

**MINUTES OF THE 29<sup>th</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING  
HELD ON 15<sup>th</sup> -16<sup>th</sup> January, 2015**

The 29<sup>th</sup> EAC (Thermal & Coal mining projects) Meeting was held on 15<sup>th</sup> - 16<sup>th</sup> January, 2015 in New Delhi to consider the proposals in coal mining sector. The list of participants of EAC and the proponents are given at Annexure-1 and 2 respectively.

**B. Confirmation of Minutes: The Committee confirmed the minutes of the 27<sup>th</sup> EAC meeting held on 18<sup>th</sup> -19<sup>th</sup> December, 2014. The following clerical errors are corrected as below:**

- a. Para 27.4 The project of Samaleshwari OCP by MCL was considered in the **27<sup>th</sup> EAC meeting held on 18<sup>th</sup> -19<sup>th</sup> December, 2014 under item no. 27.4. The compliance report was discussed in the EAC meeting. However, due to clerical error the action taken for compliance was inadvertently missing, which is being inserted as follows:**
  - i. Till Date 7,98,969 nos. of plants had already been planted in 329.02 ha of backfilled area, vacant land, along roads including infrastructure and external OB dump. In 2009-10, 3.6 ha area has been planted with 9,000 nos of plants. In view of the re-handling of the back filled area because of the further expansion of the mine (including underground seam), plantation in the back filled area has been temporarily suspended and grassing is being practiced.
  - ii. During 2013 monsoon gap plantation was undertaken in all external dumps of six nos.(31,075 nos. for 24.86 Ha of external dump area.
  - iii. Pandren Nallah is going to be diverted before on set of Monsoon in 2015. Permission has been obtained from Water Resource Department, Govt. of Odisha. Copy of the permission letter is enclosed. As required in the permission letter, design of the diversion has been submitted to Chief Engineer, Water Resource Dept., Govt. of Odisha.
  - iv. Total Quantity of OB produced is used for backfilling the decoaled void. Benches have been formed and grass turfing has been done to stabilize these dumps. Before each monsoon Garland drains along the reclaimed External Dumps are being de-silted and further deepened by deploying hydraulic excavator. As advised, series of large settling pits have been developed along the garland drains.
  - v. One additional Settling Pond, near the existing two nos of final settling ponds has been constructed.
  - vi. In plantation scheme, local indigenous species and fruit bearing species are being given importance. In FY 14 - 15, 10,000 nos. fruit bearing plants distributed in the surrounding villagers for afforestation in the villages and creating green belt in the mine periphery. Another 2335 plants mostly fruit bearing have been planted in other vacant land.
  - vii. Water level monitoring data of the mine is routinely given along with the half yearly compliance report latest of which was submitted on 27/11/2014. For installation of piezometer, 17 locations have been identified after survey of the entire area, estimate has been prepared by CMPDI and tendering is under process for drilling and construction of 17 nos of Peizometers for covering entire Ib Valley Coalfield.
  - viii. PME of Employees is a regular affair and all the employees of the company (MCL) are covered once in every 5 years. Also as desired third party health status checkup was carried out by Govt. Medical College, Burla, Sambalpur for 10% of employees on 11/7/2013 and report has been submitted to MoEF on 14/03/2014.
  - ix. R&R Status: Total PAPs Eligible for Employment=184; Employment Provided=179, Balance 05 under process; Total PAFs to be shifted=182 ; Plots available at Madhuban Nagar R&R Site=306; Already Shifted in 2013 &14=48, Balance 134 reluctant to shift. 2 Meetings held along with District Admn. and persuasions is continuing from MCL side.

- b. Para 27.11 Title to be corrected and read as “**Cluster No.11 (11 mines of a combined production capacity of 9.05 MTPA (normative) 10.90 MTPA (peak) capacity in a combined ML area of 4218 ha) of M/s Eastern Coalfields Ltd., located in Raniganj Coalfields, West Bengal**”

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

**29.1 Giral Lignite Mines project (1 MTPA in an ML area of 2655.70 ha; Latitude N-26° 01' 24''- 26° 05'16'' and longitude E-71° 13'47'' - 71° 16'43'') M/s Rajasthan State Mines & Minerals Limited, District Barmer, Rajasthan- EC based on TOR granted dated 10.09.2014.**

29.1.1 Giral Lignite Mines project (1 MTPA in an ML area of 2655.70 ha) **M/s Rajasthan State Mines & Minerals Limited**, District Barmer, Rajasthan. The proponent made the presentation and informed that:

- i. The project was accorded EC vide letter no. J-11015/163/2005-IA-II(M) dated **03.01.2006**.
- ii. The latitude and longitude of the project are 26° 01' 24'' to 26° 05'16'' N and 71° 13'47'' to 71° 16'43'' E respectively.
- iii. Giral Lignite Mine was first opencast lignite mine in the state of Rajasthan operational since 1994. First Environmental Clearance (EC) was accorded on 12.12.1994 under the norms of the EIA Notification 1994. 1st Mining Plan (0.3 MTPA) was approved on 21.03.1994. EC for expansion of production from 0.3 MTPA to 1 MTPA, was granted on 03-01-2006. 2nd Mining Plan (1.0 MTPA) was approved on 14.01.2005. Renewal application for ML area of 2655.70 ha has been applied on 11.11.2013. As the mining lease period, expired in December 2014, a fresh EC is required to be sought from MOEF & CC as per EIA Notification 2006. Mine Closure Plan approved on 19.12.2014 by MOC
- iv. Joint Venture: No Joint Venture
- v. Coal Linkage: Linked with 125 MW Power plant of RVUNL(State PSU) at Giral ,Barmer, Rajasthan.
- vi. The land usage of the project will be as follows:

Pre-Mining:

Details of land use	Within M.L. Area (ha)	Outside M.L. Area (ha)	Total (ha)
Agriculture land	1975.04	-	1975.04
Forest Land	-	-	-
Wasteland	142.88	-	142.88
Grazing land	471.41	-	471.41
Surface water bodies	3.685	-	3.685
Settlement	41.00	-	41.00
Others (specify)	21.685	-	21.685
<b>Total</b>	<b>2655.7</b>	<b>-</b>	<b>2655.7</b>

Post- Mining:

Description of area	Land use (ha.)					Total
	Public use	Plantation/ forest	Agriculture	Void/ Water body	Others	
External dump	0	0	133.31	0	0	133.31
Excavation	0	40.54	847.58	212.57	0	1100.77
Infrastructure	2.99	0.52	0	0	0	3.51

Power plant	0	0	125	0	0	125
Storage of top soil	0	0	12	0	0	12
Green Belt	0	75	0	0	0	75
Effluent treatment plant	0	0	1	0	0	1
Others	0	0		0	1205.12	1205.12
<b>Total</b>		<b>116.06</b>	<b>1118.9</b>	<b>212.57</b>	<b>1205.12</b>	<b>2655.7</b>

vii. The total geological reserve is 56.368 MT. The mineable reserve 37.510MT, extractable reserve is 33.392MT. The per cent of extraction would be 95 %. Balance Lignite Reserves as on 31.03.2014 are as follows:

Name of Sub-block	Balance economic reserves as on 31st March 2004 (MT) as per approved Mining plan (Nov 2004 version)	Extractable Reserves after considering 5% mining losses (95% of column 2)	Extracted reserves upto 31st March 2014 (MT)	Balance extractable reserves as on 31st March 2014 (MT)
Giral	13.67	12.986	4.85	8.136
Jalilo	13.59	12.91	2.51	10.40
Thumbli	7.89	7.496	0	7.496
<b>Total</b>	<b>35.15</b>	<b>33.392</b>	<b>7.36</b>	<b>26.032</b>

- viii. The coal grade is 2010-4060 Kcal/kg. The stripping ratio is 1:13.50. The average Gradient is Gentel dips (01°- 03 °). There will be 1-5 (3 Horizons) seams with thickness ranging 0.3 to 3.20.
- ix. The total estimated water requirement is 190 m<sup>3</sup>/day. The level of ground water ranges from 90m to 110 m.
- x. The method of mining would be by Mechanized Opencast.
- xi. There are three external OB dumps with 26.95 Mbcm in an area of 133.31ha with height of 30 meter above the surface level and 03 internal dump with Quantity of 439.95 Mbcm in an area of 888.20 ha.
- xii. The final mine void would be in 212.57 Ha with depth of 44.0-80.0 m. and the Total quarry area is 1100.77 Ha. Back filled quarry area of 888.20 Ha shall be reclaimed with plantation. A void of 212.57 ha with depth varying between 44 to 80.0 which is proposed to be converted into a water body.
- xiii. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xiv. The **life of mine** is 27 Years.
- xv. **Transportation:** Coal transportation in pit by Dumpers, Surface to TPP located 200 m to 2 km from mine by dumpers.
- xvi. There is **R & R** involved. There are 150 PAFs.
- xvii. **Cost:** Total capital cost of the project is Rs. 33.6628 Crores. CSR Cost Rs. 3.24 crores. R&R Cost 78.13. Environmental Management Cost Rs13.92crores.
- xviii. **Water body :** There is no river /Nallah flowing adjacent to the mine
- xix. **Approvals:** Water is sourced from IGNP canal under allocations of 12.0 cusec. of water for thermal Power plant (Giral Unit I & II of 125 MW each) and mining Projects, jointly, Board's approval obtained on 28.11.2013. Mining plan has been approved on 14.01.2005. Mine Closure Plan approval on 19.12.2014.
- xx. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxi. **Forestry issues:** There is no forest area involved.

- xxii. Total **afforestation** plan shall be implemented covering an area of 1221.95 ha at the end of mining. Green Belt over an area of 75.00 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxiii. There are no **court cases/violation** pending with the project proponent.
- xxiv. **Public Hearing** was held on 05.11.2014. The issues raised in the PH includes electricity, roads and medical facilities; transportation of lignite; land acquisition etc.

29.1.2 Proponent further submitted that:

- i.** The Thermal Power Plant is located on non-lignite bearing area.
- ii.** The site selected for O.B. dumping. Mining Plan was prepared and approved considering the mining over this area with ratios upto 1:15.
- iii.** The area of 222.90 Ha. meant for voids was as per the approved Mining Plan of 2005. However, in the recent Mine Closure Plan approved in December 2014, post closure void area has been kept as 212.57 ha; comprising of 102.27 ha, 37.12 ha and 73.18 ha for Jalilo, Giral and Thumbli blocks respectively. All the O.B lying in surface dump yards/Crown dumps would be completely utilized for backfilling of excavated areas. There will be no external dumping sites on the closure of mine. All three voids located in different blocks will be developed for water storage ponds for rain water harvesting purpose, as the relevant area is lying in water scarcity zone/low rain fall area. This water body will be utilized for, irrigation purposes and will also attract wildlife of the region.
  - a) Exploration to an average depth of 150m has been undertaken by MECL
  - b) Moreover, only 1380.13 ha of land has been acquired so far in three stage against total lease area of 2655.70 ha. In case of undertaking of mining at higher stripping ratios particularly for peripheral boreholes of different sub-blocks and NE corner of lease may also lead further acquisition of land in fourth phase.
  - c) The land owners have been paid compensation for acquisition of land are being allowed to undertake agriculture in their respective unutilized pieces of land in mine lease area which is contributing not only in their economic welfare but also contributing towards enhancement of environmental standards apart from their contribution to the national economy.
- iv.** Conservation plan for flora and fauna has been submitted to DCF, Forest Department, Government of Rajasthan on 25<sup>th</sup> November 2014 and the same has also been forwarded to Chief Wildlife Warden vide letter dated 12<sup>th</sup> December 2014; with an initial provision of Rs.24 Lac in the first 7 years.
- v.** An area of 1640 ha been explored so far with 229 number of borehole of 20487.50 m of drilling by MECL in the past and again by RSMML through MECL itself for the purposes of infilling drilling and selecting O.B. dumping site.
- vi.** The variations in ambient air quality in different locations can be for various reasons as under;
  - a) It depends on the site specific from which air sample has been drawn.
  - b) There are different levels of mining operations like working at pit bottom, working at in between benches for back filling or advancing faces, traffic on public road in between the mining pit and nearby villages causing pollution, movement of dumpers on surface for O.B dumping in nearby pit, wind direction etc., and these could be some of the reasons for variations in the ambient air quality.
- vii.** No subsurface water has been encountered so far, during last 20 years, while mining to a depth of 60 m in Giral Mines. There are no tube-wells existing in the lease area. Water table will not be intersected during mining of lignite. As most of the region is covered by impervious clayey materials; and so, water does not infiltrate into lower stratas; making this area water deficient.
- viii.** Pucca dwelling structures are being provided to the contractor's employees along with quality food, R.O water, electricity, water for other uses etc., free of cost. Apart from it, initial and periodical health checkups of contractor employee; through National Institute of Health, Nagpur,

or, through RSMML's Doctors, workers are provided with protective respiratory devices, ear plugs/ear muffs, safety belts, safety boots etc., by mining contractors; including conducting vocational training in VTC of the mines by RSMML.

- ix. Details of excavated, backfilled and biological reclaimed area:
  - (a) Excavated area= 286.80 ha
  - (b) Backfilled area= 146.16 ha
  - (c) Biological reclaimed area= 206.33 ha
- x. Against the originally planned O.B dump area for the three sub-blocks being 157.28 ha the same has now been reduced to 133.31 ha based on actual mining undertaken so far as per mine closure plan approved recently in the month of December 2014. There will be no surface dump at the end of mine life as all the O.B dumps would be re-handled and backfilled leaving 03 voids.

**29.2.3 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. There shall be no external OB dumps.
- ii. The contractual laborers may be provided with housing facilities
- iii. All the OB lying in surface dump yards/Crown dumps shall be completely utilized for backfilling of excavated areas and brought to near original surface level. All three voids left after filling of the excavated area located in different blocks will be developed as water storage ponds.

