status of compliance of EC conditions granted for **Jharkhand OCP of 1 MTPA in a total area of 278.88 ha of M/s Central Coalfields Limited**. The project proponent presented the action taken on each of the observations made by Regional Office during the site visit.

1.2.3 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of Jharkhand OCP from 1.00 to 2.70 MTPA (peak) without any change in the mining process/technology, but with a marginal reduction in the total area.

(ii) The TOR for the project was issued vide letter No.J-11015/03/2015 dated 8<sup>th</sup> April, 2015 involving a total area of 278.88 ha falling in two districts (Ramgarh and Bokaro). However, due to public hearing not made possible for Bokaro District due to administrative reasons, hence 17.04 ha of the project area has been deducted and the project area now revised to 261.84 ha.

(iii) The revised project area of 261.84 includes forest land of 160.81 ha, for which stage-I Forest Clearance has since been obtained.

(iv) The Regional Office of MoEF&CC at Ranchi has conducted the site inspection on 20<sup>th</sup> May, 2016 and forwarded their report on compliance status of EC conditions. The compliance has been reported in terms of 'Agreed', 'Complied', 'Partly Complied', 'Agreed to comply' and 'To be complied'.

*The committee noted the compliance status as satisfactory to take the proposal forward.*

(v) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM<sub>10</sub>) and other gaseous pollutants are within the prescribed standards.

*1.1.4 The Committee, after detailed deliberations, found the EIA/EMP reports complying with the scope of work as prescribed in the ToR, and recommended the proposal for grant of Environmental clearance to the expansion of Jharkhand OCP from 1.00 to 2.70 MTPA (peak) in a total area of 261.84 ha, subject to the specific and general conditions as applicable, and additional conditions as under;*

- The project proponent shall obtain Consent to Operate from the State Pollution Control Board for the existing production capacity of 1 MTPA and also the Consent to Establish for the proposed capacity of 2.70 MTPA prior to enhancing the production capacity.*
- Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*

### **Agenda 1.3**

#### **Expansion of Ashok OCP from 10 MTPA to 14 MTPA in ML area of 793.14 ha of M/s Central Coalfields Limited located in Tehsil Tandwa District Chatra (Jharkhand)**

1.3.1 The proposal is for grant of environmental clearance to the expansion of Ashok Opencast Coalmine Project from 10 MTPA to 14 MTPA in ML area of 793.14 ha of M/s Central Coalfields Limited located in Tehsil Tandwa, District Chatra (Jharkhand).

1.3.2 The proposal was earlier considered by the EAC in its 53<sup>rd</sup> meeting held on 17-18 March, 2016, wherein the Committee, after deliberations, had recommended for grant of environmental clearance with production capacity up to 12 MTPA only, subject to certain conditions such as:

- (i) As against the proposal for 14 MTPA, the EC shall be for the production capacity of 12 MTPA as recommended by EAC.
- (ii) The project proponent will immediately undertake adequate dust mitigative measures, including the deployment of at least six number of mist water sprayers.
- (iii) To observe the reduction in PM<sub>10</sub> value in ambient air on account of the dust mitigative measures introduced, the project proponent should provide to the EAC monitoring data up to June, 2016.
- (iv) There after (since the PP has indicated that coal transportation will commence through railways by June, 2016) data on air quality is to be provided to the EAC for the next three months period till September 2016 so as to observe the reduction in PM10 on account of rail movement.
- (v) Production enhancement beyond 12 MTPA would depend on appreciable improvement in the ambient air quality data.
- (vi) 73 Project Affected Families (PAFs) have been shifted as on date but 127 number PAFs have yet to be shifted. It has been agreed by the PP that the balance number of 127 PAFs would be definitely shifted by 30<sup>th</sup> September, 2016.

Based on the recommendations of the EAC and subsequent approval of the competent authority, the EC was issued on 30<sup>th</sup> March, 2016 for expansion of Ashok OCP from 10 to 12 MTPA in the same mine lease area of 793.14 ha.

1.3.3 Now the request has been made for grant of EC for the additional capacity of 2 MTPA i.e. from 12 to 14 MTPA. To support their proposal, para wise compliance status against the observations of the EAC, submitted by the project proponent is as under:-

- (i) The project proponent will immediately undertake adequate dust mitigative measures, including the deployment of at least six number of mist water sprayers.

#### **Status of compliance**

- Water sprinkling on haul roads and coal transport rods is being done by mobile and static sprinklers.
  - 6 numbers of mobile sprinklers are presently deployed,
  - 116 numbers of static sprinklers are in place covering about 2.5 km of coal transport road,
- 5 numbers of surface miners are deployed for coal production which eliminate need of drilling, blasting and crushing of coal.
- Project has planted about 5.08 Lakh saplings on backfilled, roadside and around infrastructure to arrest migration of dust.
- About 7.7 km PCC road constructed for coal transportation.

- Work order for installing 6 numbers of mist sprayers issued to M/S Bharat Earth Movers Limited on 18th November, 2016.
- 4 mist sprayers deployed at the OCP site.

(ii) To observe the reduction in PM<sub>10</sub> value in ambient air on account of the dust mitigative measures introduced, the project proponent should provide to the EAC monitoring data up to June, 2016.

(iii) Thereafter (since the PP has indicated that coal transportation will commence through railways by June 2016) data on air quality is to be provided to the EAC for the next three months period till September 2016 so as to observe the reduction in PM 10 on account of rail movement.

#### Status of compliance

Monitoring of PM<sub>10</sub> at different locations (average results) are given below for quarter ending June 2016 and September 2016. The trend shows reduction in PM<sub>10</sub> concentration in air at most of the locations.

S. No.	Station	PM <sub>10</sub> (Quarter ending June16 )	PM <sub>10</sub> (Quarter ending Sept 16)
1	Bijan village	77.5	75.16
2	Tola across BentiNala	98.5	82.66
3	Ashok Pit	104.5	93.16
4	Benti village	78.75	79.16

Progress of Piparwar Railway Siding: As per information from RITES, track linking of 0.125 is to be carried out and testing of rail track (engine rolling) is scheduled by middle of December 2016 after which diesel engine can operate in this section.

(iv) Production enhancement beyond 12 MTPA would depend on appreciable improvement in the ambient air quality data.