**29.2 Cluster IV (5 Mixed Mines) Coal Mining Project (7.34 MTPA normative and 9.55 MTPA peak in an ML area of 1123.79 ha; Latitude 23°46'26" to 23°48'45" North and Longitude 86°17'30" to 86°19'44" East) of M/s Bharat Coking Coal Limited, Dist. Dhanbad, Jharkhand - EC based on TOR granted dated 10.02.2014.**

29.2.1 The proposal is for Cluster IV (5 Mixed Mines) Coal Mining Project (7.34 MTPA normative and 9.55 MTPA peak in an ML area of 1123.79 ha; Latitude 23°46'26" to 23°48'45" North and Longitude 86°17'30" to 86°19'44" East) of M/s Bharat Coking Coal Limited, Dist. Dhanbad, Jharkhand. The proponent made the presentation and informed that:

- i. The expansion of the project is to implement master plan to deal with the fire in Jharia Coal field.
- ii. The project was accorded TOR vide letter no. J-11015/372/2013-IA.II (M) Dated 10.02.2014 exempting Public Hearing for preparation of EIA/EMP report.
- iii. The latitude and longitude of the project are 23°46'26" N to 23°48'45" N and 86°17'30" E to 86°19'44" E respectively.
- iv. Joint Venture: no Joint Venture.
- v. **Coal Linkage:** The coal from the cluster is linked to power plants and steel plants via rail and road.

Mode	Railway Siding	Linkages	
		Power Plants	Steel Plants
Rail	Lakurka Sijua Jogta	Panipat, Paricha, Panki, Uchhahar, BGB, HGJ (Harduaganj), Farakka, PMRG, DTPS, DSTP, Roper, Koderma Pit, Kanti, CTPS, BTPS, Budge-Budge, DGTP	Panipat, B.T.I., Nangal
Road		MPL, Moonidih, RGNTPR (Raghunathpur), RNPTS, CTPS	

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

Pre-Mining:

S.N.	LANDUSE	In an ML Area (ha)	TOTAL
1.	Agricultural land	21.22	21.22
2.	Forest land	0	0
3.	Wasteland	455.27	455.27
4.	Grazing land	0	0
5.	Surface water bodies	48.42	48.42
6.	Settlements	136.87	136.87
7.	Infrastructure	134.40	134.40
8.	Quarry	294.65	294.65
9.	OB Dump	28.89	28.89
10.	Plantation	4.07	4.07
	<b>Total</b>	<b>1123.79</b>	<b>1123.79</b>

Post- Mining & Core Area:

S.N.	Land use during Mining	Land Use (ha)				TOTAL
		Plantation	Water Body	Public Use	Undisturbed	
1	External OB Dump	28.89	0	0	0	<b>28.89</b>
2	Top soil Dump	-	-	-	-	<b>0</b>
3	Excavation	608.95	10.76	0	0	<b>619.71</b>
4	Roads& Rail	0	0	106.52	0	<b>106.52</b>
5	Built up area	18.52	0	0	72.5	<b>91.02</b>
6	Green Belt	0	0	0	4.07	<b>4.07</b>
7	Undisturbed Area	9.36	0	0	264.22	<b>273.58</b>
	<b>TOTAL</b>	<b>665.72</b>	<b>10.76</b>	<b>106.52</b>	<b>340.79</b>	<b>1123.79</b>

vii. The total geological reserve is 228.5MT. The mineable reserve 201.67MT, extractable reserve is 99.607MT. The per cent of extraction would be 88.25 %.

viii. The coal grade is WIV to ST-II. The stripping ratio 1:2.54 in AKWMC, 1:9 in Gaslitand , 1:10.54 at Katras Choitudih , 1:2.434 At Salanpur colliery. The average Gradient is 1 in 5. Thickness of seams to be worked :1.32 to 8.

ix. The total estimated water requirement is 9678 m<sup>3</sup>/day.

x. The total estimated water requirement is 9678 m<sup>3</sup>/day. The level of ground water ranges from 0.85 m to 9.65m.

xi. The Method of mining :

	Salanpur Colliery	KatrasChoitudih Colliery	Amalgamated Keshalpur West Mudidih Colliery	Angarpathra colliery & Ramkanali colliery	Gaslitand colliery
<b>Method of mining</b>	Bord& Pillar (UG)& Shovel-dumper Combination (OC)	Shovel-dumper Combination	Shovel & Dumper in OC and Bord& Pillar in UG	Bord& Pillar	Shovel & Dumper in OC

- xii. There are 2 external OB dump with Quantity of 2.57 Mbcm in an area of 14.82ha with height of 18 M above the surface level.
- xiii. The final mine void would be in 10.76 Ha with depth of 20-30 m. and the Total quarry area is 603.4Ha. Backfilled quarry area of 592.64 Ha shall be reclaimed with plantation. A void of 10.76 ha with depth of 20-30 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 mines are:

	<b>Salanpur Colliery</b>	<b>KatrasChoit udih Colliery</b>	<b>Amalgamated Keshalpur West Mudidih Colliery</b>	<b>Angarpathra a colliery &amp; Ramkanali colliery</b>	<b>Gaslitand colliery</b>
<b>Life of mine (yrs)</b>	10 years	4 years	20 years	Over 30 years	03 years

- xvi. Transportation:

		<b>Salanpur Colliery</b>	<b>KatrasChoi tudih Colliery</b>	<b>West Mudidih colliery &amp; Keshalpur colliery</b>	<b>Angarpathra colliery &amp; Ramkanali colliery</b>	<b>Gaslitand colliery</b>
i.	In pit (km)	0.5	0.5-1	0.6-1	0.1	0.5-1
ii.	Surface to siding (km)	4.4	3.7	4-5	3.2	4-7.9
iii.	Siding to loading (km)	0.1	0.1	0.1	0.1	0.1

- xvii. There is **R & R** involved. There are 7012 PAFs.
- xviii. **Cost:** Total capital cost of the project is Rs. 475.13 Crores. CSR Cost The fund for CSR will be allocated on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per tonne of Coal production of previous year whichever is higher An amount of Rs. 191.0 Lakhs will be used for the CSR works per year for Cluster-IV at the peak production i.e. 9.55 Mt. R&R Cost 262.73. Environmental Management Cost As per norm.
- xix. **Water body:** Katri Nallah flows within the cluster and Khudia Nallah, Jarian Nallah and Kumari Jore are on the west, east and north side respectively of the Cluster-IV and flow southwardly.
- xx. **Approvals:** Mine plan approval is awaited. Almost all the mines of BCCL are taken over from the erstwhile private owners. Therefore, the mine does not have structured mining plans. The mining operations are being continued as amalgamated collieries in Cluster-IV. Mine Closure Plan approval in progress.
- xxi. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxii. **Forestry issues:** There is no forest area involved.
- xxiii. Total **afforestation** plan shall be implemented covering an area of 665.72 ha at the end of mining. Green Belt over an area of 105.55Ha. Density of tree plantation 2500 trees/ ha of plants.
- xxiv. **Court cases:** State Govt./ Jharkhand State Pollution Control Board had issued closure orders for all the mines of BCCL in Aug., 2011 and March 2012 stating that BCCL is operating all its mines without the Env. Clearance. BCCL had approached and filed Writ Petition in the Hon'ble High Court of Jharkhand, Ranchi for legal relief against the closure of mines by JSPCB with the following facts that BCCL had already initiated the process of Env. Clearance in 2008 onwards and was approved the cluster concept in 2009. BCCL is completing all its EMP process well

within the validity periods of two years stipulated in the Terms of Reference (TOR). Further all the mines of BCCL are infected by coal fires and a PIL case is being dealt in this regard in the Hon'ble Supreme Court of India. By closing the mines, the fires will not stop and shall aggravate and cause more devastation and pollution. The court had taken cognizance of the facts and appreciating the sincere efforts of BCCL in obtaining the Env. Clearance had granted "Status Quo" to be observed and admitted the case i.e. No. WP(C) 4944/2011. BCCL is submitting Action taken report to the Honorable High Court of Jharkhand as per its direction. The Environment Clearance granted to BCCL including Cluster IV is submitted to the court in the ATR.

xxv. **Public Hearing:** The Public Hearing for Cluster-IV was held on 21.01.2012 at Katras Club, Sijua for 2.851 MTPA (Normative) 3.706 MTPA (Peak). in a combined ML area of 1123.79 ha and EC was granted on 06.02.2013. Since there is no change in lease hold area for the present expansion project and in view of urgency for controlling the mine fires, as per the request of the Proponent, the EAC after due diligence recommended for waiving of Public Hearing while recommending for TOR.

**29.2.2 EC Compliance report:** Certified report is still awaited from the Regional Office of the MOEFCC.

**29.2.3 The Committee after deliberation sought the following additional information for further consideration:**

- i. Certified Compliance Report from the RO, MOEFCC.
- ii. Approved Mine Plan to be submitted.
- iii. Fire area to railway siding green belt should be developed all along the road.
- iv. All efforts shall be made to comply with the Jharia Action Plan requirements.

**29.3 Bhatadi OC Expansion Mine (Expansion from 0.65 MTPA to 0.975 in an ML area of 847.57 ha; Latitude 20° 2' 45" to 20° 5' 45" North and Longitude 79° 13' 10" to 79° 16' 55" East) of M/s Western Coalfields Limited, Located in Chandrapur. Maharashtra – Expansion (under 7(ii) of EIA Notification 2006. – Further consideration.**

**29.3.1** The proposal is for environmental Clearance to Bhatadi OC Expansion Mine (Expansion from 0.65 MTPA to 0.975 in an ML area of 847.57 ha) of M/s Western Coalfields Limited, Located in Chandrapur. Maharashtra. The proposal was last considered in 17<sup>th</sup> EAC meeting held on 23<sup>rd</sup> - 24<sup>th</sup> July, 2014. The Committee sought compliance certificate of earlier EC conditions from MoEF Regional Office for further consideration.

**29.3.2** The proponent made the presentation and informed that:

- i. The RO Compliance report vide letter no. 3-28/2005(ENV)/416 dated 29.12.2014. from the RO MOEF w.r.t. Compliance to the EC conditions was presented.
- ii. Three Specific Conditions have been partly complied i.e. Water drawl permission from Competent Authority; Sewage Treatment Plant for colony & Land compensation.
- iii. All other EC conditions have been complied.

**29.3.3** The proponent further submitted that :

1) Revised Post Mining Land use plan

S.No.	Particulars	Land (in ha)
1)	Reclaimed and Afforested area:	69.92
	a) Backfilled area – 56.92	

	b) Embankment – 13.00	
2)	Backfilled area (to be completed after rehandling of OB- to be reclaimed biologically during closure period)	104.60
3)	Land with plantation developed on plains, avenue, around infrastructure and block plantation	494.90
4)	Land released after rehandling of OB dump ( which will be biologically reclaimed during closure period)	142.10
5)	Infrastructure	10.90
6)	Township	16.70
7)	Road	8.45
	Total	847.57

- 2) Land acquisition status: Agriculture land acquired 357.45 Ha and 467.21 ha proposed to be acquired.
- 3) The STP of conventional type with oxidation pond, mechanical aerator and disinfection tank is expected to be commissioned by March, 2017 (i.e. completion of land acquisition by 31.03.2016) at an approximate cost of Rs 100.00 Lacs.

**29.3.2 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. Permission from the Competent Authority should be obtained for drawl of ground water and copy submitted.
- ii. Sewage Treatment Plant should be installed for the colony and ETP should be provided for workshop and CHP waste water by **March, 2016**.
- iii. Land oustees and land losers should be compensated as per State Government Norms and CIL Policy.
- iv. There will be no OB Dumps at the end of the mining. The depth of the final mine void shall not be more than 40 m.
- v. Completion of land acquisition by 31.03.2016
- vi. The Action Plan suggested by the NEERI shall be implemented squarely.

**29.4 Cluster 8 Consisting of 7 mines (1.53 MTPA normative to 2.75 MTPA peak) in an ML area of 8281 ha; latitude 23° 39' N to 23° 45' N and longitude 87° 0' E to 87° 6' E of M/s Eastern Coalfields Limited, Dist. Burdwan, West Bengal – EC based on TOR granted dated 27.06.2011. – Further Consideration.**

29.4.1 The proposal is for seeking Environmental Clearance for Cluster 8 Consisting of 7 mines (1.53 MTPA normative to 2.75 MTPA peak) in an ML area of 8281 ha; latitude 23° 39' N to 23° 45' N and longitude 87° 0' E to 87° 6' E of M/s Eastern Coalfields Limited, Dist. Burdwan, West Bengal. The proposal was last considered in 25<sup>th</sup> EAC meeting held on 13<sup>th</sup> – 14<sup>th</sup> November, 2014. The Committee sought following information for further consideration of the project:

- i. Approved mine Plan & mine closer plan along with date of Board's Approval be submitted.
- ii. Details about the land subsidence be submitted.

29.4.2 The proponent made the presentation and informed that:

- i. All the existing mines within the cluster are taken over mines after nationalization. The mines of ECL has been grouped into 13 Clusters which has been approved by Competent

Authority of ECL on 10.09.2009 and subsequently accorded approval of Board of Directors on 28.03.2011. Mine Closure Plan approval in December, 2013.