#### Status of compliance

The improvement in air quality as reflected in PM10 values at different locations due to mitigating measures already undertaken, would be further refined with the deployment of 6 mist sprayers at mine.

(v) 73 Project Affected Families (PAFs) have been shifted as on date but 127 number PAFs are yet to be shifted. It has been agreed by the PP that the balance number of 127 PAFs would be definitely shifted by 30<sup>th</sup> September, 2016.

#### Status of compliance

- Resettlement and rehabilitation of PAFs is in progress OCP as per the R&R policy of CIL.
- 66 families from Thenaand 7 families from Benti village i.e.total 73 project affected families have been shifted.

- Plots of 5 decimal each have allotted to 130 PAFs at Rehabilitation site.
- Rs 1.14 crores has already been paid to 130PAF's against land compensation.
- Employment provided to 122 persons.

1.3.4 The Committee, after detailed deliberations on the proposal of increase in production capacity from 12 to 14 MTPA vis-à-vis the earlier observations of the EAC, noted the following:-

(i) The mitigating measures undertaken to check the dust and other fugitive emissions seem to be adequate, as the particulate matter concentration at monitored locations is within the prescribed norms.

(ii) The project proponent has applied to the SPCB on 31<sup>st</sup> March, 2016 for the Consent to Establish for expansion from 10 MTPA to 12 MTPA, but the same has not been issued as yet. Similarly, Consent to Operate, the statutory requirement under the Air Act, 1981 and the Water Act, 1974, has also not been obtained for the earlier capacity of 10 MTPA.

1.3.5 *In view of the para 1.3.4 (ii) above, the EAC declined to take the proposal forward, and the same was deferred for want of the desired inputs.*

#### **Agenda 1.4**

#### **Expansion of Gokul OCP from 1.0 MTPA to 1.875 MTPA in an area of 756.92 ha of M/s Western Coalfields Limited located in District Nagpur (Maharashtra) – (EC)**

1.4.1 The proposal is grant of environmental clearance for expansion of Gokul Opencast Coalmine Project from 1.0 MTPA to 1.875 MTPA (peak) of M/s Western Coalfields Limited in an area of 756.92ha in Nagpur (Maharashtra).

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

(i) The project was earlier accorded EC vide letter No.J-11015/1001/2007-IA.II (M) dated 7<sup>th</sup> January, 2011 for 1 MTPA capacity in a total area of 767.17 ha.

(ii) Latitude and Longitude of the project site are 20° 39' 32" to 20° 41' 11"N **and** 79° 16' 53" to 79° 18' 47"E **respectively**.

(iii) Joint Venture: No joint Venture.

(iv) Coal Linkage: MAHAGENCO and other miscellaneous consumers.

(v) Employment generated/to be generated: 40 land losers provided employment.

(vi) Benefits of the project: Development of Gokul OCP has resulted in following benefits:

- Improvements in physical infrastructure
- Improvements in social infrastructure,
- Increase in employment potential,
- Contribution to the exchequer,
- Meet energy requirement,
- Post-mining enhancement of green cover

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

#### **Pre-Mining:**

S.No.	Land use	Within ML Area (ha)	Outside ML Area (ha)	Total
1	Agricultural land	705.96	5.00	711.96

2	Forest land /Zudpi Jungle.	11.90	-	11.90
3	Waste land	33.06	-	33.06
4	Grazing land	--	--	--
5	Surface water bodies	--	--	--
6	Settlements	--	--	--
7	Others (specify)	--	--	--
	Total	751.92	5.00	756.92

Post- Mining:

S.N.	Land use during mining	Land use (ha)				Total
		Plantation	Water Body	Public use	Undisturbed	
1	External OB Dump	123.9	--	--	--	123.9
2	Top soil dump	30.75	--	--	--	30.75--
3	Excavation	115.39	175.82	--	--	291.21
4	Roads	3.00	--	36.00	--	39.00
5	Built up area	3.00	--	12.0	--	15.00
7	Undisturbed Area	100.00	--	--	157.06	257.06
	Total	376.04	175.82	48.0	157.06	756.92

(viii) Total geological reserve is 26.988 MT. The mineable reserve 14.50 MT with the extractable reserve of 14.50 MT. The per cent of extraction would thus be 53.72%.

(ix) The coal grade is G-7. The stripping ratio is 1:9.37 Cum/tonne. The average Gradient is 1 in 7.5 to 1 in 12.5. There will be two seams with thickness ranging

Quarry	Seam-V	Seam-II
Average Seam Thickness	2.00 m	4.0

(x) Total estimated water requirement is 460 m<sup>3</sup>/day. The level of ground water ranges from 1.80 m to 12.15 m.

(xi) The method of mining would be inclined slicing, Shovel-Dumper Combination.

(xii) There is one external OB dump with quantity of 41.75 Mcum in an area of 123.9 ha with height of 60 m above the surface level and one internal dump with Quantity of 94.09 Mcum in an area of 115.39 ha.

(xiii) Final mine void would be in 175.82 ha with depth 100 m. and the Total quarry area is 231.73 ha. Backfilled quarry area of 115.39 ha shall be reclaimed with plantation. A two d of 175.82 ha with depth 175.82 m which is proposed to be converted into a water body

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

(xv) The life of mine is 11 years.

(xvi) Coal transportation in pit by dumpers from in pit to pit head coal handling plant, surface to siding by dumpers to pre-weigh bin and loading at siding by dumpers.

(xvii) There is no R & R involved. There are 214.1214 PAFs.

(xviii) Total capital cost involved is Rs.262.9210 crore. According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the

three immediate preceding financial years or Rs. 5.00 per tonne of coal production of previous year whichever is higher. Environmental Management Cost Rs 40.55 Lakhs.

(xix) Two small seasonal nallas originating near (South-eastern part of the project) proposed external OB Dump will be diverted. A Canal also exists in the north side of the proposed quarry. Tentative diversion route of the nalla have been shown on Quarry & surface layout plan.

(xx) Mine Plan for the proposed expansion of Gokul OCP in an area of 756.92 ha was approved by the M/s WCL Board on 29<sup>th</sup> November, 2014. Mine closure plan is a part of the Mine plan approved by the Board.

(xxi) There are no National Parks, Wildlife Sanctuary, Biosphere Reserves found in the 10 km buffer zone.

(xxii) For diversion of 11.90 ha of forest land for non-forestry use, the stage-I forest clearance the proposal has been forwarded to MoEF, Regional Office Bhopal by the State Government of Maharashtra vide letter No. FLD-3413/CR-389 / F-10. dated 3<sup>rd</sup> July 2014. Reply to queries raised by CCF (c), MoEF Bhopal, have been submitted to Regional office, Bhopal on 22/9/2014. GPS plan has been submitted. NOC under FRA 2006 has been submitted.

(xxiii) Total afforestation plan shall be implemented covering an area of 376.04 ha at the end of mining. Green Belt over an area of Included in total plantation. Density of tree plantation 2500 trees/ha of plants.

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

(xxv) Public Hearing was held on 11<sup>th</sup> November, 2008 at village Tah Bhiwpur District Nagpur.

(xxvi) The Regional Office of MoEF&CC at Nagpur has carried out the site inspection on 5<sup>th</sup> November, 2015 to verify the status of compliance of EC conditions. The monitoring report was forwarded to this Ministry vide their letter dated 26<sup>th</sup> December, 2015. The project proponent informed about the action taken on each of the observations during monitoring and presented before the EAC during the meeting.

1.4.3 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of Gokul OCP from 1.00 to 1.875 MTPA without any change in the mining process/technology, but with a marginal reduction in the total mine lease area of 10.25 ha (from 767.17 ha to 756.92 ha) as final acquisition.

(ii) The earlier EC was accorded to the project on 7<sup>th</sup> January, 2011 for its capacity as 1 MTPA in the total mine lease area of 767.17 ha, based on the TOR issued on 17<sup>th</sup> December, 2007, public hearing conducted on 11<sup>th</sup> November, 2008 and subsequent recommendations of the EAC.

(iii) The Regional Office of MoEF&CC at Ranchi has conducted the site inspection on 5<sup>th</sup> November, 2015 and forwarded their report on compliance status of EC conditions. The compliance has been reported in terms of 'Agreed', 'Complied', 'Partly Complied', 'Agreed to comply and 'To be complied'.

*The committee noted the compliance status as satisfactory to take the proposal forward.*

(iv) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM<sub>10</sub>) and other gaseous pollutants are within the prescribed standards.

(v) It was observed that in the earlier EC, forest land involved was 11.90 ha, for which stage-I forest clearance in terms of the Forest (Conservation) Act, 1980, for diversion of the land for non-forestry use has been obtained so far.

1.1.4 The Committee, after detailed deliberations, decided for exempting the proposal from the requirement of fresh TOR and fresh Public Hearing, and recommended the proposal for grant of Environmental clearance to the expansion of Gokul OCP from 1.00 to 1.875 MTPA, subject to specific and general conditions as applicable, and additional conditions as under;

- The project proponent shall produce Consent to Operate from the State Pollution Control Board for the existing production capacity of 1 MTPA and also the Consent to Establish for the proposed capacity of 1.875 MTPA prior to enhancing the production capacity.
- Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.
- Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.
- Controlled blasting techniques should be adopted to control ground vibration and fly rocks.

## **Agenda 1.5**

### **Expansion of New Majri UG to OC from 0.8 MTPA to 1.2 MTPA of M/s Western Coalfields Limited in an area 479.16 ha in District Nagpur (Maharashtra)**

1.5.1 The proposal is for grant of environmental clearance to the expansion of New Majri UG to Opencast Coalmine Project from 0.8 MTPA to 1.2 MTPA) of M/s Western Coalfields Limited in a total area of 479.16 ha in District Nagpur (Maharashtra).

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

- The project was earlier accorded EC vide letter No.J-11015/25/2008-IA.II(M)dated 18<sup>th</sup> February, 2011 for a capacity of 0.80 MTPA involving a total area of 479.16 ha.
- Latitude and longitude of the project site are N 20° 6' 34" to N 20° 8' 37" and E 79° 0' 30" to E 79° 2' 20" respectively.
- Joint Venture: no Joint Venture.
- Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO & Miscellaneous consumers.
- Employment generated/to be generated: 430 no.
- Benefits of the project: This project will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non-coking coal for the power houses and other bulk consumers of western as well as southern part of the country.
- The land usage of the project will be as follows:

Pre-Mining:

S.N.	LAND USE	Within ML Area (ha)	Outside ML Area (ha)	Total (ha)
1	Agricultural land	460.24		460.24
2	Forest land			
3	Waste land			
4	Grazing land	3.68*		3.68*
5	Surface water bodies			

6	Settlements			
7	Others (specify)	15.24 **		15.24
<b>TOTAL</b>		<b>479.16</b>	<b>NIL</b>	<b>479.16</b>

Post- Mining:

S.N.	Land use during mining	Land use (ha)				Total
		Plantation	Water Body	Public use	Undisturbed	
1	External OB Dump	101.70				101.70
2	Top soil dump					
3	Excavation		114.35			114.35
4	Roads			10.00		10.00
5	Built up area					
6	Green Belt	25.00				25.00
7	Undisturbed Area				210.11	210.11
8	Embankment around quarry	18.00				18.00
	<b>Total</b>	<b>144.70</b>	<b>114.35</b>	<b>10.00</b>	<b>210.11</b>	<b>479.16</b>

(viii) Total geological reserve is 12.0 MT. The mineable reserve 12.0 MT, extractable reserve is 12.0 MT. The per cent of extraction would be 100%.

(ix) The coal grade is G-11 the stripping ratio is 1:3.59 Cum /tonne. The average Gradient is 1 in 5 to 1 in 6. There will be 1 seam with thickness 15.03 m (Min) & 18.89 (Max).

(x) Total estimated water requirement is 460 KL/day (Average Demand for Industrial) 56KL/day for Colony m<sup>3</sup>/day. The level of ground water ranges 1.64 m to 8.95 m bgl.

(xi) The method of mining would be Shovel-Dumper Combination.

(xii) There is one external OB dump with quantity of 43.05 Mm<sup>3</sup> (41.55 Mm<sup>3</sup> Permanent External OB Dump + 1.5 Mm<sup>3</sup> for the embankment) in an area of 101.70 ha with height of 60.00 meter above the surface level.