- ii. Presently there is no caving. In future, depillaring of the fully developed coal seams in different mines will be carried out in conjunction with hydraulic sand stowing/caving method with due approval of DGMS and subject to availability of land free from surface features along with the status of upper seams. Further, the following subsidence management practices are being adopted:
- The mining method (depillaring with caving / stowing) is adopted in consultation with DGMS and after their approval
  - No underground mining is carried out below within 45 m of the Major Roads, Railway line passing through the cluster
  - Coal pillars will be left intact vertically below and within the angle of draw of villages and other surface features
  - Surface vigil to be maintained to notice any ground movement
  - The subsided land will be leveled up and any surface crack dozed and filled with appropriate soil material
  - The subsided areas will be reclaimed by planting deep rooted trees
  - **The OB details area as follows:**

Sl No	Name of OC Mine	Total Quarry Area (Ha)	Temporary External Dump Area during operation(to be re-handled completely)* (Ha)	Maximum Height	Permanent External Dump Area (Ha)	Volume of OB to be generated (Million M <sup>3</sup> )	Life in years	Backfilling start year	Area of Internal Dump (Ha)
1	Mithapur West OC Patch	29.2	4.0	30 m	Nil	1.00	2	1 <sup>st</sup>	29.2
	<b>Total</b>	<b>29.2</b>	<b>4.0</b>		<b>Nil</b>	<b>1.00</b>			<b>29.2</b>

\*part of the area proposed for quarry will be used for external dumping initially

**29.4.3 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. Deep rooted plants should be planted along the bunds of the agriculture fields.
- ii. Possibility of introducing mechanized loading at the siding be explored (Nigha).
- iii. Pollution Control Measures shall be effectively monitored and adequate mitigation measures shall be undertaken.

**29.5 Cluster No.4 (3 Mines of a combined prod. Capacity of 6.35 MTPA and a peak prod. of 7.71 MTPA in a combined ML area of 3352 ha ; latitude 23<sup>o</sup>46'30" N & 23<sup>o</sup>49'30" N and longitude 86<sup>o</sup>52'25" E & 87<sup>o</sup>03'46" E) of M/s Eastern Coalfields Limited, located in Raniganj Coalfields, dist. Burdwan, West Bengal – EC based on TOR granted dated 21.06.2011. – Further Consideration.**

29.5.1 The proposal is for Cluster No.4 (3 Mines of a combined prod. Capacity of 6.35 MTPA and a peak prod. of 7.71 MTPA in a combined ML area of 3352 ha) of M/s Eastern Coalfields Limited, located in Raniganj Coalfields, dist. Burdwan, West Bengal. The proposal was last considered in

25<sup>th</sup> EAC meeting held on 13<sup>th</sup> – 14<sup>th</sup> November, 2014. The Committee sought following information for further consideration of the project:

- i. Approved mine Plan & Mine Closer Plan along with date of Board's approval be submitted.
- ii. The TOR was granted vide letter no. J-11015/106/2011.IA.II(M) dated 27.6.2011 for 1.32 MTPA in an ML area of 3339.91 Ha. The PP has requested for deletion of Mohanpur OCP out of the cluster 4, which was to be submitted separately. Ministry issued revised TOR vide letter no. J-11015/106/2011-IA-II (M) dated 19<sup>th</sup> March, 2013 by removing Mohanpur OCP was deleted from cluster 4. The PP submitted a revised application vide letter no. CIL/DLI/ENV/2012/01 dated 03<sup>rd</sup> February, 2012 for modification of TOR (Removing Mohanpur OCP and including Itapara OCP) for 6.83 MTPA in an ML area of 3563 Ha. However, the PP again vide letter ECL/GM/ENV./20121/-13/225 dated 18.06.2012 submitted a request for 9.21 MTPA capacity in an area of 3563 Ha. The EIA-EMP report submitted by PP has requested for EC for 7.71 MTPA in an ML area of 3563 Ha. These information submitted by the PP indicated greater inconsistency. The PP may give proper clarification.
- iii. Details about the land subsidence be submitted.
- iv. EC will be issued after the receipt of the FC for all the mine in the cluster.

29.5.2 The proponent made the presentation and informed that:

- i. All the existing mines within the cluster are taken over mines after nationalization. The mines of ECL has been grouped into 13 Clusters which has been approved by Competent authority of ECL on 10.09.2009 and subsequently accorded approval of Board of Directors of ECL in its Board Meeting held on 28.03.2011 for preparation of EIA/EMP of the cluster. Mine Closure Plan approval in December, 2013.
- ii. Form-I Application for Cluster No. 4 containing 3 mines (Khoirabad UG, Gaurandih UG & OC and Mohanpur OC) was submitted in March, 2011 and presented to MoEF in May, 2011 and TOR was issued vide letter no. J-11015/106/2011 IA.II (M) dated 27-06-2011. The details of cluster are given below:

**Table 1:**

Sl No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	697	0.18	0.24	> 50
2	Gaurandih UG	2478	0.05	0.08	> 50
3	Mohanpur OC Mine*	164.91	1.00	1.00	9
	<b>Total</b>	<b>3339.91</b>	<b>1.23</b>	<b>1.32</b>	

Subsequently, a revised TOR application was submitted for a capacity of 6.83 MTY by additionally incorporating 3 nos. of OC patches, increasing the capacity of Mohanpur OCP by 0.5 MTY and one additional mine, Itapara OCP, of capacity 3.45 MTY. The mine lease area was revised from 3339.91 Ha to 3563 Ha. There was adjustment in area owing to transfer of 317 Ha to non-CIL block and formation of new proposals i.e. three OC patches and new mine Itapara OCP. During presentation on 22.02.2012 the capacity of Itapara OCP was modified to 5.0MTY, thereby, the total capacity became 9.21 MTY. The details are given below:

**Table 2:**

Sl No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	380.00	No UG potential left		
	Khoirabad OC		0.10	0.13	4 years
2	Gaurandih UG	1865.00	0.05	0.08	>50 years
	Gaurandih Block – D Phase – I OC Patch		0.40	0.50	5 years
	Gaurandih Begunia Phase – I		1.80	2.00	7 years
3	Mohanpur OC Mine	210.00	1.20	1.50	15 years
4	Itapara OCP	1108.00	4.00	5.00	26 years
<b>Total</b>		<b>3563.00</b>	<b>7.55</b>	<b>9.21</b>	

During the EAC meeting on 22-02-2012, the Committee desired for a clarification on increasing the capacity of Mohanpur OCP to 1.5 MTY (increase of 50 %). ECL opted for deleting the OCP from Cluster for getting exemption from Public Hearing under clause 7(ii) of EIA notification, 2006 and the circular dtd. 15-04-2010. Subsequently, a revised application along with request letter for deleting Mohanpur OCP from the cluster was submitted vide letter no. ECL/GM(Env)/2012-13/225 dtd. 18-06-2012 of which the details are given below:

**Table 3:**

Sl No.	Name of Mine	Lease Area (Ha)	Normative Production (MTY)	Peak Production (MTY)	Mine Life (Years)
1	Khoirabad UG	380.00	No UG potential.		
	Khoirabad OC		0.10	0.13	4 years
2	Gaurandih UG	1865.00	0.05	0.08	> 50 years
	Gaurandih Block – D Phase – I OC Patch		0.40	0.50	5 years
	Gaurandih Begunia Phase – I		1.80	2.00	7 years
3	Itapara OCP	1108.00	4.00	5.00	26 years
<b>Total</b>		<b>3353.0</b>	<b>6.35</b>	<b>7.71</b>	

Subsequently the form I and feasibility report was submitted on 23-07-2012. Based on application, MoEF vide letter no. 19 March 2013, confirmed deletion of Mohanpur OCP. The EIA/EMP and PH proceedings are based on capacity of 7.71 MTY.

- iii. There are no subsided areas present within cluster 4. This cluster has only one underground mine (Gourandih UG) which is in development phase. The thickness of coal seam to be extracted is 6.1 m – 6.9 m and the depth of the seam varies from 65 m – 115 m. Maximum possible anticipated subsidence will be around 500 mm as brought out by modeling for the purpose of EIA.
- iv. Following subsidence management practices will be rigorously adopted:
  - a) The mining method is adopted in consultation with DGMS and their approval
  - b) Depillaring to be done with sand stowing/caving with due approval of DGMS

- c) No underground mining will be carried out below within 45 m of the Major Roads, Railway line passes through the cluster
  - d) Coal pillars will be left intact vertically below and within the angle of draw of villages and other surface features
  - e) Surface vigil to be maintained to notice any ground movement
  - f) The subsided land will be levelled and any surface crack dozed and filled with appropriate soil material
  - g) The subsided areas will be reclaimed by planting deep rooted trees.
  - h) Depillaring with caving will only be done in areas which are free from any surface features and this practice will be strictly followed.
- v. Itapara OCP has 3 ha of forest land out of total area of 1108 Ha. This 3 ha area of forest land will be part of quarry area. Project proponent is in process of applying for stage – I clearance for the said forest land. It is requested that, meanwhile, EC may be granted so that the pre mining activities like Land Acquisition (Tenancy & Government Land), for construction of Railway Siding, CHP, workshop and other infrastructure can be started. However, it is undertaken that no mining will be carried out in the proposed OCP till Stage – 1 clearance for the said forest land is obtained.
- vi. **The OB details area as follows:**

Sl No	Name of OC Mine	Total Quarry Area (Ha)	Temporary External Dump Area during operation(to be re-handled completely)* (Ha)	Maximum Height during mining	Permanent External Dump Area (Ha)	Height after re-handling at mine closure	Volume of OB to be generated (Million M <sup>3</sup> )	Life of mine in years	Backfilling start year	Area of Internal Dump (Ha)
1	Khoirabad OC Patch	10	2.0	30 m	-	0	1.00	4	2 <sup>nd</sup>	10
2	Gaurandih Block – D Phase – I OC Patch	17	4.0	30 m	-	0	3.45	5	2 <sup>nd</sup>	17
3	Gaurandih Begunia Phase – I OC Patch	50	15.0	60 m	-	0	39.6	7	3 <sup>rd</sup>	50
4	Itapara OCP	408	318.0	120 m	122.0	60 m	516.40	26	6 <sup>th</sup>	408
	<b>Total</b>	<b>485.00</b>	<b>339.0</b>		<b>122.0</b>		<b>560.45</b>			<b>485</b>

**29.5.3 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. Deep rooted plants should be planted along the bunds of the agriculture fields.
- ii. The EC will be issued after the FC is received by the MOEFCC.
- iii. The mining method shall be adopted in consultation with DGMS along with their approval

- iv. Depillaring to be done with sand stowing/caving with due approval of DGMS
- v. No underground mining will be carried out below 45 m of the major roads, railway line that passes through the mines.
- vi. Coal pillars will be left intact vertically below the surface features.
- vii. Surface vigil to be constantly maintained to notice any ground movement
- viii. The subsided land will be levelled and any surface crack shall be dozed and filled with appropriate soil material
- ix. The subsided areas will be reclaimed by planting deep rooted trees.
- x. Depillaring with caving will only be done in areas which are free from any surface features and this practice shall be strictly followed.
- xi. Arrangement for silo/mechanised loading at Itpara, 5mtpa be made. Action on Rly siding construction and CHP, Wagon loading arrangement be taken simultaneously and on priority. Action Plan be submitted to the Ministry.

**29.6 Amadand Opencast Coal Mine expansion Project (from 1.15 MTPA to 2.15 MTPA in a total project area of 884.71 Ha; latitude 23<sup>0</sup>07'39"N to 23<sup>0</sup>09'48" North and longitude 82<sup>0</sup>01'58"E to 82<sup>0</sup>04'51"East) of M/s South Eastern Coalfields Limited, located in Tehsil Kotma, District Anuppur, Madhya Pradesh - Expansion under 7(ii) of EIA Notification, 2006- further consideration.**

29.6.1 The proposal is for Amadand Opencast Coal Mine expansion Project (from 1.15 MTPA to 2.15 MTPA in a total project area of 884.71 Ha; latitude 23<sup>0</sup>07'39"N to 23<sup>0</sup>09'48" North and longitude 82<sup>0</sup>01'58"E to 82<sup>0</sup>04'51"East) of M/s South Eastern Coalfields Limited, located in Tehsil Kotma, District Anuppur, Madhya Pradesh. The proposal was last considered in 25<sup>th</sup> EAC meeting held on 13<sup>th</sup> – 14<sup>th</sup> November, 2014. The Committee sought following information for further consideration of the project:

- i. Details as to why CHP has not been constructed alongwith action plan be submitted.
- ii. Status of the railway corridor be submitted
- iii. Compliance report to the EC conditions be submitted in tabular form alongwith the action plan and time frame.
- iv. What would be social impact by reducing the life of mine?.
- v. The modeling for present level and for expansion in mine area and transportation area be submitted.
- vi. A comparative table of the baseline information of Air and Water quality of the pre-project, present situation and the expansion stage be presented.

29.6.2 The proponent made the presentation and informed that:

- i. Pithead CHP will be required when the rail line is completed. The route between Baihatola Railway station to Amadand OCP has been finalized. The completion of the rail line up to the project may take 5 years time. During this time pithead CHP shall be made operative. At present CHP at Govinda siding is being used for coal evacuation by Rail mode for this project. At Govinda siding all mitigative measures are in place to control air pollution.
- ii. The route between Baihatola Railway station to Amadand OCP (8.00 Kms) has been finalized. Detailed Project Report and Estimate from RITES is awaited. Process of land acquisition and FC (Forestry Clearance) will be started. Thereafter the completion of the rail line up to the project may take 5 years time.
- iii. Quantity of useful top soil excavated & preserved till November 2014 is 150750 Cubic Meter.
- iv. Half yearly compliance report ending June 2013 was submitted vide ref No. SECL/NO(E&F)/J&K /2013/1348 Dated 04.08.2013 and thereafter reports are being

- submitted regularly. Back filling has been started as per schedule from December 2012.
- v. The copy of the progressive Mine Closer Plan has been submitted to RO MOEFCC Bhopal on 10.06.2014.
  - vi. Total 2500 saplings have been planted around infrastructure area during 2014-15. Green Belt will be developed by planting the native species around the ML area after getting physical possession of the land.
  - vii. Installation of Piezometers has been completed.
  - viii. Proposal for Rehabilitation site has been forwarded to concerned. Ministry Government of M.P. Bhopal by Collector, Anuppur.
  - ix. Guideline/directions given by Forest department shall be followed/complied.
  - x. Total 575 families will be shifted to R&R site which is about 8.00 KMs from the mine. Project affected people will be shifted away from the project area. They shall be given best suited compensation as per CIL policy & MP State Govt. R&R package. They will not be affected by reduction of the life of the mine.
  - xi. Total 490 Numbers of employment have been provided to project affected persons as per approved CIL norms.
  - xii. AAQ modeling based on ISCST-3 (AERMOD VIEW version 8.2.1), USEPA has been used for assessment of impact on ambient air quality at 5 monitoring stations. The entire quarry activities have been divided into two major parts: Active mining pit & internal OB dump.
  - xiii. Coal transportation is done through permanent haul road sections.
  - xiv. A comparative table of the baseline information of Air and Water quality of the pre-project, present situation and the expansion stage presented. The values are well within the limit.
  - xv. No Forest land is involved in the project as per the details submitted. However, P A requested DFO Anuppur vide letter No. SECL/J&K/SO(P&P) /2014/168 dated 23.01.2014 for conservation plan for restoration & rehabilitation of Reptiles. However, Conservation plan for flora & fauna has been prepared by Chattisgarh Rajya van Vikas Nigam Limited. Conservation plan for reptiles is under preparation against our request vide letter No. SECL/J&K/SO(P&P) /2014/168 dated 23.01.2014.

**29.6.3 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. CHP shall be constructed within 3 years from the grant of EC and rail connectivity shall be constructed for coal transportation within 5 years.
- ii. Grass shall be planted all over the top soil dumps so as to protect the fertility of soil.
- iii. There shall be no change in the Mining Lease area.
- iv. There shall be no OB dumps. Mine Void shall be reduced to near ground level.
- v. The project proponent should effectively implement actions suggested in the Conservation Plan in consultation with the concerned forest officials. Specific measures, as proposed in the conservation plan, for restoration and rehabilitation of reptiles should be taken. The effectiveness of the conservation measures shall be monitored with inputs obtained from Forest Department and report furnished to this Ministry and its Regional Office.
- vi. Guideline/directions given by Forest department shall be followed/complied.

**29.7 Gouri Deep Expansion Mine Project (from 0.40 MTPA to 0.60 MTPA in an ML area of 356.11 Ha); latitude 19° 46' 33" -19° 47' 56" and longitude 79° 16' 46.5" -79° 18' 53.6" of M/s Western Coalfield Limited, located at dist. Chandrapur, Maharashtra. EC under 7(ii) of EIA Notification 2006.**

29.7.1 The proposal is for Environmental Clearance for expansion of Gouri Deep Mine Project (from 0.40 MTPA to 0.60 MTPA in an ML area of 356.11 Ha) of M/s Western Coalfield Limited,

located at dist. Chandrapur, Maharashtra under 7 (ii) of EIA Notification, 2016.

29.7.2 The proponent made the presentation and informed that:

- i. The project was accorded TOR vide letter no. J-11015/338/2008-1A.II(M) dated 18.02.2011 for 0.40 MTPA.
- ii. The latitude and longitude of the project are 19° 46' 33" to 19° 47' 56" and 79° 16' 46.5" to 79° 18' 53.6" respectively.
- iii. Joint Venture: No Joint Venture.
- iv. Coal Linkage: Linked to M/s Ultra Tech Cements.
- v. The land usage of the project will be as follows:

**Pre-Mining:**

S.No	Land particulars	CBA Act 1957 (ha)	Forest Act 1980 (ha)	Total Land (ha)
1	Agriculture	339.43	Nil	339.43
2	Govt/Other	16.68	Nil	16.68
3	Forest	Nil	Nil	Nil
	<b>Total</b>	<b>356.11</b>	<b>Nil</b>	<b>356.11</b>

**Land use during Mining:**

S.No	Head	Land Requirement (ha)
1.	Excavation Area	92.45
2.	External OB Dump	94.12
3.	Infrastructure	05.00
4.	Project Township	10.00
5.	Boundary Adjustment & Miscellaneous	154.54
	<b>TOTAL</b>	<b>356.11</b>

**Post- Mining:**

S.No	Particulars	Land in ha
1	Afforested Area: a) Backfilled Area – 33.72 b) External OB Dump – 94.12	127.84
2	Water Body / Void	58.73
3	Vacant land to be released with plantation	154.54
4	Infrastructure	05.00
5	Township	10.00
	<b>TOTAL</b>	<b>356.11</b>

- vi. The total geological reserve is 15.24 MT. The mineable reserve 7.66 MT, extractable reserve is 7.66 MT. The per cent of extraction would be 50.3%.
- vii. The coal grade is 4462 Kcal / kg; G10 .The stripping ratio is 1:6.11. The average Gradient is 1 in 4 in Q- I & 1 in 3 in Q-II. There will be One Composite Seam with thickness ranging 14.00 m in Quarry–I & 13.50m in Quarry–II.
- viii. The total estimated **water requirement** is 6048 m<sup>3</sup>/day. The level of ground water ranges from 2.00m bgl to 19.55m bgl.

- ix. The Method of mining would be opencast with shovel-dumper combination.
- x. There are 2 external OB dumps with Quantity of 22.87Mbcm in an area of 94.12ha with height of 42 m (A) &60 m (B) above the surface level and 1 internal dump with Quantity of 23.94 Mbcm in an area of 33.72ha.
- xi. The final mine void would be in 58.73 Ha with depth of 130m. and the Total quarry area is 92.45 Ha. Backfilled quarry area of 33.72 Ha shall be reclaimed with plantation. A void of 58.73 ha with depth of 130 m which is proposed to be converted into a water body
- xii. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xiii. The **life of mine** is 15 Years.
- xiv. **Transportation:** Coal transportation in pit by Dumpers, Surface to Siding by Dumpers and loading at siding by Pay loader.
- xv. There is **R & R** involved. There are 297 PAFs.
- xvi. **Cost:** Total capital cost of the project is Rs. 86.21 Crores. CSR Cost Rs. 2.00 per tonne. R&R Cost 4.78 Crores. Environmental Management Cost (capital cost Rs. 1.855 crores, annual recurring cost Rs. 0.12 crores).
- xvii. **Water body:** Gouri & Sasti Nullah flows near to the site. Wardha River flows at a distance of 5 km north – east of the project site .
- xviii. **Approvals:** Board's approval obtained on 28.02.2014. Mining plan has been approved on 28.02.2014. Mine Closure Plan approval on 15.02.2014
- xix. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xx. **Forestry issues:** There is no forest area involved.
- xxi. Total **afforestation** plan shall be implemented covering an area of 94.12ha at the end of mining. Green Belt over an area of 3.00ha. Density of tree plantation 2500 trees/ ha of plants.
- xxii. There are no **court cases/violation** pending with the project proponent.
- xxiii. **Public Hearing:** Public Hearing is not applicable as the applied under 7 (ii) of EIA Notification, 2006.

29.7.3 The proponent further submitted that

- a) Revised Post Mining Land use plan

S.No.	Particulars	Land (in ha)
1)	Reclaimed and Afforested area: c) Backfilled area – 33.72	33.72
2)	Backfilled area (to be completed after rehandling of OB- to be reclaimed biologically during closure period)	58.73
3)	Land with plantation developed on plains, avenue, around infrastructure and block plantation	154.54
4)	Land released after rehandling of OB dump ( which will be biologically reclaimed during closure period)	94.12
5)	Infrastructure	5.0
6)	Township	10.00
	Total	356.11

**29.7.4 EC Compliance report: The compliance report of the**, Regional Office, MoEFCC at Bhopal vide letter no. 3-17/2011/(ENV)/376 dated 08.12.2014 was deliberated in the EAC meeting. The Committee has noted the Action Taken for compliance by the Project which, inter alia, are as follows:

- i. The catch drains will continue to be maintained along with adequate plantation so as to arrest any flow of silt and sediments. The balance catch drain of 400 mtr length will be completed before onset of 2015 Monsoon. Retaining wall with sand bags and boulder pitching in wire crafts shall be constructed additionally by May 2015.
- ii. Assistance to villages for meeting water requirement shall be rendered as committed.
- iii. CSR will be continued as per the approved Policy of the Company.

**29.7.5 The Committee after deliberation recommended the proposal for granting EC subject to following specific conditions:**

- i. Toe wall will be constructed with boulder to strengthen .
- ii. Plantation should be made along the boundary of the OBD.
- iv. The catch drains will continue to be maintained along with adequate plantation so as to arrest any flow of silt and sediments. The balance catch drain of 400 mtr length will be completed before onset of the Monsoon. Retaining wall with sand bags and boulder pitching in wire crafts shall be constructed additionally by May 2015.
- v. Assistance to villagers for meeting water requirement shall be rendered as committed.
- vi. CSR will be continued as per the approved Policy of the Company and Social Audit conducted as per GOI Guidelines/Notification.
- vii. External dump will be fully rehandled into the mine void and internal dump brought to near ground level.

**29.8 Bijari OCP of (1.5 MTPA (normative) and 2.5 MTPA peak) M/s South Eastern Coalfields Limited, Dist., Raigarh, Chhattisgarh – EC based on TOR granted on 18.11.2008 – Further Consideration.**

29.8.1 The proposal is for Bijari OCP of (1.5 MTPA (normative) and 2.5 MTPA peak) M/s South Eastern Coalfields Limited, Dist., Raigarh, Chhattisgarh. The proposal was last considered in 19<sup>th</sup> EAC meeting held on 13<sup>th</sup> -14<sup>th</sup> August, 2014. The Committee sought following information for further consideration of the project:

- i. Entire drainage should be channeled into tertiary channel.
- ii. The OB should be re handled by reducing the internal height.
- iii. PP should examine the reduction in depth and area and submit the report to the EAC for consideration. Efforts should be made to reduce the void to zero.
- iv. The air quality data to be verified by Dr. Attri, Member, EAC.
- v. Adequate Green belt is provided around the mines including safety zones.
- vi. Piezometers be installed up to the aquifer level so as to monitoring the ground water level.
- vii. Siding at pit top/head shall be functional by mid-2017 until that time road transportation of coal shall be by mechanically covered trucks.
- viii. The Proponent shall carry out the carrying capacity of the road vis-à-vis the coal transportation by road. Since the road belongs to the State Government the MoU /permission of the State Government for coal transportation be obtained.
- ix. PP shall examine the feasibility of mechanized loading/centralized loading.
- x. The Action Plan along with budgetary provisions for the issues raised in the Public Hearing be submitted in tabular form.
- xi. Check dams/water tanks (Talab) be provided for rain water harvesting.
- xii. Check point 20 of basic data.
- xiii. Details of Wildlife (Tiger Elephant etc.), elephant corridor etc. along with the wildlife Management Plan be submitted.

- xiv. Details of R&R be submitted.
- xv. PP to give details of grazing land to be used for mining and whether equal amount of land has been provided to the State Government for grazing purpose.
- xvi. The Committee decided that a Sub-Committee of the EAC shall visit the site.

29.8.2 The proponent made the presentation and informed that:

- i. Bijari block is characterised by undulating topography. The drainage is by Kurket River & its tributary nallas. The overall area forms part of Mand River drainage system.
- ii. Garland drains will be made around the periphery of the quarry. These garland drains will be connected to the local nalla which is not likely to be disturbed by mining operation. Heavy duty pumps will be deployed in rainy season which will throw the accumulated water from the working faces into these garland drains. As the extraction of the quarry advances, the position of garland drain will also advance.
- iii. Zero void is not feasible. However it will be kept at the minimum possible. As per approved Project report of Bijari Opencast mine, total volume of OB has been estimated as 47.80 Mcum. The OB removed during initial years will be placed beyond the incrop of seam XI (bottom). The total volume of external dump has been estimated as 2.60 Mcum. Rest of the OB will be placed in internal dumps.
- iv. Financial provisions of green belt all along the mine boundary has been provided.
- v. Financial provision for installation of 04 nos. piezometers to monitor the ground water has been made.
- vi. Efforts shall be made to explore the availability of mechanically covered trucks.
- vii. All Statutory permissions / MoU from Sate Govt. shall be obtained for transportation of coal by road.
- viii. The Action Plan along with budgetary provisions for the issues raised in the Public Hearing have been made. Some of the which are as follows:
  1. As per CIL's R&R policy 2012 the maximum total number of employment has been identified. 140 employments against total tenancy land which is to be acquired 227.433 Ha = 561.98 Acres @ one employment/2 acres. The several schemes viz: Buniyad Scheme, Armaan Scheme, Swasth ¼LoLFk½ Gram, Vasundharafor education, health, road, water and electricity for affected Villages have been initiated.
  2. Compensation will be given as per Chhattisgarh, Govt. R & R Policy.
  3. As per CIL's R & R Policy 2012 provisions are the maximum total number of employments that may be provided to the PAPs would be limited to the total number of acres of land acquired divided by two. Also option of clubbing concept under the package deal is available. Formalities relating to employment will start after acceptance of compensation payment by the villagers. Financial provision for an amount of 3919.07lakhs has been kept in Revised Cost Estimate for R & R.
  4. Boreholes will be provided in the mine area to overcome the shortage of water, rain water harvesting will be undertaken.
  5. Construction of wider road and separate lane for the light vehicle will be made which will reduce the possibility of the road accident.
  6. Necessary arrangements for water spraying will be done on the road of affected area by tanker mounted sprinklers.
  7. Due precaution shall be taken as per Director General of Mine Safety (DGMS) Circulars/guidelines. Latest blasting techniques will be adopted to keep Peak Particle Velocity (PPV) within permissible limit to avoid any damage to the houses. In case there is any complaint regarding damage to the house due to blasting, matter will be settled down in consultation with State authority.