(xiii) Final mine void would be in 114.35 ha with depth varying 90 m. Total quarry area would be 74.35 ha (at the top) and 114.35 ha (on ground). No backfilling is proposed. A void of 74.35 ha with depth 90 m, which is proposed to be converted into a water body.

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

(xv) The life of mine is 11 years.

(xvi) Coal transportation is being done from pit to coal stockyard through dumpers. From coal stockyard it is being transported by tippers to the Railway siding wherein coal is loaded onto wagons by pay loaders. The same will be continued. The distance from stockyard to siding is approx.2.10 km.

(xvii) There is R & R involved. There are 261 families of WCL employees and 129 other families.

(xviii) Total capital cost of the project is Rs. 339.76 Crores. According to New CSR policy, the fund for the CSR should be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs. 5.00 per tonne of coal production of previous year whichever is higher. R&R Cost: Rs 41.45 Crore compensation package for PAF as per new R&R package of CIL. Environmental Management Cost Provision for Rs. 47.5 lakh

has been kept in approved EMP against Environment Management work. However, Rs.18.30 Lakh has been invested till 31-03-2016.

(xix) KoradiNalla with its branches and gullies passes through the eastern part of mine and join with ShirnaNalla further to the east of the entire up dip side of the mine.

(xx) Mine Plan for the proposed expansion of New Majri UG to OCP in an area of 479.16 ha was approved by the M/s WCL Board on 19<sup>th</sup> September, 2016. Mine closure plan is a part of the Mine plan approved by the Board.

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

(xxii) There is no forest land involved requiring diversion for non-forestry use in terms of the Forest (Conservation) Act, 1980, as confirmed by GoM vide letter No.1172 dated 9/15.11.2016.

(xxiii) Total afforestation plan shall be implemented covering an area of 144.70 ha at the end of mining. Green Belt Included in total plantation. Density of tree plantation 2500 trees/ ha of plants.

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

(xxv) Public Hearing was held on 9<sup>th</sup> September, 2008 for existing capacity of 0.8 MTPA.

(xxvi) **Certified EC Compliance Report:** The Regional Office of MoEFCC at **Nagpur** has carried out the site inspection on 17<sup>th</sup> November, 2016 to verify the status of compliance of EC conditions granted for New Majri UG to OCP of 0.8 MTPA in an area of 479.16 ha of M/s Western Coalfields Limited in District Ranchi (Jharkhand). The monitoring report was forwarded to this Ministry vide their letter No.3-16/2011(Env)/ dated 25<sup>th</sup> November, 2016, which was deliberated in the EAC meeting. The project proponent presented the action taken on each of the observations made by Regional Office during the site visit.

1.5.3 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of New Majri UG to Opencast Coalmine Project from 0.80 to 1.20 MTPA without any change in the total ML area and/or the mining process/technology.

(ii) The earlier EC was accorded to the project on 18<sup>th</sup> February, 2011 for its capacity as 1 MTPA in the total mine lease area of 479.16 ha, based on the TOR issued on, public hearing conducted on 9<sup>th</sup> September, 2008 and subsequent recommendations of the EAC.

(iii) The Regional Office of MoEF&CC at Ranchi has conducted the site inspection on 17<sup>th</sup> November, 2016 and forwarded their report on compliance status of EC conditions. The compliance has been reported in terms of 'Agreed', 'Complied', 'Partly Complied', 'Agreed to complied and 'To be complied'.

*The committee noted the compliance status as satisfactory to take the proposal forward.*

(iv) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM10) and other gaseous pollutants are within the prescribed standards.

*1.5.4 The Committee, after detailed deliberations, decided for exempting the proposal from the requirement of fresh TOR and fresh Public Hearing, and recommended the proposal for grant of Environmental Clearance to the expansion of New Majri UG to OCP from 0.80 to 1.20 MTPA (peak) in District Nagpur (Maharashtra), subject to specific and general conditions as applicable, and additional conditions as under;*

- *The project proponent shall obtain Consent to Establish for the proposed capacity of 1.20 MTPA before enhancing the production capacity.*
- *Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- *Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*

## **Agenda 1.6**

### **Expansion of New Sethia OCP from 0.20 MTPA to 0.50 MTPA of M/s Western Coalfields Limited with increase in mine lease area from 91.503 ha to 144.453 ha located in District Chindwara (Madhya Pradesh) - Further consideration of EC**

1.6.1 The proposal is for grant of environmental clearance to the project for expansion of New Sethia Opencast Coal Mine from 0.20 MTPA to 0.50 MTPA of M/s Western Coalfields Limited with increase in mining lease area from 91.503 ha to 144.453 ha in District Chindwara (Madhya Pradesh).

1.6.2 The proposal was last considered in the 53<sup>rd</sup> EAC meeting held on **17th -18th March, 2016**, wherein observations of the Committee were as under:-

(i) For re-handling and dumping the OB outside the existing area into Pench East OC void, approved revised mine plan would need to be submitted.

(ii) The revised mine plan must indicate the present status of Pench East OC void, as also its reclamation plan during the backfilling process.

(iii) In addition, the project proponent should also submit an action plan for complying with the EC conditions which have not yet been complied with even during the present phase of working on the balance reserves of seams I, II & III.

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

(a) The existing New Sethia OC has an EC for 0.20 MTPA with a ML area of 91.503 ha vide letter No.J-11015/452/2007-IA.II(M) dated 19<sup>th</sup> February 2008. The mine has also Consent to Operate from MPPCB for 0.20 MTPA with its validity till 18<sup>th</sup> February, 2017. In this regard, it may be mentioned here that a scheme was duly prepared and approved by the Competent Authority of the Company. The same was incorporated in the EIA/EMP submitted to MoEF& CC. The said approved scheme / Mining Plan based on which the expansion proposal was submitted clearly indicates working mainly lower group of seams (IV, VA1/VA2, VB2) which is virgin along with left out reserves of upper group by opencast method in existing mine. The scheme also has envisaged re-handling of 2.14 Mm<sup>3</sup> of OB dumped in the void over lower seams. The approved scheme/mining plan has envisaged a total coal of 1.88 Mt which is detailed as below:-

<b>Name of Seam</b>	<b>Mineable Reserve (Mt)</b>
Upper group of Seam I,II & III	
1 A	0.088

1 B	0.205
1 C	0.177
II	0.236
III	0.318
<b>TOTAL</b>	<b>1.024</b>
Lower group of Seam	
IV A	0.299
V A1	0.219
V A2	0.094
V B2	0.244
<b>TOTAL</b>	<b>0.856</b>
<b>GRAND TOTAL</b>	<b>1.88</b>

From the above, it can clearly be seen that the total coal estimated in the approved scheme/mining plan as well as the EMP submitted, has already accounted for the balance reserve of top group of seams (i.e. Seam I, II & III) and additional reserves in lower group of seams (i.e. Seam IV & VA, VA1, VA2 & VB2).

Considering the existing EC stipulations of accommodating OB in de-coaled void instead of creating external OB dump, the approved scheme/mining plan has envisaged dumping of the R/H OB (2.14 Mm<sup>3</sup>) along with new excavation into the erstwhile de-coaled void of Pench East OC. As per the approved scheme/mining plan, total OB proposed to be accommodated in the erstwhile Pench East OC patch is 3.856 Mm<sup>3</sup>. It is to emphasise that without rehandling the OB, mining of coal is technically not feasible.

It may be noted that re-handling and dumping the OB of this mine into void (Pench East OC void) meets the requirement of existing EC conditions of backfilling without resorting to external dump formation and is already included in the approved scheme/ mining plan enclosed in the EIA/EMP. Thus meeting the purpose of EC of minimizing land degradation.

(b) Regarding status of existing Pench East OC patch, it is noted that there is no coal available/extractable in the void of Pench East OC. A certificate in this regard has been submitted by the PP. Therefore, as envisaged in the approved scheme/mining plan the void can be backfilled and reclaimed biologically in line with the stipulations in the existing EC thereby avoiding creation of external OB dump.

(c) **Certified EC Compliance Report:** The Regional Office of MoEFCC at **Nagpur** has carried out the site inspection on 17<sup>th</sup> November, 2016 to verify the status of compliance of EC conditions granted for New Majri UG to OCP of 0.8 MTPA in an area of 479.16 ha of M/s Western Coalfields Limited in District Ranchi (Jharkhand). The monitoring report was forwarded to this Ministry vide their letter No.3-16/2011(Env)/ dated 25<sup>th</sup> November, 2016, which was deliberated in the EAC meeting. The project proponent presented the action taken on each of the observations made by Regional Office during the site visit.

1.6.4 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of New Sethia Opencast Coal Mine from 0.20 MTPA to 0.50 MTPA with increase in mine lease area from 91.503 ha to 144.453 ha of M/s Western Coalfields Limited, located in District Chindwara (Madhya Pradesh)

(ii) TOR was accorded to the proposal vide letter No.J-11015/452/2013-IA.II(M)dated25<sup>th</sup> February, 2014.Public hearing was conducted on 17<sup>th</sup> October, 2014 at Tehsil Parasia, District Chindwara (MP).

(iii) The earlier EC was accorded to the project vide No.J-11015/452/2007-IA.II(M) dated 19<sup>th</sup> February, 2008 for a capacity of 0.20 MTPA in an area of 91.503 ha.

(iv) The Regional Office at Bhopal has conducted the site inspection on 26<sup>th</sup> October, 2015 to verify the status of compliance of EC conditions granted for New Sethia Opencast Coal Mine of 0.20 MTPA in an area of 91.503 ha located in District Chindwara (MP) and forwarded their report on compliance status of EC conditions.

(v) The compliance has been reported in terms of “Agreed”, “Complied”, “Partly Complied”, “Not Complied”, “Agreed to complied”, “To be complied”. The committee noted the compliance status as satisfactory to take the proposal forward.

(vi) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM10) and other gaseous pollutants are within the prescribed standards.

*1.6.5 The Committee, after detailed deliberations, recommended the proposal for grant of Environmental Clearance to the expansion of New Sethia OCP from 0.20 to 0.50 MTPA (peak) in a total area of 144.453 ha in District Nagpur (Maharashtra), subject to specific and general conditions as applicable, and additional conditions as under;*

- *The project proponent shall obtain Consent to Establish for the proposed capacity of 0.50 MTPA before enhancing the production capacity.*
- *Transportation of coal should be carried out by covered trucks. Adequate mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions shall be ensured.*
- *Controlled blasting should be adopted to control ground vibration and fly rocks.*

## **Agenda 1.7**

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

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

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

(i) The proposal was accorded TOR vide letter No.J-11015/435/2013-IA.II(M) dated 30<sup>th</sup> September, 2014, followed by amendment in TOR on 29<sup>th</sup> February, 2016.

(ii) The latitude and longitude of the project site are 22°01'02"N to 22°03'03" N and 83°43'28" E to 83°45'35" E respectively.

(iii) Basundhara Washery will be located partly in the mine leasehold of Kulda OCP in Basundhara area of IB-Valley Coalfield in Sundergarh District (Odisha).

- (iv) Washery will be based on closed water circuit and Zero Effluent Discharge system. Rain water will also be utilised in the plant.
- (v) Total raw coal requirement of 10MTPA for the proposed washery will be met from Kulda OC Project of 10 MTPA of Basundhara area, for which EC was granted vide letter No.J/11015/10/95-IA.II(M) dated 24<sup>th</sup> December, 2002.
- (vi) The raw coal ash content of Kulda OCP is in the range of 43.8+4%). This ash content is proposed to be reduced to 33.5+ 0.5%) after washing in Basundhara Washery.
- (vii) Basundhara Washery has been proposed to be set up on BOM basis for beneficiation of raw coal (non-coking coal of ash content ranging between 39.8% to 47.8%) of Kulda OCP.
- (viii) Joint Venture: No joint venture.
- (ix) Coal Linkage :Linked to Kulda Opencast Project (10MTPA)
- (x) Employment generated / to be generated: Washery will be constructed on BOM concept, hence employment will be generated by BOM operator.
- (xi) Benefits of the project: The beneficiation/washing of coal will lead to improvement in performance of power plant, reduction in particulate emission, reduction in load on Railway Network and reduction in handling and transportation cost of coal and solid waste.
- (xii) Land usage of the total project area of 43.90 ha includes forest land of 29.41 ha, Government non-forest land 4.33 ha and tenancy land as 10.16 ha, with the acquisition details as under:-

Out of 29.41 ha of forest land, 8.52 ha has already been diverted for infrastructure of Kulda OCP vide FC No.8-176/1997-FC dated 8<sup>th</sup> August, 2007, which is proposed to be re-diverted for Basundhara Washery. Presently, the proposal for diversion of total 29.41 ha of forest land, including above said 8.52 ha for Basundhara Washery, is under consideration in the Ministry.