8. Check dams / water tanks (Talab) will be provided for rain water harvesting under Community development in the surrounding villages. Financial provision of an amount of Rs.50.00lakhs has been kept for this purpose.
- ix. **Forestry issue.** In Bijari OC project, initially 11.230Ha of forest land was involved. Out of 11.230Ha, 9.78Ha forest land falls in quarry area & balance 4.35Ha falls in safety zone (not to be acquired). The project will be executed without use of forest land as per the approved revised mine plan with the administrative approval of CMD, SECL vide file no. SECL/CGM/RGH/SURVEY/011/418 dt. 10.08.2011.
- x. A Comprehensive plan for conservation of flora & fauna for Bijari OC has been prepared & submitted by PP to PCCF (Wild life), Chhatisgarh vide General Manager, Raigarh area letter no. SECL/GM/2014/332 dtd 22/23.08.2014 for approval. Approval is awaited.
- xi. Details of **R & R** are as under:
  - i. Only Bijari village is to be resettled.
  - ii. R & R site has been finalised at Ghagodi about 10kms from Bijari (10.32Ha)
  - iii. Rehabilitation Package shall be based on as per norms.
- xii. Total 16.162Ha Grazing land is involved in mining lease area.
- xiii. The Committee decided to visit the site at a later date.

29.8.3 The proponent further submitted that :

- i. This is a Greenfield project. In view of the fact that values are very high for PM 10 it is essential that additional precautions need to be taken for this project. Therefore, it is proposed to have these measures under (1) Long Term and (2) Short Term. Proposed measures are enumerated below:

**Long Term:**

- a) Green belt to be created all around the periphery of the project, as soon as the land for the project is acquired, i.e. plantation for the purpose to be completed latest within three years from commencement of production at this project.
- b) Gas connection to be provided to affected people.
- c) A Study shall be initiated by a reputed scientific institution so as to establish the source and the contribution of PM10 to the environment. The recommendations of the study shall be implemented.
- d) Fixed sprinklers shall be made operative within one year and need to be extended with advancement of project.

**Short Term:**

- a) Mobile sprinklers to be provided before commencement of production at this project.
- b) A critical analysis shall be done for nearby project of SECL and compliance of conditions shall be reviewed and further strengthening of mitigative measures shall be ensured.

**29.8.4** The EAC received a representation from one of the NGOs requesting Ministry to address issues with regards to Validity of TOR; Air quality; Wildlife & Biodiversity; Water Scarcity and pollution; Drainage; Rail linkage. The proponent responded to the issues and submitted the following:

- i. The TOR was issued on 22.03.2008. As per MOEFCC, O.M. J-11013/41/2006-IA-II(I) dated 22.03.2010, the TOR was valid upto 18.11.2011. Proponent requested for extension of TOR Validity which was recommended by the EAC. The TOR validity extension upto 30.05.2014 was

approved by the MEF on 05.12.2013 as “the TOR are site specific and their validity would depend on whether or not there have been any insignificant changes in the zone of impact of a given project. In the instance case, the matter has been considered by the EAC and extension of validity of TOR, has been recommended. The project proponent has also finally got Public Hearing conducted by the SPECB. The delay in conducting the Public Hearing is a matter beyond the control of the project proponent. The Draft EIA/EMP report was submitted to Chhattisgarh Conservation Board/ SPCB for Public Hearing on 09.11.2009. Project Proponent submitted EIA/EMP report to the Ministry for Environmental Clearance on 30.04.2014 after Public Hearing.

- ii. The levels recorded in year 2008 are higher than year 2013 because the meteorological parameters specially the max. wind velocity was almost doubled in year 2008 which would have contributed pollution load.
- iii. As against 3 wildlife sanctuaries stated by the complainant in the district of Raigarh, it is informed that there is only one sanctuary namely Gumarda in the Raigarh district falling in Sarangarh block whereas the proposed project is in Gharghora block and aerial distance between the 2 blocks is approximately 50 KMs. A comprehensive plan for conservation of flora and fauna has been submitted by SECL for an amount of Rs. 515.00 lakhs.
- iv. As found from the data of the State Ground Water Board, the nearest groundwater monitoring station close to the proposed mine block, i.e. trend showing an increase in the water level trend during pre-monsoon and post-monsoon. However, from the comparison of the water level monitoring data of Pre-monsoon 2005 and Pre-monsoon 2013 by the project authority in the core and buffer zone of the area, an average decline in the water level of 0.03m has been found for the year 2013, which may be attributed due to decline in rainfall and enhancement of the use of groundwater with increase in the local population. Hence, to mitigate the decline of the groundwater level, proper recharge structure with rainwater harvesting structures will be made to increase the recharge in the aquifers.
- v. The issue of the drainage in the core zone has been addressed properly as it will be taken care with the help of network of garland drains. Garland drains of sufficient capacity will be made around the periphery of the quarry to handle the drainage of catchment area. These garland drains will be connected to the tertiary channel. As the extraction of the quarry advances, the position of garland drain will also advance. Catch drains will also be provided around the external dump to collect the precipitation and finally discharging the same to garland drain network. Financial provision for an amount of Rs. 20.00 lakhs has been made.
- vi. Mine effluent will be discharged outside of the mine, only after proper treatment. Sedimentation tank will be provided for collection of mine effluent. Clean water will be pumped out from these sedimentation tank. Sedimentation tank act as a settling tank and ensure that the total suspended solids levels of effluents conform to prescribed standards.
- vii. Coal transportation trucks of higher capacity shall be deployed to reduce vehicular pollution; Coal transportation will be done by tarpaulin covered trucks; Widening and strengthening of existing roads. In this case SECL has taken up widening and strengthening of 18 Km public roads; In consultation with State administration, avenue plantation and road side plantation shall be done wherever feasible; Fixed sprinklers in addition to mobile sprinklers shall be provided for suppression of dust.

#### **29.8.4 The Committee, after detailed deliberations, sought the following information for further consideration:**

- i. The drainage pattern from Hilly area to the ground area be studied and report submitted.
- ii. The major channels all around the site be presented and should generally not be altered.
- iii. Details be submitted with regards to OBD.
- iv. Reasons for the Baseline data being close to the limit specified.

- v. The modelling details for dispersion of pollutants viz. PM<sub>10</sub>& PM<sub>2.5</sub> be furnished
- vi. All Roads shall be Black Topped. The Railway corridor shall be functional in 3 years as stated by the Proponent.
- vii. The AAQ monitoring be repeated so as validate earlier results. Action plan, with technological intervention, for reducing AAQ be framed as presented.
- viii. Mechanically covered trucks deployment status for coal transportation.
- ix. Wild life Conservation Plan be prepared.
- x. All Statutory permissions / MoU from State Govt. shall be obtained for transportation of coal by road.
- xi. Construction of wider road with a separate lane for the light vehicles will be made which will reduce the possibility of the road accident
- xii. Necessary arrangements for water spraying will be done on the road of affected area by tanker mounted sprinklers.
- xiii. Due precaution shall be taken as per Director General of Mine Safety (DGMS) Circulars/guidelines. Latest blasting techniques will be adopted to keep Peak Particle Velocity (PPV) within permissible limit to avoid any damage to the houses. In case there is any complaint regarding damage to any house's due to blasting, matter shall settled down in consultation with State Government Authorities.
- xiv. Check dams / water tanks (Talab) shall be provided for rain water harvesting under Community development in the surrounding villages. Budgetary provision of an amount of Rs. 50.00 Lakhs has been agreed to be kept for this purpose.
- xv. Coal transportation by trucks of higher capacity shall be deployed to reduce vehicular pollution.
- xvi. SECL shall take up widening and strengthening of 18 Km public roads, in consultation with State administration. Avenue plantation and road side plantation shall be done wherever feasible.
- xvii. Fixed sprinklers in addition to mobile sprinklers shall be provided for suppression of dust.

**29.9 Amod Lignite Mine Project (G-19 Extn.) (1 MTPA) of M/s Gujarat Mineral Development Corporation Limited (GMDC), located in Village Amod, Tehsil Jhagadia, District Bharuch, Gujarat – Amendment in EC conditions**

29.9.1 The proponent did not attend the meeting. The Committee, therefore, deferred the project for further discussion.

**29.10 Khadia Opencast Coal Mine Expansion Project (from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha); Latitude: 24°07'26" N - 24°08'47" N and Longitude: 82° 41'40" E - 82°44'47" E of M/s Northern Coalfields Limited, located in District Sonbhadra, Uttar Pradesh and in Tehsil Singrauli in District Sidhi, Madhya Pradesh - EC under 7(ii) of EIA Notification 2006.**

29.10.1 The proposal is for seeking environmental Clearance for Khadia Opencast Coal Mine Expansion Project (from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha) of M/s Northern Coalfields Limited, located in District Sonbhadra, Uttar Pradesh and in Tehsil Singrauli in District Sidhi, Madhya Pradesh under 7(ii) of EIA Notification 2006. The proponent made the presentation and informed that:

- i. This is a case of expansion under clause 7 (ii) of the EIA notification, 2006 with reference to O.M. no. J-15012/30/2004-IA.II (M) dated 30<sup>th</sup> of May 2014.
- ii. Earlier EC was granted to the Khadia OCP vide letter no. J-11015/255/2006-IA.II(M) dated 10.04.2007.

- iii. The latitude and longitude of the project are 24°07'26" N - 24°08'47" N and 82° 41'40" E - 82°44'47" E respectively.
- iv. Joint Venture: There is no Joint Venture.
- v. Coal Linkage: Anpara STPS of UPRVUNL by Merry Go Round Rail system.
- vi. 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.	Tenancy Land(Agricultural land)	449.00	NIL	449.00
2.	Forest Land	844.00	NIL	844.00
3.	Wasteland	-	NIL	-
4.	Grazing land	-	NIL	-
5.	Surface water bodies	-	NIL	-
6.	Settlements	-	NIL	-
7.	Others (Government land)	347.00	NIL	347.00
Total		1640.00	NIL	1640.00

Post- Mining:

S.No.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Others	TOTAL
1	External OB dump	258.00	-	-	-	258.00
2	Top soil dump	Top soil will be completely used in reclamation of dumps.				
3	Excavation	808.00	39.00	-	156.00 (Batter with plantation)	1003.00
4	Infrastructures (Workshop, CHP, Admn. Building & Roads)	49.00	-	81.00	-	130.00
5	Residential & Green belt	-	-	142.00	-	142.00
6	Undisturbed area (Forest land in Safety Zone)	107.00	-	-	-	107.00
<b>Total</b>		<b>1222.00</b>	<b>39.00</b>	<b>223.00</b>	<b>156.00</b>	<b>1640.00</b>

- vii. The total geological reserve is 335.95MT. The mineable reserve 296.85 MT, extractable reserve is 296.85 MT. The per cent of extraction would be 88.36%.
- viii. The coal grade is G-8. The stripping ratio is 4.23 M<sup>3</sup>/t (As per PR). The average Gradient is 2 to 4 degrees. There will be Three (03) seams with thickness ranging

Coal Seam	Thickness (m)	
	From	To
Purewa Top	8	10
Purewa Bottom	8	13
Turra	19	22

- ix. There is no change in the total estimated water requirement. The level of ground water ranges from 0 .65 m to 14.45 m.
- x. The Method of mining would be opencast deploying dragline and shovel-dumper.
- xi. There is 2 external OB dump with Quantity of 254.33 Mbcm in an area of 258 ha with height of 90 meter above the surface level and 2 internal dump with Quantity of 1001.39 Mm<sup>3</sup> in an area of 808ha.
- xii. The final mine void would be in 39 Ha with depth of 30 to 40 m. and the Total quarry area is 1003 Ha. Backfilled quarry area of 808 Ha shall be reclaimed with plantation. A void of 39 ha with depth of 30 to 40 m which is proposed to be converted into a water body
- xiii. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xiv. The **life of mine** is 23/18 years (@ 10.0 MTY/@ 14.0 MTPA Balance life as on 1.04.2014).
- xv. **Transportation:** Coal transportation in pit by rear dumpers, Surface to Siding by CHP to silo and loading at siding by CHP to rapid loading system (RLS) to rail wagons.
- xvi. There is no **R & R** involved. There are no PAFs.
- xvii. **Cost:** Total capital cost of the project is Rs. 2091.60 Crores. CSR Cost Rs. 2/- per tone. R&R Cost Nil. Environmental Management Cost 26.98 Crores.
- xviii. **Water body:** There is no water body.
- xix. **Approvals:** Board's approval obtained on 20.01.2004. Mining plan has been approved on 20.01.2004. Mine Closure Plan approval on 10.12.2011.
- xx. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xxi. **Forestry issues:** Total forest area involved 844 ha for mining. FC granted for complete land.

Area (Ha)	Stage-1 FC issued vide letter no. & date	Validity period of FC
750.00(Khadia)	Letter No. 8-298/87-FC dated: 30.07.1990	Up to Mine Life
180.00	Letter No. 8-85/2005-FC dated: 14.09.2010	Up to Mine Life

- xxii. Total **afforestation** plan shall be implemented covering an area of 1271 ha at the end of mining. Green Belt over an area of 49.00 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxiii. There are no **court cases/violation** pending with the project proponent.
- xxiv. **Public Hearing** 06.04.2005, at Samudaik Bhawan, Waidhan , Singrauli(M.P) & on 18.04.2006 at Collectrate Sabhagar, Dist. Headquarters , Lodhi, Sonebhadra (U.P). The issues raised in the PH includes Electricity connection in all the houses of Ambedkar Nagar was requested by Shri M.Gupta, Member, Zila Panchayat; Issues regarding rehabilitation of land oustees was raised by few members; Point regarding drinking water was raised by some of the participants; Mr. Zuber Alam pointed out that medical facilities are not sufficient and the R&R oustees may be given medical facilities.

**29.10.2 EC Compliance report: The compliance report of the,** Regional Office, MoEFCC at Lucknow vide letter no. No. IV/ENV/UP/mine-5/67/1992 dated 18.07.2013 was deliberated in the EAC meeting. The Committee has noted the Action taken for compliance by the Project which, inter alia, are as follows:

- i. The top soil is stacked at specified location and is spread over the land before plantation. Present stock is 4500 m<sup>3</sup>. The total quantity shall be stacked and used for reclamation during the life of the mine.
- ii. The dimension of the retaining wall is designed based on rainfall data.
- iii. Mining is being carried out at the distance of 5 Km from the Ballia Nalla.

- iv. The top soil is stacked at specified location and is spread over the land before plantation. Present stock is 4500 m<sup>3</sup>. The total quantity shall be stacked and used for reclamation during the life of the mine.
- v. OB generated is stored in external dumps. The height and width of benches in OB dumps are maintained within permissible limits and where ever possible stabilized with plantation. PAs have assured that the ultimate slope of the dump will not exceed 28°. Dump stabilization and reclamation in 0.75 Km out of 1.1 Km length is being taken up in 2013-14. Monitoring and management of reclaimed dump site is continued.
- vi. Catch drains (3.5 Km)/Siltation ponds (04 nos.)/ retaining wall (2.5 Km)/Gabions of appropriate size are constructed to arrest silt/sediment flows from soil, OB and mineral dumps. The water so collected is treated in ETP and utilized for watering the mine area, roads, green belt development etc. The drains are regularly de-silted and maintained properly. Garland drains and sump capacity provides safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump provides adequate retention period to allow proper settling of silt material.
- vii. The dimension of the retaining wall is designed based on rainfall data.
- viii. Water sprinkling system has been provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc
- ix. Controlled blasting is practiced with use of delay detonators only during day time. The ground vibrations are regularly monitored and kept controlled. Fly rocks are checked and blasting shelters are used.
- x. The plantation work is being done through the UP Forest Department, Renukut forest division. The density of the plants over plain area is kept around 2500 plants per ha and over slope of the Over Burden dump around 3500 plants per ha. Total 18,95,905 saplings have been planted at Khadia Project from 1987-88 to 2012-13.
- xi. Back filling and reclamation is a continuous process. The plantation work is being done through the UP Forest Dept. Renukut forest division. So far, formation of water.
- xii. The water supplying unit IWSS has obtained permission letter no. 649-Cu-11/NTPC/79 dated 13.03.1979 from Rihand reservoir of the G.B. Pant Sagar to draw raw water.
- xiii. CMPDI is carrying out the work of Ground water level & Quality monitoring work every year. Ground water monitoring report is awaited.
- xiv. Mine & rain water is collected in sufficient capacity in mine sump.
- xv. Water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine shall be taken care of.

**29.10.3 The Committee, after detailed deliberations sought the following information for further consideration:**

- i. Comparative Chart of deployment of men, machinery be submitted. Pollution load in the area to be indicated.
- ii. EC was granted in J-11015/255/2006-IA.II(M) dated 10.04.2007 for 10 MTPA. However, till now the even the normative capacity has not been achieved. The detailed reason for under production of coal needs to be furnished for taking a decision for granting high production capacity.
- iii. The impact of additional production coal has also not been analysed. This needs to be submitted.
- iv. Details of monitoring of PM 10 be submitted.
- v. Reasons for non-installation of peizometers be submitted.

**29.11 Kakatiya Khani Opencast Sector-I Coal Mining Project (from 1.50 MTPA to 2.50 MTPA in an ML area 306.92 Ha); Latitudes 18°28'11.09" to 18° 26'54.43" (North) and Longitudes 79° 52'16.61" to 79° 50'53.81" (East) of M/s The Singareni Collieries Company Limited, located in dist. Warangal, Telangana - EC under 7(ii) of EIA Notification 2006.**

29.11.1 The proposal is for seeking Environmental Clearance for Kakatiya Khani Opencast Sector-I Coal Mining Project (from 1.50 MTPA to 2.50 MTPA in an ML area 306.92 Ha) M/s The Singareni Collieries Company Limited under 7 (ii) of EIA Notification, 2006, located in dist. Warangal, Telangana. The proponent made the presentation and informed that:

- i. The project was accorded EC vide letter no. J-11015/692/2007-IA.II (M) dated 1.05.2008.
- ii. The latitude and longitude of the project are 18°28'11.09" to 18° 26'54.43" (North) and 79° 52'16.61" to 79° 50'53.81" (East) respectively.
- iii. Joint Venture: No Joint Venture
- iv. Coal Linkage : Basket linkage
- v. The land usage of the project will be as follows:

Pre-Mining:

Sl. No	Pre-mining land use	Area in (Ha)
1	Agricultural Land	270.16
2	Govt. Land	36.76
	<b>TOTAL</b>	<b>306.92</b>

Post- Mining:

Sl No.	Description	Land Use Details (Ha.)			
		Plantation	Water body	Public use	Total
1	External Dump	105.96	---	---	<b>105.96</b>
2	Excavation (backfill)	133.38	---	---	<b>133.38</b>
3	Road	37.04	---	26.09	<b>63.13</b>
4	Built Up Area & Infrastructure	1.12	---	3.34	<b>4.45</b>
	<b>Total</b>	<b>277.50</b>	---	<b>29.43</b>	<b>306.92</b>

Core area:

Particulars	Total Land in Ha.
Quarry excavation area	133.38
External Dump Area	105.96
Service Buildings	4.45
Safe dist, drains, haul road, bund etc.	63.13
<b>Total</b>	<b>306.92</b>

- vi. The total geological reserve is 10.121MT. Extractable reserve is 9.23MT. The per cent of extraction would be 89.4%.
- vii. The coal grade is G 11. The stripping ratio is 11.02 Cum/tonne. The average Gradient is 1 in 2.5 to 1 in 4. There will be 11 seams with thickness ranging upto m.

Seam	Thickness(m)	
	Min	Max
IB Seam	0.40	1.49
I A (Top)	0.50	3.23
IA (Bottom)	0.60	2.89
I Seam	1.00	4.30
II (Top)	0.15	1.80
II (Bottom)	1.10	4.80

- viii. The total estimated water requirement is 1338 m<sup>3</sup>/day. The level of ground water ranges from 0.30m to 14.00m.
- ix. The Method of mining would be Opencast with shovel-dumper combination
- x. There is Two external OB dump with Quantity of 54.59Mbcm in an area of 105.96 ha with height of 90meter above the surface level and One internal dump with Quantity of 42.81Mbcm in an area of 74.22 ha.
- xi. The final mine void would be in 59.16 Ha with depth varying from 10 m to 165 m. and the Total quarry area is 133.38Ha. Backfilled quarry area of 74.22 Ha shall be reclaimed with plantation. A void of 59.16 ha with depth varying from 10 to 165 m which is proposed to be converted into a water body
- xii. The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.
- xiii. The **life of mine** is 3 Years.
- xiv. **Transportation:** Coal transportation in pit by through 35T Dumpers from in pit to pit head coal handling plant, Surface to Siding by Belt conveyor to Pre-weigh Bin and loading at siding by Loading coal to trucks for dispatch.
- xv. There is no **R & R** involved. There are no PAFs.
- xvi. **Cost:** Total capital cost of the project is Rs. 128.20 Crores. CSR Cost Rs. 5/- per Tonne of coal production. R&R Cost Nil. Environmental Management Cost (capital cost Rs150 Lakhs (Direct) and 835.04 Lakhs (Indirect), annual recurring cost 15.33 per tonne).
- xvii. **Water body :** No river/Nallaha flowing near or adjacent to the proposed mine
- xviii. **Approvals:** Board's approval obtained on 06.02.2012. Mining plan has been approved on 26.02.2008. Mine closure plan is an integral part of mining plan.
- xix. **Wildlife issues:** There are no national Parks, wildlife sanctuary, biosphere reserves found in the 10 km buffer zone.
- xx. **Forestry issues:** There are no forest area involved in mining.
- xxi. Total **afforestation** plan shall be implemented covering an area of 306.92 ha at the end of mining. Green Belt over an area of 38.16 ha. Density of tree plantation 2500 trees/ ha of plants.
- xxii. There are no **court cases/violation** pending with the project proponent.
- xxiii. **Public Hearing** was held on 04.12.2007.

#### 29.11.2 The proponent further submitted that:

- i. All the Blast Hole Drills will be provided with Wet Drilling Arrangement / Dust extractors.
- ii. In addition to the existing water sprinklers, an additional water sprinklers will be deployed for effective water sprinkling along the haul roads and approach roads.
- iii. Mist spray arrangements will be provided at Coal Handling Plant
- iv. Regular clearing/sweeping of the dust on the coal transportation roads will be taken up.
- v. Plantation has been developed in an area of 53.16 Ha. The total plantation will be raised in an area of 120.96 Ha at the end of mining operations.

- vi. The permanent roads like route to the pithead coal handling arrangements, permanent internal roads at site office, etc were block topped and the same will be maintained to control the dust.
- vii. Water pipelines with fire fighting hoses and nozzles are provided for wetting the coal in coal yards.
- viii. Proper blasting pattern with optimum explosive charge and use of delay detonators is being adopted to reduce noxious gases and dust emissions.
- ix. Controlled blasting techniques with NONEL are being practiced for effective blasting and control the generation of dust during blasting operation.
- x. Regular maintenance of the vehicles is being carried out to control fuel exhaust emissions.
- xi. Employees are being provided with free LPG gas cylinders to discourage coal burning for domestic use.
- xii. Post-project air quality monitoring is being carried out by external agency M/s Environment Protection Training & Research Institute (EPTRI)) as per the frequencies stipulated by MoEF for coal mining industry and all the necessary precautions are being taken to maintain the concentration of critical parameters well within the stipulated standards

**29.11.3 EC Compliance report: The compliance report of the, Regional Office, MoEFCC at Bengaluru** vide letter no. EP/12.1/435/AP inspected on 22.04.2014 was deliberated in the EAC meeting. The Committee has noted that the proponent has complied with the EC conditions which includes the following:

- 1. Adequate safety measures and prior permission of DGMS has been taken.
- 2. OB stacked at earmarked, external dumpsite within ML area has been done.
- 3. Catch drains and siltation ponds of appropriate size has been provided.
- 4. Dimension of the retaining wall based on the rainfall data has been provided.
- 5. Crushers at the CHP operated with water sprinkling arrangement has been provided.
- 6. Controlled blasting is being practiced only during day time.
- 7. Regular monitoring of groundwater level is being done.
- 8. Artificial ground water recharge measures is being done.

**29.11.4 The Committee, after detailed deliberations, recommended for granting EC with the following specific conditions:**

- i. Proponent should developed a thick green belt and also enhance the water sprinkling system.
- ii. Mitigation measures shall be adopted in Loading and Unloading of Coal handling and OB Dump area.
- iii. The coal shall be transported on the black topped road. Trucks should be mechanized covered trucks.
- iv. Lung function test of the workers should be carried out periodically and proper records maintained.
- v. For controlled blasting technology All the Blast Hole Drills will be provided with Wet Drilling Arrangement / Dust extractors for reduction of dust generation.
- vi. Mist spray arrangements will be provided at Coal Handling Plant. In addition to the existing water sprinklers, additional water sprinklers shall be deployed for effective water sprinkling along the haul roads and approach roads.
- vii. Regular clearing / sweeping of the dust on the coal transportation roads shall also be taken up.
- viii. Regular maintenance of the equipments shall be carried out to control fuel exhaust emissions.
- ix. Employees and workers be provided with free LPG gas cylinders to discourage coal burning for domestic use.
- x. Post-project air quality monitoring be carried out by an external agency.

**29.12 Kalyan Khani OCP (1.75 MTPA Normative and 2 MTPA Peak in an ML area of 945.21 ha); Latitudes 18° 59' 44" to 19° 03' 42" (North) And Longitudes 79° 26' 32" to 79° 28' 47" (East) of M/s The Singareni Collieries co. Ltd, located in dist. Adilabad, Andhra Pradesh -EC based on TOR granted on 29.02.2012. – Further Consideration**

**29.12.1** The proposal is for Environmental Clearance to Kalyan Khani OCP (1.75 MTPA Normative and 2 MTPA Peak in an ML area of 945.21 ha) of M/s The Singareni Collieries co. Ltd, located in dist. Adilabad, Andhra Pradesh. The proposal was last considered in 2<sup>nd</sup> EAC meeting held on 3-4<sup>th</sup> October, 2013 where in the Committee recommended the project subject to submission of Mine plan approval.

**29.12.2** The proponent made the presentation and informed that Mine plan approval has been obtained vide letter no. 13016/13/2009-CA.II dated 19.11.2014 and submitted to the ministry on 06.01.2015.

**29.12.3** The EAC received a representation from one of the NGOs requesting Ministry to address issues viz; Issues with Public Consultation; Change in project design – Issues of food security and water resources. The proponent has responded to the issues and submitted the following:

- i. The Public Hearing was done as per the guidelines issued in EIA notification 2006. The Draft EIA/EMP was made available to general public through paper notification on 11.01.2013 in Deccan Chronicle (English) and Sakshi (Telugu) daily news papers.
- ii. The venue of Public Hearing was proposed by APPCB at the project site i.e., at KK-2 Incline. Dubbapalli village is situated within the proposed project area and hence the affected village is to be shifted under R&R to undertake opencast mining operations. The public hearing venue is within the core zone of the project and also close to the R&R Village.
- iii. The proposed KK OCP is a conversion of parts of underground mines of SMG-1, SMG-3, SMG-1A and KK-2A and KK-2 Incline (including Developed and Depillared workings) into an opencast mine for extraction of remnant coal reserves from the abandoned underground mines from the coal conservation point of view. The land for underground mining was acquired in view of the subsidence and probable damage to the surface features during the underground operations as per the stipulations of Director General of Mine Safety to carry out safe mining operations.
- iv. The project area falls in the Rallavagu watershed located near to its eastern boundary. Suddalavagu, an ephemeral stream, is passing through the proposed quarry area in the north and joins Rallavagu in the west. There are no tanks in this area. During the course of mining, the seasonal nallahs/ streams/vagus in and around the project area are envisaged to be diverted / re-aligned. It is proposed to re-align the existing streams in the mine lease through the undisturbed area in a phased manner to maintain the natural drainage system and also to carry out the mining operations safely. An approval has been obtained from I&CAD department of State Government for re-alignment of nallah course and the NOC issued by state Govt for diversion of Suddalavagu and realignment of Rallavagu. During the planning stage itself, all the surface features including drainage network in and around the project area have been thoroughly studied and mining operations have been planned in a sequential manner. Though the area earmarked for external over burden dumps is also a coal bearing area, in order to protect the stream courses, it is proposed to restrict the quarry operations up to the stream course in the present phase and extract the coal beneath the OB dump area by re-handling the overburden from the external dumps during the subsequent relay project with a view to protect the drainage pattern of the area. All the necessary safeguards such as flood protection bund along the streams, settling ponds, garland drains have been proposed so that there will be minimal impact on the surrounding environment.
- v. **Mine Closure Plan:** The depth of the final void at the final stage of mining operations i.e. at the end of 19<sup>th</sup> year is varying 15 m to 230 m and the volume is 222.32 M.Cu.m. As per the deliberations in the EAC, it is proposed to re-handle 98.00 M.Cu.m of OB from external dump

yard 2 & 3 at the mine closure stage to reduce the depth of the final void to 35 m below the ground and to bring the external dump area to ground level as it is a coal bearing area.