Total 4.33 ha of Government non-forest land required for the washery and associated activities, 3.49 ha has already been acquired by the project proponent, and acquisition of the remaining 0.84 ha is in the process.

Out of total 10.16 ha of tenancy land required for the washery and associated activities, 2.21 ha has been acquired by the project proponent and 1.13 ha has been acquired by Railway for Clean Coal Silo Area. The acquisition of remaining 6.82 ha is still in process.

- (xiii) The coal grade is G12.
- (xiv) The total estimated water requirement is 2222 kl per day.
- (xv) The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- (xvi) The life of Washery is 18 years for computation of economics.
- (xvii) Transportation: By covered conveyor belts (for Raw coal, Washed coal & Reject).
- (xiii) There is no R & R involved. There are no PAFs.
- (xiv) Total capital cost of the project is Rs. 334.72 crores.
- (xv) Basundhara River is at a distance of 0.5 km from the project site.
- (xvi) Mining plan was approved on 14<sup>th</sup> December, 2008. Mine closure plan is an integral part of mining plan.
- (xvii) There are no court cases/violation pending with the project proponent.
- (xviii) Public Hearing was held on 27<sup>th</sup> July, 2016 in Tehsil Hingir, District Sundergarh (Odisha). During the public hearing, the issues related to environmental problems at project affected villages due to Basundhara Washery were raised.

1.7.3 While deliberations on the proposal, the Committee noted the following:-

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

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

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

1.7.4 *The EAC, after detailed deliberations, deferred the proposal for want of inputs in respect of para 1.7.3 (b) & (c) above, and also firm schedule for obtaining stage-I forest clearance for 29.41 ha of forest land.*

## **Agenda 1.8**

### **Coal Washery of 10 MTPA capacity in an area of 39.35 ha by M/s Mahanadi Coalfields Limited located at Ib Valley in Lakhanpur area, District Jharsuguda (Odisha)- For further consideration of EC**

1.8.1 The proposal is for grant of environmental clearance to Coal Washery of 10 MTPA capacity in an area of 39.35 ha by M/s Mahanadi Coalfields Limited located at Ib Valley in Lakhanpur area, District Jharsuguda (Odisha).

1.8.2 The proposal was last considered in the 53<sup>rd</sup> meeting of EAC held on 17<sup>th</sup>-18<sup>th</sup> March, 2016, wherein the Committee had observed the following:-

(i) Although expression of interest have been made by certain agencies to the PP for use of rejects but the PP has failed to show any definite MoU with them although this had been specifically stipulated in the TOR.

(ii) The project proponent has also failed to show any base line data beyond core zone. Prediction of emission for buffer zone also needs to be carried out.

(iii) MoEF&CC may take up the issue of adequacy or otherwise of the public hearing with the State Government Authorities in view of strong objections of the villagers and the participants having left before conclusion of the meeting.

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

(i) Public Hearing was re-conducted on 31<sup>st</sup> August, 2016 at Project Primary School, Kandsar, Kusraloi GP, Lakhanpur Block, District Jharsuguda (Odisha) for setting up of 10 MTPA Ib Valley Coal Washery at Chharla of Lakhanpur Tehsil by M/s Mahanadi Coalfields limited. The issues raised during public hearing include CSR activities, environmental problems,

employment and benefits, etc. However, all issues were clarified to the satisfaction of the local public/villagers and other stakeholders.

1.8.4 While deliberations, the Committee observed that the yield of the washery would be only 78.7%. Therefore, the rejects generated by the washery will be approximately 2.13 MTPA. The storage of such a huge quantity of rejects may lead to spontaneous combustion and thus pose environmental hazards. For effective utilization of rejects, firm line of action on signing of Memorandum of Understanding with the potential consumers would be required. The same was the requirement of the ToR issued for the project, but not yet complied by the project proponent.

1.8.5 *The Committee, after detailed deliberations, was not inclined to consider the proposal for want of the desired inputs, as stated in para 1.8.4 above. The proposal was, therefore, deferred.*

## **Agenda 1.9**

### **Expansion of Krishnashila OCP from 5 MTPA to 6.25 MTPA of M/s Northern Coalfields Limited in an area of 851.78 ha in Tehsil Dudhi, District Sonbhadra (UP) - For further consideration of EC**

1.9.1 The proposal is for grant of environmental clearance to the expansion of Krishnashila Opencast Coalmine project from 5 MTPA to 6.25 MTPA of M/s Northern Coalfields Limited in an area of 851.78 ha in Tehsil Dudhi, District Sonbhadra (Uttar Pradesh).

1.9.2 The proposal was last considered in the 62<sup>nd</sup> meeting of the EAC held on 23-24 August, 2016. During the meeting, the observations of the Committee were as under:-

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

(ii) On enquiry, it was informed by the project proponent that the public notice was issued on 12<sup>th</sup> August, 2016. Therefore, the time of 15 days/one month for the public to respond was not over by that time. The proposal was, therefore, considered to be pre-mature for examination during that meeting.

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

(i) The public notice was issued on 12<sup>th</sup> August, 2016 for information about the proposed expansion of Krishnashila OCP from 5MTPA to 6.25 MTPA in two local newspapers namely, Hindustan, Varanasi and Aaj, Varanasi. The same was uploaded on website and also circulated to Gram Pradhans for comments from the public.

(ii) No comments were received so far i.e. even after completion of four months of the information put in the public domain.

1.9.4 While deliberations on the proposal, the Committee noted the following:-

(i) The instant proposal is for expansion of Krishnashila OCP from 5 to 6.25 MTPA (peak) of M/s Northern Coalfields Limited without any change in the total ML area of 851.78 ha and/or the mining process/technology.

(ii) The earlier EC was accorded to the project for a capacity of 5 MTPA vide letter No.J-11015/52/2005-IA.II(M) dated 2<sup>nd</sup> February, 2006, in a total area of 851.78 ha, based on the TOR issued on 23<sup>rd</sup> May, 2007, public hearing conducted on 23<sup>rd</sup> December, 2008 and subsequent recommendations of the EAC.