**29.12.4 The Committee recommended the project for granting Environmental Clearance reiterating its decision taken in the 2nd EAC meeting held on 3-4<sup>th</sup> October, 2013.**

29.12 Discussion & any other matters with the permission of the Chair.

29.13 The draft generic TOR was circulated to all the Members for comments.

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**PARTICIPANTS IN 29<sup>th</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 15<sup>th</sup> – 16<sup>th</sup> January 2015 ON COAL SECTOR PROJECTS.**

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

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**PARTICIPANTS IN 29<sup>th</sup> EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 15<sup>th</sup> – 16<sup>th</sup> January 2015 ON COAL SECTOR PROJECTS.**

29.1 Giral Lignite Mines project **M/s Rajasthan State Mines & Minerals Limited.**

1. Shri R. K. Zoshi
2. Shri P. R. Gehlot
3. Shri R. K. Varma
4. Shri R. V. Raman
5. Shri Arvind Singh
6. Shri S. M. Dixit
7. Dr. H. S. Rumana
8. Shri P. R. Prajapat

29.2 Cluster IV (5 Mixed Mines) Coal Mining Project of **M/s Bharat Coking Coal Limited.**

1. Shri Ashok Sarkar
2. Dr. EVR. Raju
3. Shri A. K. Dulte
4. Shri V. K. Sinha
5. Shri Kumar Ranjeev
6. Shri Debasis Bandyopadhyay

29.3 Bhatadi OC Expansion Mine of **M/s Western Coalfields Limited.**

1. Md. Noor Uddin
2. Shri Anuj Mathur
3. Shri Rajesh Ratawa
4. Shri U. S. Shah
5. Shri S. K. Sinha
6. Shri K. Chakraborty

29.4 Cluster 8 of **M/s Eastern Coalfields Limited.**

1. Shri B. R. Reddy
2. Shri D. Srivastava
3. Shri J. N. Biswal
4. Shri G. Prasad
5. Shri S. K. Bhawaria
6. Shri Anand Shekhar
7. Shri Ravi Kumar
8. Shri P. Banerjee
9. Shri Pawan Kumar

29.5 Cluster No.4 of **M/s Eastern Coalfields Limited.**

1. Shri B. R. Reddy
2. Shri D. Srivastava

3. Shri J. N. Biswal
4. Shri G. Prasad
5. Shri S. K. Bhawaria
6. Shri Anand Shekhar
7. Shri Ravi Kumar
8. Shri P. Banerjee
9. Shri Pawan Kumar

29.6 Amadand Opencast Coal Mine expansion Project of **M/s South Eastern Coalfields Limited.**

1. Shri R. P. Thakur
2. Ms. Charu Sharma
3. Shri D. Ram
4. Shri A. K. Gupta
5. Shri T. Chakraborty
6. Shri Kushagra Vashishth
7. Shri U. T. Kanzaokar
8. Shri D. Srivastava
9. Shri Manoj Kumar
10. Shri Amit Saxena
11. Shri N. P. Sahu
12. Dr. Anurag Tiwari

29.7 Gouri Deep Expansion Mine Project of **M/s Western Coalfields Limited.**

1. Md. Noor Uddin
2. Shri Anuj Mathur
3. Shri Rajesh Ratawa
4. Shri U. S. Shah
5. Shri S. K. Sinha
6. Shri K. Chakraborty

29.8 Bijari OCP of **M/s SouthEastern Coalfields Limited.**

1. Shri R. P. Thakur
2. Shri U. T. Kanzaokar
3. Shri U. K. Singh
4. Shri Amit Saxena
5. Dr. Anurag Tiwari
6. Shri A. K. Gupta
7. Shri T. Chakraborty
8. Shri Kushagra Vashishth
9. Ms. Charu Sharma
10. Shri D. Ram
11. Shri Manoj Kumar

29.9 Amod Lignite Mine Project of **M/s Gujarat Mineral Development Corporation Limited (GMDC)**

Absent.

29.10 Khadia Opencast Coal Mine Expansion Project of **M/s Northern Coalfields Limited.**

1. Shri S. Sahu
2. Shri R. M. Wanare
3. Shri Atal Bihari
4. Shri Raja Ram Singh
5. Shri Rohit Kumar Gupta
6. Shri U. D. Dumka
7. Shri B. K. Sharma
8. Shri P. Prasad
9. Shri Pawan Kumar
10. Shri U. N. Dupaltawada

29.11 Kakatiya Khani Opencast of **M/s The Singareni Collieries Company Limited.**

1. Shri D. Manohar Rao
2. Shri Vasanth Kumar
3. Shri P. Shanth Kumar
4. Shri N. Bhaskar

29.12 Kalyan Khani Opencast of **M/s The Singareni Collieries Company Limited.**

1. Shri D. Manohar Rao
2. Shri Vasanth Kumar
3. Shri P. Shanth Kumar
4. Shri N. Bhaskar

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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 Government.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> and NO<sub>x</sub>, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in

- detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc.to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
  - xiii. Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.
  - xiv. O.M. no. J-IIOI3/25/2014-IA.I dated 11<sup>th</sup>August, 2014 to be followed with regard to CSR activities.
  - xv. Details of Public Hearing, Notice(s) issued in newspapers,proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
  - xvi. Analysis of samples indicating the following be submitted:
    - a. 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).
    - b. Characteristics and quantum of coal after washing.
    - c. Characteristics and quantum of coal rejects.
  - xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
  - xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
  - xix. Corporate Environment Responsibility:
    - a. The Company must have a well laid down Environment Policy approved by the Board of Directors.
    - b. The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
    - c. The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
    - d. To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
  - xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
  - xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
  - xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
  - xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

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**GENERIC TOR FOR AN OPENCAST COALMINE PROJECT**

- (i) An EIA-EMP Report would be prepared for **??.. MTPA** rated capacity in an ML/project area of ??ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for **??**. MTPA rated capacity cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for **???. MTPA** of coal production based on approval of project/Mining Plan for **???**MTPA. Baseline data collection can be for any season except monsoon.
- (iii) A map specifying locations of the State, District and Project location.
- (iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km area of the buffer zone should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note of the land use. Satellite imagery per se is not required.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.
- (viii) A detailed Site plan of the mine showing the various proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map.
- (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition.

**LANDUSE DETAILS FOR OPENCAST PROJECT**

<b>S.N.</b>	<b>LANDUSE</b>	<b>Within ML Area (ha)</b>	<b>Outside ML Area (ha)</b>	<b>TOTAL</b>
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			

4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	<b>TOTAL</b>			

- (xii) Break-up of lease/project area as per mining operations.
- (xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.
- (xiv) Collection of one-season (non-monsoon) primary baseline data on environmental quality - air (PM<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.
- (xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Values should be provided based on desirable limits.
- (xvi) Study on the existing flora and fauna in the study area (10km) carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I fauna, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a comprehensive Conservation Plan should be prepared and submitted with EIA-EMP Report and comments from the CWLW of the State Govt. also obtained and furnished.
- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xxii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term modelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations.

- (xxiv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.
- (xxv) Impacts of mineral transportation ?within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.
- (xxvi)Details of waste generation ?OB, topsoil ? as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OBdump heights and terracing should based on slope stability studies with a max of 28° angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF) and selection of species (local) for the afforestation/plantation programme based on original survey/landuse.

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

S.N.	Land use Category	Present (1 <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					
	<b>TOTAL</b>	110*	110*	110*	110*	110*

\* As a representative example

**Table 2: Stage-wise Cumulative Plantation**

S.N	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1 <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)								85	

\* As a representative example

(xxviii) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre- mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of rehandling (wherever applicable) and backfilling and progressive mine closure and reclamation.

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

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	<b>TOTAL</b>	85				<b>110</b>

- (xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.
- (xxx) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine.
- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan.
- (xxxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.
- (xxxiiii) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.
- (xxxv) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.
- (xxxvi) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxvii) Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent should be presented in a tabular form. If the Public

Hearing is in the regional language, an authenticated English Translation of the same should be provided.

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

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

(xxxxi) Submission of sample test analysis of:

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

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

**(A) FORESTRY CLEARANCE**

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

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**GENERIC TOR FOR AN UNDERGROUND COALMINE PROJECT**

- (i) An EIA-EMP Report should be prepared for a peak capacity of **????.. MTPA** over an area of **????.. ha** addressing the impacts of the underground coalmine project including the aspects of mineral transportation and issues of impacts on hydrogeology, plan for conservation of flora/fauna and afforestation/plantation programme based on the generic structure specified in Appendix III of the EIA Notification 2006.. Baseline data collection can be for any season except monsoon.
- (ii) The EIA-EMP report should also cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of baseline data and information, generation of baseline data on impacts for **??.. MTPA** of coal production based on approval of project/Mining Plan.
- (iii) A Study area map of the core zone and 10km area of the buffer zone (15 km of the buffer zone in case of ecologically sensitive areas) delineating the major topographical features such as the land use, drainage, locations of habitats, major construction including railways, roads, pipelines, major industries/mines and other polluting sources, which shall also indicate the migratory corridors of fauna, if any and the areas where endangered fauna and plants of medicinal and economic importance are found in the area.
- (iv) Map showing the core zone along with 3-5 km of the buffer zone) delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records) and grazing land and wasteland and water bodies.
- (v) Contour map at 3m interval along with Site plan of the mine (lease/project area with about 3-5 km of the buffer zone) showing the various surface structures such as buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within/adjacent to the ML), green belt and undisturbed area and if any existing roads, drains/natural water bodies are to be left undisturbed along with details of natural drainage adjoining the lease/project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., highways, passing through the lease/project area.
- (vi) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area. Impacts of project, if any on the landuse, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations. Extent of area under surface rights and under mining rights.

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

Area Under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	

4.	Others (specify)	
	TOTAL	

- (vii) Study on the existing flora and fauna in the study area carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. The flora and fauna details should be furnished separately for the core zone and buffer zone. The report and the list should be authenticated by the concerned institution carrying out the study and the names of the species scientific and common names) along with the classification under the Wild Life Protection Act, 1972 should be furnished.
- (viii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working plan/scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps should also be included.
- (ix) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (x) Collection of one-season (non-monsoon) primary baseline data on environmental quality ? air (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.
- (xi) Map of the study area (core and buffer zone) clearly delineating the location of various monitoring stations (air/water/soil and noise ? each shown separately) superimposed with location of habitats, wind roses, other industries/mines, polluting sources. The number and location of the stations should be selected on the basis of the proposed impacts in the downwind/downstream/groundwater regime. One station should be in the upwind/upstream/non-impact non-polluting area as a control station. Wind roses to determine air pollutant dispersion and impacts thereof shall be determined. Monitoring should be as per CPCB guidelines and standards for air, water, noise notified under Environment Protection Rules. Parameters for water testing for both ground and surface water should be as per ISI standards and CPCB classification of surface water wherever applicable.
- (xii) Impact of mining and water abstraction and mine water discharge in mine on the hydrogeology and groundwater regime within the core zone and 10km buffer zone including long-term modelling studies on the impact of mining on the groundwater regime. Details of rainwater harvesting and measures for recharge of groundwater should be reflected wherever the areas are declared dark/grey from groundwater development.
- (xiii) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xiv) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xv) Impact of choice of mining method, technology, selected use of machinery - and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations.
- (xvi) Impacts of mineral transportation ?within and outside the lease/project. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, and their impacts on air quality should be shown in a flow chart with the specific points where fugitive emissions can arise and the specific pollution control/mitigative measures proposed to be put in place. Examine the adequacy of roads existing in the area and if new roads are proposed, the impact of their construction and use particularly if forestland is used.