(iii) The Regional Office at Lucknow has conducted the site inspection on 17<sup>th</sup> July, 2013 to verify the status of compliance of EC conditions granted for Krishnashila OCP coal mining project 5 MTPA of M/s Northern Coalfields Limited in an area of 851.78 ha in Tehsil Dudhi, District Sonbhadra (UP) and forwarded their report on Compliance status of EC conditions.

*The committee noted the compliance status as satisfactory to take the proposal forward.*

(iv) With the proposed coal transportation/handling arrangements and the mitigative measures, the predicted air quality values in terms of particulate matter (PM<sub>10</sub>) and other gaseous pollutants are within the prescribed standards.

1.9.5 *The Committee, after detailed deliberations, decided for exempting the proposal from the requirement of fresh Public Hearing, and recommended the proposal of expansion of Krishnashila OCP from 5 to 6.25 MTPA for grant of environmental clearance, subject to the specific and general conditions as applicable, and additional conditions as under;*

- *The project proponent shall obtain Consent to Establish for the proposed capacity of 6.25 MTPA prior to enhancing the production capacity.*
- *Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- *Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*

## **Agenda 1.10**

**Jagannath Washery of 10.0 MTPA in an area of 29.94 ha of M/s Mahanadi Coalfields Ltd. in Talcher Coalfield, Tehsil Talcher, District Angul (Odisha) – For amendment in EC**

1.10.1 The proposal is for amendment in the environmental clearance of Jagannath Washery of 10MTPA of M/s Mahanadi Coalfields Ltd in an area of 29.94 ha in Talcher Coalfield, Tehsil Talcher, District Angul (Odisha).

1.10.2 The amendments sought in the relevant paras of the said EC, were reported as under:-

(i) The Environmental Clearance for Jagannath Washery of 10 MTPA promoted by M/s Mahanadi Coalfields Ltd was granted by this Ministry vide letter No.J-11015/203/2015-IA-II(M) dated 31<sup>st</sup> August, 2016.

(ii) The name of District has been mentioned as Talcher. Whereas, Talcher is a Tehsil in Angul District. As such, corrections may be made accordingly in the said EC.

(iii) The specific condition at para 4 A(ii) & A(v) quotes 'Transport of raw coal through pipe belt conveyor and clean coal and reject by rail with wagon loading through Silo' may be modified as 'Transportation of raw coal through covered belt conveyor, loading of clean coal through silo and, loading of reject in an environment friendly manner.'

In this regard, it was clarified by the project proponent that the covered belt conveyor will serve the same purpose as the pipe belt conveyor for dust mitigation. Further, the quantity of reject projected to be generated based on the L-1 bidder offer is 1.8 MTPA only, it will be uneconomical for PP to construct a Silo for loading of rejects.

(iv) In respect of the specific condition at para 4 A (vi), it was informed that the amended TOR dated 1<sup>st</sup> February, 2016 already provides that 'The green belt of 50 m width should be developed on southern & western side and 15 m on Eastern & 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.'

Accordingly, the specific condition at para 4A (vi) 'Thick green belt of 35-40 m to be provided around the washery to mitigate/ check the dust pollution. A 3 tier avenue plantation should also be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/ main approach roads' may be modified accordingly.

*1.10.4 The Committee, after detailed deliberations, recommended the amendments in the EC dated 31<sup>st</sup> August, 2016, as requested by the project proponent, and in the following manner:-*

- *District Talcher to be read as District Angul.*
- *The specific condition at para 4 A(ii) & A(v) shall be clubbed and read as 'Transportation of raw coal through covered belt conveyor, loading of clean coal through silo and, loading of reject in an environment friendly manner.'*
- *The specific condition at para 4 A (vi) shall be replaced and now read as 'The green belt of 50 m width should be developed on southern & western side and 15m on eastern & northern side, including western side of the coal bunker. Also, 15 m thick plantation will be made around the raw coal bunker and 50m thick around rejects storage yard.'*
- *All other specific and general conditions stipulated in the EC granted vide letter No.J-11015/203/2015-IA-II(M) dated 31<sup>st</sup> August, 2016 for Jagannath Washery of 10 MTPA shall remain unchanged.*

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

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**LIST OF EAC MEMBERS PARTICIPATED IN 1<sup>st</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27<sup>th</sup> December, 2016 ON COAL SECTOR PROJECTS.**

Sl. No.	List Of Participants Expert Appraisal Committee (Coal Mining)	
1.	Dr. Navin Chandra	Chairman
2.	Dr. Narmada Prasad Shukla	Member
3.	Dr. Rajesh P Gunaga	Member
4.	Shri N Mohan Karnat	Member
5.	Dr. Sharachchandra Lele	Member
6.	Shri P D Siwal	Representative (CEA)
7.	Shri R K Giri	Representative (Indian Meteorological Department)
8.	Prof. S K Sinha	Representative (ISM, Dhanbad)
9.	Shri S. K. Shrivastava	Member Secretary

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**LIST OF PROPONENTS PARTICIPATED IN 1<sup>st</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 27<sup>th</sup> December, 2016 ON COAL SECTOR PROJECTS.**

**1.1 Rohini OCP of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri P Prasad
3. Shri Vikas Kumar Singh
4. Shri A K Das
5. Shri S Chandra
6. Shri A K Mishra
7. Shri S Singh
8. Shri Pushkar
9. Shri Jayanta Chakravarty

**1.2 Jharkhand Expansion OCP of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri P Prasad
3. Shri Vikas Kumar Singh
4. Shri A K Das
5. Shri S Chandra
6. Shri A K Mishra
7. Shri S Singh
8. Shri Pushkar
9. Shri Jayanta Chakravarty

**1.3 Ashok OCP of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri P Prasad
3. Shri Vikas Kumar Singh
4. Shri A K Das
5. Shri S Chandra
6. Shri A K Mishra
7. Shri S Singh
8. Shri Pushkar
9. Shri Jayanta Chakravarty

**1.4 Gokul OCP of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri Sandeep Sharma

3. Shri Praveen Maurya
4. Shri U S Shah
5. Shri R M Wanare
6. Shri T N Jha
7. Shri Rakesh Kumar
8. Shri Kaushik Chakraborty