- (xvii) Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities. Examine whether existing roads are adequate to take care of the additional load of mineral and their impacts.
- (xviii) Examine the number and efficiency of mobile/static water sprinkling system along the main mineral transportation road within the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality.
- (xix) Impacts of CHP, if any on air and water quality. A flow chart of water use and whether the unit can be made a zero-discharge unit.
- (xx) Conceptual Final Mine Closure Plan along with the fund requirement for the detailed activities proposed there under. Impacts of change in land use for mining operations and whether the land can be restored for agricultural use post mining. \

**Table 1 Stage-wise Cumulative Plantation**

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1 <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)									85*	2,12,500

\*As a representative example

- (xxi) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be furnished.
- (xxii) Details of cost of EMP (capital and recurring) in the project cost and for final mine closure plan. The specific costs (capital and recurring) of each pollution control/mitigative measures proposed in the project until end of mine life and a statement that this is included in the project cost.
- (xxiii) Integrating in the Env. Management Plan with measures for minimising use of natural resources ?water, land, energy, raw materials/mineral, etc.
- (xxiv) R&R: Detailed project specific R&R Plan with data on the existing socio-economic status (including tribals, SC/ST) of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.
- (xxv) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxvi) Public Hearing should cover the details as specified in the EIA Notification 2006, and include notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the

general public and commitments by the proponent made should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

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

(xxxvi) Submission of sample test analysis of:

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

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

**FORESTRY CLEARANCE**

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

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**GENERIC TOR FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT**

- (i) An EIA-EMP Report would be prepared for a combined rated capacity of???.MTPA for OC-cum-UG project which consists of ?? MTPA for OC and ??? MTPA for UG in an ML/project area of ??ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for ?? MTPA rated capacity cover the impacts and management plan for the project specific activities on the environment of the region, and the environmental quality ?air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modelling for ??? MTPA of coal production based on approval of project/Mining Plan for ??.. MTPA. Baseline data collection can be for any season except monsoon.
- (iii) A map specifying locations of the State, District and Project location.
- (iv) A Study area map of the core zone and 10km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage of rivers/streams/nalas/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km area of the buffer zone should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note of the land use. Satellite imagery per se is not required.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and unirrigated, uncultivable land (as defined in the revenue records), forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 2-5 km of the buffer zone (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated as a separate map.
- (viii) A detailed Site plan of the mine showing the various proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area and if any, in topography such as existing roads, drains/natural water bodies are to be left undisturbed along with any natural drainage adjoining the lease /project and modification of thereof in terms of construction of embankments/bunds, proposed diversion/rechannelling of the water courses, etc., approach roads, major haul roads, etc.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion/modification of drainage and their realignment, construction of embankment etc. should also be shown on the map.
- (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition.

**LANDUSE DETAILS FOR OPENCAST PROJECT**

<b>S.N.</b>	<b>LANDUSE</b>	<b>Within ML Area (ha)</b>	<b>Outside ML Area (ha)</b>	<b>TOTAL (ha)</b>
1.	Agricultural land			

2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	<b>TOTAL</b>			

#### LANDUSE DETAILS FOR UNDERGROUND PROJECT

S.N.	ML/Project Land use	Area under Surface Rights (ha)	Area Under Mining Rights (ha)	Area under Both (ha)
1.	Agricultural land			
2.	ForestLand			
3.	Grazing Land			
4.	Wasteland			
5.	Water Bodies			
6.	Settlements			
7.	Others (specify)			
	<b>TOTAL</b>			

#### Area Under Surface Rights

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

- (xii) Break-up of lease/project area as per mining operations.
- (xiii) Impact of changes in the land use due to the start of the projects if much of the land being acquired is agricultural land/forestland/grazing land.
- (xiv) Collection of one-season (non-monsoon) primary baseline data on environmental quality - air (PM<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.
- (xv) Map of the study area (1: 50, 000 scale) (core and buffer zone clearly delineating the location of various stations superimposed with location of habitats, other industries/mines, polluting sources. The number and location of the stations in both core zone and buffer zone should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Values should be presented in comparison to desirable limits.
- (xvi) Study on the existing flora and fauna in the study area (10km) carried out by an institution of relevant discipline and the list of flora and fauna duly authenticated separately for the core and

buffer zone and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna. If the study area has endangered flora and fauna, or if the project falls within 15 km of an ecologically sensitive area, then a comprehensive Conservation Plan should be prepared and furnished along with comments from the CWLW of the State Govt.

- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until end of mine life should be reflected on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The progressive mine development and final mine closure plan should also be shown in figures.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of that technology and equipment proposed to be used vis-à-vis the potential impacts.
- (xix) Study on subsidence, measures for mitigation/prevention of subsidence, modelling subsidence prediction and its use during mine operation, safety issues.
- (xx) Impact of mining on hydrology, modification of natural drainage, diversion and channelling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xxi) Detailed water balance should be provided. The break up of water requirement for the various mine operations should be given separately.
- (xxii) Source of water for use in mine, sanction of the competent authority in the State Govt. and impacts vis-à-vis the competing users.
- (xxiii) Impact of mining and water abstraction use in mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term modelling studies on. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiv) Impact of blasting, noise and vibrations.
- (xxv) Impacts of mining on the AAQ, predictive modelling using the ISCST-3 (Revised) or latest model.
- (xxvi) Impacts of mineral transportation within and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop, management plan for maintenance of HEMM, machinery, equipment. Details of various facilities to be provided in terms of parking, rest areas, canteen, and effluents/pollution load from these activities.
- (xxvii) Details of waste generation (OB, topsoil) as per the approved calendar programme, and their management shown in figures as well explanatory chapter with tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use. OB dump heights and terracing should be based on slope stability studies with a max of 28° angle as the ultimate slope. Sections of dumps (ultimate) (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Impact and management of wastes and issues of rehandling and backfilling and progressive mine closure and reclamation.
- (xxix) Flow chart of water balance. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. Details of STP in colony and ETP in mine. Recycling of water to the max. possible extent.
- (xxx) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine.
- (xxxi) Risk Assessment and Disaster Preparedness and Management Plan.
- (xxxii) Integrating in the Env. Management Plan with measures for minimising use of natural resources - water, land, energy, etc.

(xxxiii) Progressive Green belt and afforestation plan (both in text, figures as well as in tables prepared by MOEF given below) and selection of species (local) for the afforestation/plantation programme based on original survey/landuse.

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

S.N.	Land use Category	Present (1 <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					
	<b>TOTAL</b>	110	110	110	110	110

\* Representative case as an example

**Table 2: Stage-wise Cumulative Plantation**

S.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others (Undisturbed Area/etc)		TOTAL	
		Area (ha)	No. of trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees	Area (ha)	No. of Trees
1.	1 <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)									85	

\* Representative case as an example

- (xxxiv) Conservation Plan for the endangered/endemic flora and fauna found in the study area and for safety of animals visiting/residing in the study area and also those using the study area as a migratory corridor.
- (xxxv) Conceptual Final Mine Closure Plan, post mining land use and restoration of land/habitat to pre-mining. A Plan for the ecological restoration of the area post mining and for land use should be prepared with detailed cost provisions.

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

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
4.	Built up area					
5.	Green Belt					
6.	Undisturbed Area					
	<b>TOTAL</b>	85				<b>110</b>

- (xxxvi) Including cost of EMP (capital and recurring) in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project.
- (xxxix) Public Hearing should cover the details of notices issued in the newspaper, proceedings/minutes of public hearing, the points raised by the general public and commitments made by the proponent should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxxx) In built mechanism of self-monitoring of compliance of environmental regulations.
- (xxxxi) Status of any litigations/ court cases filed/pending on the project.
- (xxxxii) Submission of sample test analysis of:
  - Characteristics of coal - this includes grade of coal and other characteristics ?ash, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxxiii) Copy of clearances/approvals ? such as Forestry clearances, Mining Plan Approval, NOC from Flood and Irrigation Dept. (if req.), etc.
  - (A) FORESTRY CLEARANCE

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

		details of each FC			

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

(A) MINING PLAN APPROVAL

(B) MINING PLAN/PROJECT APPROVAL

Date of Approval of Mining Plan/Project Approval:

Copy of Letter of Approval of Mining Plan/Project Approval

(xxxxiv) Corporate Environment Responsibility:

- b) The Company must have a well laid down Environment Policy approved by the Board of Directors.
- c) 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.
- d) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
- d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

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**GENERAL CONDITIONS AND ADDITIONAL POINTS OF TOR**

**The following general points should be noted:**

- (i) All documents should be properly indexed, page numbered.
- (ii) Period/date of data collection should be clearly indicated.
- (iii) Authenticated English translation of all material provided in Regional languages.
- (iv) After the preparation of the draft EIA-EMP Report as per the aforesaid TOR, the proponent shall get the Public Hearing conducted as prescribed in the EIA Notification 2006 and take necessary action for obtaining environmental clearance under the provisions of the EIA Notification 2006.
- (v) The letter/application for EC should quote the MOEF file No. and also attach a copy of the letter prescribing the TOR.
- (vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.
- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Mining Questionnaire (posted on MOEF website) with all sections duly filled in shall also be submitted at the time of applying for EC.
- (viii) General Instructions for the preparation and presentation before the EAC of TOR/EC projects of Coal Sector should be incorporated/followed.
- (viii) The aforesaid TOR has a validity of two years only.

**The following additional points are also to be noted:**

- (i) Grant of TOR does not necessarily mean grant of EC.
- (ii) Grant of TOR/EC to the present project does not necessarily mean grant of TOR/EC to the captive/linked project.
- (iii) Grant of TOR/EC to the present project does not necessarily mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.
- (iv) Grant of EC is also subject to Circulars issued under the EIA Notification 2006, which are available on the MOEF website: [www.envfor.nic.in](http://www.envfor.nic.in)

**29<sup>th</sup> EAC (THERMAL & COAL MINING PROJECTS) MEETING  
SCHEDULED FOR 15<sup>th</sup> -16<sup>th</sup> January, 2015**

**AGENDA**

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

**Pl. check the MoEF website: <http://environmentclearance.nic.in/Report/Default3.aspx>**

**Important Note:**

- i. Please send the information as per “check list at Annexure-1” by e-mail, in word format and also a signed & scanned copy, to the Member-Secretary at [hota@nic.in](mailto:hota@nic.in) at least one week prior to the EAC meeting.**
- ii. Without this information, EAC has discretion to invite the proponent for the meeting.**
- iii. Please also provide a copy to the EAC Members during the meeting.**
- iv. 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 2<sup>nd</sup> December, 2009.**

**COAL MINING PROJECTS**

**Thursday, 15<sup>th</sup> January, 2015**

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

- 29.1 10:15 AM – 11:30 AM:** Giral Lignite Mines project (1 MTPA in an ML area of 2655.70 ha) **M/s Rajasthan State Mines & Minerals Limited**, District Barmer, Rajasthan- **EC based on TOR granted dated 10.09.2014.**
- 29.2 11:30 AM – 12:30 PM:** Cluster IV (5 Mixed Mines) Coal Mining Project (7.34 MTPA normative and 9.55 MTPA peak in an ML area of 1123.79 ha; Latitude 23°46’26” to 23°48’45” North and Longitude 86°17’30” to 86°19’44” East) of **M/s Bharat Coking Coal Limited**, Dist. Dhanbad, Jharkhand - **EC based on TOR granted dated 10.02.2014.**
- 29.3 12:30 AM – 1:15 PM:** Bhatadi OC Expansion Mine (Expansion from 0.65 MTPA to 0.975 in an ML area of 847.57 ha) of **M/s Western Coalfields Limited**, Located in Chandrapur. Maharashtra – **Expansion (under 7(ii) of EIA Notification 2006. – Further consideration.**

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**LUNCH**  
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- 29.4 2:00 PM - 2:30 PM:** Cluster 8 (Consisting of 7 mines of (1.53 MTPA normative to 2.75 MTPA peak in an ML 8281 ha) **M/s Eastern Coalfields Limited**, Dist. Burdwan, West Bengal – **EC based on TOR granted dated 27.06.2011. – Further Consideration.**
- 29.5 2:30 PM – 3:00 PM:** Cluster No.4 (3 Mines of a combined prod. Capacity of 6.35 MTPA and a

peak prod. Of 7.71 MTPA in a combined ML area of 3352 ha) of **M/s Eastern Coalfields Limited**, located in Raniganj Coalfields, dist. Burdwan, West Bengal – **EC based on TOR granted dated 21.06.2011. – Further Consideration.**

- 29.6 3:00 PM – 4:00 PM:** Amadand Opencast Coal Mine expansion Project (from 1.15 MTPA to 2.15 MTPA in a total project area of 884.71 Ha; latitude 23<sup>0</sup>07'39"N to 23<sup>0</sup>09'48" North and longitude 82<sup>0</sup>01'58"E to 82<sup>0</sup>04'51"East) of **M/s South Eastern Coalfields Limited**, located in Tehsil Kotma, District Anuppur, Madhya Pradesh- **Expansion under 7(ii) of EIA Notification, 2006-** further consideration.
- 29.7 4:00 PM - 5:00 PM:** Gouri Deep Expansion Mine Project (from 0.40 MTPA to 0.60 MTPA in an ML area of 356.11 Ha) of **M/s Western Coalfield Limited**, located at dist. Chandrapur, Maharashtra. **EC under 7(ii) of EIA Notification 2006.**

**Friday, 16<sup>th</sup> January, 2015**

- 29.8 10:00 AM – 11:00 AM:** Bijari OCP of (1.5 MTPA (normative) and 2.5 MTPA peak) **M/s South Eastern Coalfields Limited**, Dist., Raigarh, Chhattisgarh – **EC based on TOR granted on 18.11.2008 – Further Consideration.**
- 29.9 11:00 AM – 12:00 PM:** Amod Lignite Mine Project (G-19 Extn.) (1 MTPA) of **M/s Gujarat Mineral Development Corporation Limited (GMDC)**, located in Village Amod, Tehsil Jhagadia, District Bharuch, Gujarat – **Amendment in EC conditions**
- 29.10 12:00 AM – 1:00 PM:** Khadia Opencast Coal Mine Expansion Project (from 10 MTPA to 14 MTPA and lease area from 1460 ha to 1640 ha) of **M/s Northern Coalfields Limited**, located in District Sonbhadra, Uttar Pradesh and in Tehsil Singrauli in District Sidhi, Madhya Pradesh - **EC under 7(ii) of EIA Notification 2006.**

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- 29.11 2:00 PM – 3:00 PM:** Kakatiya Khani Opencast Sector-I Coal Mining Project (from 1.50 MTPA to 2.50 MTPA in an ML area 306.92 Ha) **M/s The Singareni Collieries Company Limited**, located in dist. Warangal, Telangana -**EC under 7(ii) of EIA Notification 2006.**
- 29.12 3:00 PM – 4:15 PM:** Kalyan Khani OCP (1.75 MTPA Normative and 2 MTPA Peak in an ML area of 945.21 ha) of **M/s The Singareni Collieries co. Ltd**, located in dist. Adilabad, Andhra Pradesh -**EC based on TOR granted on 29.02.2012. – Further Consideration**
- 29.13 4:15 PM onwards -** Discussion & any other matters with the permission of the Chair.

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