**1.5 Gokul OCP of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri Sandeep Sharma
3. Shri Praveen Maurya
4. Shri U S Shah
5. Shri R M Wanare
6. Shri T N Jha
7. Shri Rakesh Kumar
8. Shri Kaushik Chakraborty

**1.6 New Majri of M/s Central Coalfield Limited**

1. Dr. R K Garg
2. Shri Sandeep Sharma
3. Shri Praveen Maurya
4. Shri U S Shah
5. Shri R M Wanare
6. Shri T N Jha
7. Shri Rakesh Kumar
8. Shri Kaushik Chakraborty

**1.7 Basundhara Coal Washery of M/s Mahanadi Coalfield Limited**

1. Dr. R K Garg
2. Shri O P Singh
3. Shri N Kalla
4. Shri P K Mishra
5. Shri M G Brahmapurkar
6. Ms Kusum Kumari
7. Dr. V Anra
8. Shri D K Soh
9. Shri Sonu G Kumar
10. Shri Anil Kumar
11. Shri C Jayadev
12. Shri Y Mishra
13. Shri Abhishek Kumar
14. Shri A K Pati

**1.8 IB Vally Coal Washery of M/s Mahanadi Coalfield Limited**

1. Dr. R K Garg
2. Shri O P Singh
3. Shri N Kalla
4. Shri P K Mishra
5. Shri M G Brahmapurkar
6. Ms Kusum Kumari
7. Dr. V Anra
8. Shri D K Soh
9. Shri Sonu G Kumar
10. Shri Anil Kumar
11. Shri C Jayadev
12. Shri Y Mishra
13. Shri Abhishek Kumar
14. Shri A K Pati

**1.9** Krishnashila OCP coal mining project of M/s Northern Coalfields Limited.

1. Dr. R K Garg
2. Shri V N Dupattawala
3. Shri B K Sharma
4. Shri J L Singh
5. Shri A Sinha
6. Shri R B Prasad
7. Shri Omveer Singh
8. Shri V K Bajaj

**1.10** Jagannath Coal Washery of **M/s Mahanadi Coalfield Limited**

1. Dr. R K Garg
2. Shri O P Singh
3. Shri N Kalla
4. Shri P K Mishra
5. Shri M G Brahmapurkar
6. Ms Kusum Kumari
7. Dr. V Anra
8. Shri D K Soh
9. Shri Sonu G Kumar
10. Shri Anil Kumar
11. Shri C Jayadev
12. Shri Y Mishra
13. Shri Abhishek Kumar
14. Shri A K Pati

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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 Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (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-II0I3/25/2014-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 conform to the effluent standards as prescribed under Environment (Protection) Act, 1986
  - xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

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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.
- (xxiv) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxv) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvi) Efforts be made for maximising progressive internal dumping of O.B., sequential mining , external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- (xxvii) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxviii) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

S.N.	Land use Category	Present (1 <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.
- (xxxii) 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.
- (xxxiii) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxiiii) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxvi) 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.
- (xxxvii) 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.
- (xxxviii) Corporate Environment Responsibility:
  - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
  - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
  - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
  - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xxxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the

general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

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

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

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

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**GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT**

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

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

### Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (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:

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- 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			

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**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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**1<sup>st</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING  
SCHEDULED FOR 27<sup>th</sup> December, 2016.**

**AGENDA**

**Venue: Indus, Conference Hall, Ground Floor, Jal Wing, Indira Paryavaran Bhawan,  
Jorbagh, New Delhi-110003.**

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

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**COAL MINING PROJECTS**

**Time: 9.30 AM**

- 1.1 Expansion under 7(ii) of EIA Notification, 2006 of Rohini OCP from 3.00 MTPA to 3.30 MTPA of M/s Central Coalfield Limited in an area of 255.68 Ha located in District. Ranchi (Jharkhand)- (EC)
- 1.2 Jharkhand Expansion OCP from 1.0 MTPA to 2.70 MTPA of M/s Central Coalfield Limited in an area of 261.84 ha located in District. Ranchi, (Jharkhand).- (EC based on TOR granted on 08.04.2015)
- 1.3 Ashok OCP expansion from 10 MTPA to 14 MTPA in ML area of 793.14 ha of M/s Central Coalfields Limited located in Tehsil Tandwa District Chatra (Jharkhand) - (EC).
- 1.4 Expansion under 7(ii) of EIA Notification, 2006 of Gokul OCP (from 1.0 MTPA to 1.875 MTPA In an ML area 756.92 ha)of M/s Western Coalfield Limited located in District Nagpur (Maharashtra) – (EC)
- 1.5 Expansion under 7(ii) of EIA Notification, 2006 of New Majri UG to OC (Capacity 0.8 MTPA to 1.2 MTPA in an ML area 479.16 Ha) Project of M/s Western Coalfields Limited at District Nagpur (Maharashtra) – (EC).

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- 1.6 Expansion of New Sethia Opencast Coal Mine from 0.20 MTPA to 0.50 MTPA with increase in mine lease area from 91.503 ha to 144.453 ha located in District Chindwara (Madhya Pradesh) of M/s Western Coalfields Ltd - (EC based on TOR granted on 25.02.2014) - (Further Consideration for EC)
- 1.7 Basundhara Coal Washery (10 MTPA in an ML area 27.66 ha of M/s Mahanadi Coalfields Ltd., located in District Sundergarh, Odisha- (For EC)
- 1.8 Coal Washery of 10 MTPA capacity in an area of 39.35 Ha by M/s Mahanadi Coalfields Limited located at Ib Valley in Lakhanpur area in district Jharsuguda Odisha- (For further consideration of EC)
- 1.9 Expansion of Krishnashila OCP coal mining project from 5 MTPA to 6.25 MTPA of M/s Northern Coalfields Limited in an area of 851.78 ha in Tehsil Dudhi, District Sonbhadra (Uttar Pradesh) - (For further consideration of EC)
- 1.10 Jagannath Washery of 10.0 MTPA in an area of 29.94 ha of M/s Mahanadi Coalfields Ltd. in Talcher Coalfield, District Talcher (Odisha) - For EC Modification/ Amendment.
- 1.11 Discussion on any other item

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